

NEONATOLOGY TODAY

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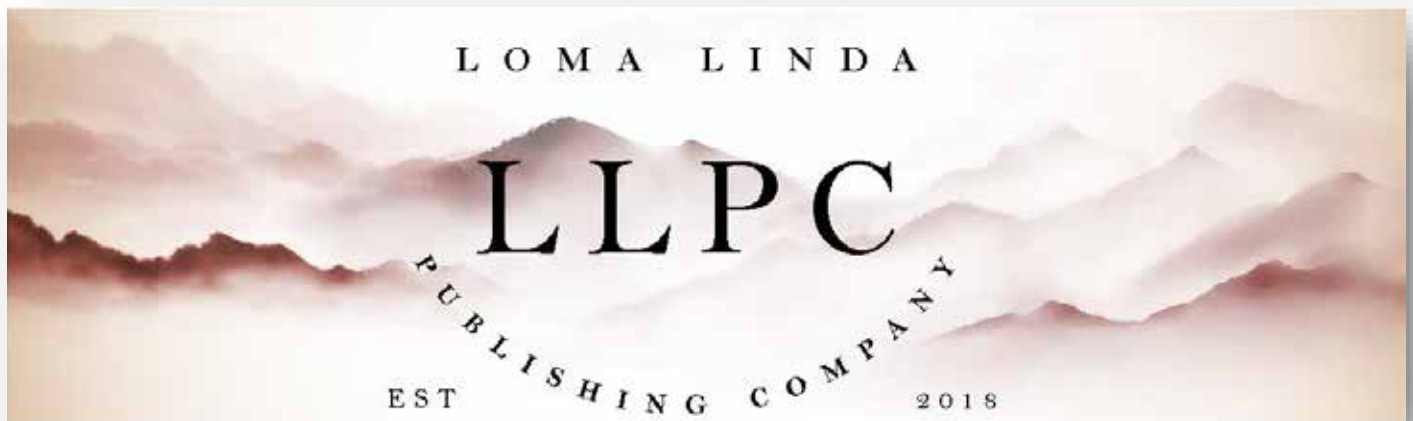
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Futility and Withdrawal of Intensive Care in Term Infants with Brain Injury

Ciara Terry, MRCPI, Breda C Hayes MD, FRCPI

Keywords: Brain injury, Hypoxic Ischaemic Encephalopathy, Palliative Care

Neonatal brain injury is a major challenge in modern perinatal care, including obstetric and neonatal care. Advances in the care of the newborn, including resuscitation improvements and the introduction of therapeutic hypothermia (TH) for the management of neonatal encephalopathy, have allowed us to sustain and improve life for babies that previously may have been deemed too unwell to continue life-sustaining treatments. From an obstetric perspective, there has been an increase in the detection of serious fetal anomalies with better antenatal scanning regimes and the use of MR imaging in fetal medicine to detect congenital brain malformations.

“From an obstetric perspective, there has been an increase in the detection of serious fetal anomalies with better antenatal scanning regimes and the use of MR imaging in fetal medicine to detect congenital brain malformations.”

The decision to redirect the focus of care to comfort-only measures usually follows a detailed neurological examination of the baby in conjunction with neuroimaging (typically MR imaging) aided by EEG monitoring when available. Congenital causes of severe brain dysfunction, such as severe congenital brain malformations (e.g., giant encephalocele, lobar holoprosencephaly) leading to a plan for palliative care following delivery, are encountered. However, most term babies where palliative care is initiated do so following acquired perinatal brain injury. Major conditions that lead to the development of perinatal brain injury include hypoxic ischaemic encephalopathy (HIE), perinatal stroke, perinatal central nervous system infection, and intracranial haemorrhage. Hypoglycaemia can result in brain injury or potentiate injury due to other causes, e.g., HIE.

HIE is one of the commonest reasons for acquired brain injury in the normally formed term newborn. The incidence of HIE is approximately 1.5 per 1000 births, and globally there are 700,000 cases of death or disability from birth asphyxia annually (1). Therapeutic hypothermia (TH) has resulted in significant improvements in the outcomes of neonates with HIE. However, greater than 40% of neonates who undergo TH will still have impaired neurological outcomes at school-going age (2). TH does not improve outcomes in babies with severe HIE.

A perinatal stroke is a cerebrovascular event occurring between

20 weeks gestation and up to 28 days after birth(3). Prevalence has been estimated at 1/1600 to 1/5000 live births and is recognised as the second most common cause of neonatal seizures after neonatal encephalopathy accounting for up to 20% of neonatal seizures (4). Presentation is usually in the first three days after birth. The outcome of neonates with perinatal stroke is difficult to predict (5).

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Intracranial haemorrhage in term infants is rare but can result in significant neuro disability. Intracranial haemorrhage can be epidural, subdural, subarachnoid haemorrhage, or intracerebral.

Central nervous system infections, including meningitis and encephalitis, can be bacterial, viral, or fungal in aetiology. The incidence of early-onset meningitis is approximately 0.39 per 1000 live births. Herpes virus infection is the most common non-bacterial cause of central nervous system infection, with an estimated incidence of 1 in 50,000 live births, and can lead to severe neurodevelopmental delay.

“Being told that their newborn has a brain injury is amongst the most devastating news that parents can receive. Existing data suggests that parents of encephalopathic neonates experience predictable communication difficulties.”

Being told that their newborn has a brain injury is amongst the most devastating news that parents can receive. Existing data suggests that parents of encephalopathic neonates experience predictable communication difficulties. Medical information is complex and uncertain prognosis is challenging. It is well-accepted that parents value participation in medical decision-making. Parent-centred decision-making is preferred in the NICU when discussing longer-

term goals and potential harm(6). The fundamental goal of shared decision-making is to open the process to benefit from both the physician's and the parent's respective experiences, knowledge, and beliefs. This does not imply a value-neutral role for clinicians but instead requires a more delicate balancing as an advocate for the baby while respecting parental views(7). Parents who perceive a shared role in end-of-life decision-making may experience less long-term grief than parents who perceive either making the decision on their own or having no involvement (8). Palliative care teams are an important source of added support to all caregivers. Attempting prognostication in neonatal encephalopathy is essential to help parents formulate their concept of best interest for their newborn. However, estimating prognosis is complicated by the wide range of potential neurodevelopmental outcomes, evolving course, and role of extrinsic factors like access to rehabilitation. Even in cases of anticipated death, infants may unexpectedly survive. In the face of uncertainty, describing the best case, worst case, and most likely outcome is an effective strategy to characterize the potential range of outcomes(6).

“Serial evaluation over time facilitates discussion regarding anticipated poor prognosis and decision-making for transition to comfort care. Serial assessments with a particular test are more predictive than a single observation. The time over which a test remains abnormal together with the trend over time yields the best information(9).”

Clinical history, neurologic examination, serum biomarkers, neurophysiology [amplitude-integrated electroencephalography (aEEG) or EEG], near-infrared spectroscopy, and magnetic resonance imaging have all been studied as predictors of severe neurologic injury and poor outcome, although none is 100% predictive. Serial evaluation over time facilitates discussion regarding anticipated poor prognosis and decision-making for transition to comfort care. Serial assessments with a particular test are more predictive than a single observation. The time over which a test remains abnormal together with the trend over time yields the best information(9). Thus far, brain monitoring in the form of aEEG and conventional EEG seems to be the best objective tools to identify the highest-risk patients (10). Specifically, a severe depression or burst suppression pattern which persists is suggestive of poor outcome. Magnetic resonance imaging (MRI) is known to retain its predictive abilities when performed in the window of 5-10 days after birth. Where MRI is performed, the pattern and extent of injury remain important predictors of outcome even after TH (11-13). However, MRI is sometimes not possible due to clinical instability or accessibility. In these cases, cranial ultrasound is important and predictive if it shows hyperechogenic subcortical grey matter structures (basal ganglia and thalamus) and/or focal parenchymal lesions. The presence of cystic lesions early in the neonatal course is also predictive of poor outcome and helps to identify prenatal injury. Many scoring systems are available and can be

applied to help predict outcomes, including the Barkovich and the Rutherford scoring system (14,15). The Weeke scoring system(16) is a comprehensive scoring system that assesses several different functional areas of the brain, including motor, visual, and memory. Complete and careful neurological examination remains of critical importance. In predictive models, time to improvement in stage and time to reach no or mild HIE were important predictors of death/disability (10). The advent of bedside aEEG allows neonatologists to continuously trend the background pattern and hence the degree of recovery alongside serial clinical examination during TH. In cases where clinical examination and EEG are in keeping with profound injury, and there is no sign of improvement over 24-48 hours, MRI brain does not add greatly to prognostication. However, MRI should be considered in this setting if the baby has received anti-epileptic medications, which may affect the reliability of both clinical examination and EEG findings.

“ Many of these conditions cause a progressive deterioration leaving the child increasingly dependent on their family or carers. Such illnesses have been categorised into four categories (18).”

The term life-limiting condition refers to any illness for which there is no reasonable hope of cure and where the child is unlikely to survive beyond early adulthood(17). Many of these conditions cause a progressive deterioration leaving the child increasingly dependent on their family or carers. Such illnesses have been categorised into four categories (18). The fourth category includes conditions leading to severe disability and the likelihood of premature death, such as severe cerebral palsy and multiple disabilities following brain injury.

Decisions that involve the withdrawal or withholding of life-sustaining treatment should have the child's best interest as the central focus(7). A futile intervention is different from an intervention that is not pursued because it is not perceived to be in the overall best interests of the child. With shared decision-making, medical facts must be reflected alongside the family's preferences, values, and goals. Even when care is not futile, care may be against the child's best interests when the likely harms outweigh possible benefits (6). Perinatal palliative care input is paramount in the care of the term neonate with significant brain injury. Palliative care stages have been defined in the British Association of Perinatal Medicine Framework for Clinical Practice in Palliative Care(19). This describes a transition period from routine or intensive care to palliative care. Supportive care includes considerations for oral nutrition, hydration, and analgesia. The overall goal of palliative care is to achieve the best quality of life for patients and their families.

In conclusion, decisions around the futility of care and redirection to comfort measures for newborns with brain injury is a complex decision that should only occur following a process of shared decision-making involving all caregivers for the baby. Certainty about prognosis is not possible despite advances in medical care,

but clear and honest discussions with parents are paramount to the decision-making process. The involvement of palliative care physicians is recommended in patients with severe brain injury leading to a life-limiting condition.

“ Certainty about prognosis is not possible despite advances in medical care, but clear and honest discussions with parents are paramount to the decision-making process. The involvement of palliative care physicians is recommended in patients with severe brain injury leading to a life-limiting condition.”

References:

1. Hayes BC, McGarvey C, Mulvany S, Kennedy J, Geary MP, Matthews TG, et al. A case-control study of hypoxic-ischemic encephalopathy in newborn infants at >36 weeks gestation. *Am J Obstet Gynecol.* 2013;209(1):29.e1-.e19. Epub 2013/03/26. doi: 10.1016/j.ajog.2013.03.023. PubMed PMID: 23524176.
2. Executive summary: Neonatal encephalopathy and neurologic outcome, second edition. Report of the American College of Obstetricians and Gynecologists' Task Force on Neonatal Encephalopathy. *Obstet Gynecol.* 2014;123(4):896-901. Epub 2014/05/03. doi: 10.1097/01.AOG.0000445580.65983.d2. PubMed PMID: 24785633.
3. Ferrero DM, Fullerton HJ, Bernard TJ, Billingham L, Daniels SR, DeBaun MR, et al. Management of Stroke in Neonates and Children: A Scientific Statement From the American Heart Association/American Stroke Association. *Stroke (1970).* 2019;50(3):e51-e96. doi: 10.1161/STR.000000000000183.
4. Lynch JK. Epidemiology and classification of perinatal stroke. *Seminars in fetal & neonatal medicine.* 2009;14(5):245-9. doi: 10.1016/j.siny.2009.07.001.
5. Lee J, Croen LA, Lindan C, Nash KB, Yoshida CK, Ferrero DM, et al. Predictors of outcome in perinatal arterial stroke: A population-based study. *Annals of neurology.* 2005;58(2):303-8. doi: 10.1002/ana.20557.
6. Lemmon ME, Wusthoff CJ, Boss RD, Rasmussen LA. Ethical considerations in the care of encephalopathic neonates treated with therapeutic hypothermia. *Semin Fetal Neonatal Med.* 2021;26(5):101258. Epub 2021/06/29. doi: 10.1016/j.siny.2021.101258. PubMed PMID: 34176763; PubMed Central PMCID: PMC8627487.
7. Racine E, Shevell MI. Ethics in Neonatal Neurology: When is Enough, Enough? *Pediatric Neurology.* 2009;40(3):147-55. doi: <https://doi.org/10.1016/j.pediatrneurol.2008.09.013>.
8. Caeymaex L, Joussemme C, Vasilescu C, Danan C, Falissard B, Bourrat MM, et al. Perceived role in end-of-life decision making in the NICU affects long-term parental grief response. *Arch Dis Child Fetal Neonatal Ed.* 2013;98(1):F26-31. Epub 2012/06/27. doi: 10.1136/archdischild-2011-301548. PubMed PMID: 22732115.

9. Shevell MI, Majnemer A, Miller SP. Neonatal neurologic prognostication: the asphyxiated term newborn. *Pediatr Neurol.* 1999;21(5):776-84. Epub 1999/12/11. doi: 10.1016/s0887-8994(99)00102-2. PubMed PMID: 10593666.
10. Bonifacio SL, deVries LS, Groenendaal F. Impact of hypothermia on predictors of poor outcome: how do we decide to redirect care? *Semin Fetal Neonatal Med.* 2015;20(2):122-7. Epub 2015/01/13. doi: 10.1016/j.siny.2014.12.011. PubMed PMID: 25577654; PubMed Central PMCID: PMC4375009.
11. Bonifacio SL, Glass HC, Vanderpluym J, Agrawal AT, Xu D, Barkovich AJ, et al. Perinatal events and early magnetic resonance imaging in therapeutic hypothermia. *J Pediatr.* 2011;158(3):360-5. Epub 2010/10/23. doi: 10.1016/j.jpeds.2010.09.003. PubMed PMID: 20965514; PubMed Central PMCID: PMC3035732.
12. Cheong JL, Coleman L, Hunt RW, Lee KJ, Doyle LW, Inder TE, et al. Prognostic utility of magnetic resonance imaging in neonatal hypoxic-ischemic encephalopathy: sub-study of a randomized trial. *Arch Pediatr Adolesc Med.* 2012;166(7):634-40. Epub 2012/07/04. doi: 10.1001/archpediatrics.2012.284. PubMed PMID: 22751877.
13. Shankaran S, Barnes PD, Hintz SR, Laptook AR, Zaterka-Baxter KM, McDonald SA, et al. Brain injury following trial of hypothermia for neonatal hypoxic-ischaemic encephalopathy. *Arch Dis Child Fetal Neonatal Ed.* 2012;97(6):F398-404. Epub 2012/10/20. doi: 10.1136/archdischild-2011-301524. PubMed PMID: 23080477; PubMed Central PMCID: PMC3722585.

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Which Infants are More Vulnerable to Respiratory Syncytial Virus?

RSV is a respiratory virus with cold-like symptoms that causes 90,000 hospitalizations and 4,500 deaths per year in children 5 and younger. It's 10 times more deadly than the flu. For premature babies with fragile immune systems and underdeveloped lungs, RSV proves especially dangerous.

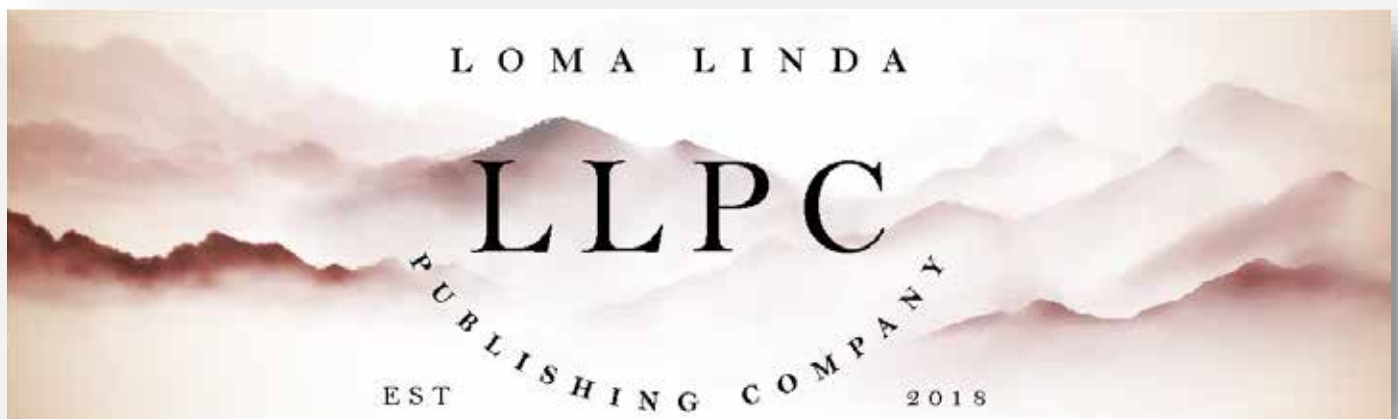
But risk factors associated with RSV don't touch all infants equally.*

*Source: Respirator Syncytial Virus and African Americans

| Caucasian Babies | Risk Factor | African American Babies |
|------------------|--|-------------------------|
| 11.6% |  Prematurity | 18.3% |
| 58.1% |  Breastfeeding | 50.2% |
| 7.3% |  Low Birth Weight | 11.8% |
| 60.1% |  Siblings | 71.6% |
| 1% |  Crowded Living Conditions | 3% |



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Letters to the Editor

Letter to the Editor in Response to: "Dermatologic Findings in Skin of Color for Life-Threatening Pediatric Diseases Saba Saleem BS, Kristina Burger BS"

Dear Editor:

We read "Dermatologic Findings in Skin of Color for Life-Threatening Pediatric Disease" with great interest (Saleem, S., Burger, K. Dermatologic Findings in Skin of Color for Life-Threatening Pediatric Diseases. *Neonatology Today*. 2022;17(10):83-88.). The piece by Soba Saleem and Kristina Burger brings to light the health disparities of people of color, specifically, the lack of education and training in dermatologic disease in people of color. The authors utilized Measles and Kawasaki disease to highlight the importance of recognizing dermatologic findings in life-threatening diseases to emphasize the importance of treating patients promptly to avoid life-threatening consequences. We agree with the authors that there is an apparent lack of education and training of physicians in recognizing dermatologic findings in people of color. Throughout medical education, it is evident that there is a push for educating students on the dermatologic findings of people of color. Still, the education provided and available resources are not meeting patients' needs (1). The need for education is evident, considering "the U.S. Census Bureau projects that by 2050 about half of all dermatologic patients who require treatment will have a skin of color." Although the authors addressed the health disparity using Measles and Kawasaki disease, it is evident that all dermatologic conditions should be addressed in people of color to bridge the gap in the care provided to these individuals.

"The need for education is evident, considering "the U.S. Census Bureau projects that by 2050 about half of all dermatologic patients who require treatment will have a skin of color." Although the authors addressed the health disparity using Measles and Kawasaki disease, it is evident that all dermatologic conditions should be addressed in people of color to bridge the gap in the care provided to these individuals."

Kawasaki disease and Measles may lead to mortality in the pe-

diatric population, but a variety of diseases are overlooked in patients of color. In the article written by Sarker et al., they study the significant lack of research into Rosacea in the skin of color. They discuss that the incidence of the disease is rising but still remains underreported in patients with skin of color (2). The article states the various secondary symptoms of Rosacea, like burning and stinging sensations, that may help distinguish the disease from only observing the rash, which has proven to be difficult in the skin of color. Although Rosacea is not as dangerous as Kawasaki disease or Measles, early diagnosis of the disease is essential to treat patients optimally.

Furthermore, Adamson and Smith discuss innovative methods for diagnosing dermatologic diseases using machine learning (3). However, they go on to state these methods are insufficient in diagnosing diseases in the skin of color due to the lack of inclusion of skin of color images in developing artificial intelligence. This further promotes the health disparities in dermatologic disease in the skin of color, even with advancing technology. As the United States population is leaning towards becoming a minority white nation, the significance of diagnosing dermatologic disease in non-white individuals is of paramount importance (4). Healthcare providers need to be able to adequately diagnose these conditions in a spectrum of skin colors to provide satisfactory treatment. This will not only avoid adverse health outcomes in a large portion of the population but will also lead to billions of dollars saved across the health industry (5). The first step in improving the inclusivity of dermatologic disease in the skin of color is providing comprehensive postgraduate education.

"Healthcare providers need to be able to adequately diagnose these conditions in a spectrum of skin colors to provide satisfactory treatment. This will not only avoid adverse health outcomes in a large portion of the population but will also lead to billions of dollars saved across the health industry (5)."

As was highlighted in the article, medical students have an alarming amount of difficulty identifying skin conditions in people of color. This difficulty stems from the lack of resources available that would aid in educating students on what certain diseases look like in different ethnicities (6). As current students, the push for educating students on dermatologic conditions in people of color is evident. However, the quality of training has still yet to meet the needs of patients of color (1). It should not come as a surprise then that future doctors would have a significantly easier time identifying dermatologic conditions in those with lighter skin. This is obviously a cause for concern, as misdiagnosing a morbid skin condition could cost a life.

Due to the seriousness of the issue, strides have been made to create change and increase resources to help identify dermato-

logic changes in the skin of color by organizations like Skin of Color Society. Efforts driven by current physicians, medical students, and educators have been essential to providing the change necessary for medical education. As COVID-19 exposed the realities of the inequities in the healthcare system, efforts have been made to address inclusivity at a larger scale (7). The American Academy of Dermatology Association has emphasized Diversity, Equity, and Inclusion (DEI), to increase research, address health inequities, and encourage underrepresented minorities to consider dermatology. Along with these efforts, several other organizations, including the American Society for Dermatologic Surgery, Skin of Color Society, Women's Dermatologic Society, Association of Professors in Dermatology, and American Contact Dermatitis Society, have also been acknowledged. They are working towards more meaningful DEI goals (8). They have also received funding from large companies like Johnson & Johnson and grant funding to support these more significant efforts (9). Additionally, support from these organizations should also move towards updating textbooks and online resources that drive most of the medical education in our country (10).

“As COVID-19 exposed the realities of the inequities in the healthcare system, efforts have been made to address inclusivity at a larger scale (7). The American Academy of Dermatology Association has emphasized Diversity, Equity, and Inclusion (DEI), to increase research, address health inequities, and encourage underrepresented minorities to consider dermatology.”

References:

1. Shao K, Feng H. Racial and Ethnic Healthcare Disparities in Skin Cancer in the United States: A Review of Existing Inequities, Contributing Factors, and Potential Solutions. *J Clin Aesthet Dermatol*. 2022 Jul;15(7):16-22. PMID: 35942012; PMID: PMC9345197.
2. Sarkar R, Podder I, Jagadeesan S. Rosacea in skin of color: A comprehensive review. *Indian J Dermatol Venereol Leprol*. 2020 Nov-Dec;86(6):611-621. doi: 10.4103/ijdv.IJD-VL_769_19. PMID: 33109832.
3. Adamson AS, Smith A. Machine Learning and Health Care Disparities in Dermatology. *JAMA Dermatol*. 2018 Nov 1;154(11):1247-1248. doi: 10.1001/jamadermatol.2018.2348. PMID: 30073260.
4. Frey WH. The U.S. will become 'minority White' in 2045, Census Projects [Internet]. *Brookings*. Brookings; 2022 [cited 2022Nov29]. Available from: <https://www.brookings.edu/blog/the-avenue/2018/03/14/the-us-will-become-minority-white-in-2045-census-projects/>
5. Takeshita J. Identifying Disparities in Dermatology: The Importance of Measuring Differences That Matter. *JAMA Dermatol*. 2018 Nov 1;154(11):1251-1253. doi: 10.1001/jamadermatol.2018.2938. PMID: 30267061.
6. Buster KJ, Stevens EI, Elmets CA. Dermatologic health disparities. *Dermatol Clin*. 2012 Jan;30(1):53-9, viii. doi: 10.1016/j.det.2011.08.002. PMID: 22117867; PMID: PMC3742002.
7. Diversity and the Academy [Internet]. *American Academy of Dermatology*. [cited 2022Nov30]. Available from: <https://www.aad.org/member/career/diversity>
8. Desai SR, Khanna R, Glass D, Alam M, Barrio V, French LE, Gohara M, McKinley-Grant L, Harvey V, Heath C, Mariwalla K, Pentland A, Piliang M, Pourciau C, Taylor S, Wu P, Grimes P, Lim HW. Embracing diversity in dermatology: Creation of a culture of equity and inclusion in dermatology. *Int J Womens Dermatol*. 2021 Aug 5;7(4):378-382. doi: 10.1016/j.ijwd.2021.08.002. PMID: 34621948; PMID: PMC8484952.
9. Pathways: Inclusivity in dermatology to increase number of black, Latino, and indigenous physicians in dermatology. [cited 2022Nov30]. Available from: <https://www.aad.org/news/pathways-inclusivity-in-dermatology-launch>
10. Ebede T, Papier A. Disparities in dermatology educational resources. *J Am Acad Dermatol*. 2006 Oct;55(4):687-90. doi: 10.1016/j.jaad.2005.10.068. PMID: 17010750

Sincerely,

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91709

Dear Drs to be San Angelo, Rahimi, Ko, and Bansal:

Thank you for commenting on this manuscript. In so much as other elements of law and practice have focused on decreasing the barriers to genuinely equitable care—the actual science involved in ensuring that our understanding of the disease must be based on physiology. Preconceived notions of race or disparity makers disparage and diminish the quality of care based on these prejudices rooted in traditional practice and must be eliminated. These more subtle but extant prejudices masquerade as knowledge and cultural sensitivity when they are non-evidence-based “folk” practices that became doctrine because of preconceived notions passed down intergenerationally through “knowledgeable” physicians. The concept that the skin of certain individuals is thicker or less susceptible to painful procedures is evidence of the continuation of these practices.

However, the presentation of certain disease states deserves special consideration. Significantly since a number of these condi-


tions are associated with a fine rash or erythematous blush that may not be readily apparent with darker skin pigmentation. More than just sensitivity, innovation is required to discern these conditions better when the conditions are not optimal for detection. In certain situations where the symptoms suggest the disease, but the physical evidence is lacking, there is room for increased use of PCR and other serum-based testing. In other situations, room lighting adjustments may be indicated to improve the perception of subtle changes in the skin and its regularity.

“These more subtle but extant prejudices masquerade as knowledge and cultural sensitivity when they are non-evidence-based “folk” practices that became doctrine because of preconceived notions passed down intergenerationally through “knowledgeable” physicians. The concept that the skin of certain individuals is thicker or less susceptible to painful procedures is evidence of the continuation of these practices.”

Importantly, it has never been appropriate to blame the patient for difficulty diagnosing the disease. Although certain situations may make the diagnosis more challenging, the level of medical screening must rise to the challenge. Diagnostic tools are imperfect unless they reliably detect the presence of disease in all affected individuals. Race, skin pigmentation differences, and perceptions must not be barriers to the effective diagnosis and treatment of our most at-risk patients.

“Diagnostic tools are imperfect unless they reliably detect the presence of disease in all affected individuals. Race, skin pigmentation differences, and perceptions must not be barriers to the effective diagnosis and treatment of our most at-risk patients.”

As the authors have pointed out, COVID-19 has exemplified and made people more aware of inequities in healthcare delivery. Although COVID-19 does not present classically with a defined rash or skin-related pathology, viral exanthems occur with COVID-19 coinfections. Increased vigilance and understanding of the need for more appropriate diagnosis in all skin pigmentations are clearly indicated.



Mitchell Goldstein, MD, MBA, CML

Editor in Chief

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Erratum (Neonatology Today November, 2022)

Neonatology Today is not aware of the erratum affecting the November, 2022 edition.

Corrections can be sent directly to LomaLindaPublishingCompany@gmail.com. The most recent edition of Neonatology Today including any previously identified erratum may be downloaded from www.neonatologytoday.net.

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Neonatology Today welcomes your editorial commentary on previously published manuscripts, news items, and other academic material relevant to the fields of Neonatology and Perinatology.

Please address your response in the form of a letter. For further formatting questions and submissions, please contact Mitchell Goldstein, MD at LomaLindaPublishingCompany@gmail.com.

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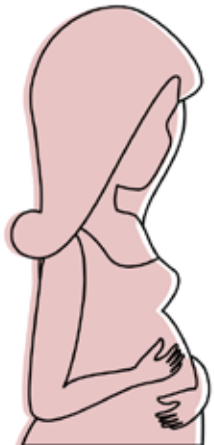


Should Infants Be Separated from Mothers with COVID-19?


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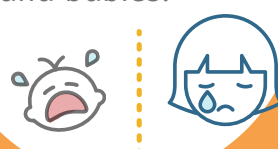



Update: **CORONAVIRUS COVID-19**



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Pregnancy and the risk of VERTICAL TRANSMISSION
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| | |
|---|---|
| <p>SEPARATION may not prevent INFECTION.</p>  | <p>SKIN to SKIN CARE supports newborns' physiology.</p>  |
| <p>SEPARATION stresses parents and babies.</p>  | <p>SEPARATION weakens immune protections.</p>  |
| <p>SEPARATION disrupts breastfeeding putting babies' health at risk.</p>  | <p>SEPARATING the DYAD doubles providers' workload, burdening systems.</p>  |

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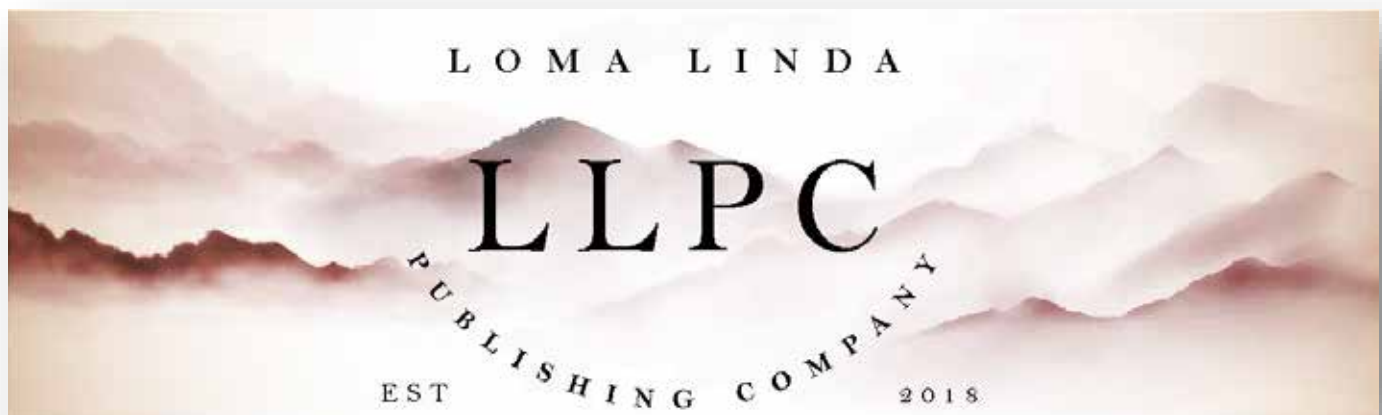


“Storyteller” painting by Sharron Montague Loree, 1982

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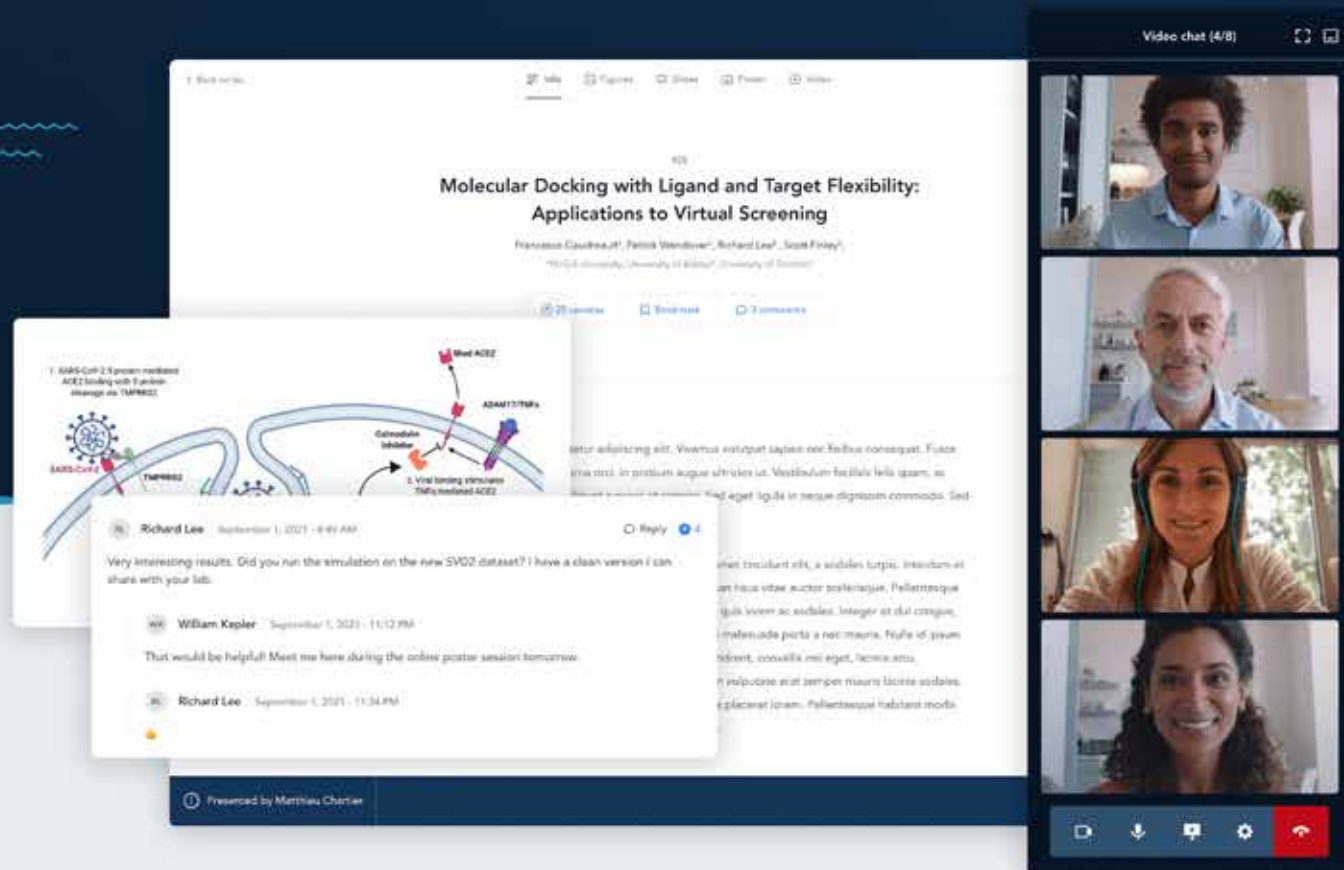
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Disaster Series: The Function of Engagement for High Reliability Organizing (HRO)

Daved van Stralen, MD, FAAP, Sean D. McKay, Errol van Stralen, Thomas A. Mercer, RAdm, USN (Retired)

Abstract

Random, stochastic variation creates fluctuations in the environment. The organization must respond as these fluctuations become forcing functions or create an abrupt catastrophe. This variation is described by the color of noise – reddened noise frequencies or pink noise. Operations during these events uncover gaps between theory and practice, which are bridged through engagement. Engagement is behavior that has defensive functions against threats to the organization, supports thinking through motor cognition, initiates self-organization for directed responses, generates information during the flux of events, and creates a structure within a volatile environment. We describe the function of engagement in High-Reliability Organizations (HRO) as a process to use the situation to extend our understanding.

“Engagement is behavior that has defensive functions against threats to the organization, supports thinking through motor cognition, initiates self-organization for directed responses, generates information during the flux of events, and creates a structure within a volatile environment.”

Introduction

Theories, concepts, and models enhance organizational reliability and safety. Can a gap form between accepted theory and current practice? If so, how can we narrow or eliminate such gaps? One approach is to cross the gap between theory and practice by engagement (1-4). In real-time, engagement bridges the gaps that develop between concepts and the gaps formed between theory and practice. In this article, we describe the *function* of the act of engagement.

There is little or no gap if a theory is prescriptive for organizational reliability and safety. However, if the theory is *descriptive*, without continuous calibration, we risk losing fidelity to the operational environment – inaccurate theories or models can kill (5).

Organizations fail, and error brings harm because of tightly coupled components with complex interactions. This sequence is the premise of *Normal Accident Theory* (6). To prevent this, the organization can rely on the judgment of experienced experts and centralized, rational decision processes. This process frees subordinates from the difficulty of making decisions under uncertainty. Academic theories, concepts, and models support this approach to reducing error and achieving high levels of continuous reliability. The risk is the creation of dangerous gaps.

“This process frees subordinates from the difficulty of making decisions under uncertainty. Academic theories, concepts, and models support this approach to reducing error and achieving high levels of continuous reliability. The risk is the creation of dangerous gaps.”

Some organizations operate in hazardous conditions while achieving high levels of continuous reliability. These organizations utilize structural complexity and contingent, layered authority patterns still not fully described by theory. Todd R. LaPorte and Paula M. Consolini succinctly state, “In a sense, HROs *work in practice and not in theory*” (7). Overlapping and conflicting concepts paradoxically can fill in gaps or support crossing these gaps.

HROs “*extend formal calculative, programmed decision analysis as widely as is warranted by the extent of knowledge. The urgency of operational needs;*” are “*alert to the surprises or lapses that could result in errors small or large that could cascade into major system failures from which there may be no recovery;*” and “*authority patterns shift to a basis of functional skill,*” LaPorte and Consolini (7). [Emphasis from the authors; the senior author (TAM) was captain of the USS Carl Vinson during these studies.]

“HROs “extend formal calculative, programmed decision analysis as widely as is warranted by the extent of knowledge. The urgency of operational needs;” are “alert to the surprises or lapses that could result in errors small or large that could cascade into major system failures from which there may be no recovery;” and “authority patterns shift to a basis of functional skill,” LaPorte and Consolini (7).”

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Theory and practice innately form gaps during routine operations (1, 4). Unexpected events can penetrate the organization through these gaps, possibly cascading into unrecoverable failure. It is not a simple matter of closing or narrowing gaps between theory and practice. Gaps form at various levels of analysis – prevention and response, planning, training, organizing, logistics, prevention, recovery, et cetera (8).

By bridging theory-practice gaps, engagement as action *extends responsiveness* which can then become prevention and can generate resilience (3, 4, 7). A well-accepted approach to action is to identify or characterize the situation, then decide on a course of action or protocol – *situation drives decisions*. For example, protocols or algorithms appropriate for the situation guide decisions, which are further calibrated by decision theory. The linear flow of situation-decision-action is *not* engagement. Engagement is more than a means to decide, then act – *engagement is a behavior*.

This is not to say we need two types of behavior – one for slow tempos and one for fast tempos. Engagement is an immediate behavior that prevents or reduces consequences at any tempo. Behavioral processes that develop within stable environments can contribute to failure in unstable environments. However, the engagement processes work efficiently in both environments, so there is no need to have two approaches.

“Organizations do not make decisions; people do. Organizations do not act; it is the individual who acts. The organization’s structure influences and is influenced by the decisions and actions of individuals (9).”

Organizations do not make decisions; people do. Organizations do not act; it is the individual who acts. The organization’s structure influences and is influenced by the decisions and actions of individuals (9). Viewed as a dichotomy between “top-down” and “bottom-up” perspectives, we risk placing the value of one against the other. Top-down strategies can constrain bottom-up tactics that rely on local decision-making and action (2). By viewing this as a dichotomy between the specifications of the “whole field view” immediately outside of events versus “local groupings” within the flux of events, the outside whole field view becomes privileged (10). In the flux of events, abstractions and concepts incorporated into the whole field can become fatal to local groupings (11).

As described above, the normative stance response to a given situation indicates, if not dictates, subsequent behaviors. From the pragmatic stance, the situation indicates what consequences can develop. These consequences develop nonlinearly, meaning the individual must maintain spatial and temporal views and understand that minor discrepancies or disruptions can initiate a larger cascade of events. The possible consequences drive behaviors through reciprocal feedback between the individual and the environment. Our understanding of the situation, then, determines our actions: *Do we fit the situation into our understanding, or do we use the situation to extend our understanding?*

What We Engage

For tractability in planning, education, and training, we too easily group threats into various ‘typologies of convenience.’ In our review of NICU responses to various disasters, we identified similar

threats and similar behavioral responses regardless of the type of disaster (12-14). We can better understand engagement as a response to environmental forcing functions or to abrupt, catastrophic events.

Fluctuations – Environmental and Operational

Biological systems exist in a world of random, stochastic variation. These systems must maintain stability far from any equilibrium state (15, 16). Multiple degrees of freedom within the system allow *internal* fluctuations to create the necessary ‘nonequilibrium dynamical system’ (17). In the HRO, the necessary degrees of freedom emerge from cognitive, affective, and behavioral approaches that form the basis of HRO. The result is an HRO-maintained non-equilibrium dynamical balance.

“HRO describes those organizations within a stochastic environment that operate far from equilibrium. The stability of the HRO derives from the dynamic stability generated through the human interactions of self-organization (18).”

HRO describes those organizations within a stochastic environment that operate far from equilibrium. The stability of the HRO derives from the dynamic stability generated through the human interactions of self-organization (18). That is, dynamic human behavior stabilizes the organization against the destabilizing effects of external dynamic, stochastic environmental behavior. As the environment enters the organization, operators must enter the environment (19). *This recognition is engagement*.

The environment, operations, and human performance fluctuate due to random, stochastic factors. These influences correlate on different time and space scales that produce waveforms or spectral frequencies (20). The frequencies of environmental fluctuations act as environmental ‘noise,’ distinguished from each other by their disruptive potential within the environment. Human behaviors also have frequencies that auto-correlate from feedback onto the individual. For discussion, we can separate three color groupings based on the characteristics of their frequencies: red, pink, and white.

The Color of Noise

Forcing functions. Increasing stochastic environmental noise creates the unpredictability of events and generates the ‘forcing functions’ of energy. Forcing functions describe the strength of the environment to force a system or population to respond. The meaning of the types of noise lies in the unpredictability and severity of these forced events. Environmental noise can trigger events when forcing functions generate resonance of frequencies internal to the organization.

Through resonance, mundane elements within the environment or organization can develop the power to force a system or population to respond. Such ‘forcing functions’ act on various scales. Some occupy our attention while other low-frequency events erupt into major crises in our presence. Forcing functions introduce emergent new properties into the system.

‘Red noise’ (Table 1) describes environments with some frequencies having more extended periods (“red” for the longer frequencies of red light). Red noise is dominated by low-frequency (or

Table 1. Patterns and Characteristics of Noise (25)

| Color | Structure | Variance | Distribution |
|--------------|--|---|---|
| White | No frequencies dominate Flattened spectrum Spectral density has equal amounts of all frequencies | Data <i>decreases</i> variance Forms Gaussian curve | Gaussian distribution - Elements fully independent - No autocorrelation |
| Red | Low frequencies dominate Long-period cycles | Data <i>increases</i> variance Forms power distribution | Power law distribution - Elements <i>not</i> independent - Mutual/ reciprocal relations |
| Pink | The midpoint of red noise The slope lies <i>exactly</i> midway between white noise and brown (random) noise | Data <i>continuously increases</i> variance Distinguishes pink noise from reddened spectra | Power law distribution - No well-defined long-term mean - No well-defined value at a single point |

long-period) cycles that increase the probability of long runs of above or below-average conditions. Low-frequency events (reddened spectrum) have an inordinate influence on a system because prolonged decay continues dissipating energy and environmental disruption (16, 20).

'Pink noise' (also called fractal, flicker, $1/f$, or f^{-1} noise) is the power function exactly halfway between the predictability of white noise (all frequencies are equally represented and have equal strength) and the randomness of brown noise (named for the randomness of Brownian motion). We can observe 'flickers' of power (abrupt increases in magnitude) (21, 22) at 'half' the integral of white noise processes.

'White noise' has the same variance for all frequencies. There is no temporal correlation, no correlation variance, and time and space have constant variance (20, 23). The values of a random signal at two instants in time are completely independent of each other.

“Autocorrelation, when the past influences the present or from interactions with other systems, makes the system more susceptible to feedback loops. Even minor or mundane extraneous noise signals will allow the system to achieve resonance.”

Autocorrelation, when the past influences the present or from interactions with other systems, makes the system more susceptible to feedback loops. Even minor or mundane extraneous noise signals will allow the system to achieve resonance. Minor events then become amplified and consequential. White noise then shifts to red or pink noise. *All human behavior is red or pink noise.*

Because of feedback (autocorrelation), red and pink noise has zero mean, and the variance increases with more data or information. Red and pink noise do not form a Gaussian distribution without a long-term mean or defined value at an instantaneous time. Instead, they form power distributions where rare events act as powerful forcing functions. Pink noise produces sudden and

catastrophic events in the environment (24).

The non-Gaussian nature of red and pink noise distributions impairs our ability to calculate descriptive statistics or probability distributions. Prevented are classical logic, rigid models, and tightly coupled concepts. Without a Gaussian distribution, we become limited in comparing our situation with a reference class or predicting an accurate trajectory. Uncertainty is a fundamental cause of psychological stress.

“Prevented are classical logic, rigid models, and tightly coupled concepts. Without a Gaussian distribution, we become limited in comparing our situation with a reference class or predicting an accurate trajectory. Uncertainty is a fundamental cause of psychological stress.”

This problem of more data clouding the conclusions develops when an event is influenced by what preceded the event. That is, the event is no longer independent of preceding events. Autocorrelation is when past observations or events have an impact on current ones.

Entropy

Energy transforms and dissipates, the first and second laws of thermodynamics. For HRO, we identify five relevant forms of energy: thermal, chemical, kinetic, electrical, and ionizing radiation. Elements of safety for the HRO are directed toward containment or constraint of these forms of energy and prevention of their transformation to other forms.

Information also dissipates and transforms, described mathematically by Claude Shannon in his equation for information entropy. Information dissipation and the corruption of information through communication led Shannon to identify two states of information: certain versus not certain (26). For electronic communication, this became the binary system, 1 and 0, that developed into digital

forms of electronics.

“Though not entropy, we consider uncontrolled behavior as a form of red or pink noise. Human behavior interacts with the entropies of energy and information to create forcing functions. We cannot predict how someone will behave in a confusing situation or under threat.”

Though not entropy, we consider uncontrolled behavior as a form of red or pink noise. Human behavior interacts with the entropies of energy and information to create forcing functions. We cannot predict how someone will behave in a confusing situation or under threat, whether it is our response or the response of others. Behaviors we encounter may be diagnosed as clinical disorders or subclinical, undiagnosed, or untreated psychological traits or disorders. (27).

Perhaps the true force of nature is entropic stochastic processes.

Precision and Accuracy

The color of noise differentiates the functions of precision and accuracy. Structures that must *not* deviate from specifications require precision. That is, the system cannot tolerate variance from the specified value. These systems have no autocorrelation, meaning measurements are independent and random. Data then forms a Gaussian distribution where more data decreases variance. The measure of error from the desired value guides acceptance or rejection. Error is a measure of quality to reduce error. These are *information-sensitive* systems, and gathering information may be a legitimate focus of operations.

“On the other hand, structures exposed to entropic dissipating energy must remain within a specified range for continued operations. The system fluctuates in response to these environmental forcing functions, with variance increasing with the power of the forcing functions.”

On the other hand, structures exposed to entropic dissipating energy must remain within a specified range for continued operations. The system fluctuates in response to these environmental forcing functions, with variance increasing with the power of the forcing functions. Feedback within and between the forcing function and the system forms a power distribution. More data increases variance making prediction difficult. Measurements that differ from expected or desired values may indicate changing circumstances, the limits of knowledge, or the boundary of perfor-

mance. Error, wrongly considered a failure signal (28), has value in the HRO. Though red and pink noise environments are *information insensitive*, they are not feedback insensitive. Engagement generates information through real-time feedback despite rapid changes in human performance or the environment.

Precision is a measure of reduced variance necessary for hardware’s smooth functioning or operations in a white-noise environment. Error marks values exceeding what can be accepted. Accuracy is proximity to the desired value or state and will improve with feedback. Accuracy works well for moving targets. White noise environments with a Gaussian distribution rely more heavily on precision, while red or pink environments rely on accuracy in the absence of the Gaussian distribution—[Table 2].

Table 2: Precision versus Accuracy

| Precision | Accuracy |
|---|---|
| Hardware | Human behavior |
| Assures our understanding | Extends our understanding |
| Applicable to white noise | Applicable for red and pink noise |
| Gaussian distribution (“Six Sigma”) | Power distribution |
| Error identifies a structural defect | Error generates information An error ensures safety by identifying boundaries of knowledge and performance |
| Identified by feedback | Improved by feedback |
| Short feedback only | Incorporates long, delayed, indirect feedback loops |
| Long feedback contains too many factors | |
| | Failure as negative feedback keeps you grounded |
| Assures homeostasis | Supports allostasis |
| Uncovers structural errors | Uncovers flux in the environment Uncovers system impairments Uncovers performance decrements |
| Improved by moving offline | Can be improved in real-time |
| Supports certitude, motivated reasoning, the hedgehog, and narcissism | Creates doubt, the fox, and psychological grounding |

Table developed with Ian van Stralen

Engagement as Defense

We protect ourselves within the flux of events by acting to prevent consequences. During a crisis, fixed defenses become underspecified instructions for the conditions and contexts. Preplanned routines soon constrain or impair decision-making. The resulting inability to act against consequences makes the system “brittle” and challenging to extend into new situations (29, 30).

"This is the problem of *unanticipated variability*, which frequently happens during emergencies at complex technological systems. Operators must continue operating and controlling the system in a totally new and unprecedented environment and adverse conditions. Coming up with an unprecedented plan is strongly culturally driven," Najmedin Meshkati and Yalda Khashe (31).

"Operators must continue operating and controlling the system in a totally new and unprecedented environment and adverse conditions. Coming up with an unprecedented plan is strongly culturally driven," Najmedin Meshkati and Yalda Khashe (31)."

Behaviors

Behavior is the most immediately adaptive method used by animals to survive an adverse or hostile environment (32). We consider our behaviors to be learned. However, some behaviors have a neurologic basis, such as relaxed selection, personality type, and emotional memory. In urgent circumstances, protective behaviors are expressed that we modulate for effective engagement.

- *Relaxed selection* occurs when an environmental demand or threat is removed, relaxing selection pressure and altering the original suites of behavior (33). This is similar to animal domestication, which introduced domesticated traits unsuitable for survival in the wild condition (34).
- *Personality types* are consistent, inter-individual behavioral differences. We are familiar with personality in psychology, linked to emotionality with neuroendocrinological characteristics. Ecologists use a broader sense definition at the population level as responsiveness to the environment. These are inheritable behavioral suites ranging from insects to primates (35, 36).
- *Evolutionary fear circuits* describe heritable fears with origins in evolution. Examples are fear of high elevations in adults (Mesozoic), snakes, confined spaces, and water immersion (Cenozoic), compulsive washing, and an obsessive fear of contamination (Upper Paleolithic) (37)
- *Emotional memory* is how we learn a survival behavior from a single, emotionally charged incident, preparing the individual for a similar circumstance. The amygdala links memory to emotions causing reflexive emotional, visceral, and behavioral responses to threats (38, 39). Emotional memory has been identified in wild animals (40).

Behaviors come in suites coordinated for various purposes (41, 42). Suites of behaviors that combine actions and non-actions will create sustained, coordinated defensive responses for survival. Relaxed selection forms some behavioral suites. Personality, consistent or repeatable inter-individual differences in behavior across time and contexts (43), form other behavioral suites.

Animal personality strategies adaptive to uncertainty fall into three groups that we also see in human responses (36):

1. gather information to reduce uncertainty (information sensitivity),

2. show strategic preferences for options that differ in their associated variances in rewards (variance-sensitivity),
3. invest in insurance to mitigate the consequences of uncertainty (associated with differences in risk-taking behaviors such as boldness).

Self-Organization

In response to a crisis, human behavior will self-organize as a defense against the threat. With the necessary degrees of freedom, individuals will use reciprocal feedback to generate information and create structure. *This is engagement.*

Through nonlinear kinetics, these defensive structures emerge by self-organization. "Individual organisms may use simple behavioral rules to generate structures and patterns at the collective level that are relatively more complex than the component and processes from which they emerge" (44). *Thus, complexity can emerge without many rules or components and can be mistaken for the mathematical concept of chaos* (18).

"Through nonlinear kinetics, these defensive structures emerge by self-organization. "Individual organisms may use simple behavioral rules to generate structures and patterns at the collective level that are relatively more complex than the component and processes from which they emerge" (44)."

People will spontaneously self-organize against forcing functions coming from the environment. The specifications of this process differ between the outside whole field view and internal local groupings. The understanding differs between top-down strategies and bottom-up tactics. Through engagement, however, a gap forms between the spectator's understanding and those who engage in the threat.

Bottom-up Defenses

Proactive defenses, top-down strategies, preplanned routines, and well-developed protocols contribute to the effectiveness of operations and management of risk for organizations. This top-down or "whole field view" perspective functions well for the organization during routine operations, in the presence of risk, and when faced with a crisis. (Risk is the "effect of uncertainty on objectives," ISO 31000 standards for risk management). Leaders with a full-field view can manage risk by observing operations or crises as the aggregate flow of individual events (10).

Proactive defenses, however, have their most significant effectiveness against predictable and controllable risks. Fixed constitutive defenses become effective against consistently high risks or when defensive costs are low costs (45). Top-down strategies with whole-field specifications readily support proactive and fixed constitutive defenses. For many people, reliance on fixed defenses is intuitive.

The intuitive nature of the whole field view and the order it brings to the organization gives this view a privileged perspective. Proactive defenses and top-down strategies become favored. Dimin-

ished are the processes that develop High-Reliability Organizing (HRO). Focus on a top-down approach impairs the organization's effectiveness during an unexpected event (2).

“Hazards or threats vary by location or over time, and defenses carry costs. Reactive defenses are more effective and reliable for increasingly unpredictable or uncontrollable threats that vary by location or over time.”

Hazards or threats vary by location or over time, and defenses carry costs. Reactive defenses are more effective and reliable for increasingly unpredictable or uncontrollable threats that vary by location or over time. When defenses carry costs, it may be more reasonable for behaviors as inducible responses to have a role in defense. Inducible threat responses allow the selection of defensive behaviors with the variable expression: increased behaviors for elevated risks and decreased expression as the risk abates (45). While behaviors have a cost for education and training, HRO behaviors can support routine operations.

Inducible antipredator responses allow the selection of antipredator behaviors with variable expression, increased behaviors for elevated risks, and decreased expression as the risk abates [5]. We have an inducible antipredator response: terminate ongoing behaviors through the stress hypothalamic-pituitary-adrenal (HPA) axis while initiating attention-arousal behaviors through the locus coeruleus-norepinephrine (LC-NE) system. The LC-NE system utilizes broad attention networks to sustain effective cognition under stress. *This occurs at the level of engagement.*

The Covid-19 Crisis has refocused attention away from top-down normative strategies toward more bottom-up pragmatic tactics. That reorientation has grounded high reliability more firmly in operations, less preoccupied solely with error, and less entirely in the managerial language of design, human factors, leveraging, anticipation, rules, root causes, and problem-solving (2). *Bottom-up pragmatic tactics support engagement.*

The *function* of engagement is to reduce negative consequences – we act to prevent an undesired outcome. This context is the basis of pragmatism as philosophy (46), common sense decision-making (47), stress-induced symptoms, fear circuitry behaviors, amygdala-driven behaviors (37, 48), and current neuroscience research on how the brain works (49).

“Engagement is an inducible, interactive anti-threat response to the threat and the consequences of the threat. Behavioral suites from relaxed selection and learned ensembles of behaviors contribute to engagement.”

Engagement is an inducible, interactive anti-threat response to

the threat and the consequences of the threat. Behavioral suites from relaxed selection and learned ensembles of behaviors contribute to engagement. The engagement process, though, is directed at self-organization by reciprocal feedback. The outcomes are to generate information and create structure. *Engagement is nonlinear.*

Engagement as Thinking

In the flux of events, we must think despite threats that cause stress, fear, amygdala behaviors, shifting meaning and relevance of information, and distractions from extraneous activity. However, thinking in engagement generates information from uncertainty that can rapidly be communicated to others. Within the void of the situation, we must create structure. This structure is engagement as motor cognition.

“In the flux of events, we must think despite threats that cause stress, fear, amygdala behaviors, shifting meaning and relevance of information, and distractions from extraneous activity. However, thinking in engagement generates information from uncertainty that can rapidly be communicated to others. Within the void of the situation, we must create structure. This structure is engagement as motor cognition.”

High-level knowledge is grounded in sensory and motor experience (50). This knowledge shapes the motor system for anticipation and provides information for the meaning of potential action (51, 52). We rely on reciprocal feedback from the environment (53). We think by acting (54).

Motor Cognition

Motor cognition describes how we adjust our actions to changing situations and learn through physical actions. The cerebellum and motor cortex influence our cognition and how we learn to understand the environment through physical action. Executive and higher-level cognitive cortical functions draw upon interactions with cerebellar motor functions (50, 55, 56).

The executive functions support motor attention, working memory, and inhibitory control:

- *Motor attention* to preparing for impending motor action – “memory of the future” (57)
- *Working (short-term) memory* for sensory stimuli mediates perception and action toward a goal in real-time (57)
- *Inhibitory control* protects goal-directed behavior from interference, distracting information, and impulsive or reflexive behaviors (57); inhibits emotional memories (38, 39), well-established habits, and more easily processed intuitions (58).

Stress-induced symptoms and fear circuitry behaviors impair ab-

stract thought, and the executive functions of memory and inhibitory control constrain abstract thought. To a degree, this is necessary to operate in unstable environments. Unmodulated, stress and fear become incapacitating (48, 59).

It is sometimes assumed that, during a crisis, people will operate with abstract thought and reason. This expectation leads to confusion. In practice, unmodulated stress and fear cause psychological regression and concrete thinking. Individuals sincerely believe they are being prudent and have not regressed to concrete thought (27). Karl Weick (personal communication, 08/04/2017) responded to this observation, "I would have assumed that capability for abstract thought is a constant, not a variable. That, by the way, is an alternative explanation for regression to first-learned behavior in the face of stress. Maybe it is NOT first learned, but the concrete that people regress to."

Actions create what we think, which continuously changes until we finish acting. During engagement, our *behavioral* interactions with the environment cause our brain to specify desirable actions as the environment changes (60). Through the motor system, continuous, bottom-up feedback for sensorimotor control detects prediction errors, updating ongoing action. This feedback enhances or cancels some sensorimotor signals. Alternative actions continue to be mentally processed (60). Our actions make us visible to ourselves our intention.

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The Reality of Motor Cognition

Operators in dangerous contexts use concrete nouns for description and emphasize action verbs for communication. Recent neuroscience findings support this behavior. Action words and motor actions noted above share common cortical representations. Action verbs, more so than concrete nouns, affect overt motor performance dependent on timing. An action verb will interfere with a reaching movement in progress within 200 msec. The exact words processed *before* movement will *assist* the movement (61). This action, fortunately, is category specific. A quick shout to move a hand causes hands to move and not random body parts. The category-specific, functional linking of language and motor action in the left hemispheric cortical systems link arm and leg actions with processing specific kinds of words. The two systems interact to produce meaningful information about language and action (52, 62, 63).

Upon encountering a novel or uncertain situation, we can fit the situation into our understanding, or we can use the situation to extend our understanding. This adaptation is less a spectrum of thinking than a strategy for uncertainty. Using the situation to extend knowledge, performance, and operations is the engine of High-Reliability Organizing.

The Ability to Think under Stress

"In potentially or actually unsafe situations, the ability to reorient

attention to potential threats, mobilize energy resources, and take *rapid unpremeditated action* is critical to immediate survival" (64) (Emphasis by the authors). The effective operator searches for "alternative tasks that may provide better solutions amid a changing environment or when the *present behavior is not optimally adaptive*" (65) (Emphasis by the authors). These are High-Reliability Situations (HRS) (27). Human cognitive, affective, and behavioral responses generate engagement of the HRS, which is the crux and driver of High-Reliability Organizing (HRO) (19). *Where we stand determines how we engage.*

"It is not whether we are right or wrong but how quickly we identify whether our action is effective. One's frame of understanding and how we frame the situation are unrelated reference frames for evaluating effectiveness."

It is not whether we are right or wrong but how quickly we identify whether our action is effective. One's frame of understanding and how we frame the situation are unrelated reference frames for evaluating effectiveness. This is described by Bob Bea, Professor Emeritus, Civil Engineering, University of California, Berkeley (66), as *interactive, real-time risk assessment and management*.

"Our [dangerous] work has termed this *interactive-real-time assessment and management of risks*. This approach was completely overlooked until the early 1990s. We were taught that there was only *proactive* (before operations) and *reactive* (after) – and that was it. And we thought we could capture all of the risks with the proactive approaches – and then provide adequate defenses if 'justified' – but we were missing some really major risks that were fundamentally unpredictable and unknowable."

Bob Bea, 08/30/2005, personal communication

The strategy of fitting the situation into our understanding may give a sense of mastery and gain respect from some. In an uncertain situation, however, such certitude is more likely to lead to misdiagnosis when selecting ineffective or harmful treatments. The lack of real-time subtle and nuanced feedback indicates that a team is not using the engagement approach. The risk is to incorporate into organizational knowledge the invisible 'failure by not acting' (67) or the misrepresentation of failure as a success.

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One of the authors (DvS) had an email exchange with Karl Weick

(03/27/2017) regarding the effect of engagement on cognitive dissonance during an emergency:

“Knowledge in the threatening, unstructured state takes a different form than to what we are accustomed. Knowledge acts as a degree of belief that must be updated from information generated during the event. Mistaken beliefs must be identified and corrected, no matter how dearly held. A mistaken belief, compared to an updated belief, may only depend on its presence at initiation or the length of time it is held. Events happen continuously, creating the need for dynamic reasoning processes and more easily acceptance of new, disconfirming evidence. Long-held entrusted beliefs must be freely questioned, not an easy thing to do for most people, regardless of level of skilled or logic used.”

Daved van Stralen

“The clash between a mistaken old belief and an updated belief would seem to be a form of dissonance...The more you engage in dynamic reasoning [processes], the less chance there is for dissonance between the old belief and the updated, [improving] belief to develop, the fewer errors you make, but at risk of a new set of cues being neglected.”

Karl Weick

Engagement, through motor cognition, continually updates and revises beliefs, no matter how firmly held.

Engagement Inside and Out

The Eulerian flow specification is measured from a fixed point of reference outside the flow of events. It gives a ‘whole field view’ of events. The Lagrangian specification of flow, measured from within the flow of events, also measures how small groups experience events (68) (Table 3).

Table 3: Whole Field View and Local Groupings as Eulerian and Lagrangian Specifications (69)

| Whole field view | Local groupings |
|---|---|
| Eulerian, quantitative | Langrangian, qualitative |
| Decontextualized | Contextual |
| External, fixed point Select a viewing point Focus on a specific location | Within flow Select a starting point Focus on the individual moving parcel |
| Flow | Trajectory |
| Multiple fixed positions | Continuous measure with position and pressure |
| Rate of change of system | Individual parcels |

Differentiating these specifications reveals differences in evaluating the organization’s ‘motion’ through red or pink noise events. The different reference frames reveal different processes for the continuity of operations. Practical descriptions differ from the fixed-point whole field view that does not move despite events and the experience of local groupings that move with events. Neither is wrong, and both specifications are necessary for effective operations.

During operations, the captain of a US Navy nuclear-powered aircraft carrier is on the bridge, engaged through the whole field view. As local groupings continue operations, the captain can evaluate performance and direct support as needed (TAM). Firefighting has

the phrase when a captain picks up the firehose; the captain becomes a firefighter. A captain can have the whole field view or the local groupings view, but not both. In a PICU’s initial development, staff with little experience in critical care felt more secure with a critical care physician in the room for resuscitation. To increase their capacity to operate without direct attending supervision, one of the authors stood outside the room. He responded to requests to enter with, “There is a rule that you cannot run a resuscitation unless you stand at the door of the room.” Upon entering the room, all participants would look to the attending for orders.

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We distinguish the engaged leader using the whole field view of operations from the spectator at too great a distance for engagement. There is order within any “difficult period” built pragmatically through engagement and self-organization. Too great a distance and observers more easily adopt a normative stance; the error is the distance from accepted norms. The nature of the order is rendered less accurately by a spectator’s concepts than by the insider’s detailed acquaintance.

The distance from events does not necessarily make an individual a spectator. HROs are topological structures, meaning relations are described by their strength and, though deformable, relations are never broken. A topological philosophy keeps executives, administrators, and managers involved as operators. To support the development of a PICU, John Mace, the pediatric department chair, maintained topological relations throughout the program. More interactions strengthened relations, and the interactions were much like the captain on the bridge – directing support where he could and supporting disengagement by staff when indicated.

“For others, distance from events becomes a problem as information paradoxically becomes more confident with distance (70). “A story always sounds clear enough at a distance, but the nearer you get to the scene of events, the vaguer it becomes” – George Orwell describing shooting an elephant (71). ”

For others, distance from events becomes a problem as information paradoxically becomes more confident with distance (70). “A

story always sounds clear enough at a distance, but the nearer you get to the scene of events, the vaguer it becomes” – George Orwell describing shooting an elephant (71). Executives, administrators, and managers readily become spectators without realizing it.

As spectators far from events, they risk treating knowledge as certitude, relying on normative standards, focusing on the precision-based error in red noise environments, and micromanaging. During a discussion with HRO operators about the importance of details, Karl Weick observed that details could work against them. “The use of details without context is micromanagement,” he warned.

“As spectators far from events, they risk treating knowledge as certitude, relying on normative standards, focusing on the precision-based error in red noise environments, and micromanaging.”

Operators within a forcing function focus on context and what they can learn through engagement. Spectators will focus on what they already know.

Evaluating Motion and Continuity

From the outside, we choose a position in space or time that gives a “whole field view” of the evolving disaster. When viewing from the inside, as a “local grouping” of people would experience events, we select a starting place. From the starting place, we observe the local effects of the event on the local grouping. We can later aggregate local information to develop a more extensive field view.

The outside view is too easily taken as the top-down approach, while the view from inside the flow of events is assumed to be a bottom-up view. This understanding is too simple. A top-down approach develops when concepts or abstractions from a centralized authority guide action, while the bottom-up approach develops when contextual, local actions influence the centralized authority. The two views are different levels of analysis, and both support engagement.

“The outside view is too easily taken as the top-down approach, while the view from inside the flow of events is assumed to be a bottom-up view. This understanding is too simple.”

We can better understand these views not as directional influences but as specifications from outside or within the flux of events. The “whole field view,” from outside the flux of events, observes a specific area from a fixed position, though the “fixed” position can be moved to increase the scope of the field. Whole field observers primarily use location and time static coordinates as independent variables.

A “local grouping” specification refers not only to the group’s posi-

tions within the flux of events but to the group itself as an independent unit, including its actions. Within the flux of events, a local group becomes deformable; therefore, the position of the grouping is more important rather than the size of the group.

For local grouping specifications, the group’s identity becomes an independent variable.

- This form emphasizes changes to the state in a frame of reference that moves with events.
- The primary measurement of change is the velocity of change rather than the physical *direction* of movement.
- Entropic changes within events cause actions of the local group.
- The velocity of events and pressure on the local group are variables within the event.

The whole field view specification formulates movement as static coordinates that can also apply to local groupings. Local grouping specifications have coordinates that move with events. The whole field view, outside the flux of events, is more amenable to reliance on concepts and is tolerant of abstractions. The contextual nature of local groupings, from within the flux of events, is not tolerant of abstractions. Rather, abstractions can be dangerous and can kill (11).

“The whole field view, outside the flux of events, is more amenable to reliance on concepts and is tolerant of abstractions. The contextual nature of local groupings, from within the flux of events, is not tolerant of abstractions. Rather, abstractions can be dangerous and can kill (11).”

Engagement Bridges Gaps

Engagement is the act of approaching and entering liminal spaces (3). In these situations, sometimes all we have are observation and action (72). Engagement describes actions taken without certainty that they will succeed (73). Engagement describes the approach and experience when the operator does not know what will work. “I don’t know what is happening, but I know what to do.” – said a Los Angeles Fire Department firefighter. “HRO uniquely shapes the engagement that moves through and out of a liminal period,” Karl Weick (personal communication).

Spectators and those with the whole field view may too easily assume a static, closed system with parts that operate like a jigsaw puzzle – complete once assembled. This utilizes a “static process employed to analyze puzzles in matrixed depictions of the world. In that approach, all assumptions about a problem are built into the matrix at the start, thereby limiting the range of eventual deductions,” Adrian Wolfberg (74). We can solve the *puzzles* sequentially and, if necessary, figure out the missing pieces within the puzzle matrix. This normative view prevents engagement.

John Boyd (75), a US Air Force officer and strategist who created the OODA (Observe, Orient, Decide, and Act) Loop, considered

these problems a dynamic *mystery* rather than a static puzzle. Wolfberg demonstrated that we use Boyd's concept of mystery for "mystery-solving." This relies on "full spectrum analysis," many lines of simultaneous engagement as events unfold across a full spectrum of possible actions. Multiple challenges can best be solved in an integrated fashion to create synergy among disparate domains. "In full-spectrum analysis, the analyst examines not only multiple, possibly interrelated intelligence problems simultaneously but also considers contextual and influential factors that could affect the interim analysis of information and its interpretation" (74).

The act of engagement does more than bridge conceptual gaps in real-time. When engagement becomes the innate strategy for the individual or organization, it penetrates and diffuses from the inciting event temporally, spatially, and socially. *Unrecognized engagement* as an emergent property of operations exists as:

- **Safety** emerges from engagement as an early process before overt, decompensated functioning occurs. Safety operates in the domain of covert, compensated operations. "What went on before" is engaged, earlier and earlier.
- **Prevention** emerges from the engagement of failing but without the presence of failure.
- **The resilience of the organization** emerges by remaining engaged with operations past the resolution of events, mental consolidation of experience – meaning-giving
- **The individual's resilience** emerges when veterans remain engaged with novices past the resolution of events through meaning-giving; veterans reframe events for healthier mental consolidation of experience (53).
- **Leadership in dangerous contexts** emerges when the leader engages subordinates AND the environment (76, 77).
- **Lessons Learned**, the integration of the experience into operations emerges when experience and comprehensive review are given meaning by outside domains of knowledge and experience (10).
- **Trust** emerges by putting others first during the engagement.

Engagement bridges the gap between abstractions and details (Karl Weick, personal communication). Engagement makes use of the nuances and subtle differences in details. Details can herald an early response to therapy or be an early herald of failure (3).

"Feedback within a system creates long-period frequencies that produce periodic forcing functions or abrupt catastrophic events. Feedback as autocorrelation prevents using data from these systems to generate a Gaussian distribution for analysis. Uncertainty becomes the environment."

Conclusion

Feedback within a system creates long-period frequencies that produce periodic forcing functions or abrupt catastrophic events. Feedback as autocorrelation prevents using data from these sys-

tems to generate a Gaussian distribution for analysis. Uncertainty becomes the environment.

Engagement bridges the gaps between certainty and uncertainty, whether abstract or concrete. These systems are *information insensitive*; more data increase the variance. Therefore, collecting more data during the event does not contribute to problem-solving.

Engagement generates changing, though accurate, information representing the situation in flux at any given time. We also act to think. That is, motor cognition through the words we use and physical activity effectively supports engagement.

Engagement as behavior changes the environment as it produces information about that environment. The environment for engagement is influenced by reddened noise-forcing functions or shaped by abrupt catastrophes. The result is an information-insensitive environment where we generate information through reciprocal feedback. Therefore, we use reciprocal feedback to achieve and maintain accuracy. Fitting the situation into our understanding limits its reciprocal feedback and slows response time.

Through engagement, we advance our personal performance and how we extend the organization's operations into uncertainty

References:

1. Sandberg J, Tsoukas H. Grasping the logic of practice: Theorizing through practical rationality. *Academy of management review*. 2011;36(2):338-60.
2. van Stralen D. Pragmatic High-Reliability Organization (HRO) During Pandemic COVID-19. *Neonatology Today*. 2020;15(4):3-9.
3. van Stralen D, Mercer TA. High Reliability Organizing (HRO) is the Extension of Neonatology during Pandemic COVID-19. *Neonatology Today*. 2021;16(5):97-109. doi: 10.51362/neonatology.today/2021516597109.
4. Zundel M, Kokkalis P. Theorizing as engaged practice. *Organization Studies*. 2010;31(9-10):1209-27.
5. Heggie V. Experimental physiology, Everest and oxygen: from the ghastly kitchens to the gasping lung. *The British Journal for the History of Science*. 2013;46(1):123-47. doi: 10.1017/s0007087412000775.
6. Perrow C. Normal Accident at Three Mile Island. *Society* 1981;18(5):17-26.
7. LaPorte TR, Consolini PM. Working in Practice but Not in Theory: Theoretical Challenges of "High-Reliability Organizations". *Journal of Public Administration Research and Theory*. 1991;1(1):19-48.
8. van Stralen D, McKay SD, Mercer TA. Identifying Gaps – Entering the Path to High Reliability Organizing (HRO). *Neonatology Today*. 2022;17(8):29-42.
9. Buchanan R. Introduction: Design and Organizational Change. *Design Issues*. 2007;24(1):2-9.
10. van Stralen D, McKay SD, Mercer TA. Disaster Series: The Failure of Lessons Learned (LL) and the High-Reliability Organization (HRO): Experience-Conceptualization-Contextualization. *Neonatology Today*. 2022;17(11):20-34.
11. Weick KE. Arrested Sensemaking: Typified Suppositions Sink the El Faro. *in press*. 2022.
12. van Stralen D, McKay SD, Mercer TA. Disaster Series: The Abrupt NICU Evacuation – Disasters without a Plan. *Neonatology Today*. 2021;16(12):10-22.
13. van Stralen D, McKay SD, Mercer TA. Disaster Series: The Use of Information for Wildland Fire and the NICU: Combined Evacuation and Sheltering. *Neonatology Today*.

- 2021;16(11):105-14.
14. van Stralen D, McKay SD, Mercer TA. Disaster Series: Prolonged Improvisation – High Reliability Organizing, the NICU, and Hurricanes. *Neonatology Today*. 2022;17(1):10-27.
 15. Ivanov PC, Amaral LN, Goldberger AL, Stanley HE. Stochastic feedback and the regulation of biological rhythms. *EPL (Europhysics Letters)*. 1998;43(4):363.
 16. Kaitala V, Ylikarjula J, Ranta E, Lundberg P. Population dynamics and the colour of environmental noise. *Proceedings of the Royal Society of London Series B: Biological Sciences*. 1997;264(1384):943-8.
 17. Ivanov P, Ma QD, Bartsch RP, Hausdorff JM, Nunes Amaral LA, Schulte-Frohlinde V, et al. Levels of complexity in scale-invariant neural signals. *Phys Rev E Stat Nonlin Soft Matter Phys*. 2009;79(4 Pt 1):041920. Epub 2009/06/13. doi: 10.1103/PhysRevE.79.041920. PubMed PMID: 19518269; PubMed Central PMCID: PMC6653582.
 18. van Stralen D, McKay SD, Mercer TA. Disaster Series: High Reliability Organizing (HRO) as Self-Organization. 2022;17(2):14-27.
 19. van Stralen D, McKay SD, Mercer TA. High-Reliability Organizing (HRO) for Disasters: Capability and Engagement. *Neonatology Today*. 2022;17(10):18-32.
 20. Vasseur DA, Yodzis P. The color of environmental noise. *Ecology*. 2004;85(4):1146-52.
 21. Press WH. Flicker noises in astronomy and elsewhere. *Comments on Astrophysics*. 1978;7:103-19.
 22. Johnson JB. The Schottky effect in low frequency circuits. *Physical review*. 1925;26(1):71-85. doi: 10.1103/PhysRev.26.71.
 23. Travis JM. The color of noise and the evolution of dispersal. *Ecological Research*. 2001;16(1):157-63.
 24. Halley JM. Ecology, evolution and 1/f-noise. *Trends in ecology & evolution*. 1996;11(1):33-7.
 25. van Stralen D, McKay SD, Mercer TA. Disaster Series: High Reliability Organizing for (HRO) Disasters—Disaster Ecology and the Color of Noise. *Neonatology Today*. 2021;16(12):96-109. doi: <https://doi.org/10.51362/neonatology.today/2021161296108>.
 26. Shannon CE. A Mathematical Theory of Communication. *Bell System Technical Journal*. 1948;27(3):379-423. doi: 10.1002/j.1538-7305.1948.tb01338.x.
 27. van Stralen D, Byrum S, Inozu B. High Reliability for a Highly Unreliable World: Preparing for Code Blue through Daily Operations in Healthcare. North Charleston, SC: CreatSpace Publishing; 2017.
 28. van Stralen D, Gambino W. Error as a Faulty Failure Signal. *Neonatology Today*. 2020;15(9):114-7. doi: 10.51362/neonatology.today/20209159114117.
 29. McCarthy J. Some expert systems need common sense. *Ann N Y Acad Sci*. 1984;426:129-37. Epub 1984/01/01. doi: 10.1111/j.1749-6632.1984.tb16516.x. PubMed PMID: 6391331.
 30. McCarthy J. Artificial intelligence, logic and formalizing common sense. In: R.H. T, editor. *Philosophical logic and artificial intelligence*. Berlin, Germany: Springer, Dordrecht; 1989. p. 161-90.
 31. Meshkati N, Khashe Y. Operators' Improvisation in Complex Technological Systems: Successfully Tackling Ambiguity, Enhancing Resiliency and the Last Resort to Averting Disaster. *Journal of Contingencies and Crisis Management*. 2015;23(2):90-6. doi: 10.1111/1468-5973.12078.
 32. van Stralen D, Mercer TA. During Pandemic COVID-19, the High-Reliability Organization (HRO) Identifies Maladaptive Stress Behaviors: The Stress-Fear-Threat Cascade. *Neonatology Today*. 2020;15(11):113-24. doi: 10.51362/neonatology.today/202011511113124.
 33. Lahti DC, Johnson NA, Ajie BC, Otto SP, Hendry AP, Blumstein DT, et al. Relaxed selection in the wild. *Trends in ecology & evolution*. 2009;24(9):487-96.
 34. Post RH. Possible cases of relaxed selection in civilized populations. *Humangenetik*. 1971;13(4):253-84.
 35. Réale D, Dingemanse NJ, Kazem AJ, Wright J. Evolutionary and ecological approaches to the study of personality. *Philosophical Transactions of the Royal Society B: Biological Sciences*. 2010;365(1560):3937-46.
 36. Mathot KJ, Wright J, Kempnaers B, Dingemanse NJ. Adaptive strategies for managing uncertainty may explain personality-related differences in behavioural plasticity. *Oikos*. 2012;121(7):1009-20.
 37. Bracha HS. Human brain evolution and the “Neuroevolutionary Time-depth Principle:” Implications for the Reclassification of fear-circuitry-related traits in DSM-V and for studying resilience to warzone-related posttraumatic stress disorder. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*. 2006;30(5):827-53.
 38. LeDoux JE. Emotion circuits in the brain. *Annual review of neuroscience*. 2000;23(1):155-84.
 39. Joëls M, Fernandez G, Roozendaal B. Stress and emotional memory: a matter of timing. *Trends in cognitive sciences*. 2011;15(6):280-8.
 40. Boonstra R. The Ecology of Stress: A Marriage of Disciplines. *Functional Ecology*. 2013;27(1):7-10.
 41. Fristrup KM. A history of character concepts in evolutionary biology. In: Wagner GP, editor. *The character concept in evolutionary biology*. San Diego, CA: Academic Press; 2001. p. 13-36.
 42. Sih A, Bell AM, Johnson JC, Ziemba RE. Behavioral syndromes: an integrative overview. *The quarterly review of biology*. 2004;79(3):241-77.
 43. Réale D, Reader SM, Sol D, McDougall PT, Dingemanse NJ. Integrating animal temperament within ecology and evolution. *Biological Reviews*. 2007;82(2):291-318.
 44. Camazine S, Deneubourg J-L, Franks NR, Sneyd J, Theraula G, Bonabeau E. *Self-organization in biological systems*: Princeton University Press; 2020.
 45. Creel S. The control of risk hypothesis: Reactive vs. proactive antipredator responses and stress-mediated vs. food-mediated costs of response. *Ecology Letters* 2018;21(7):947-56.
 46. Weick KE. Organized sensemaking: A commentary on processes of interpretive work. *Human Relations*. 2012;65(1):141-53.
 47. van Stralen D, Mercer TA. Common Sense High Reliability Organizing (HRO) in the Response to COVID-19. *Neonatology Today*. 2021;16(7):90-102. doi: 10.51362/neonatology.today/2021716790102.
 48. van Stralen D, McKay SD, Hart CA, Mercer TA. Implementation of High-Reliability Organizing (HRO): The Inherent Vice Characteristics of Stress, Fear, and Threat. *Neonatology Today*. 2022;17(6):26-38.
 49. Engel AK, Maye A, Kurthen M, König P. Where's the action? The pragmatic turn in cognitive science. *Trends in Cognitive*

- Sciences. 2013;17(5):202-9.
50. Caligiore D, Pezzulo G, Baldassarre G, Bostan AC, Strick PL, Doya K, et al. Consensus Paper: Towards a Systems-Level View of Cerebellar Function: the Interplay Between Cerebellum, Basal Ganglia, and Cortex. *Cerebellum*. 2017;16(1):203-29. Epub 2016/02/14. doi: 10.1007/s12311-016-0763-3. PubMed PMID: 26873754; PubMed Central PMCID: PMC5243918.
 51. Jeannerod M. Neural simulation of action: a unifying mechanism for motor cognition. *Neuroimage*. 2001;14(1 Pt 2):S103-9. Epub 2001/05/25. doi: 10.1006/nimg.2001.0832. PubMed PMID: 11373140.
 52. Tettamanti M, Buccino G, Saccuman MC, Gallese V, Danna M, Scifo P, et al. Listening to action-related sentences activates fronto-parietal motor circuits. *J Cogn Neurosci*. 2005;17(2):273-81. Epub 2005/04/07. doi: 10.1162/0898929053124965. PubMed PMID: 15811239.
 53. van Stralen D, Mercer TA. High-Reliability Organizing (HRO) in the COVID-19 Liminal Zone: Characteristics of Workers and Local Leaders. *Neonatology Today*. 2021;16(4):90-101. doi: 10.51362/neonatology.today/2021416490101.
 54. Weick KE. Enacted sensemaking in crisis situations *Journal of management studies*. 1988;25(4):305-17.
 55. Schmahmann JD. The cerebellum and cognition. *Neurosci Lett*. 2019;688:62-75. Epub 2018/07/13. doi: 10.1016/j.neulet.2018.07.005. PubMed PMID: 29997061.
 56. Gallese V, Rochat M, Cossu G, Sinigaglia C. Motor cognition and its role in the phylogeny and ontogeny of action understanding. *Dev Psychol*. 2009;45(1):103-13. Epub 2009/02/13. doi: 10.1037/a0014436. PubMed PMID: 19209994.
 57. Fuster JmM. Prefrontal neurons in networks of executive memory. *Brain research bulletin*. 2000;52(5):331-6.
 58. Shtulman A, Valcarcel J. Scientific knowledge suppresses but does not supplant earlier intuitions. *Cognition*. 2012;124(2):209-15.
 59. van Stralen D, Mercer TA. Pragmatic High-Reliability Organizations (HRO) Modulates the Functions of Stress and Fear Behaviors During Pandemic COVID-19: The Stress-Fear-Threat Cascade. *Neonatology Today*. 2020;15(10):126-34. doi: 10.51362/neonatology.today/2020101510126134.
 60. Pezzulo G, Cisek P. Navigating the Affordance Landscape: Feedback Control as a Process Model of Behavior and Cognition. *Trends Cogn Sci*. 2016;20(6):414-24. Epub 2016/04/28. doi: 10.1016/j.tics.2016.03.013. PubMed PMID: 27118642.
 61. Boulenger V, Roy AC, Paulignan Y, Deprez V, Jeannerod M, Nazir TA. Cross-talk between language processes and overt motor behavior in the first 200 msec of processing. *J Cogn Neurosci*. 2006;18(10):1607-15. Epub 2006/10/04. doi: 10.1162/jocn.2006.18.10.1607. PubMed PMID: 17014366.
 62. Pulvermuller F, Hauk O, Nikulin VV, Ilmoniemi RJ. Functional links between motor and language systems. *Eur J Neurosci*. 2005;21(3):793-7. Epub 2005/03/01. doi: 10.1111/j.1460-9568.2005.03900.x. PubMed PMID: 15733097.
 63. Buccino G, Riggio L, Melli G, Binkofski F, Gallese V, Rizzolatti G. Listening to action-related sentences modulates the activity of the motor system: a combined TMS and behavioral study. *Brain Res Cogn Brain Res*. 2005;24(3):355-63. Epub 2005/08/16. doi: 10.1016/j.cogbrainres.2005.02.020. PubMed PMID: 16099349.
 64. Hermans EJ, Henckens MJ, Joëls M, Fernández G. Dynamic adaptation of large-scale brain networks in response to acute stressors. *trends in Neurosciences*. 2014;37(6):304-14.
 65. Valentino RJ, Bockstaele EV. Convergent regulation of locus coeruleus activity as an adaptive response to stress. *European Journal of Pharmacology*. 2008;583(2-3):194-203.
 66. Prud'homme A. Bob Bea, the Master of Disaster. *Men's Journal* 2013;5:72-5.
 67. Weick KE. *Enactment and Organizing. The Social Psychology of Organizing*. Second ed. New York, NY: McGraw-Hill, Inc.; 1979. p. 147-69.
 68. van Stralen D, Mercer TA. Inductive Processes, Heuristics, and Biases Modulated by High-Reliability Organizing (HRO) for COVID-19 and Disasters. *Neonatology Today*. 2021;16(9):104-12. doi: 10.51362/neonatology.today/20219169104112.
 69. Price JF. *Lagrangian and eulerian representations of fluid flow: Kinematics and the equations of motion: MIT OpenCourseWare*; 2006.
 70. Tetlock PE. *Expert Political Judgment*. Princeton, NJ: Princeton University Press; 2009.
 71. Orwell G. Shooting an elephant. In: Packer G, editor. *Facing Unpleasant Facts: Narrative essays*. Boston, MA: Mariner Books; 2008. p. 29-37.
 72. van Stralen D, Mercer T. The Art of Neonatology, the Art of High Reliability as a Response to COVID-19. *Neonatology Today*. 2021;16(2):74-83. doi: 10.51362/neonatology.today/202121627483.
 73. van Stralen D, Mercer TA. The Nature of Neonatal Experience during Pandemic COVID-19. *Neonatology Today*. 2021;16(3):87-97. doi: 10.51362/neonatology.today/202131638797.
 74. Wolfberg A. Full-spectrum analysis: A new way of thinking for a new world. *Military Review*. 2006;86(4):35-42.
 75. Boyd J. *Destruction and creation*. Fort Leavenworth, KS: US Army Command and General Staff College, 1976.
 76. Dixon DP, Weeks M, Boland R, Perelli S. Making Sense When It Matters Most: An Exploratory Study of Leadership In Extremis. *Journal of Leadership & Organizational Studies*. 2016;24(3):294-317. doi: 10.1177/1548051816679356.
 77. Kolditz TA. Research in In Extremis Settings: Expanding the Critique of 'Why They Fight'. *Armed Forces & Society*. 2006;32(4):655-8. doi: 10.1177/0095327x05283853.

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Fellow's Column: Importance of Maternal Health in Childhood Development

Abigail Chamberlain OMS3, Ilish Gedestad OMS3

“Helping the mother find a new balance is imperative for her and the new child’s well-being. Mental health is especially important and difficult to discuss in a short appointment. If a mother’s mental health is overlooked, this changes the course of her life and could have a lifelong impact on the child’s development.”

When a child is born, they have their first pediatric appointment within three to five days. They are seen again at one month, two months, four months, and up to six times in the first year. Their progress is charted, and every milestone is marked. However, what if we overlook a major component of the child’s health - the mother’s mental health? The mother is often only seen by her obstetrician at six weeks postpartum and is expected to discuss all aspects of motherhood in one visit. After giving birth, many new life adjustments often require the guidance of a physician. In one appointment, they must cover mental health, her healing body, breastfeeding, and contraception. Helping the mother find a new balance is imperative for her and the new child’s well-being. Mental health is especially important and difficult to discuss in a short appointment. If a mother’s mental health is overlooked, this changes the course of her life and could have a lifelong impact on the child’s development.

“10-15% of mothers in the US experience perinatal depression (1). With about four million women giving birth in the US every year, perinatal depression affects approximately 600,000 mothers per year.”

10-15% of mothers in the US experience perinatal depression (1). With about four million women giving birth in the US every year, perinatal depression affects approximately 600,000 mothers per year. It has the same criteria as major depressive disorder (MDD) but must be diagnosed during pregnancy or within four weeks of giving birth. To be diagnosed, one must have a persistent depressed mood or loss of interest for at least two weeks plus five associated symptoms, including changes in sleep, energy, concentration, appetite, psychomotor ability, guilt, or thoughts of suicide. Specific perinatal symptoms to be aware of are feelings of being a bad mother, a lack of interest in the baby, or fear of harming the baby that interferes with one’s ability to function.

With so many mothers diagnosed with perinatal depression, what does this mean for the child? Recently, more studies have examined the relationship between maternal health and childhood health outcomes. One study, which included over 200,000 mother-child pairs, indicated that the incidence of accidental burns and poisonings was increased in children whose mothers were diagnosed with perinatal depression (2). Another study highlighted that mothers in Nigeria are more likely to have children below the 5th percentile for weight at six months if diagnosed with perinatal depression (3). Maternal depression affects not only the child’s physical health but mental health as well. The inability to regulate negative affect was shown to be more prevalent in four-month-old babies whose mothers were diagnosed with depression (4). Using MRI imaging, researchers could even show evidence of decreased cortical thickness indicating premature brain development when comparing the brains of three-year-olds of mothers with and without perinatal depression. (5).

“Perinatal depression has many adverse outcomes that can greatly affect the health and development of a child. There seems to be a crack in the healthcare system, somewhere between primary care physicians and obstetricians. Mothers need help finding a new normal after giving birth.”

Perinatal depression has many adverse outcomes that can greatly affect the health and development of a child. There seems to be a crack in the healthcare system, somewhere between primary care physicians and obstetricians. Mothers need help finding a new normal after giving birth. Their mental health needs to be monitored more closely than only one check-up with their obstetrician after giving birth. One solution that has been offered up is to have the pediatrician screen for perinatal depression. While this sounds like a possible answer, those first pediatric appointments are often overwhelming, and mothers tend to focus all their attention on their children. The pediatricians are also on a tight schedule and may not have the appropriate time to talk with the mother and do a thorough screening. I propose that a new standard of care be developed for postpartum mothers. If we know new mothers are at such a high risk of developing perinatal depression, a system should be in place to monitor this vulnerable patient population, just as we would someone with hypertension or diabetes. With many treatment modalities available to patients with depression, it is possible to mitigate the effects of perinatal depression.

References:

1. *Shefaly Shorey, Cornelia Yin Ing Chee, Esperanza Debby Ng, Yiong Huak Chan, Wilson Wai San Tam, Yap Seng Chong, Prevalence and incidence of postpartum depression among healthy mothers: A systematic review and meta-analysis, Journal of Psychiatric Research, Volume 104, 2018, Pages 235-248.*
2. *Baker, Ruth, et al. “Maternal Depression and Risk of Injuries in Children Aged 0–4 Years: A Population-Based Cohort*

- Study." *The Lancet*, vol. 386, 2015,
3. Adewuya AO, Ola BO, Aloba OO, Mapayi BM, Okeniyi JA. Impact of postnatal depression on infants' growth in Nigeria. *J Affect Disord*. 2008 May;108(1-2):191-3. doi: 10.1016/j.jad.2007.09.013. Epub 2007 Nov 7. PMID: 17997163.
 4. Væver, Mette Skovgaard, et al. "Maternal Postpartum Depression Is a Risk Factor for Infant Emotional Variability at 4 Months." *Infant Mental Health Journal*, vol. 41, no. 4, 2020, pp. 477-494. <https://doi.org/10.1002/imhj.21846>.
 5. Lebel C, Walton M, Letourneau N, Giesbrecht GF, Kaplan BJ, Dewey D. Prepartum and Postpartum Maternal Depressive Symptoms Are Related to Children's Brain Structure in Preschool. *Biol Psychiatry*. 2016 Dec 1;80(11):859-868.

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- QI/QA work, case studies, or a poster from a scientific meeting may be submitted..
- Submission should be from a medical student, resident, fellow, or NNP in training.
- Topics may include Perinatology, Neonatology, and Younger Pediatric patients.
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NPA's
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INFANT AND FAMILY-CENTERED DEVELOPMENTAL CARE (IFCDC)

STANDARDS AND SAMPLE RECOMMENDATIONS FOR INFANTS IN THE INTENSIVE CARE UNIT

SYSTEMS THINKING IN COMPLEX ADAPTIVE SYSTEMS



- Are the baby and family central to the mission, values, environment, practice & care delivery of IFCDC in the unit?
- Are the parents of each baby fully integrated into the team and treated as essential partners in decision-making and care of the infant?
- What are the strategies and measurements used to improve and sustain IFCDC in the unit?

POSITIONING & TOUCH FOR THE NEWBORN

- Are the positioning plans therapeutic and individualized, given the care needs and development of the baby?
- Are the positioning and touch guidelines continually reviewed by the team, including the parents, and adapted to meet the changing comfort needs of the baby?



SLEEP AND AROUSAL INTERVENTIONS FOR THE NEWBORN

- Can the team confidently describe the "voice" or behavioral communication of the baby?
- Are the baby's unique patterns of rest, sleep, and activity documented by the team and protected in the plan of care?



SKIN-TO-SKIN CONTACT WITH INTIMATE FAMILY MEMBERS

- Is the practice of skin-to-skin contact supported and adjusted to the comfort needs of each baby, parent, & family member?
- Are the parents & family members supported to interact with the baby to calm, soothe, & connect?



REDUCING AND MANAGING PAIN AND STRESS IN NEWBORNS AND FAMILIES

- Are parents supported to be present and interactive during stressful procedures to provide non-pharmacologic comfort measures for the baby?
- Are there sufficient specialty professionals to support the wellbeing of the team, including parents, families, and staff? Examples include mental health, social, cultural, & spiritual specialists.



MANAGEMENT OF FEEDING, EATING AND NUTRITION DELIVERY

- Are the desires of the m/other central to the feeding plan? Is this consistently reflected in documentation with input of the m/other?
- Does the feeding management plan demonstrate a feeding & nutrition continuum from in-hospital care through the transition to home & home care?



WANT TO KNOW MORE ABOUT THE STANDARDS AND RECOMMENDATIONS? VISIT: [HTTPS://NICUDESIGN.ND.EDU/NICU-CARE-STANDARDS/](https://nicudesign.nd.edu/nicu-care-standards/)

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Keeping Your Baby Safe

during the COVID-19 pandemic

How to protect your little one from germs and viruses

Even though there are some things we don't know about COVID-19 yet, there are many more things that we do know. We know that there are proven protective measures that we can take to stay healthy.

Here's what you can do...

Wash Your Hands

- This is the single, most important thing you can do to stop the spread of viruses.
- Use soap.
- Wash for more than 20 seconds.
- Use alcohol-based sanitizers.



Limit Contact with Others

- Stay home when you can.
- Stay 6 feet apart when out.
- Wear a face mask when out.
- Change your clothes when you get home.
- Tell others what you're doing to stay safe.



Provide Protective Immunity

- Hold baby skin-to-skin.
- Give them your breast milk.
- Stay current with your family's immunizations.



Take Care of Yourself

- Stay connected with your family and friends.
- Sleep when you can.
- Drink more water and eat healthy foods.
- Seek mental health support.



Immunizations Vaccinations save lives. Protecting your baby from flu and pertussis lowers their risks for complications from coronavirus.



WARNING

Never Put a Mask on Your Baby

- Because babies have smaller airways, a mask makes it hard for them to breathe.
- Masks pose a risk of strangulation and suffocation.
- A baby can't remove their mask if they're suffocating.



If you are positive for COVID-19

- Wash with soap and water and put on fresh clothes before holding or feeding your baby.
- Wear a mask to help stop the virus from spreading.
- Watch out for symptoms like fever, confusion, or trouble breathing.
- Ask for help caring for your baby and yourself while you recover.



We can help protect each other.

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– CHRISTINE THEARD, M.D.

Post-Traumatic Thriving

The Art, Science, & Stories of Resilience



Randall Bell, Ph.D.

Briefly Legal: Should a Six-Week Old Infant with Respiratory Syncytial Virus be Admitted to a Pediatric Ward?

Maureen Sims, MD, Barry Schifrin, MD

“The baby never received Palivizumab because the physician was awaiting approval from the insurance company. While at home at six weeks, the infant stopped feeding well and developed a nonproductive cough, mild nasal congestion, and difficulty breathing.”

A 1590-g 31 weeks' gestation female was delivered to a 31-year-old mother whose prenatal course was complicated by preeclampsia for which a cesarean section was performed. The baby was admitted to the Newborn Intensive Care Unit for prematurity and was provided nasal continuous positive airway pressure (CPAP) for a few days. She was discharged at a month of age during the winter (pre-Covid pandemic). The baby never received Palivizumab because the physician was awaiting approval from the insurance company. While at home at six weeks, the infant stopped feeding well and developed a nonproductive cough, mild nasal congestion, and difficulty breathing. The parents brought the infant to the Emergency Department. The infant was alert and responsive. The oxygen saturation was 96% on room air, the heart rate (HR) was 166 beats per minute (bpm), and the temperature was 97.6°F. The rapid nasopharyngeal swab was positive for the respiratory syncytial virus (RSV). A complete blood count (CBC) was normal. The chest radiograph showed hyper-aeration of the lung fields, with bilateral infiltrates, flattening of the diaphragm, and wide intercostal spaces. The baby was placed on antibiotics and admitted to the pediatric ward.

“The baby was never placed on a monitor, and blood pressure was not taken. Tachycardia, intermittently >200 bpm, was documented throughout the course.”

Worsening respiratory distress developed, and a high-flow nasal cannula at 5 liters per minute (LPM) with inspired oxygen of 35% was provided. Through the evening and following days, higher flow rates and higher concentrations of inspired oxygen levels were needed to keep the oxygen saturation >95%. On days 1-4 on the ward, blood gases remained normal. Vital signs, taken every 4-6 hours, revealed increasing HR and respiratory rates accompanied by obvious respiratory distress. The baby was never placed on a monitor, and blood pressure was not taken. Tachycardia, intermittently >200 bpm, was documented throughout the course. Despite the infant's increased work of breathing and higher respiratory and heart rates, she remained on the pediatric ward for five days, where the nursing ratio on the ward was 1:4.

On DOH 5, copious secretions, mucous plugging, and desaturation occurred as low as 30% through the night. When her HR dropped to 70 bpm and could not be increased with positive pressure ventilation, cardiopulmonary resuscitation was started. The resuscitation consisted of 10 minutes of chest compressions, five epinephrine doses, multiple bicarbonate infusions, and 120 ml of normal saline. The cardiac monitor revealed multiple episodes of ventricular fibrillation. During the code, the pH was 6.95, and the pCO₂ was 79 mmHg. The pO₂ and base deficit (BD) were not recorded. At this point, she was sent to the Pediatric Intensive Care Unit (PICU).

“When her HR dropped to 70 bpm and could not be increased with positive pressure ventilation, cardiopulmonary resuscitation was started. The resuscitation consisted of 10 minutes of chest compressions, five epinephrine doses, multiple bicarbonate infusions, and 120 ml of normal saline. The cardiac monitor revealed multiple episodes of ventricular fibrillation.”

She could not be placed on a ventilator in the PICU because she needed continued positive-pressure ventilation beyond what could be provided at the initial hospital. Multiple normal saline boluses, pressors, as well as steroids were started in an attempt to stabilize the blood pressure. Helicopter transport to a Children's hospital was immediately arranged.

The transport team arrived shortly after being called and placed the baby on a high-frequency oscillator (HFOV) during transport. On arrival to the NICU, she had persistently low oxygen saturation, hypercarbia, and hypotension. Bacterial cultures and several viral cultures (Adenovirus, Coronavirus, Influenza A and B, and Parainfluenza virus) were negative, and the reverse transcriptase-polymerase chain reaction (RT-PCR) was positive. Extracorporeal membrane oxygenation (ECMO) and inhaled nitric oxide were begun for hypoxemic respiratory failure secondary to severe pulmonary hypertension. Cranial ultrasound was performed. Initially, pre-ECMO it was normal. On the fourth day after admission to the Children's Hospital, the cranial ultrasound showed increased echogenicity in the white matter of the right cerebral hemisphere, concerning for possible ischemic insult. An eight-week MRI showed *restricted diffusion with superimposed hemorrhage involving occipital, temporal, and parietal lobes and acute infarctions involving multiple cerebral artery territories*. A magnetic resonance angiogram (MRA) and venogram (MRV) showed acute infarctions in cerebral and intravascular border zones and acute infarction involving the corticospinal tract.

On follow up examination, the child had profound neurodevelopmental issues and cerebral palsy. The pediatrician and the hospital where the baby was admitted to the ward were

sued.

“On follow up examination, the child had profound neurodevelopmental issues and cerebral palsy.”

Plaintiff Allegations

The plaintiff experts were critical of the failure to properly assess and timely respond to the infant’s respiratory problems. This departure from acceptable standards of care resulted in admission to a normal pediatric ward with insufficient surveillance and inadequately trained nursing coverage.

They opined that a prematurely born, 6-week-old infant needed either admission to a Pediatric Intensive Care Unit (PICU) or placement in a Neonatal Intensive Care Unit (NICU) in isolation. -The baby should not have been admitted to the normal pediatric ward. Further allegations included failing to properly monitor vital signs, blood pressure, and blood gases in the pediatric ward.

The plaintiff’s experts agreed that although she was born during RSV season, she did not qualify for Palivizumab by the AAP Policy, not being <29 weeks’ gestation and requiring more than 21% oxygen for at least the first 28 days after birth. Nevertheless, the plaintiffs maintained that had she been properly monitored by experienced nurses and intensive care physicians, she would not have spiraled into profound pulmonary failure with pulmonary hypertension necessitating ECMO and inhaled nitric oxide. Nor would she have suffered prolonged hypotension, diminished cerebral blood flow, and ischemic injury.

“The plaintiff’s experts agreed that although she was born during RSV season, she did not qualify for Palivizumab by the AAP Policy, not being <29 weeks’ gestation and requiring more than 21% oxygen for at least the first 28 days after birth.”

The failure to admit the baby to a NICU or to a PICU caused the baby to worsen to the point of respiratory failure and cardiac collapse, which led to cerebral ischemia and brain injury. This baby was especially vulnerable to RSV infection, having been born prematurely and thereby missing the last several weeks of intrauterine existence when protective immunoglobulins would be transferred from the mother. At six weeks of age, she was at the nadir of her immunity.

Defense Points

The baby would have developed the same disease severity regardless of the unit where the baby was placed. The baby’s adverse outcome was secondary to prematurity.

The case was settled without going to trial.

Discussion

General

RSV causes annual epidemics of acute respiratory illnesses in children, from mild respiratory tract infections to severe lower respiratory tract disease, including bronchiolitis or pneumonia. Severe RSV disease mainly affects infants younger than six months. It often presents with generalized symptoms, such as lethargy, irritability, and poor feeding with minimal respiratory tract signs. Even in the absence of respiratory symptoms, these infants are at risk of developing apnea. Preterm infants are at particular risk from RSV infection, as are those with chronic lung disease or hemodynamically significant congenital heart disease, especially those associated with pulmonary hypertension. Infants with certain immunodeficiency states and neurologic and neuromuscular conditions are also at increased risk for serious RSV infection.

“Preterm infants are at particular risk from RSV infection, as are those with chronic lung disease or hemodynamically significant congenital heart disease, especially those associated with pulmonary hypertension. Infants with certain immunodeficiency states and neurologic and neuromuscular conditions are also at increased risk for serious RSV infection.”

Epidemiology

RSV activity usually begins in the late fall and extends through spring; peak activity usually occurs in early February, although there is regional variation. Humans are the only source of infection. RSV is usually transmitted by direct or close contact with contaminated secretions, which may occur from exposure to large-particle droplets at short distances (<6 feet) or by self-inoculation after touching contaminated surfaces or fomites. Viable RSV can persist on environmental surfaces for several hours and 30 minutes or more on hands. The incubation period ranges from 2 to 8 days, 4 to 6 days being the most common. Molecular diagnostic tests using reverse transcriptase-polymerase chain reaction (RT-PCR) assays have largely replaced both culture and antigen detection assays.

“RSV is usually transmitted by direct or close contact with contaminated secretions, which may occur from exposure to large-particle droplets at short distances (<6 feet) or by self-inoculation after touching contaminated surfaces or fomites. Viable RSV can persist on environmental surfaces for several hours and 30 minutes or more on hands.”

“In light of a national surge in respiratory infections among children, the American Academy of Pediatrics published in November 2022 two sets of interim guidelines on prophylaxis for children at high risk of complications from RSV and in handling the surge of patients filling hospital beds, or seeking attention in emergency departments and doctor’s offices.”

Current Considerations by the AAP – Winter - 2022

In light of a national surge in respiratory infections among children, the American Academy of Pediatrics published in November 2022 two sets of interim guidelines on prophylaxis for children at high risk of complications from RSV and in handling the surge of patients filling hospital beds, or seeking attention in emergency departments and doctor’s offices.

After the institution of nonpharmacologic interventions (e.g., masking and physical distancing) to prevent COVID-19 in March of 2020, the number of RSV infections in the US decreased rapidly and dramatically. Interactions between SARS-CoV-2 and other respiratory viruses may have altered RSV epidemiology. RSV activity in the US remained very low through the 2020-2021 fall-winter season but started to increase in spring 2021, with variable numbers of cases throughout the different regions of the US. This inter-seasonal activity was a marked deviation from the typical RSV seasonal pattern. As of mid-November 2022, RSV activity in the US is high in all regions, with substantial hospitalizations and illnesses. With the shift in seasonality noted in 2021 and current surge in RSV cases, the AAP supports Palivizumab use in eligible infants.

“After the institution of nonpharmacologic interventions (e.g., masking and physical distancing) to prevent COVID-19 in March of 2020, the number of RSV infections in the US decreased rapidly and dramatically. Interactions between SARS-CoV-2 and other respiratory viruses may have altered RSV epidemiology.”

For regions that began administering Palivizumab in the summer and fall of 2022, the currently widespread and intense RSV circulation may lead to a period of disease activity lasting more than the typical 60-months duration. If RSV disease activity persists at high levels in the given region through the fall and winter, the AAP supports providing more than five consecutive doses of Palivizumab to eligible children. With the known efficacy of Palivizumab and the unpredictable epidemiology of RSV

since the summer of 2021, the AAP recommends programmatic consideration of providing more than five consecutive doses of Palivizumab depending on the duration of the current RSV surge in a given region of the country.

“In mid-November 2022, the AAP and the Children’s Hospital Association urged Present Biden and Health and Human Services Secretary Xavier Becerra to declare a state of emergency to support a coordinated national response to the alarming surge of pediatric respiratory illnesses.”

In mid-November 2022, the AAP and the Children’s Hospital Association urged Present Biden and Health and Human Services Secretary Xavier Becerra to declare a state of emergency to support a coordinated national response to the alarming surge of pediatric respiratory illnesses. The request would allow waivers of Medicare, Medicaid, or Children’s Health Insurance Program (CHIP) requirements so hospitals, physicians, and other healthcare providers coordinate efforts to care for their community and access emergency funding to keep up with the demands, related explicitly to workforce support.

Prevention of RSV infections

Palivizumab reduces the risk of RSV-associated hospitalizations in carefully selected children at significantly increased risk of severe disease. Regional variations and inter-seasonal activity must be considered (see above). Palivizumab is administered IM at 15mg/kg once every 30 days. Children a risk who qualify for palivizumab prophylaxis should receive the first dose at the onset of the RSV season. For qualifying infants born during the RSV season, fewer than five doses will be needed to protect until the RSV season ends (maximum five doses). (See Table)

Other measures for the vulnerable infant include avoidance of tobacco smoke, child-care facilities, and crowds. Parents should be instructed on the importance of careful hand hygiene. While breastfeeding should be encouraged for all infants, the data are conflicting regarding the specific protective effect of breastfeeding against RSV infection.

“Other measures for the vulnerable infant include avoidance of tobacco smoke, child-care facilities, and crowds. Parents should be instructed on the importance of careful hand hygiene.”

Clinical studies are underway to develop a vaccine against RSV. In the US, there are four new RSV vaccines for adults nearing review by the FDA.

Treatment of RSV

No available treatment shortens the course of bronchiolitis or

hastens the resolution of symptoms. Management of hospitalized children with RSV is supportive and should include hydration, careful assessment of respiratory status, and suction of upper airways. Close monitoring, assessments, and experienced personnel are essential in caring for these infants.

“Although the droplet route may transmit RSV, direct exposure to infected respiratory secretions is the most crucial determinant of transmission. Adherence to contact precautions and standard precautions prevents transmissions in healthcare settings.”

Isolation of hospitalized patients with RSV infection

Although the droplet route may transmit RSV, direct exposure to infected respiratory secretions is the most crucial determinant of transmission. Adherence to contact precautions and standard precautions prevents transmissions in healthcare settings. Even though droplet precautions are not recommended for RSV, protection for the eyes, nose, and mouth by using a mask and goggles, or face shield, is necessary. Additionally, patients with RSV infection should be placed in single rooms or cohorts.

Inter-seasonal spread of RSV

With the seasonality shift noted in 2021 and current regional variability in interseason RSV cases, the American Academy of Pediatrics (AAP) recommends initiating the standard administration of Palivizumab during the inter-seasonal spread of RSV. This recommendation applies to those regions with high rates of RSV in the spring and summer. The AAP monitors the inter-seasonal trends and updates this guidance if the RSV season extends longer than six months. These data are available from the [National Respiratory and Enteric Virus Surveillance System](#) (NREVSS).

“The AAP monitors the inter-seasonal trends and updates this guidance if the RSV season extends longer than six months. These data are available from the National Respiratory and Enteric Virus Surveillance System (NREVSS).”

Table

Eligibility Criteria for Palivizumab

- Preterm infants <32 w if they required greater than 21% oxygen for at least the first 28 days after birth
- Infants with hemodynamically significant congenital heart disease
- Preterm infants born before 29 weeks younger than 12

months at the start of the RSV season

- Other infants, including those with anatomic pulmonary abnormalities or neuromuscular disorders; children with immunocompromise, anatomic pulmonary abnormalities or neuromuscular disorder, Down syndrome, cystic fibrosis, or other special situations
- Regional variations and interseasonal activity to be considered

Suggested reading:

1. American Academy of Pediatrics. Updated Guidance: Use of Palivizumab Prophylaxis to Prevent Hospitalization From Severe Respiratory Syncytial Virus Infection During the 2021-2022 RSV Season. American Academy of Pediatrics; August 2021. Available at: <https://www.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/clinical-guidance/interim-guidance-for-use-of-palivizumab-prophylaxis-to-prevent-hospitalization/interim-guidance-for-use-of-palivizumab-prophylaxis-to-prevent-hospitalization>
2. American Academy of Pediatrics, Committee on Infectious Diseases. Policy statement: Updated guidance for palivizumab prophylaxis among infants and young children at increased risk of hospitalization for respiratory syncytial virus infection. *Pediatrics*. 2014;134(2):415-420. Reaffirmed February 2019. DOI: <https://doi.org/10.1542/peds.2014-1665>
3. American Academy of Pediatrics Respiratory syncytial virus In Kimberline DW, Barnett, ED, Lynfield, R, Sawyer, MH Red Book 2021-2024 Report of the Committee on Infectious Diseases Itasca, IL pages 628-636
4. Centers for Disease Control and Prevention, Health Alert Network. Increased Interseasonal Respiratory Syncytial Virus (RSV) Activity in Parts of the Southern United States. June 10, 2021. Available at: <https://emergency.cdc.gov/han/2021/han00443.asp>
5. Mitchell I, Li A, Bjornson L, Respiratory Syncytial Virus Immunoprophylaxis with Palivizumab: 12-Year Observational Study of Usage and Outcomes in Canada *Am J Perinatol*. 2022;39:1668-1677.

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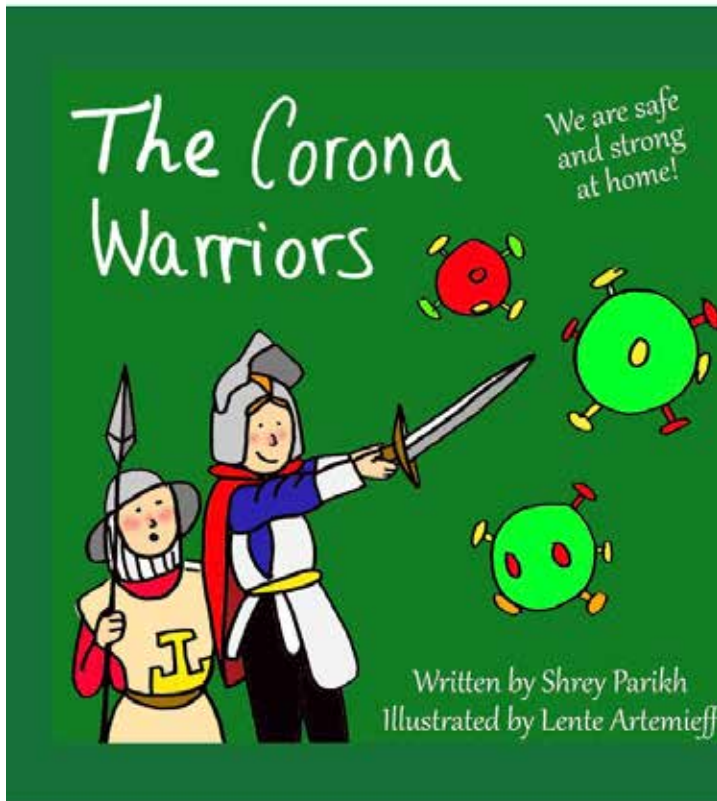
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TAKE THE NECESSARY STEPS TO ELIMINATE INEQUITIES



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SHARED DECISION-MAKING PROTECTS MOTHERS + INFANTS

DURING COVID-19

KEEPING MOTHERS + INFANTS TOGETHER

Means balancing
the risks of...

- **HORIZONTAL INFECTION**
- **SEPARATION AND TRAUMA**



EVIDENCE

We encourage families and clinicians to remain diligent in learning **up-to-date evidence**.

PARTNERSHIP

What is the best
for this unique dyad?

SHARED DECISION-MAKING

- S**EEK PARTICIPATION
- H**ELP EXPLORE OPTIONS
- A**SSESS PREFERENCES
- R**EACH A DECISION
- E**VALUATE THE DECISION



TRAUMA-INFORMED

Both parents and providers
are confronting significant...

- **FEAR**
- **GRIEF**
- **UNCERTAINTY**

LONGITUDINAL DATA

We need to understand more about outcomes for mothers
and infants exposed to COVID-19, with special attention to:

- **MENTAL HEALTH**
- **POSTPARTUM CARE DELIVERY**



NEW DATA EMERGE DAILY. NANN AND NPA ENCOURAGE PERINATAL CARE PROVIDERS TO ENGAGE IN CANDID CONVERSATIONS WITH PREGNANT PARENTS PRIOR TO DELIVERY REGARDING RISKS, BENEFITS, LIMITATIONS, AND REALISTIC EXPECTATIONS.

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Gravens By Design: A Voyage into Understanding the Effects of Race, Ethnicity, and Social Determinants of Health on Meaningful Change in the NICU Internationally, Nationally, Locally, and Individually

Vincent C. Smith, MD MPH and Molly Fraust-Wyllie, MA

“The Gravens conference strives to meet the educational needs of healthcare practitioners such as Neonatologists, Pediatricians, Neonatal Nurses (RNs, NNPs, ARNPs), Speech-Language Pathologist, Occupational Therapists, Physical Therapists, Psychologists, Family Support Staff, Architects, Hospital Administration, Infant & Child Development Specialists, Social Workers & Counselors, Parents, and Family members, and other professionals working with high-risk infants, their families or their physical environment.”

The Gravens conference strives to meet the educational needs of healthcare practitioners such as Neonatologists, Pediatricians, Neonatal Nurses (RNs, NNPs, ARNPs), Speech-Language Pathologist, Occupational Therapists, Physical Therapists, Psychologists, Family Support Staff, Architects, Hospital Administration, Infant & Child Development Specialists, Social Workers & Counselors, Parents, and Family members, and other professionals working with high-risk infants, their families or their physical environment.

“The individuals working in a NICU strive to provide exceptional care for the babies and families they come in contact with. One way to maximize the outcomes for babies and families is to understand their experience and the role each of us as individuals plays in contributing to those outcomes.”

Given that approximately 10 percent of newborns require care in the Neonatal Intensive Care Unit (NICU), the NICU plays a vital part in health care systems. Babies continue to be born pre-term and/or sick with medical conditions requiring hospitalization worldwide. Being in the NICU has lasting repercussions for babies, their families, and the staff. What the providers do in the NICU has a meaningful impact, both positive and negative. Their work can influence a neonate’s health outcome in the short and

long term, as well as that of the family and staff in the NICU.

The individuals working in a NICU strive to provide exceptional care for the babies and families they come in contact with. One way to maximize the outcomes for babies and families is to understand their experience and the role each of us as individuals plays in contributing to those outcomes.

The NICU is a very challenging place for families. Many are unfamiliar with the NICU, never thought they would be in the NICU and have difficulty grasping the concept that they are there now. For many family caregivers, especially those who experience a loss, the NICU can be emotionally traumatizing and permanently alter the trajectory of their lives. For some, however, the NICU experience is a catalyst for change. Saturday morning at the Gravens will begin with a parent’s perspective. Kimberly Novod will take the group through her NICU parent journey and share how she was able to build a beautiful, supportive, powerful community inspired by crisis Kimberly’s inspiring work supporting NICU families underscores the incredible impact a NICU experience has on a family, and how needed supports are.

“Once the relationship between social determinants of health and the NICU experience has been explored, our discussion will turn to lived experience in the NICU. Racial and ethnic disparities in access to care, treatments, and outcomes exist and are pervasive in the healthcare system and the NICU (1).”

While personal experience is a significant part of the NICU journey, there are often factors outside of the NICU that greatly impact the lives of NICU babies and their families. Following Ms. Novod, we will focus on external factors that affect what happens in the NICU. Dr. Gaby Cordova Ramos will discuss social determinants of health and how they influence NICU care. It is important to understand how social determinants of health contribute to the outside lives of families seen in the NICU and can help explain some of the things that happen inside the NICU.

Once the relationship between social determinants of health and the NICU experience has been explored, our discussion will turn to lived experience in the NICU. Racial and ethnic disparities in access to care, treatments, and outcomes exist and are pervasive in the healthcare system and the NICU (1). Dr. Yarden Fraiman will discuss race, ethnicity, culture, and antiracism in clinical care. In the NICU, there can be a “hidden curriculum” of racism, colorism, sexism, homophobia, and ableism (2). This discussion will focus on how the healthcare system can unintentionally or intentionally contribute to making the NICU experience even more difficult. The emphasis will be on systems of change.

Finally, because changing systems can be daunting, individuals

may not be ready to perform a system overhaul. That does not mean that there are not things that can be done that will make a difference immediately. With that in mind, Mr. Troy Savage will explore health equity and help the audience become aware of things they can do in their specific unit to engender health equity. Mr. Savage has a background in facilitating reimagining workshops. These reimagining workshops are characterized by practical and blue-sky thinking, training in empathy, and multi-stakeholder input (3). While providing a supportive and open environment, a facilitator at reimagining workshop coaxes participants out of their comfort zone into an innovative space where they can get an idea about ways they can make meaningful changes in their local NICU regardless of the resources available to them. Mr. Savage will enable a discussion where participants will think radically without constraint using empathy training and incorporating the ideas of others in the room.

“This summary explores how the Saturday morning session at the upcoming Gravens conference will be a voyage into understanding the effects of race, ethnicity, and social determinants of health on meaningful change in the NICU internationally, nationally, locally, and individually.”

Making a local change is a very meaningful and tangible way to bring about broader change. Still, others will want to be able to make a change on a larger scale. To that end, Dr. Susan Niermeyer will discuss healthy equity at a global level and how individuals can make a macro difference. As always, the conference will close with Drs. Joy Browne and Bob White summing up the 2023 Gravens conference and getting everyone enthused for Gravens March 2024.

This summary explores how the Saturday morning session at the upcoming Gravens conference will be a voyage into understanding the effects of race, ethnicity, and social determinants of health on meaningful change in the NICU internationally, nationally, locally, and individually. It is crucial for individuals who work in a NICU or with NICU families to understand these issues and directly or indirectly contribute to them. The session's goal is for the participants to feel better informed and empowered to bring about meaningful change internationally, nationally, regionally and/or locally.

References:

1. Fraiman, Y. S., Stewart, J. E., & Litt, J. S. (2022). Race, language, and neighborhood predict high-risk preterm Infant Follow Up Program participation. *Journal of Perinatology*, 42(2), 217-222.
2. Fraiman YS, Montoya-Williams D, Ellis J, Fadel CW, Bonachea EM, Peña MM. Plugging the Leaky Pipeline: The Role of Peer Mentorship for Increasing Diversity. *Pediatrics*. 2022 Oct 1;150(4).
3. Shepley MM, Savage T, Smith J. Reimagining Workshops. *HERD: Health Environments Research & Design Journal*. 2022;15(4):16-24. doi:10.1177/19375867221090234

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**SCREEN
DADS TOO**

10% of fathers
experience depression
and anxiety during
the perinatal period.



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The PREGNANT MOM'S Guide To Staying SAFE DURING COVID-19

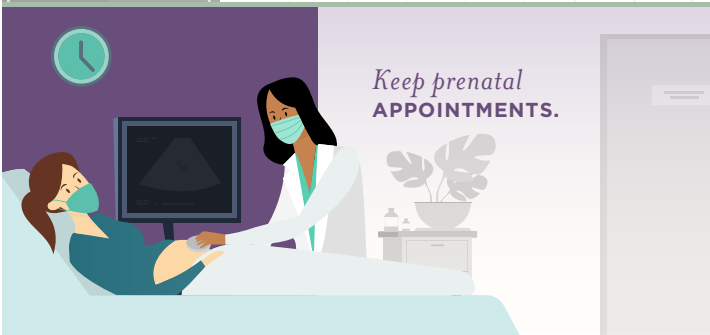


Take precautions & LIMIT INTERACTIONS.

6 FT



Maintain at least A 30-DAY SUPPLY OF YOUR MEDICATIONS.



Keep prenatal APPOINTMENTS.



Talk to your health care provider about STAYING SAFE DURING COVID-19.

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flu

coronavirus

pertussis

RSV



SOAP

WASH YOUR HANDS

often with soap and water for 20+ seconds. Dry well.

GET VACCINATED

for flu and pertussis. Ask about protective injections for RSV.



COVER COUGHS AND SNEEZES.

Sneeze and cough into your elbow.

USE A HAND SANITIZER THAT IS 60%+ ALCOHOL.



STAY AWAY FROM SICK PEOPLE

Stay at home to protect vulnerable babies and children. Avoid crowds when out.



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COVID-19

STOP THE SPREAD AT HOME

What to do when you or a loved one is infected.

HYGIENE TIPS

- MOUTH**
 - Wear a face mask or face shield.
 - If in car, wear mask & put windows down.
 - NO cloth face masks for children younger than 2yrs.
 - Avoid kissing.
- EYES**
 - Wear protective eye gear (glasses)
- HANDS**
 - ALWAYS wash your hands
- CLOTHING**
 - Wear a jacket when dealing with infected.
 - DO NOT share clothing, sheets, or pillows.

BATHROOM

- Sanitize EVERYTHING.
- Clean after every use.
- Patient gargle Listerine every morning & night.

PROTECT

- If infected, notify everyone in contact from the past 10 days.
- Ask Dept. of Health for further assistant.
- Call 211 for FREE delivery services.

If you are feeling sicker, DON'T WAIT. Call your doctor immediately.

SELF ISOLATION

- Sick should be separate from household.
- Room with window preferred.
- Aerate room 3x day.
- Create a room divider with sheet.
- Keep water and sanitation liquids near room.
- Don't cuddle with pets.
- Use SEPARATE utensils.
- Clean utensils separately.
- If sick avoid the kitchen.

KITCHEN

- Use SEPARATE utensils.
- Clean utensils separately.
- If sick avoid the kitchen.



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COVID-19

DETENER LA PROPAGACION EN CASA

Qué hacer cuando usted o un ser querido está infectado.

CONSEJOS DE HIGIENE

- BOCA**
 - Use una mascarilla o careta
 - Si está en el automóvil, use una máscara y baje las ventanas.
 - NO mascarillas de tela para niños menores de 2 años.
 - Evitar besos
- OJOS**
 - Use equipo de protección para los ojos (lentes)
- MANOS**
 - SIEMPRE lávate las manos
- ROPA**
 - Use una chaqueta cuando se trata de infectados.
 - NO comparta ropa, sábanas o almohadas.

BAÑO

- Desinfecte TODO.
- Limpia después de cada uso
- El paciente hace gárgaras con Listerine todas las mañanas y noches.

PROTEGER

- Si está infectado, notifique a todos los contactos de los últimos 10 días.
- Pídale al Departamento de Salud por más ayuda.
- Llame al 211 para obtener servicios de entrega GRATUITOS.

Si te sientes más enfermo, NO ESPERES. Llame a su médico de inmediato.

ASLAMIENTO

- Los enfermos deben estar separados del hogar.
- Habitación con ventana preferida
- Alinea la habitación 3x al día
- Crear un separador de ambientes con sábanas.
- Mantener agua y líquidos de saneamiento cerca
- Mantenga una bolsa de basura en la habitación.
- Use utensilios SEPARADOS.
- Limpie los utensilios por separado.
- Si está enfermo, evite la cocina.

COCINA

- Use utensilios SEPARADOS.
- Limpie los utensilios por separado.
- Si está enfermo, evite la cocina.



Tráido por Miora en asociación con United2Care



Ways to Manage Covid 19 @ Home

Household

- Stay 6 feet apart from others at all times.
- Wear protective covering over mouth and eyes (mask AND shield/goggles/glasses) when near others. (Do not put masks on children under 2 years old)
- Gargle with antiseptic mouthwash in the morning and evening.
- Wash hands 10-12x a day, before each meal for at least 20 seconds.
- Keep good ventilation throughout home. (open windows/doors) where possible
- Do not share towels, blankets, pillows with sick.
- Call 211 for assistance/free delivery of services.
- Wear protective clothing (jacket, gloves, mask) that can be removed after being around infected.

Sick

- Self-isolate by staying in separate room with separate bathroom where possible. Don't go into shared spaces.
- Create a room divider with sheet, if shared space is unavoidable.
- Ventilate room with fresh air at least 3x per day.
- Keep water and sanitation products in room.
- Keep plastic garbage bag in room.
- Protect pets - don't cuddle.
- Notify contacts in last 10 days.
- Don't wait! Call doctor if symptoms get worse.

Stop the Spread at HOME Miora



Maneras de manejar COVID-19 en casa

Hogar

- Manténgase 6 pies de distancia de los demás en todo momento. Use una cubierta protectora sobre la boca y la máscara para los ojos y el protector / gafas / anteojos cuando esté cerca de otras personas. No ponga máscaras a niños menores de 2 años.
- Hacer gárgaras todas las mañanas y noches con productos de enjuague bucal antiséptico que contienen alcohol.
- Lavé la manos 10-11 veces al día, y antes de cada comida por lo menos 20 segundos.
- Mantenga Buena ventilación en toda la casa. Abra las ventanas y puertas cuando sea posible.
- No compartá toallas, cobijas, y almohadas con personas que estén infectados.
- Llame al 211 para obtener servicios de entrega gratuitos.
- Use ropa protectora, chaqueta, guantes, máscara que se pueda quitar después de estar cerca de infectados.

Enfermo

- Aíslase permaneciendo en una habitación separada con baño separado. No vayas a espacios compartidos
- Si no se puede aislar crea un separador de ambiente con una sábana.
- Ventile la habitación con aire fresco por lo menos 3 veces al día.
- Mantenga agua y productos de saneamiento en la habitación.
- Mantenga una bolsa de basura en la habitación.
- Proteja a las mascotas, no las abra.
- Notifique a todos los contactos de los últimos 10 días.
- No espere! Si se siente peor llame a su médico.

Detén la propagacion en CASA Miora



WEAR A MASK

PROTECT PARENTS + BABIES

COVID-19

When we all wear masks...

We protect parents and babies.



USA UNA MASCARILLA

PROTEGER A LOS PADRES Y BEBÉS

COVID-19

Quando todos usamos mascarillas ...

Protegemos a los padres y los bebés.



Fragile Infant Forums for Implementation of IFCDC Standards: Neuroprotection - Protecting the Developing Brain

Jacqueline M. McGrath, PhD, RN, FNAP, FAAN, Ashlee J. Vance, PhD, MA, RN, RNC-NIC2



“The term neuroprotection did not originate in the neonatal intensive care unit (NICU) or direct reference to the care of high-risk infants; yet today, many NICUs across the US are implementing strategies and policies focused on protecting the developing brain.”

Background:

The term *neuroprotection* did not originate in the neonatal intensive care unit (NICU) or direct reference to the care of high-risk infants; yet today, many NICUs across the US are implementing strategies and policies focused on protecting the developing brain. Neuroprotection is an appropriate consideration for all hospitalized babies. This article will use the acronym “NICU” whether the baby is in a Newborn Intensive Care Unit or another Intensive Care Unit. Neuroprotection was *coined* in the laboratory to characterize substances or strategies capable of preventing cell

death, such as using different substrates or pharmacologic interventions to stabilize the cell and its membranes. This is particularly important since preventing cell death in the brain appears to have both short- and long-term neurodevelopmental implications. (1) Over time, the clinical definition of neuroprotection has evolved to be more inclusive of multiple strategies or therapies that protect the neurophysiology of the brain. These interventions can be inclusive of organizational, environmental, and direct therapeutic caregiving interventions.

“The NICU environment is often overwhelming and overstimulating to parents, infants, and providers. Alarms, conversations, pumps, and equipment emit sounds and light, yet each contributes to lifesaving care.”

The NICU environment is often overwhelming and overstimulating to parents, infants, and providers. Alarms, conversations, pumps, and equipment emit sounds and light, yet each contributes to lifesaving care. Given the nature of the NICU environment and the desire to offer the best care possible, NICU professionals have long recognized the need to mitigate these harmful effects. That is where developmental care and neuroprotection come together to support the infant experiencing life in the NICU with neuroprotective strategies and nurturing interventions. On this foundation, neuroprotective strategies have grown in prominence in the NICU. Every interaction between the infant and caregiver contributes to neurodevelopment. It requires that we, as providers and teachers of caregivers, offer developmentally appropriate care to each infant so that the cumulative effect of these interactions and interventions optimizes outcomes.

Neuroprotective strategies are being implemented in various clinical settings and continue to be studied across several disease trajectories and populations. As the findings from this research grow, so does our understanding of the importance of neuro-connectivity and how oxygen deprivation plays a role in cell death and other insults. In addition, scientists are uncovering more strategies to enhance neuro-connections and repair connections that may have been broken. (2) We know that some connections are broken more easily, and connections that are used more often become stronger over time, and those that are used less often become weaker; thus, those weaker connections can be broken more easily.

For the high-risk infant, the need for neonatal intensive care occurs during a critical window of brain development. While it is possible that neonatal intensive care itself could be characterized as

neuroprotective, it is more likely that certain caregiving activities may be neuroprotective while others may weaken brain connections or lead to brain injury. Many neonatal therapies used in the NICU save lives but often have a neurologic cost. The brain of a preterm infant is neurologically immature and not prepared for the overstimulating, bright, and stressful environment of the NICU. Evidence describing the early life stress experienced by preterm infants in the NICU is growing and is helping to shape how best we choose and implement newborn intensive care strategies and therapies. (2-4) This knowledge is also helping us to focus neonatal care with a greater emphasis on supporting neurophysiology and neuro-connections. The growing emphasis on best-supporting neuro-synaptic and neuropathway development can be seen in the inclusion of neuroprotective language in family-centered care and other developmental care models. In these frameworks, neuroprotective strategies aim to support the developing brain and have implications for promoting normal development while at the same time preventing disability. (5, 6) These interventions may begin antenatally and continue through the perinatal and postnatal period, including delivery room, NICU, and post-NICU interventions. (1)

“In these frameworks, neuroprotective strategies aim to support the developing brain and have implications for promoting normal development while at the same time preventing disability. (5, 6)”

Supporting the evolving neurophysiology of the newborn brain is often referred to as supporting and enhancing neuroplasticity. (7) Neurons in the brain always respond to experiences internally, such as signals from other organs in the body, like those of the brain-gut connection, and externally, such as those that occur within the caregiving environment. Whether the preterm brain is developing in or outside the womb, it is a time of rapid growth for brain cells and the creation of neuropathways. Furthermore, the preterm brain is remarkably plastic (malleable) given the increasing numbers of brain cells, and environmental and human exposures are shaping the neuro-connections. Some brain cell death is normal during this time, yet how the brain is wired together is so important to later development. Proper wiring of neural circuits (neuro-connections) during development depends on internal molecular cues and activity-dependent environmental cues. These stimuli activate and adjust the strength and number of synaptic connections and, as such, shape the overall development of the brain.

Neuroprotective Strategies in the NICU:

Provision of neuroprotective care places emphasis on brain care, which may be a cultural shift for some NICU care providers. (5, 8) *how is it a shift?* Just as recent evidence conclusively demonstrated that infants feel pain (9), there is a greater emphasis on comfort and decreasing painful experiences in the NICU. Similarly, the evidence for how particular care strategies in NICU impact neuropathways are gaining traction and influencing the implementation of routine care practices.

NICU professionals need to consider how their NICU environment currently supports neuroprotective strategies. There are likely current strategies, therapies, and even standards of care that are neuroprotective and developmentally supportive. Using the term neuroprotective to describe these interventions helps us to reflect and consider the impact of our care on the developing brain. We must recognize that for many years, NICU professionals have strived to implement developmentally supportive care based on the seminal work of Dr. Als and her Synactive Theory of Development. From this work, more attention was placed on reading infant cues, positioning, bundling of care activities, attention to sound, stimulation, and treatments provided to NICU infants.

Nevertheless, developmentally supportive care has often been viewed as those ‘nice to have’ and not ‘must-have’ activities. With the growing attention to neuroprotection, many NICU professionals are calling for a reconceptualization of developmentally supportive care – which is, in fact, neuroprotective. It is not possible to have one without the other. This reconceptualization calls for *all* neonatal care to be viewed as developmentally appropriate and neuroprotective. This means providing caregiving activities so that the potential effect on the developing brain is foundational to decision-making, such as choosing when to add or delete an intervention.

For example, implementing Golden Hour activities following a high-risk delivery decreases risks for neurologic disability by decreasing the occurrence of intraventricular hemorrhage in the short term and enhancing overall developmental outcomes in the long term. (10) These activities might include the judicious implementation of admission activities, such as keeping noise and activity to a minimum, using humidity to support skin development, and early skin-to-skin activities for newborns and their parents. (11)

“The importance of the family, parents or other social connections on neuropathways cannot be emphasized enough. (12-14) Unlimited parental presence in the NICU is a neuroprotective strategy, regardless of family needs, social status, or ability. ”

The importance of the family, parents or other social connections on neuropathways cannot be emphasized enough. (12-14) Unlimited parental presence in the NICU is a neuroprotective strategy, regardless of family needs, social status, or ability. Strategies such as skin-to-skin and the Eat, Sleep, Console protocol for substance-exposed infants are care bundles focused on neuroprotective care. It has been well demonstrated that infants with the opportunity to engage in skin-to-skin, or “kangaroo care,” demonstrate greater physiologic stability and better developmental outcomes. (14, 15) Just as neuropathways create connections between a vast network of cells, similarly, neurodevelopment relates to many other health and developmental outcomes such as

stress resilience, sleep integrity, parental bonding (15), and autonomic stability. Thus, supporting neuroprotection through developmentally sensitive and appropriate care supports all aspects of an infant's health and development.

Efforts to implement neuroprotective strategies and unlimited parental presence also present the opportunity to improve health equity in the NICU. If every baby routinely receives individually tailored, developmentally appropriate, and neuroprotective care, we may be able to close the gap in racial and ethnic disparities in infant outcomes. This will likely require NICU professionals to take an uncomfortable view of how systemic racist practices may be present in the current NICU climate. For instance, are there differences in rates of chestfeeding in your NICU? Do certain groups of parents engage more with infant care? Are certain procedures recommended more or less to certain infants? Is pain relief adequately administered across all infants based on their medical conditions? Answering these questions, where known disparities persist, is the first step in addressing systemic racism in healthcare and our neonatal community. There are a few NICUs in the US where nurses have instituted health equity initiatives, such as monthly seminars and workshops that provide opportunities for discussion, growth, and elimination of bias in healthcare. These initiatives are a great starting place to bring awareness to cultural issues and begin the work of dismantling racist practices and advancing health equity.

“There are a few NICUs in the US where nurses have instituted health equity initiatives, such as monthly seminars and workshops that provide opportunities for discussion, growth, and elimination of bias in healthcare. These initiatives are a great starting place to bring awareness to cultural issues and begin the work of dismantling racist practices and advancing health equity.”

Conclusions:

Embracing new technology or equipment can sometimes be easier to integrate into neonatal care than examining the *how* and *why* of neonatal practices and therapies. The Vermont Oxford Organization, a national NICU quality collaborative, has coined the phrase “*all care is brain care*” to help caregiving professionals consider best practices in delivering NICU strategies. We want to extend this phrase by saying that *all care is developmental care and developmental care is neuroprotective*. This includes administering medications, infant positioning, feeding behaviors, responding to an infant's cues, and encouraging parent-infant interaction. It also may be as simple as implementing protocols for better blood draws from a heel stick, how and when antibiotic treatment is provided, or how a nasal gastric tube is placed. Additionally, the strategies can be more complex such as examining how a high-

risk infant is admitted to the NICU (i.e., golden hour protocols), integrating interventions based on their level of intrusiveness, or complimenting neonatal care with positive touch times for infants via, touch and massage strategies.

“Integration of neuroprotective strategies during the newborn period means taking advantage of what is known about neural plasticity and aligning neuroprotective strategies during this critical period in development when the brain is malleable. The growing attention on neuroprotection in the NICU provides the space for caregivers to influence neural connectivity and enhance long-term developmental outcomes positively.”

Our goal as NICU professionals is to empower infants to engage, mature, and thrive in their world rather than tolerate or defend themselves. No matter what name or label is given to the type of care you provide, every interaction with a NICU infant influences their growth and development, and with our actions, we have the opportunity to provide developmentally supportive care or not. Integration of neuroprotective strategies during the newborn period means taking advantage of what is known about neural plasticity and aligning neuroprotective strategies during this critical period in development when the brain is malleable. The growing attention on neuroprotection in the NICU provides the space for caregivers to influence neural connectivity and enhance long-term developmental outcomes positively. We conclude by encouraging neonatal caregivers and scientists to explore more opportunities to make the most of the *potential* of the developing brain during intensive caregiving. We cannot emphasize enough how everything we do -- does matter!

References:

1. Boyd SM, Tapawan SJ, Badawi N, Popat H. Protecting the brain of the micropreemie. *Semin Fetal Neonatal Med.* 2022;27(3):101370.
2. Agorastos A, Nicolaidis NC, Bozikas VP, Chrousos GP, Pervanidou P. Multilevel Interactions of Stress and Circadian System: Implications for Traumatic Stress. *Front Psychiatry.* 2019;10:1003.
3. Cong X, Wu J, Vittner D, Xu W, Hussain N, Galvin S, et al. The impact of cumulative pain/stress on neurobehavioral development of preterm infants in the NICU. *Early Hum Dev.* 2017;108:9-16.
4. Agorastos A, Pervanidou P, Chrousos GP, Baker DG. Developmental Trajectories of Early Life Stress and Trauma: A Narrative Review on Neurobiological Aspects Beyond Stress System Dysregulation. *Front Psychiatry.* 2019;10:118.
5. Bonifacio SL, Van Meurs K. Neonatal Neurocritical Care: Providing Brain-Focused Care for All at Risk Neonates. *Semin Pediatr Neurol.* 2019;32:100774.

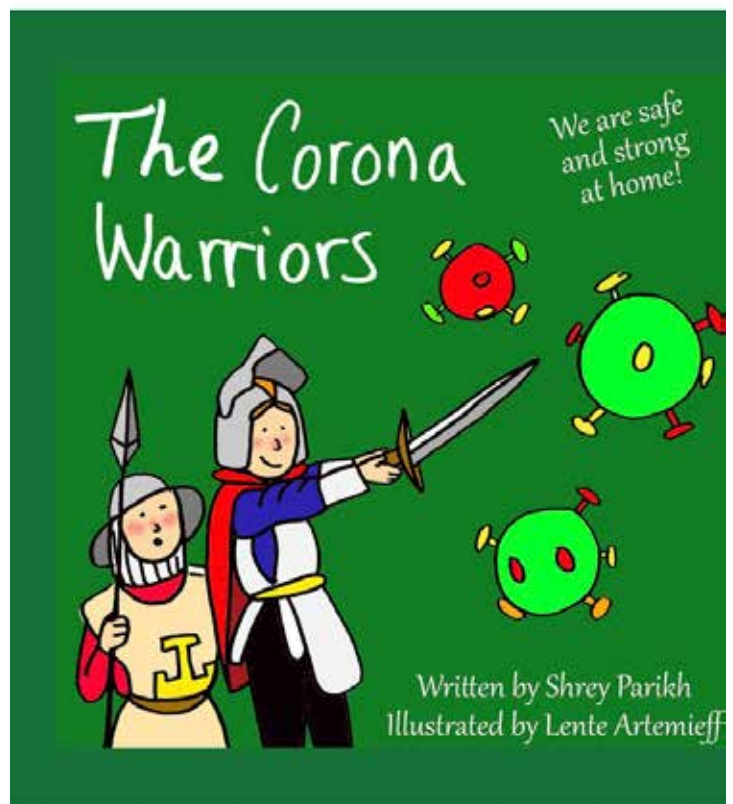
6. Lockridge T. Neonatal Neuroprotection: Bringing Best Practice to the Bedside in the NICU. *American Journal of Maternal Child Nursing* 2018;43(2):66-76.
7. Barra L, Coo S. Preterm-born children's development: A biological perspective. *Infant and Child Development*. 2022.
8. Falsaperla R, Mauceri L, Motta M, Piro E, D'Angelo G, Gitto E, et al. From Neonatal Intensive Care to Neurocritical Care: Is It Still a Mirage? The Sicilian Multicenter Project. *Crit Care Res Pract*. 2021;2021:1782406.
9. Goksan S, Hartley C, Emery F, Cockrill N, Poorun R, Moultrie F, et al. fMRI reveals neural activity overlap between adult and infant pain. *Elife*. 2015;4.
10. Murthy P, Zein H, Thomas S, Scott JN, Abou Mehrem A, Esser MJ, et al. Neuroprotection Care Bundle Implementation to Decrease Acute Brain Injury in Preterm Infants. *Pediatr Neurol*. 2020;110:42-8.
11. Matthews GA, Tye KM. Neural mechanisms of social homeostasis. *Ann N Y Acad Sci*. 2019;1457(1):5-25.
12. Emmanuel CJ, Knafel KA, Docherty SL, Hodges EA, Wereszczak JK, Rollins JV, et al. Caregivers' perception of the role of the socio-environment on their extremely preterm child's well-being. *J Pediatr Nurs*. 2022;66:36-43.
13. D'Agata AL, Sanders MR, Grasso DJ, Young EE, Cong X, McGrath JM. Unpacking the Burden of Care for Infants in the Nicu. *Infant Ment Health J*. 2017;38(2):306-17.
14. Couper J. Micro-preemie Parents' Perceptions of Trauma-Informed Developmental Neuroprotective Care and Nursing Support. *Adv Neonatal Care*. 2022;22(5):422-31.
15. Yrjola P. Facilitating early parent-infant emotional connection improves cortical networks in preterm infants. *Science Translational Medicine*. 2022;14(eabq4786):1-11.

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Coding in the New Year, A Reason to Celebrate

Kate Peterson Stanley, MD, FAAP

“The New Year also brings new CPT codes and revised coding guidelines for physicians. While many may sigh and some will cry, I am pleased to bring good tidings and cheer as the revised evaluation and management (E/M) inpatient codes are here!”

New Year's is celebrated worldwide as a day to let go of the past and embrace the future. Multiple traditions come to mind, such as singing Auld Lang Syne, making a resolution to lose weight, watching football in a Lazy-Boy, or nursing a hangover from the previous night's champagne. The New Year also brings new CPT codes and revised coding guidelines for physicians. While many may sigh and some will cry, I am pleased to bring good tidings and cheer as the revised evaluation and management (E/M) inpatient codes are here!

Effective January 1, 2023, inpatient E/M services (CPT 99221-99233) and inpatient E/M consult codes (99242-99255) will be billed based on medical decision-making OR the total time spent providing care on the day of the encounter. This contrasts the previous guidelines that required documentation of specific elements from the history, physical exam, and medical decision-making to support the billing code. The changes align with the revisions made to the 2021 outpatient E/M coding guidelines. It is anticipated that these changes will simplify the code selection, decrease the need for audits, and decrease unnecessary documentation.

“Effective January 1, 2023, inpatient E/M services (CPT 99221-99233) and inpatient E/M consult codes (99242-99255) will be billed based on medical decision-making OR the total time spent providing care on the day of the encounter.”

Although most neonatologists use the critical and intensive care CPT codes to bill for daily services, there are specific situations in which the inpatient E/M hospital care and consult codes are used. These include:

- 1) Admission and subsequent care of the not-so-normal newborn who does not require intensive monitoring and observation

- 2) Subsequent hospital care for babies who weigh > 5kg and require intensive monitoring and observation
- 3) Hospital admission care for infants > 28 days who do not meet critical care guidelines
- 4) Non-critical care consults
- 5) Inpatient perinatal consults

Consider this scenario:

A neonatologist is covering the special care nursery on New Year's Day and evaluates a 1-day-old, 5.2 kg term male infant born by cesarean section due to his large size. The neonatologist reviews the admission note and learns the infant's mother is a 33-year-old primigravida woman with poorly controlled diabetes. Physical exam reveals a large hypotonic well perfused, alert male infant with a cherub appearance and a grade II systolic murmur. Vital signs are normal. Pre-feed glucose levels range between 38-50 and improve to the mid-60s after feeding. The grandmother reports the infant breastfeeds poorly but has fair oral intake with bottle supplementation. The neonatologist concludes that the infant has neonatal hypoglycemia and poor feeding due to maternal diabetes. The plan consists of monitoring pre/post-feeding glucose levels, using glucose gel for glucose < 40, obtaining a lactation consult, and setting goal oral feeding volumes with a follow-up later in the day.

The neonatologist is concerned that the infant's murmur may be due to diabetic cardiomyopathy, so a chest radiograph is obtained. The neonatologist documents his findings, medical decision-making, and treatment plan. Later in the day, the neonatologist re-evaluates the infant, who remains alert and well-perfused. His feeding effort has improved, and he is meeting goal feeding volumes. Prefeed glucose is > 60 without the use of the glucose gel. The Lactation Consultant reports that breastfeeding is improving and will continue to assist the mother. Chest radiograph shows a mildly enlarged cardiac silhouette with clear lung fields consistent with diabetic cardiomyopathy, but since the clinical exam and vital signs are reassuring, further workup is deferred. The total time spent providing care on the day of the encounter is 60 minutes.

The correct code for this encounter is:

- A: 99462 – Subsequent hospital care, normal newborn
- B: 99477 – Initial hospital care, neonate ≤ 28 days, intensive care services
- C: 99480 – Subsequent intensive care, infant not critically ill, weight 2501-5000gm
- D: 99232 – Subsequent hospital care, moderate medical decision-making, 35-49 minutes
- E: 99233 – Subsequent hospital care, high medical decision-making, 50 minutes

Answer E: 99233 – subsequent hospital care, high medical decision-making, 50 minutes.



This scenario meets the criteria for 99233, subsequent hospital care, high medical decision-making, and inpatient E/M code based on the level of medical decision-making. The level of medical decision-making is based on three categories: 1) the number and complexity of problems addressed, 2) the amount and complexity of data reviewed and analyzed, and 3) the risk of complications related to patient management. The highest decision-making level in two of the three categories defines the overall medical decision-making, ultimately determining the billing code. In this specific case, the physician is treating three acute problems requiring high-level decision-making: hypoglycemia that could threaten bodily function, poor feeding, and a new cardiac murmur of uncertain significance. The amount and complexity of data reviewed and analyzed also meet the criteria for high complexity. The physician reviews the glucose labs obtain an additional history from the grandmother, and orders ongoing glucose evaluations. Additionally, he independently reviews the chest radiograph and discusses breastfeeding management with a certified Lactation Consultant. Although the risk of morbidity from the treatment plan is moderate, the medical decision-making to address the problem and data categories meet the criteria for high-level decision-making; therefore, CPT code 99233 is billed.

“Although the risk of morbidity from the treatment plan is moderate, the medical decision-making to address the problem and data categories meet the criteria for high-level decision-making; therefore, CPT code 99233 is billed.”

The alternative options listed above are not appropriate for this encounter. CPT code 99462, subsequent care for a normal new-

born (Option A), does not apply because this patient is not a “normal” newborn and requires additional interventions beyond newborn care. Although this patient may meet the definition of intensive care services if he required continuous monitoring and dextrose support, the patient weighs > 5 kg and therefore does not meet the weight-based criteria for CPT code 99480 for daily intensive care services (Option C). CPT code 99477, intensive care admission for neonate < 28 days (Option B), is also incorrect because the neonatologist is providing ongoing care rather than an admission. However, the intensive care admission code 99477 could be used if the patient required intensive care on admission because this code is based on the patient’s age, not the daily weight. Finally, CPT code 99232 subsequent hospital care, moderate decision making (Option D) is eliminated based on the criteria for levels of medical decision making.

“However, the intensive care admission code 99477 could be used if the patient required intensive care on admission because this code is based on the patient’s age, not the daily weight. Finally, CPT code 99232 subsequent hospital care, moderate decision making (Option D) is eliminated based on the criteria for levels of medical decision making.”

When documenting the encounter, it is important to address each category that supports medical decision-making. Unlike the previous inpatient codes, the documented details of the history and physical exam do not determine the code. Instead, the physician determines what parts of the history and physical exam are relevant in the documentation. The diagnosis, any comorbid conditions affecting the decision-making, and the patient’s response to treatment should be specified in the medical record. Documentation of who provided the history, the external records reviewed, the data obtained and analyzed, and any *independent* reviews and *interpretation* of tests support the complexity of decision-making. Too often, a result is copied and pasted into the record without an interpretation. Finally, it is important to state the risk associated with management and treatment. Remember, a coder is not a mind reader! If it is not documented, it did not happen.

The above scenario may also be coded based on time. The total time documented by the neonatologist is 60 minutes which again meets criteria CPT code 99233, subsequent hospital care, high medical decision making, 50 minutes (option E). Time is the *total time* the clinician spends *on the day of the visit* providing patient care. This includes face-to-face time with the patient/caregiver AND non-face-to-face time spent by the clinician to manage the patient’s problems regardless of the clinician’s location. Time used to prepare for the patient’s visit, such as record review, obtaining or reviewing the history, performing an exam, counseling/educating the patient/caregiver, documenting in the medical record, and coordinating care, is included if these activities are performed on the same day as the patient’s visit. Time is not included for travel,

resident services, teaching, or performing separate services (such as a procedure). The revised guidelines eliminate the previous E/M requirement that at least 50% of the clinician's time must be spent face-to-face counseling the patient and coordinating care. Documentation for time-based coding should include the total time and a statement that the total time was spent "on the day of the patient visit."

"Because some inpatient E/M encounters require a significant amount of time, a new inpatient/observation prolonged care CPT code, 99418, has been introduced. This code is used when the total time to provide an inpatient E/M service with or without direct patient contact exceeds the highest level of service (99223 and 99233 for inpatient admission and subsequent care or 99255 for an inpatient consult)."

Because some inpatient E/M encounters require a significant amount of time, a new inpatient/observation prolonged care CPT code, 99418, has been introduced. This code is used when the total time to provide an inpatient E/M service with or without direct patient contact exceeds the highest level of service (99223 and 99233 for inpatient admission and subsequent care or 99255 for an inpatient consult). The prolonged service code is billed in 15-minute increments and may only be used when the encounter is billed based on time AND the time is performed on the day of service. For example, if the neonatologist had spent 70 minutes providing care instead of 60 minutes, he would bill 99418 in addition to 99233 for the additional time.

Whether you celebrate the beginning of the year by watching the ball drop, kissing at midnight, eating grapes, or smashing plates, I encourage you to let go of the old E/M guidelines and embrace the new coding changes. Happy New Year!

References:

1. COCN American Academy of Pediatrics. *Coding for Pediatrics 2022*. American Academy of Pediatrics. 2022.
2. Duncan S, Martin G, Pearlman S, eds. *Quick Reference Guide to Neonatal Coding and Documentation*. 2nd. American Academy of Pediatrics. 2016.
3. Clark, E. "2023 Inpatient E/M Changes". Virtual Lecture. University of Michigan Neonatal-Perinatal Division Faculty Meeting. December 14, 2022.

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RSV, COVID-19, and Influenza A: Are We on the Verge of Viral Armageddon?

Rob Graham, R.R.T./N.R.C.P.

I dedicate this column to the late Dr. Andrew (Andy) Shennan, the founder of the perinatal program at Women's College Hospital (now at Sunnybrook Health Sciences Centre). To my teacher, my mentor and the man I owe my career as it is to, thank you. You have earned your place where there are no hospitals and no NICUs, where all the babies do is laugh and giggle and sleep.

"Though COVID-19 (C-19) has only been a blight on our lives for three years, it seems like a lifetime to many. While collectively, we may be done with C-19, it is far from done with us."

Though COVID-19 (C-19) has only been a blight on our lives for three years, it seems like a lifetime to many. While collectively, we may be done with C-19, it is far from done with us.

At first, it seemed that the NICU (and PICU) would be spared the carnage our adult ICU colleagues witnessed, and indeed, this has been the case. Until now.

With each pandemic wave, we learned more about this virus, and it would seem that C-19 learned much more about us. If actions speak louder than words (or science!), an outside observer might conclude that C-19 has learned a lot more about us than we have about it. That public health messaging has been inconsistent, politically influenced, and sometimes downright wrong has not been helpful; this has been magnified by a myriad of influential mouthpieces spewing what can only be described as scientific garbage. Worse, some of these mouthpieces are scientists and physicians.

It was not long before our obstetrical colleagues identified pregnant women as at risk for severe C-19 disease (1), but it did not appear that the fetus was in danger. This assurance was short-lived, and evidence now suggests that conclusion was wrong. C-19 can severely damage the placenta (2) and has resulted in an increase in stillbirths (and other maternal complications) following C-19 infection during pregnancy (3). How and if the maternal infection affects the newborn is less clear, but the evidence is not

painting a pretty picture.

Adverse neurological outcomes at up to 1.5 years of age have been found in children born to C-19-infected mothers, although the mechanism is unclear (4). This is in contrast to previous studies indicating that adverse neurological outcomes were rare and may reflect C-19's evolving from primarily pulmonary involvement to vascular epithelial disease.

"Recently a C-19-infected mother delivered a baby at the institution where I practice. The baby was admitted to NICU for "distress." An echocardiogram revealed two coronary arteries completely clotted with accompanying myocardial dysfunction. Myocardial damage was irreparable, and the baby died."

Recently a C-19-infected mother delivered a baby at the institution where I practice. The baby was admitted to NICU for "distress." An echocardiogram revealed two coronary arteries completely clotted with accompanying myocardial dysfunction. Myocardial damage was irreparable, and the baby died. This is an extremely rare occurrence and cannot, in this case, be blamed on C-19 with any certainty. Given the effects of C-19 on the vascular epithelium and that it is known to alter cardiac DNA (5), the question of C-19's involvement, in this case, is valid in this author's opinion.

Each C-19 mutation seems to bring something new to the virus's formidable arsenal, and recent mutations seem to produce more severe diseases in children. Children's hospitals across North America are bursting at the seams, and in Ontario, adult ICUs are being prepared to accept paediatric patients as young as 14. The waitlists in children's hospital emergency rooms may be well over 12 hours, and NICUs are admitting month-old babies because there are no available PICU beds. Patients in PICU are, for the most part, not there due to C-19. Or are they?

This brings us to RSV. In addition to the RSV season starting early, RSV-infected children are being admitted to hospitals in record numbers. The reason why may lead right back to C-19.

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We know that some viruses, measles, for instance, are immune-suppressive (6). Like HIV, C-19 is both immune-suppressive and immune-evasive (7,8). This has some researchers describing C-19 as “airborne HIV.” While the mechanisms of transmission and immune suppression/evasion are different, the result is the same: increased susceptibility to other pathogens and a decreased ability to fight them. Even though newer C-19 variants do not typically involve severe pulmonary infection, the virus does damage the lungs, even in mild cases (not requiring hospitalisation) (9), back to RSV.

“This has some researchers describing C-19 as “airborne HIV.” While the mechanisms of transmission and immune suppression/evasion are different, the result is the same: increased susceptibility to other pathogens and a decreased ability to fight them.”

Children who have recovered from C-19 infection are both more susceptible to infection with a reduced ability to fight them and may also have lung damage that exacerbates any pulmonary infection. Logically, this leads to more children becoming infected with RSV and more children with severe disease requiring hospitalisation. Indeed, the RSV hospitalisation rate is much higher this season than is typical, and many more are requiring PICU care (10). Unfortunately, PCR testing for C-19 is ramping down in many jurisdictions and is at the discretion of the attending clinician. Therefore, empirical evidence of previous C-19 infection in RSV patients is lacking but begs further investigation to support this premise.

As if C-19 and an early and severe RSV season were not bad enough, flu season is also early this year and is predicted to be severe (11). Currently, RSV/C-19 coinfection seems to be low and did not result in severe disease (10), but as the season ramps up, this may change. The small number of C-19/RSV coinfections in the aforementioned study may be reassuring, but C-19’s uncanny ability to change the game should temper that reassurance.

“The small number of C-19/RSV coinfections in the aforementioned study may be reassuring, but C-19’s uncanny ability to change the game should temper that reassurance.”

We in the NICU do not typically think about Influenza A (IA), but its prevalence may be underestimated. Since there is no approved flu vaccine for those under six months of age, these children are at much greater risk of severe IA disease, and the best treatment

for these children is prevention. A flu shot during pregnancy bestows a significant advantage on the newborn infant. While in the NICU, most infants are reasonably protected if within an incubator or while on respiratory support.

“This season’s triple viral threat threatens to cripple healthcare systems already on the brink of collapse. A recently published study examining RSV/IA coinfection found that a hybrid composed of both viruses was formed even though RSV and IA are completely different. This hybrid showed immune-evasive capability and raised the possibility of the emergence of a new respiratory pathogen.”

This season’s triple viral threat threatens to cripple healthcare systems already on the brink of collapse. A recently published study examining RSV/IA coinfection found that a hybrid composed of both viruses was formed even though RSV and IA are completely different. This hybrid showed immune-evasive capability and raised the possibility of the emergence of a new respiratory pathogen. It is not known how the hybrid virus behaves in the presence of RSV prophylaxis.

This is particularly concerning. IA is an upper to middle respiratory tract infection, whereas RSV travels more deeply into the lungs. A hybrid virus may be able to bring influenza deep into the lungs resulting in viral pneumonia. A pathology C-19 has shown to be very difficult to treat (12). Since no RSV vaccine is currently available, this also raises the question of whether or not a hybrid virus could reduce the effectiveness of existing flu vaccines. C-19 has aptly demonstrated that more hosts infected means more mutations, particularly within immune-compromised patients who harbour active viruses longer than those with fully functioning immune systems (13). A combined severe RSV and flu season would allow both viruses to replicate in real life what has been seen in the lab. Let us hope not.

To date, the NICU has been spared the brunt of C-19’s arsenal, and although variants seem to be targeting younger people, that may remain the case. We are more likely to face the sequelae of gestational infection in newborns. And RSV.

As this is ostensibly a respiratory column, I would be remiss if I were not to suggest that high-frequency jet ventilation is ideal for treating RSV patients requiring mechanical ventilation. A low jet rate is most helpful in clearing secretions.

References:

1. <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/special-populations/pregnancy-data-on-covid-19/what-cdc-is-doing.html>
2. <https://pubmed.ncbi.nlm.nih.gov/32441303/>
3. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8438995/>


4. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8841149/>
5. <https://onlinelibrary.wiley.com/doi/10.1111/imm.13577>
6. <https://pubmed.ncbi.nlm.nih.gov/20636817/>
7. <https://www.news-medical.net/news/20210305/SARS-CoV-2-proteins-are-potent-suppressors-of-innate-immunity.aspx>
8. <https://www.nih.gov/news-events/nih-research-matters/how-covid-19-variants-evade-immune-response>
9. <https://medicalxpress.com/news/2022-09-lung-children-teens-covid.html>
10. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9527150/>
11. <https://news.ubc.ca/2021/10/13/flu-season-winter-2022-predictions/>
13. <https://www.nature.com/articles/s41564-022-01242-5>
14. <https://www.scientificamerican.com/article/covid-variants-may-arise-in-people-with-compromised-immune-systems/>

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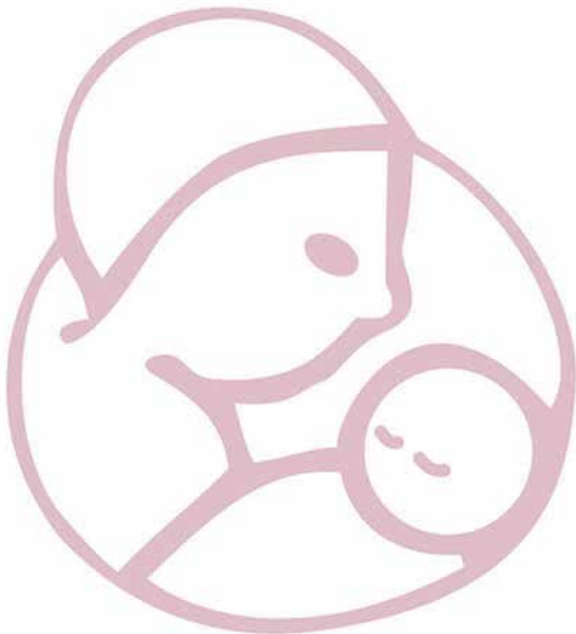
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Featured Conference: Agenda for the Virtual 39th Annual Advances in Therapeutics and Technology: Critical Care of Neonates, Children, and Adults

Donald Null, MD, Mitchell Goldstein, MD, Arun Pramanick, MD

Wednesday, January 11, 2023

| Time | Title | Speaker |
|-----------------------------|---|---|
| 7:00am | Registration and Refreshments | |
| Presentations: Moderated by | | |
| 8:00am | Opening Remarks | Donald Null, MD Emeritus Professor of Pediatrics University of Utah |
| | <i>Tribute to Tom Harris</i> | |
| 8:15am | Tom Harris | Donald Null, MD |
| 8:25am | Tom Harris | Arun Pramanick, MD, DCH, FAAP, FIAP Professor of Pediatrics LSU Health, Shreveport, LA |
| 8:35am | Tom Harris | Mitchell Goldstein, MD, MBA, CML Professor of Pediatrics, Loma Linda University School of Medicine |
| 8:45am | Special Lecture 40 Years of HFV- What's Next? | Bert Bunnell, ScD Adjunct Associate Professor University of Utah |
| 9:30am | Update on RSV and COVID | Mitchell Goldstein, MD, MBA, CML |
| 10:30am | BREAK | |
| 10:50am | Abstract | TBD |
| 11:00am | Special Lecture High Frequency Jet Ventilation; A First Intention Approach for Infants Born at 22 to 25 weeks Gestation | Jonathan Klein, MD Professor of Pediatrics, Medical Director NICU University of Iowa |
| 12:00pm | LUNCH | |
| 1:00pm | Special Lecture Use of the TXP during Transport of VLBW and ELBW Newborns | Donald Null, MD |
| 2:00pm | Abstract | TBD |
| 2:10pm | Abstract | TBD |
| 2:20pm | Abstract | TBD |
| 2:30pm | Special Lecture Follow Up of ELBW Newborns with Parent Focused Priorities & Outcomes | Ashwini Lakshmanan, MD, MS, MPH Associate Professor, Department of Health Systems Science Kaiser Permanente Bernard J. Tyson School of Medicine |
| 3:30pm- 3:50pm | BREAK | |

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|--------|---|--|
| 3:40pm | Abstract | TBD |
| 3:50pm | Abstract | TBD |
| 4:00pm | Special Lecture Optimizing Quality & Equity in Newborns in California the CPQCC Experience | Jochen Profit, MD, MPH Professor of Pediatrics (Neonatology) Stanford University School of Medicine |

***Agenda is subject to change without notice.**

39th Annual Conference
Advances in Therapeutics and Technology: Critical Care of Neonates, Children, and Adults
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Thursday, January 12, 2023

| Time | Title | Speaker |
|------------------------------------|--|--|
| 7:00am | Registration and Refreshments | |
| Presentations: Moderated by | | |
| 8:00am | Special Lecture Controversies and Update on the Diagnosis and Management of NEC | Arun Pramanik, MD, DCH, FAAP, FIAP |
| 9:00am | Special Lecture Nutritional Management of the Nano Preterm Infant | Amy B. Hair, MD Associate Professor Program Director of Neonatal Nutrition Co-Director of NICU Intestinal Rehab Team Director of MCH Neonatal Nutrition Training Program Division of Neonatology Department of Pediatrics Baylor College of Medicine Texas Children's Hospital |
| 10:00am | Abstract | TBD |
| 10:10am | Abstract | TBD |
| 10:20am | Abstract | TBD |
| 10:30am | BREAK | |
| 10:50am | Abstract | TBD |
| 11:00am | Special Lecture Management of Post Discharge BPD and PPHN neonates and Pediatric Patients with Pulmonary Hypertension | Jeffrey Fineman, MD Medical Director, Pediatric Critical Care UCSF Benioff Children's Hospitals San Francisco, California |
| 12:00pm | LUNCH | |
| 1:00pm 2:20pm 3:40pm | Recurring Workshops Cardiac US and Lung US | Cardiac US: Dr. Yogen Singh, Dr. Rangasamy Ramanathan, Dr. Mahmood Ebrahimi and Dr. Shahab Noori Lung US: Dr. Amy Yeh, Dr. Jennifer Shepherd, and Dr. Belinda Chan |
| 3:00pm- 3:20pm | BREAK | |

***Agenda is subject to change without notice.**

39th Annual Conference
Advances in Therapeutics and Technology: Critical Care of Neonates, Children, and Adults
DoubleTree by Hilton Hotel Ontario Airport, CA

| | | |
|--------|---|-----------------|
| 1:00pm | Workshops High Frequency Nasal CPAP <i>Ventilator companies will be available at each of those times for workshop</i> | Donald Null, MD |
| 1:40pm | | |
| 2:20pm | | |
| 3:00pm | | |
| 3:40pm | | |
| 4:20pm | | |

***Agenda is subject to change without notice.**

39th Annual Conference
Advances in Therapeutics and Technology: Critical Care of Neonates, Children, and Adults
DoubleTree by Hilton Hotel Ontario Airport, CA

Friday, January 13, 2023

| Time | Title | Speaker |
|------------------------------------|---|---|
| 7:00am | Registration and Refreshments | |
| Presentations: Moderated by | | |
| 8:00am | Abstract | TBD |
| 8:10am | Abstract | TBD |
| 8:20am | Abstract | TBD |
| 8:30am | Special Lecture Technology Education Competencies in Pediatric Residency | Colleen A. Kraft, MD, MBA, FAAP Professor of Pediatrics Keck School of Medicine at the University of Southern California Division of General Pediatrics Children's Hospital Los Angeles 2018 President, American Academy of Pediatrics |
| 9:30am | Robert A deLemos Memorial Lecture Hypoxemic Respiratory Failure in very Preterm, Late Preterm & Term Newborns: Diagnosis and Management Considerations | Rangasamy Ramanathan, MD. Professor of Pediatrics Division Chief, Division of Neonatal Medicine, LAC+USC Medical Center & PH Good Samaritan Hospital Director, NPM Fellowship & NICU Director, Neonatal Hemodynamics Program & Neonatal Respiratory Therapy Services, LAC+USC Medical Center Keck School of Medicine of USC |
| 10:30am | BREAK | |
| 10:50am | Abstract | TBD |
| 11:00am | Special Lecture Discover the Magic of Point of Care Ultrasound A Focus on Hocus Pocus Part 2 | Yogen Singh, MBBS, MD Professor, Pediatrics, Neonatology Division, Loma Linda University School of Medicine |
| 12:00pm | LUNCH | |
| 1:00pm-3:15pm | Special Symposium Trauma and Critical Care in an Austere or Out of Hospital Environment | Andriy Batchinsky, MD Professor, Director of Department of Translational Medicine University of the Incarnate Word School of Osteopathic Medicine |
| 3:15pm-3:35pm | BREAK | |

***Agenda is subject to change without notice.**

39th Annual Conference
Advances in Therapeutics and Technology: Critical Care of Neonates, Children, and Adults
DoubleTree by Hilton Hotel Ontario Airport, CA

| | | |
|--------|---|--|
| 3:25pm | Abstract | TBD |
| 3:35pm | BREAK | |
| 3:50pm | Special Lecture Development of Pulmonary Hypertension on ECMO: Etiologies, Clinical Diagnosis and Management | Stephen Derdak, DO Clinical Professor of Medicine Pulmonary/Critical Care Medicine University of Texas Health Science Center at San Antonio San Antonio, TX |
| 4:50pm | Conference Summary | Donald Null, MD |

***Agenda is subject to change without notice.**

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Arun Pramanik, MD
Professor of Pediatrics
Division of Neonatology
Department of Pediatrics
Louisiana State University

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Thirteen-year-old Emily Rose Shane was tragically murdered on April 3, 2010 on Pacific Coast Highway in Malibu, CA. Our foundation exists to honor her memory.

In Loving Memory

August 9, 1996 - April 3, 2010



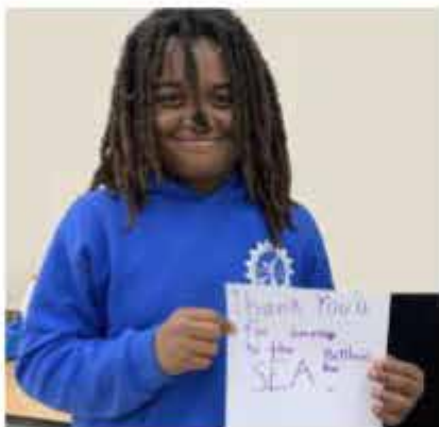
Each year, the Emily Shane Foundation SEA(Successful Educational Achievement) Program provides academic and mentoring support to over 100 disadvantaged middle school students who risk failure and have no other recourse. We have served over 700 children across Los Angeles since our inception in the spring of 2012. Due to the COVID-19 outbreak, our work is in jeopardy, and the need for our work is greatly increased. The media has highlighted the dire impact online learning has caused for the very population we serve; those less fortunate. **We need your help now more than ever to ensure another child is not left behind.**

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The average cost for the program to provide a mentor/ tutor for one child is listed below.



| | |
|--------------------|---------|
| 1 session_____ | \$15 |
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| 1 month_____ | \$120 |
| 1 semester_____ | \$540 |
| 1 year_____ | \$1,080 |
| Middle School_____ | \$3,240 |

The Emily Shane Foundation is a 501(c)3 nonprofit charity, Tax id # 27-3789582. Our flagship SEA (Successful Educational Achievement) program is a unique educational initiative that provides essential mentoring/tutoring to disadvantaged middle school children across Los Angeles and Ventura counties. All proceeds directly fund the SEA Program, making a difference in the lives of the students we serve.

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Mariana Figueiro, PhD Sponsored by LEDVANCE
- FEB 28** **Out of the womb:** Lighting up the NICU
Robert White, MD Sponsored by GE Current
- MAR 28** **A new kind of lullaby:** Robust light/dark pattern for babies
Sofia Axelrod, PhD
- APR 25** **Hold the coffee:** Perking up the office with light
Bryan Steverson, MA
- MAY 23** **Skip the nap:** Consolidating sleep for older adults
Mariana Figueiro, PhD
- JUN 27** **Fee-fi-fo fungicide:** Light as a natural pesticide
David Gadoury, PhD
- JUL 25** **It's a complicated world out there:** Exposomics and light
Robert Wright, MD, MPH
- AUG 29** **Safety first:** Making driving less lethal
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2022 SERIES

Affordable Secure Solutions.

Kelly Welton, BA, RRT-NPS

Those were some fun times, the 80s. Things that immediately come to mind when I think of the 80s are:

- Big hair
- Strange outfits
- Dancing in the clubs until late to keep my body on night shift when scheduled off

And most notably: The ability to walk into a hospital without a security check.

“In the 90s, I started doing side work as clinical support for ventilator companies. My first dealing with hospital security was at an inner-city hospital. I was there to demonstrate a ventilator with a HeliOx attachment, an odd-looking piece of equipment that required much explanation to the security team.”

In the 90s, I started doing side work as clinical support for ventilator companies. My first dealing with hospital security was at an inner-city hospital. I was there to demonstrate a ventilator with a HeliOx attachment, an odd-looking piece of equipment that required much explanation to the security team. At the same time, I had brought my lunch – thinking nothing of it, I had packed a whole mango and a large knife to cut and peel it with. Yep, you guessed it –the knife went through undetected, but the Heliox piece somehow seemed more of a threat, requiring a senior security officer to clear me.

Meanwhile, at other hospitals, I could walk in and knock on an RT director’s door without a hitch.

Then, one day at UCLA Medical Center– I had not been there in a while – there was a long line to get in. I was there to give an in-service on the same ventilator and its Heliox contraption. Even with my ventilator company official badge, it took a long time to explain the gadget and get through.

Then, one day my vent company announced that the security process would be streamlined. A new system was being born, a centralized company – let us call them Security Company A - that would put me in a database with all my info. As long as I kept up with their education requirements (Think: Infection Control) and each member hospital’s policies and procedures, all I had to do was show up, pass the long security line and get to the vendor’s area, log in, and presto! A sticky badge was printed with my picture, name, and company. Sweet!

“As long as I kept up with their education requirements (Think: Infection Control) and each member hospital’s policies and procedures, all I had to do was show up, pass the long security line and get to the vendor’s area, log in, and presto! A sticky badge was printed with my picture, name, and company. Sweet!”

This new ‘system’ made me re-take all kinds of competencies and review specific policies and procedures that each hospital deemed necessary. Topics included Fire Safety, Code Silver, and even some policies on liquid oxygen systems.

My ventilator company paid for my time to get these items done and paid the annual fee for me.

This seemed to go along well until I went to a hospital that belonged to a different hospital system – one that did not accept Security Company A’s credentials. This hospital needed pre-sales in-service and education. And they were using a new competitor of Security Company A.

Security Company B had similar requirements: Background check, re-take some tests, and review said hospital’s selected policies and procedures. My vent company again paid for my time to complete these and the fee to get me into that hospital system’s facilities.

Fast forward to today. As an educator with my own company now, I can often get by with just a visitor’s badge at security, as I am there at the facility’s request to teach.

I recently posted a poll and asked medical device reps how many

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different security companies they had to clear to do their job. Everyone answered, “three or more.” I asked a sales rep friend who covers two states – how many security systems does he belong to?

“Sales and support reps could spare themselves the boredom of taking another handwashing course. The money saved could be spent on health education or research—things that advance US health and our healthcare.”

If each Security Company requires eight or more hours annually of education time, plus the annual fee, and the average sales rep belongs to 3 or more systems, the average annual price for ONE rep to walk into a hospital and do their job is approximated at \$3500. Multiply this by the number of medical device reps we have in this country, and... now you know why healthcare is so expensive. Recently, the Powerball prize was in excess of One Billion dollars. Musing about what we might do with an extra billion, I thought, “Hey - let’s buy out ALL the Security Companies, A, B, C, etc., and just have ONE that works for every US sales rep!” Medical device companies would save millions annually. Sales and support reps could spare themselves the boredom of taking another handwashing course. The money saved could be spent on health education or research—things that advance US health and our healthcare.

Disclosures: The author has no conflicts noted.

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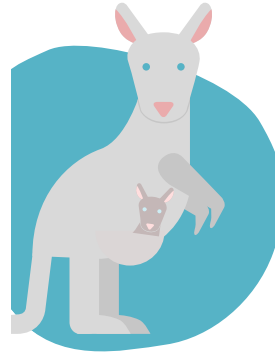
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and ask others to hold your baby when you can't be there



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The Village Son



A Life's Journey

Iranian village to a university professor in the United States of America in this memoir. As a boy, his unruly behavior was sedated by scholastic challenges as a remedy. At age twelve, he left home for junior high school in a provincial capital. At first, a lack of self-esteem led him to stumble, but he soon found the courage to tackle his subjects with vigor. He became more curious about the world around him and began to yearn for a new life despite his financial limitations. Against all odds, he became one of the top students in Iran and earned a scholarship to study medicine in Europe. Even though he was culturally and socially naïve by European standards, an Italian family in Rome helped him thrive. The author never shied away from the challenges of learning Italian, and the generosity of Italy and its people became part and parcel of his formative years. By the time he left for the United States of America, he knew he could accomplish whatever he imagined.

Houchang D. Modanlou

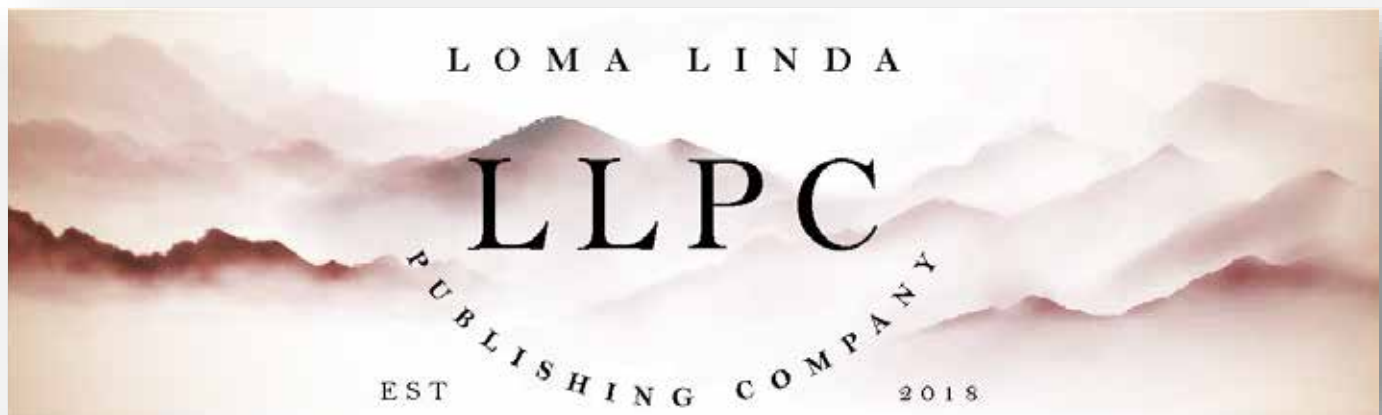
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Coping with Grief and its Triggers, Whether Immediate or Prolonged

Barb Himes, CD

first candle

Saving babies. Supporting families.

First Candle's efforts to support families during their most difficult times and provide new answers to help other families avoid the tragedy of the loss of their baby are without parallel.

"The holiday season is a time of year for gathering, celebrating, and looking to the coming year, but it can also be a time filled with potential triggers for individuals and families who have suffered a loss."

The holiday season is a time of year for gathering, celebrating, and looking to the coming year, but it can also be a time filled with potential triggers for individuals and families who have suffered a loss.

For maternal and infant health care providers, this may mean helping parents who have lost an infant and are grappling with confusion, guilt, and grief and wondering if they will ever be happy again or if they should have another child.

The cause of this grief could be immediate, but it could also be in

different levels of the past. In March 2022, the American Psychiatric Association (APA) released the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DMS-5), which now includes an entry for Prolonged Grief Disorder. This may be diagnosed for adults experiencing symptoms of grief for more than a year following the death of a loved one. The symptoms may include emotional distress and difficulties carrying out daily activities.

"This classifying longer-than-a-year grief as a disorder has prompted some discussion within the healthcare community; the DMS-5 inclusion may help improve access to insurance coverage, but there is also a concern that calling it a disorder may not accurately reflect an individual's own way of coping with such a death."

This classifying longer-than-a-year grief as a disorder has prompted some discussion within the healthcare community; the DMS-5 inclusion may help improve access to insurance coverage, but there is also a concern that calling it a disorder may not accurately reflect an individual's own way of coping with such a death.

In a recent New York Times article (1), author Jill Balosky, who lost a family member to suicide, agreed, declaring that "grief is a forever thing." At First Candle, we have seen that even if parents are able to resume their daily lives, the grief of losing an infant never goes away, even after many years.

Suggested treatments for Prolonged Grief Disorder involve elements of cognitive behavioral therapy (CBT) as well as bereavement support groups. First Candle has found through its bereavement work that support groups can indeed fill a need and that it is helpful to offer different forms of support, enabling individuals to choose which is most comfortable for them:

- **Grief line.** This can offer one-on-one support, access to materials, and local support services where they are available.



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- **Bereavement library.** Resources on surviving the [sudden death of a baby](#) and guidance on coping with anniversaries, birthdays, holidays, and considerations about having another child.
- **Peer-to-peer online support groups.** A safe and supportive environment for individuals and families to talk about pregnancy and infant loss. The groups provide an empathetic outlet for feelings of grief, anger, anxiety, and depression, with shared personal experiences, emotional comfort, and moral support. There are different groups for Sudden Unexpected Infant Death (SUID), stillbirth, and miscarriage.

The APA also notes that those suffering from Prolonged Grief Disorder may not seek help independently. This can be true whether the loss is recent or not; some individuals may need a healthcare provider's intuitive help in recognizing their emotional situation and in understanding the benefits of accepting help.

“The APA also notes that those suffering from Prolonged Grief Disorder may not seek help independently. This can be true whether the loss is recent or not; some individuals may need a healthcare provider’s intuitive help in recognizing their emotional situation and in understanding the benefits of accepting help.”

This type of counseling may be challenging for some professionals who may not have training in bereavement support and whose focus has been on saving lives, not death. But some simple approaches can help both the provider and the individual work together. Some may not be needed if the death is not in the moment or recent, and some will still be relevant if the individual is still suffering after some time.

- **Listen.** If the individual wishes, let them talk and then fully listen.
- **Be open and sincere.** “I care and am here for you.” “I am so sorry.”
- **Recognize.** Say the baby's name.
- **Offer keepsakes.** A lock of hair, foot, and handprints, pictures.
- **Avoid clichés.** “It’s God’s will.” “God needed another angel.” “At least you have your other children.”
- **Explain.** Share what may happen next (e.g., if SUID: autopsy, coroner, funeral, etc.)
- **Identify grief support resources.** This could be a local support group, a hospital chaplain, or a First Candle support service.

There are also suggestions that we have found to be helpful, especially during the holidays:

- Sometimes the anticipation around an impending holiday is worse than the day itself turns out to be.
- It is also a helpful idea to have a personal plan that includes:
 - Getting plenty of rest
 - Exercising
 - Making time for yourself or the things you enjoy
 - Being kind to yourself
 - Doing what you are comfortable with and declining invitations you are not

Other elements to consider are:

- Do not be afraid to change traditions or add to existing ones
- Light a candle
- Add a special ornament or decoration in memory of your baby
- Donate a book to a hospital, church, or public library
- Volunteer during the holidays

And, in general, being fully engaged with an individual or with families may help the professional understand in which directions their interactive discussions and support may go. While there may be feelings of guilt, anger, fear, and depression common to all, everyone processes grief differently. Infant death can have an impact on the parents' relationship, on the immediate and extended family, and also on the health care providers themselves.

“And, in general, being fully engaged with an individual or with families may help the professional understand in which directions their interactive discussions and support may go. While there may be feelings of guilt, anger, fear, and depression common to all, everyone processes grief differently.”

And providers may see a new flare-up of grief when certain triggers, such as holidays, occur.

There is no timetable for the cessation of grief.

References:

1. *Grief Is A Forever Thing*, *The New York Times*. <https://www.nytimes.com/2022/11/27/opinion/prolonged-grief-suicide.html?searchResultPosition=1>

Disclosure: The author is a Certified Doula, and the Director of Education and Bereavement Services of First Candle, Inc., a Connecticut-based not for profit 501(c)3 corporation.

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Email: barb@firstcandle.org
Website: www.firstcandle.org

About First Candle

First Candle, based in New Canaan, CT, is a 501c (3) committed to eliminating Sudden Infant Death Syndrome and other sleep-related infant deaths while providing bereavement support for families who have suffered a loss. Sudden unexpected infant death (SUID), which includes SIDS and accidental suffocation and strangulation in bed (ASSB), remains the leading cause of death for babies one month to one year of age.

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Neonatology Today's Digital Presence

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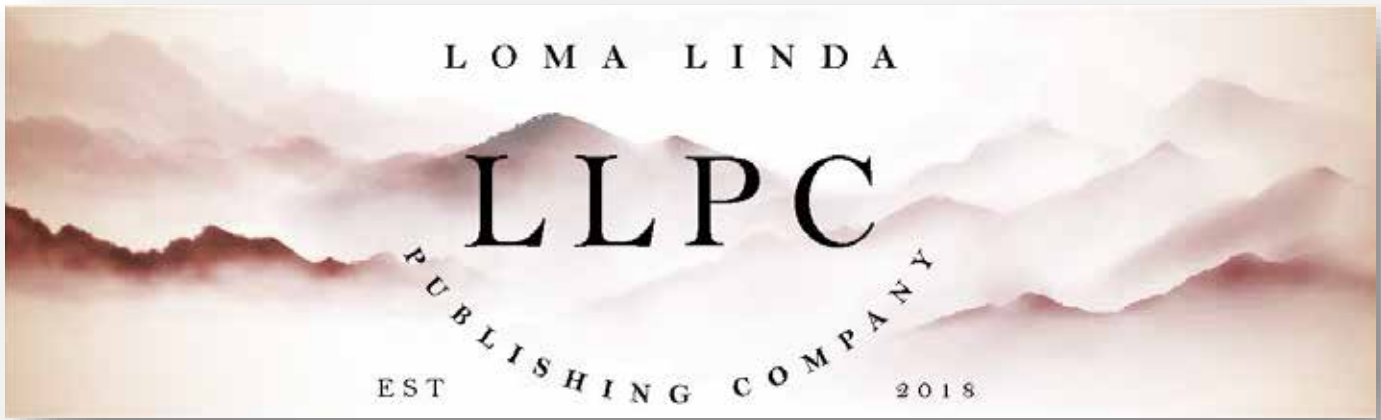
As we indicated last month, we look forward to a number of new features as well.

1. An online submission portal: Submitting a manuscript online will be easier than before. Rather than submitting by email, we will have a devoted online submission portal that will have the ability to handle any size manuscript and any number of graphics and other support files. We will have an online tracking system that will make it easier to track manuscripts in terms of where they are in the review process.
2. Reviewers will be able to review the manuscript online. This portal will shorten the time from receipt of review to getting feedback to the submitting authors.
3. An archive search will be available for journals older than 2012.
4. A new section called news and views will enable the submission of commentary on publications from other journals or news sources. We anticipate that this will be available as soon as the site completes the beta phase
5. Sponsors will be able to sign up directly on the website and submit content for both the digital and PDF issues of Neonatology Today.

Neonatology Today will continue to promote our Academic True Open Model (ATOM), never a charge to publish and never a charge to subscribe.

If there are any questions about the new website, please email Dr. Chou directly at:

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Advocates Urge the FTC to Investigate GPOs' Impacts on Drug, Medical Equipment Shortages and Rising Healthcare Costs

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 Revolving Door Project

“The letter argues that GPOs play a key and under-scrutinized role in fostering and exacerbating shortages and the offshoring of production, while their influence on costs remains chronically under-analyzed.”

Advocates Urge the FTC to Investigate GPOs' Impacts on Drug, Medical Equipment Shortages and Rising Healthcare Costs

NOVEMBER 22, 2022 PRESS RELEASE

Washington, D.C. — A coalition of 9 advocacy organizations today wrote to the Federal Trade Commission, urging the agency to investigate group purchasing organizations' under-appreciated role in diminishing medical supply market resilience, weakening patient care, and threatening national security.

“Take a look at the FDA website, and you'll see scores of essential drugs that are in short supply. Doctors and their patients even have trouble getting medications as crucial as amoxicillin, which is totally unacceptable,” said Sara Sirota, Policy Analyst at the American Economic Liberties Project. “Federal regulators at the FTC must investigate the little-known middlemen in medical supply markets called group purchasing organizations. This industry is so concentrated after years of mergers and acquisitions, that just three companies control about 90% of \$250 billion in hospital purchases annually, all the while accepting kickbacks from suppliers with next to no oversight.”

Group purchasing organizations (GPOs) negotiate procurement contracts for hospitals, nursing homes, and other providers. Thanks to a government-sanctioned exemption from the federal Anti-Kickback Statute, GPOs can make manufacturers to pay up if they want to sell their products while forcing providers to buy from certain suppliers at locked prices regardless of market conditions. Right now, glaring shortages in medical equipment markets, skyrocketing healthcare costs, and over-reliance on sole-sourced, overseas production jeopardize patient safety and national security, especially by incentivizing dependence on Chinese manufacturing of key medical supplies.

The letter argues that GPOs play a key and under-scrutinized role in fostering and exacerbating shortages and the offshoring of production, while their influence on costs remains chronically under-analyzed. The FTC has not conducted a study into this consolidated sector and its relationship with medical shortages, but the commission has the authority to fill this gap by conducting a 6(b) study — a similar action that the Commission took to investigate pharmacy benefit managers. In addition to the American Economic Liberties Project, the letter is cosigned by Center for Economic and Policy Research, Demand Progress Education Fund, Free to Care, Our Revolution, Physicians Against Drug Shortages, Practicing Physicians of America, Public Citizen, Revolving Door Project.

Learn more about Economic Liberties here.

###

The American Economic Liberties Project works to ensure America's system of commerce is structured to advance, rather than undermine, economic liberty, fair commerce, and a secure, inclusive democracy. Economic Liberties believes true economic liberty means entrepreneurs and businesses large and small succeed on the merits of their ideas and hard work; commerce empowers consumers, workers, farmers, and engineers instead of subjecting them to discrimination and abuse from financiers and monopolists; foreign trade arrangements support domestic security and democracy; and wealth is broadly distributed to support equitable political power.

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November 22, 2022

Federal Trade Commission
600 Pennsylvania Avenue NW
Washington, DC 20580

CC:

Commissioner Robert M. Califf
Food and Drug Administration
10903 New Hampshire Avenue
Silver Spring, MD 20993

Dear Chair Khan, Commissioner Phillips, Commissioner Slaughter, Commissioner Wilson, and Commissioner Bedoya:

We write to urge the Federal Trade Commission (FTC) to investigate the monopolistic middlemen in the healthcare supply chain known as group purchasing organizations (GPOs). Right now, glaring shortages in medical equipment markets, skyrocketing healthcare costs, and overreliance on sole-sourced, overseas production jeopardize patient safety and national security, especially our dependence on Chinese manufacturing of key medical supplies. We believe GPOs play a key and under-appreciated role in fostering and exacerbating shortages and the offshoring of production, while their influence on costs remains chronically under-analyzed. The FTC has not conducted a study into this consolidated sector and its relationship with medical shortages, but the commission has the authority to fill this gap by conducting a study under section 6(b) of the FTC Act (15 U.S.C. § 46(b)).

Group purchasing organizations negotiate procurement contracts for pharmaceuticals and medical supplies on behalf of hospitals and other healthcare providers, serving as industry middlemen who neither manufacture medical equipment and goods nor directly provide health care. By leveraging the collective supply needs of their member hospitals, nursing homes, and other health care providers, GPOs have the power to exert greater bargaining power and obtain better contract terms for buyers. But decades of consolidation and regulatory exemptions have given them monopsony negotiating leverage, allowing them to obstruct the competition of a functioning market. For example, GPOs accept what are effectively kickbacks from suppliers, creating a pay-to-play scheme in the medical equipment market. GPOs also lock their members into sole-sourced purchases and vendors into fixed prices, preventing from making organic adjustments in response to either their own costs or health care needs. What's more, they generate exorbitant profits for owners at the expense of the public interest. And despite representing hundreds of billions of dollars in procurement annually, much of which is paid for by Medicare, Medicaid, and other government programs, GPOs face next to zero oversight or transparency standards.

Over several decades, many government agencies and media watchdogs have expressed concern with GPOs' sway over the industry and the extent to which they actually reduce costs. Most recently, *60 Minutes* ran a news segment exposing how they create shortages of essential drugs

such as pediatric chemotherapy medication.¹ In response to President Joe Biden’s executive order on U.S. supply chain risks last year, the White House reported that GPO contracting methods, especially sole-sourced agreements, may lead to reduced competition among medical suppliers.² The U.S. Food and Drug Administration also reported in 2020 that GPO schemes leave suppliers with such low profit margins that they do not have sufficient resources to invest in production or excess capacity.³ Meanwhile, a 2010 Senate Finance Committee report ordered by then-Ranking Member Sen. Charles Grassley (R-Iowa) found that limited data exists to verify whether GPOs achieve savings for buyers.⁴

This letter will first explain the main features of the group purchasing organization industry, its level of consolidation, and the conflicts of interest inherent in the current business model. Second, it will detail how GPOs contribute to medical shortages and the offshoring of the manufacturing for critical medical equipment and products. Third, it will detail the history of the GPO industry, showing the policy changes and process of consolidation that created the perverse incentives and harms that we see today. We close by identifying the core features of the GPO industry and business model that should be investigated through a 6(b) study.

Section I: The Group Purchasing Organization Industry

What are Group Purchasing Organizations?

GPOs pool the collective buying power of hospitals, nursing homes, and other healthcare providers to negotiate procurement contracts with manufacturers for everything from surgical masks and gloves to prescription drugs. When a GPO signs a contract with a supplier, the members it represents can then use that contract to buy a designated product at the negotiated price over a specified timeframe. GPOs may bundle several products from one or multiple vendors in a single contract, supposedly negotiating a discounted price for the group. But the extent of these discounts in reality is unclear. As then-Senators Mike DeWine, R-Ohio, and Herb Kohl, D-Wis., warned Defense Secretary Donald Rumsfeld in 2003, the benchmarks that GPOs use to demonstrate savings are based on a manufacturer’s list price, which hospitals rarely use.⁵

GPOs are typically for-profit entities that are either owned by their hospital members or have contracting arrangements with them, which may include participation fees charged to the members

¹ Bill Whitaker, “Medical Middlemen: Broken system making it harder for hospitals and patients to get some life-saving drugs,” 60 Minutes, May 22, 2022, <https://www.cbsnews.com/news/generic-drugs-pharmaceutical-companies-60-minutes-2022-05-22/>.

² “Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth: 100-Day Reviews under Executive Order 14017,” The White House, June 2021, <https://www.whitehouse.gov/wp-content/uploads/2021/06/100-day-supply-chain-review-report.pdf>.

³ “Drug Shortages: Root Causes and Potential Solutions,” U.S. Food and Drug Administration, February 21, 2020, <https://www.fda.gov/media/131130/download>.

⁴ “Empirical Data Lacking to Support Claims of Savings With Group Purchasing Organizations,” Senate Finance Committee Minority Staff Report, September 24, 2010, <https://www.grassley.senate.gov/imo/media/doc/2010-09-24-GPO-Report.pdf>

⁵ Mike DeWine and Herb Kohl, Letter from Sens. Mike DeWine and Herb Kohl to Defense Secretary Donald Rumsfeld, May 2, 2003, <https://nebula.wsimg.com/2c05bf026ed6c9ae9cd03339d59efe78?AccessKeyId=62BC662C928C06F7384C&disposition=0&alloworigin=1>.

for using the GPO's services. However, GPOs earn most of their money by charging contract administrative fees to suppliers, rather than revenue from members. These fees are typically calculated as a percentage of a given product's price – which is claimed to be on average less than 3%, though at times have effectively risen above 50% through a chain of ancillary fees – and the GPOs are legally obligated to disclose them annually to members. The manufacturer pays the administrative fees when a purchase is made off the contract. Generally speaking, the fees greatly exceed operating costs, and the GPOs often, though not always, distribute part of the excess sum back to the buyer.⁶

Beyond administrative fees, manufacturers may pay advertising and licensing fees to GPOs in order to, for example, market their products under the GPO's brand name. GPOs also sponsor events for hospital members and offer educational grants. In addition to suppliers, GPOs raise revenue from distributors, which typically pay no more than 3% of the total invoice price. A portion of these gains may also be distributed back to members. However, as detailed below, GPOs have a history of adding a range of other hidden fees charged to the manufacturer that inflate these costs, and hospitals do not always account for these fees when reporting their supply costs to Medicare, leading the government to pay more than it's supposed to.⁷

Furthermore, much of the revenue that GPOs make doesn't necessarily go towards offsetting hospitals' purchasing costs. Instead, hospital executives are accustomed to seeing funds that are trickled back instead go towards their salaries.⁸ This kind of slanted interest is what led a pension fund in March 2022 to sue the board and current and former CEOs of the publicly traded GPO, Premier, the largest in the country. The fund alleged that the board and CEOs overpaid Premier's pre-initial public offering investors – its member-owners – by more than \$200 million as part of what's called a tax receivable agreement.⁹

Consolidation among GPOs

The GPO sector is dominated by just a few corporations. Three GPOs – Vizient, Premier, and HealthTrust – manage procurement for 90% of medical equipment today, leaving health care providers and small producers with little bargaining power.¹⁰ “If you refuse to sell through a group

⁶ Phillip L. Zweig, “White Paper: A Cost Analysis of the 1987 Medicare Anti-kickback Safe Harbor for Group Purchasing Organizations and Pharmacy Benefit Managers,” Physicians Against Drug Shortages, February 15, 2021, <https://nebula.wsimg.com/cd1702b03dd5bdcbf25da39704c4045c?AccessKeyId=62BC662C928C06F7384C&disposition=0&alloworigin=1>.

⁷ “Empirical Data Lacking to Support Claims of Savings With Group Purchasing Organizations,” Senate Finance Committee, September 24, 2010, <https://nebula.wsimg.com/32ce499df16ad66aede1ee5b4ed7d2a0?AccessKeyId=62BC662C928C06F7384C&disposition=0&alloworigin=1>.

⁸ Phillip Zweig and Frederick Blum, “Where Does the Law Against Kickbacks Not Apply? Your Hospital,” *Wall Street Journal*, May 7, 2018, <https://www.wsj.com/articles/where-does-the-law-against-kickbacks-not-apply-your-hospital-1525731707>.

⁹ Mike Leonard, “Premier Inc. Board Sued Over \$474 Million Payout to Insiders,” *Bloomberg Law*, March 16, 2022, <https://nebula.wsimg.com/2c067980ccf8c874b6dc77596ddb8e7b?AccessKeyId=62BC662C928C06F7384C&disposition=0&alloworigin=1>.

¹⁰ “Medical Middlemen: Broken system making it harder for hospitals and patients to get some life-saving drugs.”

purchasing organization, or through drug wholesalers, you will not exist,” Bill Simmons, a former generic drug executive, told *60 Minutes* in May 2022. “You are out.”¹¹

As such, GPOs are gatekeepers to the largest medical buyers in the United States; a manufacturer looking to sell its products in the health care market has little other choice but to partner with them. Indeed, the Government Accountability Office reported in 2010 that hospitals across the country make about 73% of their nonlabor purchases through a GPO contract. Although there are hundreds of GPOs in the United States, hospitals on average have membership in two to four companies.¹²

Since then, the industry has only consolidated further. Vizient formed in 2015 when VHA Inc., University HealthSystem Consortium, and Novation combined; it then acquired a MedAssets subsidiary in 2016 and Intalere (formerly Amerinet) in 2021. It is now the largest GPO in the country with more than \$100 billion in purchasing volume, putting its procurement budget on a similar scale with the Pentagon.¹³ Premier acquired Greater New York Hospital Association’s GPO subsidiary in 2020. It is today the second-largest GPO in the country with at least \$69 billion in purchasing volume.¹⁴ HealthTrust is the third largest, boasting more than \$20 billion in purchasing volume.¹⁵ These major GPOs have also acquired a number of other smaller companies over the years to achieve their current purchasing power. The FTC has not challenged any of these mergers.

Conflicts of Interest

The vendor-based revenue setup creates perverse incentives for GPOs to guarantee greater returns by locking members into long-term contracts with incumbent suppliers. GPOs purport to use competitive bidding strategies, but there have nevertheless been examples of sole-sourced, long-term deals, such as when GPOs Premier and Novation, now known as Vizient, awarded such contracts to an incumbent oximeter company, undermining a superior, life-saving alternative’s access to buyers, as a *New York Times* investigative series exposed in 2002.¹⁶

One result of inflexible contracting and consolidation in GPO buying power is shortages. In a healthy market, a manufacturer, faced with low or negative margins on a product sought by end consumers, could simply raise prices. But GPOs have destroyed the ability of sellers to adjust prices in response to supply shocks or increases in production costs. Many products are now bought

¹¹ Ibid.

¹² “Group Purchasing Organizations: Services Provided to Customers and Initiatives Regarding Their Business Practices,” U.S. Government Accountability Office, August 2010, <https://www.gao.gov/assets/gao-10-738.pdf>.

¹³ The Pentagon’s procurement budget was \$136.9 billion in 2021. See Jon Harper, “BUDGET 2021: Trump Proposes Flat Pentagon Budget,” National Defense, February 10, 2020, <https://www.nationaldefensemagazine.org/articles/2020/2/10/budget-2021-trump-proposes-flat-pentagon-budget>; “Frequently asked questions,” Vizient, <https://www.vizientinc.com/frequently-asked-questions>.

¹⁴ Premier, Inc., Form 10-K For The Fiscal Year Ended June 30, 2021, U.S. Securities and Exchange Commission, https://www.annualreports.com/HostedData/AnnualReports/PDF/NASDAQ_PINC_2021.pdf.

¹⁵ “HealthTrust Purchasing Group Participates in White House Discussion on ‘Greening America’s Hospitals,’” Fierce Healthcare, July 27, 2012, <https://www.fiercehealthcare.com/healthcare/healthtrust-purchasing-group-participates-white-house-discussion-greening-america-s>.

¹⁶ “New York Times Series On GPO’s,” Masimo, <https://www.masimo.com/company/news/media-room/nyt-series/>.

under fixed-price contracting, with high fees owed to middlemen. And since there are effectively only three national GPOs, a manufacturer can't turn to an alternative buyer if they need to increase prices. As a result, manufacturers are often unable to invest in greater production even when there are constraints on supply and clear demand by hospitals. They simply stop making the good. That is why suppliers in a host of areas have abandoned the production of critical, low-margin products, and cut costs by moving production overseas where regulatory standards are lower. These outcomes foster shortages, drive new producers of superior or more affordable goods out of the market, and increase dependence for essential items on an unreliable global supply chain. Indeed, as the early months of the Covid-19 pandemic revealed, the United States is dependent on China for the manufacturing of such low-margin, routine medical supplies, which pose a national security risk in the event of a natural disaster, another pandemic, or geopolitical tensions in the Asia-Pacific region.

The rationale for group buying is that it ostensibly saves hospitals money. Indeed, the GPO industry insists that it saves members between 10% and 18% in procurement costs,¹⁷ the many convoluted transaction fees likely obscure real costs. GPOs are required to disclose any administrative fees to members that exceed 3% of a good's price, but they have found ways to avoid disclosure through various junk fees for ancillary schemes such as "marketing," "advance," "conversion," and "licensing" payments, as well as rebates and prebates that together can add up to well above 3%.¹⁸

The GPO revenue model, charging fees to suppliers for access to the buyer markets, is currently organized under an exemption from the Medicare Anti-Kickback Statute that the federal government granted in 1987 to permit administrative fees. However, a series of scandals more than 20 years ago revealed improper, conflicted, and potentially illegal relationships. There were cases, for example, of GPO executives having investments in manufacturers or seats on their boards. Under pressure from Congress, the industry adopted new voluntary ethical codes that, for instance, banned GPO executives involved in contracting decisions from having equity ownership in supply companies. Little substantive policy action by regulators or enforcers was taken, except for a mandate that the Food and Drug Administration maintain publicly available lists of drug shortages that the problematic market structure in the GPO market induced. Meanwhile, antitrust authorities continued to allow mergers to proceed apace.

Section II: Critical Medical Supply Shortages and Overseas Production

Shortages for medical supplies in the United States are frequent and widespread. These key features of the GPO industry distort medical supply markets such that they are characterized by frequent medical supply and drug shortages and dependence on unreliable, overseas production, putting patients at risk of losing access to their needed treatments.

¹⁸ Phillip L. Zweig, "White Paper: A Cost Analysis of the 1987 Medicare Anti-kickback Safe Harbor for Group Purchasing Organizations and Pharmacy Benefit Managers," Physicians Against Drug Shortages, February 15, 2021, <https://nebula.wsimg.com/cd1702b03dd5bdcfb25da39704c4045c?AccessKeyId=62BC662C928C06F7384C&disposition=0&alloworigin=1>.

The FDA shortage list has demonstrated that the U.S. is currently lacking sufficient amounts of items like cancer, parenteral nutrition, and blood pressure drugs, as well as saline, automated external defibrillators, and iodinated contrast.¹⁹ Other medications and equipment may not meet the FDA’s shortage threshold, but are at significant risk due to exclusive contracting schemes and few available production sources.

In an interview with *60 Minutes* earlier this year, Dr. Mitch Goldstein, a neonatologist at Loma Linda University Children’s Hospital in California, described the severity of shortages for drugs used to treat premature and sick babies.

“It can be certain minerals. It could be certain salts. Things that you would ordinarily find in a college chemistry lab, we can’t get.”

“These are basic things: glucose, sugar. It’s not hard to make. But the point is we can’t get it.”²⁰

60 Minutes reported that there are shortages of about 300 essential drugs on most days, sometimes leaving hospitals with no other choice but to put patients on medications that aren’t as safe or as effective as their usual treatments.

At the same time as the U.S. is a leading global producer of advanced medical equipment, it is highly dependent on China and other countries to produce basic medications and supplies like personal protective equipment. This reliance leaves the U.S. vulnerable in the event of an unforeseen disruption to global supply chains, such as during the Covid-19 pandemic, when hospitals could not access sufficient amounts of N95 masks, which are almost entirely produced abroad.

In September 2020, American Economic Liberties Project’s Rethink Trade Director Lori Wallach, then of Public Citizen, testified before the U.S. International Trade Commission on this issue. Her research found that the U.S. had a global trade deficit of about \$6 billion for critical medical goods during the one year preceding the March 2020 domestic outbreak of Covid-19, a figure which temporarily worsened during the early months of the pandemic.²¹

What’s more, the production of many of the drugs imported to the U.S. is highly concentrated in just two countries. In 2019, 84% of U.S. diuretic imports arrived from India, 76% of U.S. anti-inflammatory and painkiller medication imports came from India and China, and 62% of U.S. cardiovascular drug imports derived from India.²²

¹⁹ “Report to Congress: Drug Shortages for Calendar Year 2021,” U.S. Food and Drug Administration, <https://www.fda.gov/media/159302/download>; “FDA Drug Shortages,” U.S. Food & Drug Administration, <https://www.accessdata.fda.gov/scripts/drugshortages/default.cfm>.

²⁰ “Medical Middlemen: Broken system making it harder for hospitals and patients to get some life-saving drugs.”

²¹ Lori Wallach, Written Testimony, U.S. International Trade Commission Hearing on Covid-19 Related Goods: The U.S. Industry, Market, Trade, and Supply Chain Challenges,” September 21, 2020, <https://www.citizen.org/wp-content/uploads/Public-Citizen-Written-Testimony-Covid-and-trade-with-Add-Submission.pdf>.

²² Ibid.

These shortages do not happen by chance, and are not merely the result of expensive domestic production costs or mismanagement in the American health care system. GPOs play a significant role in contributing to this problem. As examples of medical equipment that have faced harmful shortages in recent years as a result of GPOs' middleman position and our resultant dependence on other countries for production, we highlight personal protective equipment (PPE) and pediatric chemotherapy drugs.

Personal Protective Equipment (PPE)

Early on during the COVID-19 pandemic, the U.S. experienced a severe shortage of PPE, including medical masks, gowns, and gloves. Much of this is attributable to China's decision to cut off its exports of various medical supplies to cater to its domestic needs. While the U.S. does make some of its own PPE, a significant amount is imported – mostly from China. In 2019, Chinese companies manufactured 75% of imported PPE to the U.S., a significant increase from 13% thirty years prior.²³

The greater production affordability in China compared to the U.S. is an attractive factor for any supplier deciding where to locate their manufacturing. By demanding administrative fees to sell products to their hospital members, GPOs tilt the scale even more towards the cheaper source. Indeed, Vizient was among the corporate interests lobbying the U.S. Trade Representative to grant exceptions to tariffs on China for medical supplies like PPE.²⁴

Furthermore, an October 2020 national survey of healthcare supply chain executives by FTI Consulting found that GPO contractors offered minimal help during the spring 2020 surge in demand for PPE. The consulting firm found:

“Suddenly, a program contractually designed to help most American hospitals control their expenses had little to no effect or influence in doing so. In fact, many hospitals that pledged and were honoring their GPO's high-commitment purchasing thresholds, created through single-supplier contract strategies, found themselves aggressively competing with peers in their purchasing aggregation cohort for the same supply pallet of PPE, sparking bidding war frenzies among local hospitals within the same community.”²⁵

Pediatric Chemotherapy Drugs

In May 2022, *60 Minutes* aired a segment documenting how GPOs have made it challenging for medical facilities to obtain pediatric drugs like vincristine, an essential and inexpensive

²³ Ibid.

²⁴ Shoshana Krilow, Letter from Vizient Vice President of Public Policy & Government Relations Shoshana Krilow to U.S. Trade Representative Robert Lighthizer, December 22, 2020, https://www.vizientinc.com/-/media/documents/sitecorepublishingdocuments/public/aboutus/20201222_letter_urgening_tariff_exclusions_extension.pdf.

²⁵ “Rethinking Healthcare Expense Management Post-COVID,” FTI Consulting, 2021, <https://www.fticonsulting.com/emea/-/media/files/us-files/insights/articles/2021/jan/covid-19-rethinking-healthcare-expense-management.pdf?rev=60da887c96ce46148227c4f02beef21e&hash=67C8C18F497032BE5AA8F6D5D35434F9>.

chemotherapy medication used to treat leukemia, among other diseases.²⁶ As a generic medication that's been around for decades, a vincristine dose has a price-tag of about \$5, significantly lower than new, brand drugs that can cost buyers well into the tens, if not hundreds, of thousands, of dollars. This price factor makes more expensive medications far more attractive for pharmaceutical companies to manufacture, regardless of how crucial a generic drug may be.

By charging excessive fees to suppliers, GPOs make the preference for highly profitable drugs worse. As of 2019, just two companies produced vincristine, Teva Pharmaceuticals and Pfizer, but the former decided in July of that year to stop making it. The result was not just Pfizer's subsequent monopoly, but also that when Pfizer ran into a quality control issue forcing it to pause production for six weeks, health care providers had no alternative to turn to. The supply shortage left pediatric cancer patients without an essential chemotherapy drug they had been using for years. Teva eventually agreed to restart production following an outcry, though in a troubling sign for the company, it closed a key facility in Irvine, California in August.²⁷

Section III: The History of Group Purchasing Organizations

Group purchasing organizations were not always so concentrated, nor did they always have this sort of payment structure. Indeed, shortages themselves are relatively new in the American medical system. According to the Healthcare Supply Chain Association, the first GPO, called the Hospital Bureau of New York, was created in 1910.²⁸ The number of GPOs rose slowly to just 10 by 1962, at which time the organizations focused mostly on disposable goods and other commodities for purchase by hospitals in a given city or state.²⁹ With the establishment of Medicare and Medicaid in 1965, hospital executives sought to reduce operational expenses by driving down supply costs, resulting in significant demand for and growth of GPOs during the 1970s.³⁰

It was during this time that the GPO business model started to change. Initially, hospitals and other healthcare providers had pooled their resources together to fund GPOs as nonprofits. In the mid 1970s, however, large hospital chains began to establish for-profit companies to which other hospitals could pay dues in order to become a member. By 1980, there were more than 120 GPOs, and nearly all hospitals in the country belonged to one.³¹ But consolidation also began among many of the GPOs as private, investor-owned hospitals and nursing homes entered the market

²⁶ "Medical Middlemen: Broken system making it harder for hospitals and patients to get some life-saving drugs."

²⁷ Eric Palmer, "Teva to produce children's chemo drug again as shortage leads to backlash," *Fierce Pharma*, November 14, 2019, <https://www.fiercepharma.com/manufacturing/teva-to-produce-children-s-chemo-drug-again-as-shortage-leads-to-backlash>; Fraiser Kansteiner, "Updated: Teva won't reopen troubled California site, where 300-plus are losing their jobs," *Fierce Pharma*, August 23, 2022, <https://www.fiercepharma.com/manufacturing/teva-puts-more-300-staffers-permanent-shore-leave-drydocked-california-injectables>.

²⁸ A Primer on Group Purchasing Organizations Questions and Answers," Healthcare Supply Chain Association, https://www.hiscionline.org/sites/supplychainassociation.org/resource/resmgr/research/gpo_primer.pdf.

²⁹ Bernard L. Weinstein, "The Role of Group Purchasing Organizations (GPOs) in the U.S. Medical Industry Supply Chain," *Estudios de Economia Aplicada*, December 2006, <https://www.redalyc.org/pdf/301/30113807006.pdf>.

³⁰ "Hospital Group Purchasing: Lowering Costs at the Expense of Patient Health and Medical Innovations?," Hearing before the Subcommittee on Antitrust, Business Rights, and Competition of the Senate Judiciary Committee, April 30, 2002, <https://www.govinfo.gov/content/pkg/CHRG-107shrg85986/html/CHRG-107shrg85986.htm>.

³¹ Mariah Blake, "Dirty Medicine," *Washington Monthly*, July 1, 2010, <https://washingtonmonthly.com/2010/07/01/dirty-medicine-2/>.

during this decade. The variety of products procured by GPOs also widened, as drugs started to make up a larger proportion of procurement deals. This trend continued in the 1980s.³²

For most of their history, GPOs were also locally or regionally based. However, in 1977, Voluntary Hospitals of America launched the nationwide model that exists today, followed by American Healthcare Systems, the Consortium of Jewish Hospitals (today known as Premier), and MAGNET. In 1984, 27 nonprofit medical centers merged to create University HealthSystem Consortium (today known as Vizient). In 1986, four regional GPOs – Rhode Island’s Haricomp, Missouri’s Health Services Corporation of America, Hospital Shared Services of Western Pennsylvania, and Utah’s Intermountain Healthcare – combined to form AmeriNet (today known as Intalere).³³

Late 1980s: Anti-Kickback Safe Harbor

Rising health care costs led Congress to transition the Medicare program from a fee-for-service to a fixed-rate payment model in the Social Security Amendments of 1983. Looking to make up for the ensuing revenue losses, hospitals adopted new cost-saving business strategies, such as physician incentive plans, hospital-physician joint ventures, and physician recruitment programs. But these arrangements risked violating the federal Anti-Kickback statute, which outlaws remuneration in return for patient referrals or medical supply purchases.³⁴

President Ronald Reagan signed into law the Medicare and Medicaid Patient and Program Protection Act of 1987. Section 14 of the measure directed the Health and Human Services (HHS) Department to issue exemptions, known as safe harbors, to the anti-kickback laws for GPOs and other business ventures. In return, the law sought to broaden the federal government’s enforcement power by giving the HHS Office of Inspector General (OIG) the civil authority to exclude a violating medical center from the Medicare and Medicaid programs. Previously, criminal prosecution by the Justice Department was the sole enforcement mechanism.³⁵

The HHS OIG issued its final rules in July 1991, dictating that GPO-negotiated contracts do not have to put administrative fee percentages that suppliers would pay in writing to members unless they are above 3%. Nevertheless, GPOs would have to report to their hospital members the fees they received from contractors annually.³⁶

³² Bernard L. Weinstein, “The Role of Group Purchasing Organizations (GPOs) in the U.S. Medical Industry Supply Chain,” *Estudios De Economia Aplicada*, 2006, <https://www.redalyc.org/pdf/301/30113807006.pdf>.

³³ Rick Dana Barlow, “GPO Evolution and Progress, 1977-1987,” *Healthcare Purchasing News*, February 20, 2017, <https://www.hpnonline.com/sourcing-logistics/article/13000520/gpo-evolution-and-progress-19771987>; James Spitler, “Group purchasing: Case reports: AmeriNet,” *American Journal of Hospital Pharmacy*, November 1, 1987, <https://academic.oup.com/ajhp/article-abstract/44/11/2496/5205184?redirectedFrom=PDF>; “About us,” Vizient, Inc., <https://www.vizientinc.com/about-us>.

³⁴ Francis J. Hearn, Jr., “Curing the Health Care Industry: Government Response to Medicare Fraud and Abuse,” *Journal of Contemporary Health Law & Policy*, 1989, <https://scholarship.law.edu/cgi/viewcontent.cgi?article=1648&context=jchlp>.

³⁵ *Ibid.*

³⁶ “Medicare and State Health Care Programs: Fraud and Abuse; OIG Anti-Kickback,” Department of Health and Human Services Office of Inspector General, July 29, 1991, <https://oig.hhs.gov/documents/compliance/857/072991.htm>.

Despite effectively charging suppliers more than 3% of a good's price, GPOs found ways to avoid having to disclose that in contracts under the HHS OIG's rule.³⁷ GPOs invented junk fees such as "marketing," "advance," "conversion," and "licensing" payments, as well as rebates and prebates that together can add up to well above 3%, and they have risen in some cases to more than 50%. For instance, the GPO Novation, now known as Vizient, in 1998 charged a 56.25% fee from Ben Venue Laboratories to market Diltiazem, a medication used to treat high blood pressure, to its member hospitals. This excessive fee only came to light because of a federal whistleblower lawsuit against Novation.³⁸

In a 2012 study called "Connecting the Dots: How Anticompetitive Contracting Practices, Kickbacks, and Self-Dealing by Hospital Group Purchasing Organizations Caused the U.S. Drug Shortage," Phillip Zweig, an investigative journalist and executive director of Physicians Against Drug Shortages, and Patricia Earle, then CEO of Secure Pharma Distributor Network LLC, described the fallout of the 1987 GPO safe harbor decision as follows:

Before long, GPOs morphed into a corrupt "pay to play" scheme whose goal was to maximize vendor kickbacks. In return for billions in kickbacks, the vendors got sole source and dual source contracts that gave them exclusive access for their often inferior, unsafe and obsolete products at GPO member hospitals. And because GPO revenue (kickbacks) is based on a percentage of vendor sales volume, higher product prices mean more money for the GPOs. Hospitals really don't care because the higher prices are reimbursed by Medicare—and ultimately taxpayers. GPOs became the marketing agents for dominant vendors that could pay the biggest kickbacks, turning their backs on their original role as servants of patients and hospitals.³⁹

1990s: More Deregulation and Industry Consolidation

Supposedly looking to make healthcare more affordable, the administration of President Bill Clinton took further steps to limit enforcement of antitrust laws. In 1993, the Justice Department and FTC announced new "antitrust safety zones," or ventures that the agencies would not challenge. These included joint purchasing arrangements among health care providers or GPOs, essentially supporting the development of buyer cartels in healthcare. Unless there were "extraordinary circumstances," the Justice Department and FTC pledged not to challenge such arrangements "if the group's purchases account for less than 35 percent of the total purchases of the relevant product or service, and the cost of the product or service being jointly purchased

³⁷ "The FACTS about GPOs," Physicians Against Drug Shortages, <https://www.physiciansagainstdrugshortages.com/gpo-facts--pay-to-play-.html>.

³⁸ "White Paper: A Cost Analysis of the 1987 Medicare Anti-kickback Safe Harbor for Group Purchasing Organizations and Pharmacy Benefit Managers."

³⁹ Patricia Earle and Phillip Zweig, "Connecting the Dots: How Anticompetitive Contracting Practices, Kickbacks, and Self-dealing by Hospital Group Purchasing Organizations (GPOs) Caused the U.S. Drug Shortage," February 14, 2012, <https://careandcost.com/2012/02/14/connecting-the-dots-how-anticompetitive-contracting-practices-kickbacks-and-self-dealing-by-hospital-group-purchasing-organizations-gpos-caused-the-u-s-drug-shortage/>.

accounts for less than 20 percent of the total revenues from all products or services sold by each participant in the joint purchasing arrangement.”⁴⁰

The Justice Department and FTC followed these pledges with clarifying statements in 1994, though the guidance on GPOs specifically remained largely the same.⁴¹ The agencies made further revisions in August 1996, describing safeguards that GPOs falling outside the antitrust safety zone can use to mitigate the likelihood that they otherwise raise anticompetitive concerns. The agencies’ statements appear to have served as a guide for GPOs to skirt antitrust laws while violating them in spirit. For example, GPOs can forego requiring members to use the arrangement for all their purchases of a particular product, employ an agent to negotiate with suppliers who is not employed by a member, and keep communications with individual members confidential.⁴²

The revised guidelines also give GPOs great leeway in deciding whether to block market access to certain health care providers, based on structural conditions at the time:

The existence of a large number and variety of purchasing groups in the health care field suggests that entry barriers to forming new groups currently are not great. Thus, in most circumstances at present, it is not necessary to open a joint purchasing arrangement to all competitors in the market. However, if some competitors excluded from the arrangement are unable to compete effectively without access to the arrangement, and competition is thereby harmed, antitrust concerns will exist.⁴³

Such statements, condoning or allowing GPOs to refuse to do business with certain hospitals or providers, gives them another tool to expand their market power by serving as gatekeepers for health care providers’ access to medical supply markets.

However, the diversity of firms in the GPO industry would not last. In 1990, Greater New York Hospital Association, Rochester Regional Hospital Association, and Nassau-Suffolk Hospital Shared Services joined to form Healthcare Purchasing Alliance.⁴⁴ In January 1996, American Healthcare Systems, SunHealth Alliance, and Premier Healthcare Alliance merged to form Premier Inc.⁴⁵ Premier oversaw purchasing for approximately 33% of hospitals in the U.S.⁴⁶ In January 1998, VHA and University HealthSystem Consortium merged to form Novation. By 1998,

⁴⁰ “Antitrust Enforcement Policy Statements Issued For Health Care Industry,” Department of Justice, September 15, 1993, https://www.justice.gov/archive/atr/public/press_releases/1993/211661.htm.

⁴¹ “The United States Department of Justice and the Federal Trade Commission Issue New Statements of Antitrust Enforcement Policy for Health Care,” Wiggin and Dana LLP, January 1, 1999, <https://www.wiggin.com/publication/the-united-states-department-of-justice-and-the-federal-trade-commission-issue-new-statements-of-antitrust-enforcement-policy-for-health-care/>.

⁴² “Statements of Antitrust Enforcement Policy in Health Care,” U.S. Department of Justice and the Federal Trade Commission, August 1996, <https://www.justice.gov/atr/page/file/1197731/download>.

⁴³ “Statements of Antitrust Enforcement Policy in Health Care,” U.S. Department of Justice and the Federal Trade Commission, August 1996, <https://www.justice.gov/atr/page/file/1197731/download>.

⁴⁴ Bernard L. Weinstein, “The Role of Group Purchasing Organizations (GPOs) in the U.S. Medical Industry Supply Chain,” *Estudios de Economía Aplicada*, Vol. 24-3, 2006, <https://www.redalyc.org/pdf/301/30113807006.pdf>.

⁴⁵ “Connecting the Dots: How Anticompetitive Contracting Practices, Kickbacks, and Self-dealing by Hospital Group Organizations (GPOs) Caused the U.S. Drug Shortage.”

⁴⁶ Phillip Zweig and Wendy Zellner, “Locked Out of the Hospital,” *Bloomberg*, March 16, 1998, <https://www.bloomberg.com/news/articles/1998-03-15/locked-out-of-the-hospital#xj4y7vzkg>.

the six largest GPOs controlled procurement contracts for at least 80% of the roughly 5,400 acute-care hospitals in the U.S.⁴⁷

Late 1990s-Early 2000s: Allegations Trigger Media & Government Investigations

Over the course of the late 1990s and early 2000s, a number of media and government investigations brought attention to GPOs' potentially negative effects on the quality and abundance of medical supplies. Journalists and lawsuits exposed how GPO contracting arrangements propped up the legacy providers of dangerous needle sticks and less effective oxygen monitors and prevented superior alternatives from entering the market.⁴⁸ These revelations led the Senate Judiciary Subcommittee on Antitrust, Business Rights, and Competition to hold four hearings on GPOs between 2002 and 2006 where lawmakers raised concerns about improper financial ties between GPOs and providers, a lack of supplier diversity, and high prices of goods.⁴⁹

During this timeframe, the GAO released studies on the industry, one of which found that GPOs did not guarantee that hospital members saved money.⁵⁰ In July 2004, the Justice Department and FTC released a study on health care competition, stating that the “[a]gencies would examine on a case-by-case basis the facts of any alleged anticompetitive contracting practice to determine whether it violates the antitrust laws. The HHS OIG also released an audit of three of the largest GPOs, finding their revenue from suppliers “significantly exceeded operating costs.” The audit then evaluated how 21 GPO members accounted for the distributed funds they received, determining they did not fully account for them on their Medicare cost reports.⁵¹

Later, in September 2010, Grassley released a Senate Finance Committee minority report that studied the conduct of seven major GPOs. The assessment found, among other conclusions, that these organizations offer services outside traditional GPO activities, funded with administrative fees that exceed the original intent of the 1987 safe harbor, and a portion may be distributed to members, only to then be given back to the GPOs in the form of payments for other services. The report ultimately concluded that Congress and the American public did not have data to determine the success of the safe harbor provision, and given the industry's evolution over the years, lawmakers should consider legislation that would give HHS OIG more oversight.⁵²

In November 2011, Sens. Barbara Boxer, Grassley, Kohl, Richard Durbin, and Tom Harkin wrote Federal Trade Commission Chairman Jonathan Leibowitz, requesting that the agency review the

⁴⁷ Ibid.

⁴⁸ “Congressional Hearings,” “Needles,” CBS News, February 22, 2001, <https://www.cbsnews.com/news/needles-22-02-2001/>; “Connecting the Dots.”

⁴⁹ “Hospital Group Purchasing: Lowering Costs At The Expense of Patient Health and Medical Innovations?” Hearing Before The Subcommittee on Antitrust, Business Rights, and Competition of the Committee on the Judiciary United States Senate, April 30, 2002, <https://www.govinfo.gov/content/pkg/CHRG-107shrg85986/html/CHRG-107shrg85986.htm>.

⁵⁰ Marjorie Kanof, “Group Purchasing Organizations: Use of Contracting Processes and Strategies to Award Contracts for Medical-Surgical Products,” Government Accounting Office, July 16, 2003, <https://www.gao.gov/assets/gao-03-998t.pdf>.

⁵¹ “Review of Revenue From Vendors at Three Group Purchasing Organizations and Their Members,” Department of Health and Human Services Office of Inspector General, January 19, 2005, <https://oig.hhs.gov/oas/reports/region5/50300074.pdf>.

⁵² “Empirical Data Lacking to Support Claims of Savings With Group Purchasing Organizations.”

anticompetitive practices of GPOs in the health care marketplace.⁵³ While the FTC did not act, the GAO continued to release investigations, revealing in March 2012, for example, that the HHS OIG does not routinely exercise its authority to review disclosures of GPO contract administrative fees.

Conclusion

A comprehensive 6(b) study of the GPO industry is essential to prevent medical supply shortages and disincentivize overreliance on offshore production. Specifically, we request that the FTC investigate the following:

1. The effects of concentration in the GPO industry;
2. GPOs' effects on competition in medical supply markets;
3. The effects of GPOs on medical supply prices and reliability of medical supplies;
4. The effects of GPO purchasing and contracting practices on medical supply shortages;
5. The frequency and effects of GPOs' use of sole-sourced or exclusive contracts;
6. The connection between GPO concentration and the offshoring of medical supply production;
7. Whether elimination of the anti-kickback statute safe harbor would alleviate any of these problems, and
8. Whether the "antitrust safety zones" for joint purchasing arrangements should be eliminated.

Federal agencies, congressional committees, and watchdog organizations have gathered clear evidence of exploitation by GPOs over three decades. GPOs diminish medical supply market resilience, weaken patient care, and threaten national security. We urge the FTC to launch an investigation immediately.

Sincerely,

American Economic Liberties Project
Center for Economic and Policy Research
Demand Progress Education Fund
Free to Care
Our Revolution
Physicians Against Drug Shortages
Practicing Physicians of America
Public Citizen
Revolving Door Project

⁵³ Barbara Boxer and Charles Grassley, et al, Letter from Sens. Barbara Boxer and Charles Grassley, et al, to Federal Trade Commission Chairman Jonathan Leibowitz, November 9, 2011, <https://nebula.wsimg.com/cd13f861f90d691c0388d44c1f82607e?AccessKeyId=62BC662C928C06F7384C&disposition=0&alloworigin=1>.

COPING WITH COVID-19

KEEP PATIENTS UP-TO-DATE WITH CHANGES IN POLICIES SO THEY KNOW WHAT TO EXPECT. LISTEN TO THEIR CONCERNS.



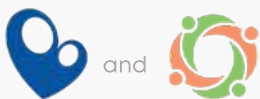
Provide culturally-informed and respectful care.

TELL PARENTS HOW YOU WILL KEEP THEM AND THEIR BABIES SAFE DURING THEIR NICU STAY.



Use technology like video chat apps to include family members who can't visit the NICU.

myNICUnetwork.org



National Perinatal Association
NICU Parent Network

My Perinatal Network and My NICU Network are products of a collaboration between NPA and NPN.

TOP 10

RECOMMENDATIONS FOR THE PSYCHOSOCIAL SUPPORT OF NICU PARENTS



Essential evidence-based practices that can transform the health and well being of NICU families and staff

based on the National Perinatal Association's Interdisciplinary Recommendations for Psychosocial Support of NICU Parents

1 PROMOTE PARTICIPATION

Honor parents' role as primary caregiver. Actively welcome parents to participate during rounds and shift changes. Remove any barriers to 24/7 parental involvement and avoid unnecessary separation of parents from their infants.



2 LEAD IN DEVELOPMENTAL CARE

Teach parents how to read their baby's cues. Harness your staff's knowledge, skills, and experience to mentor families in the principles of neuroprotection & developmental care and to promote attachment.



3 FACILITATE PEER SUPPORT

Invest in your own NICU Parent Support program with dedicated staff. Involve veteran NICU parents. Partner with established parent-to-parent support organizations in your community to provide continuity of care.



4 ADDRESS MENTAL HEALTH

Prioritize mental health by building a team of social workers and psychologists who are available to meet with and support families. Provide appropriate therapeutic interventions. Consult with staff on trauma-informed care - as well as the critical importance of self-care.



5 SCREEN EARLY AND OFTEN

Establish trusting and therapeutic relationships with parents by meeting with them within 72 hours of admission. Follow up during the first week with a screening for common maternal & paternal risk factors. Provide anticipatory guidance that can help normalize NICU distress and timely interventions when needed. Re-screen prior to discharge.



6 OFFER PALLIATIVE & BEREAVEMENT CARE

Support families and NICU staff as they grieve. Stay current with best practices in palliative care and bereavement support. Build relationships with service providers in your community.

7 PLAN FOR THE TRANSITION HOME

Set families up for success by providing comprehensive pre-discharge education and support. Create an expert NICU discharge team that works with parents to find specialists, connect with service providers, schedule follow-up appointments, order necessary medical supplies, and fill Rx.



8 FOLLOW UP

Re-connect with families post-discharge. Make follow-up calls. Facilitate in-home visits with community-based service providers, including Early Intervention. Partner with professionals and paraprofessionals who can screen families for emotional distress and provide timely therapeutic interventions and supports.

9 SUPPORT NICU CARE GIVERS

Provide comprehensive staff education and support on how to best meet families' psychosocial needs, as well as their own. Acknowledge and address feelings that lead to "burnout."



10 HELP US HEAL

Welcome the pastoral care team into your NICU to serve families & staff.

SUPPORT4NICUPARENTS.ORG

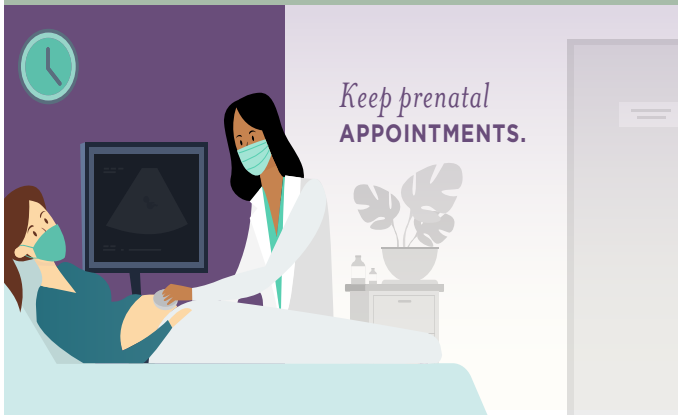
The PREGNANT MOM'S Guide To Staying SAFE DURING COVID-19



Maintain at least **A 30-DAY SUPPLY OF YOUR MEDICATIONS.**



Keep prenatal **APPOINTMENTS.**



Talk to your health care provider about **STAYING SAFE DURING COVID-19.**

[LEARN MORE >](#)

NCJIH National Coalition for Infant Health
Protecting Access for Premature Infants through Age Two

SUPPORTING KANGAROO CARE

SKIN-TO-SKIN CARE DURING COVID-19



GET INFORMED ABOUT THE **RISKS + BENEFITS**

work with your medical team to create a plan

GET CLEAN
WASH YOUR HANDS, ARMS, and CHEST

with soap and water for 20+ seconds. Dry well.



PUT ON **FRESH CLOTHES**

change into a clean gown or shirt.



IF COVID-19 + **WEAR A MASK**

and ask others to hold your baby when you can't be there



National Perinatal Association

nicuparentnetwork.org
nationalperinatal.org/skin-to-skin

NPN
NICU PARENT NETWORK

Featured Conference: Fragile Infant Forums for Implementation of Standards (FIFI-S): January 19-20, 2023, Aurora, Colorado

Joy Browne, Ph.D., PCNS, IMH-E(IV)



A Hybrid Forum for Intensive Care Interprofessionals who are in Key Positions to Make System Change Happen and Guide Implementation of Evidence-Based Standards, Competencies, and Best Practices for Infants and Families in Intensive Care

Overview: Evidence-based Infant and Family-Centered Developmental Care (IFCDC) Standards, Competencies, and Best Practices for Intensive Care have been developed and distributed by the Gravens Consensus Panel on IFCDC (<https://nicudesign.nd.edu/nicu-care-standards/>). However, their implementation is hampered by a lack of integration into the fabric of the unit and hospital system. Feedback from the first FIFI-S forum, held in July of 2022, revealed a lack of understanding and useful strategies to address systems change that underpin the successful implementation of evidence-based standards. As a result of the initial FIFI-S, a white paper was developed and distributed, laying the groundwork for systems change as it applies to the domain of Feeding, Eating, and Nutrition Delivery. The second FIFI-S Forum will introduce participants to the process and strategies of systems change so that they can successfully change any of the recommended standards they choose to address in their units. The result should allow participant leaders in the field to systematically and successfully implement the IFCDC standards.

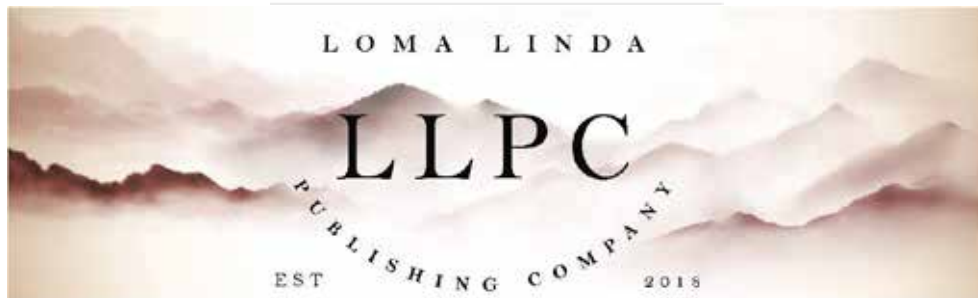
Goal: The overall goal of the Second FIFI-S forum is to guide participants through the process of systems change and lay a foundation for the application of IFCDC standards in intensive care settings.

Participants: Intensive care professionals positioned to initiate, plan and conduct activities to implement IFCDC Standards, Competencies, and Best Practices in Intensive Care. Additionally, participants will be those who will be leading groups to understand and provide guidance toward the successful implementation of standards.

Interprofessional faculty and planning committee (tentative):

| Interprofessional faculty (virtual and/or in person) | Planning Committee |
|--|--------------------|
| Carol Jaeger | Joy Browne |
| Carole Kenner | Carol Jaeger |
| Joy Browne | Mitchell Goldstein |
| Erin Ross | Michael Hynan |
| Kelly McGlothen-Bell | |
| Marina Boykova | |
| Debra Paul | |

With thanks to the following supporting organizations and agencies:



USF Health
College of Public Health



The initial preparation for the FIFI-S Second Forum: Participants will receive an electronic copy of the White Paper of Process Implementation, FIFI-S: Feeding, Eating, and Nutritional Delivery for review prior to the forum:

Additional work handouts will be distributed to the participants in advance for use during the forum:

- CQI Implementation forms (Gap Analysis for each section of standards)
- Logic Model Template
- S-O-A-R Template
- Fishbone Diagram Template
- P-D-S-A Model
- Key Driver Diagram Template

Agenda (Subject to change)

| Date/Time | Topic | Objectives | Speaker/Facilitator |
|------------------------|--|--|----------------------------|
| January 19 | Day 1 | | |
| 8:15 – 8:30 am MT | Welcome, introduction, goals & plan for the virtual forum | | J Browne |
| 8:30 – 9:15 am MT | Lessons Learned from FIFI-S about systems thinking & implementation process | <ul style="list-style-type: none"> • Provide a perspective of using a systems process and tools to implement the IFCDC standards | E Ross |
| 9:15 – 9:45 am MT | Value of Systems Thinking | <ul style="list-style-type: none"> • Describe the essential elements of systems thinking & the meaning of their inclusion in the IFCDC Standards • Demonstrate the operationalization of systems thinking • Outline why systems thinking underpins change | C Jaeger & C Kenner |
| 9:45 – 10:30 am MT | Change within a healthcare organization | <ul style="list-style-type: none"> • Describe the impact of change • Identify the difference between research and Evidence-based Practice (EBP) • Planning using a strategic plan or a business plan • Motivating the stakeholders | C Jaeger & C Kenner |
| 10:30 – 11:15 am MT | Break (lunch in ET/CT zone) | | |
| 11:15 am – 12:00 pm MT | Continuous Quality Improvement (CQI) as a systems thinking process to implement change | <ul style="list-style-type: none"> • Describe the CQI process to operationalize an idea/research/evidence in practice • Identify the applicable systems thinking standards/competencies | C Jaeger & C Kenner |
| 12:00 – 12:45 pm MT | Measures and metrics | <ul style="list-style-type: none"> • Describe the importance of measures and metrics to monitor progress • Identify the applicable systems thinking standards/competencies • Provide examples of measures and metrics | E Ross |
| 12:45 pm – 1:30 pm MT | Lunch | | |
| 1:30 – 2:30 pm MT | Tools of CQI Implementation – Logic Model | <ul style="list-style-type: none"> • Outline the steps of using the Logic Model, including advantages and disadvantages | M Boykova |

| Date/Time | Topic | Objectives | Speaker/Facilitator |
|-------------------------|--|---|--|
| | | <ul style="list-style-type: none"> • Identify the situation/ problem, the team/ stakeholders, and issues/ concerns impacting the outcome(s) • Discuss questions and comments with the group. | |
| 2:30 – 3:30 pm MT | Workgroup(s) – Logic Model | <ul style="list-style-type: none"> • Members will use an example to work through the steps of the Logic Model | Faculty |
| 3:30 – 4:15 pm MT | Group discussion | <ul style="list-style-type: none"> • Discuss the experience of working through the logic model using a specific example | Faculty |
| 4:15 – 5:00 pm MT | Summary | <ul style="list-style-type: none"> • Summarize the day's activities • Entertain comments and questions • Prepare for day 2 | J Browne |
| January 20, 2023 | Day 2 | | |
| 8:15 – 8:30 am MT | Welcome, goals, and plan for the continuation of the forum | | J Browne |
| 8:30 – 9:15 am MT | Tools of CQI Implementation – Gap Analysis - Strengths, Opportunities, Aspirations, Results (S-O-A-R) | <ul style="list-style-type: none"> • Describe the IFCDC standards, competencies, and best practices to identify gaps in practice, potential challenges, and obstacles • Engage team/ stakeholders in assessing the strengths, opportunities, aspirations, and results (S-O-A-R) template to prioritize needs based on strengths and aspirations to achieve the intended result • Note measures/metrics/ data needed • Identify “what’s in it for me?” – for the baby, staff caregivers, and parents – by implementing the IFCDC standards | D Paul |
| 9:15 – 10:00 am MT | Tools of Implementation – Fishbone diagram | <ul style="list-style-type: none"> • Assess the factors of cause and effect of the problem/change initiative • Use an example to work through the use of the template • Discuss questions, comments, and ideas | K McGlothen-Bell C Jaeger C Kenner |

| Date/Time | Topic | Objectives | Speaker/Facilitator |
|------------------------|--|--|----------------------------|
| 10:00 – 10:45 am MT | Break (lunch in ET/CT zones) | | |
| 10:45 – 11:30 am MT | Workgroup using the Fishbone diagram | <ul style="list-style-type: none"> Using an example, identify the cause(s) and effects(s) of a problem/situation | Faculty |
| 11:30 am – 12:15 pm MT | Group discussion | <ul style="list-style-type: none"> Discuss the process and use of the Fishbone diagram | Faculty |
| 12:15 – 1:00 pm MT | Lunch | | |
| 1:00 – 1:45 pm MT | CQI Tools to build the steps of the change initiative – P-D-S-A Model (Aim-Objectives-Outcomes) and Key Driver Diagram | <ul style="list-style-type: none"> Use an example to talk through the process Identify strategies to implement the initiative Describe the measures and metrics demonstrating progress or the need for strategy adjustment. | C Jaeger & C Kenner |
| 1:45 – 2:45 pm MT | Workgroup | <ul style="list-style-type: none"> Using an example, identify the strategies to implement an initiative on the Key Driver Diagram | C Jaeger C Kenner |
| 2:45 – 3:15 pm MT | Group discussion | <ul style="list-style-type: none"> Discuss the process and use of the Key Driver Diagram Identify advantages and disadvantages noted using this process | C Jaeger & C Kenner |
| 3:15 – 4:00 pm MT | Bringing the CQI process full- circle | <ul style="list-style-type: none"> Implementing the CQI plan of change Record and evaluate the progress Disseminate the information Sustain the practice for improved outcomes | C Jaeger & C Kenner |
| 4:00 – 4:45 pm MT | Feedback on the forum | <ul style="list-style-type: none"> Was this process helpful? What would you change? Will you use this process or parts of it? Where should we go from here? | J Browne |

Notes:

- Times were adjusted to accommodate folks across the time zones better – breaks were adjusted to accommodate lunch in ET/CT zones and lunch to accommodate in-person faculty/facilitators.
- Examples in the presentations and workgroups will be pulled from the standards, competencies, and best practices.
- Scribes and facilitators will be assigned to the workgroup sessions and discussions to capture the verbal and chat comments.
- Panel members will participate virtually as one workgroup.

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Protecting your baby from Respiratory Viruses:

What parents need to know this RSV and flu season



RSV (Respiratory Syncytial Virus) and flu infections affect the lungs and can cause serious breathing problems for children and babies.

Certain diagnoses can make children and babies more vulnerable for serious complications - including prematurity, chronic lung disease, heart conditions.



You can limit the spread of viruses by wearing a mask, washing your hands with soap & water, and using alcohol-based hand sanitizer.

The fewer germs your baby is exposed to, the less likely they are to get sick. Limit visitors. Avoid crowds. Stay away from sick people.



Immunizations save lives. Stay up-to-date with your family's flu and COVID-19 vaccinations. This helps stop the spread of deadly viruses.

Babies older than 6 months can get a flu shot. There is no vaccine for RSV, but monthly antibody shots during RSV season can help protect them.



Position available for Neonatal Nurse Pretensioner (NNP)

Excellent practice opportunity for a NNP in an established Los Angeles neonatal practice. The Neonatal Hospitalist Group (NHG) is interviewing for an NNP to join the practice. The practice includes four NICU's in the Burbank and Glendale area. Call is from home with excellent work life balance. If you are interested, please email Robert Gall, MD, at robertgallmd@gmail.com.

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Health and Racial in the NICU

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+ Deidre McDaniel, MSW, LCSW
Health Equity Resources and Strategies



+ Dawn Godbolt, Ph.D.
National Birth Equity Collaborative



+ Dalia Feltman, MD, MA, FAAP
Univ. of Chicago Pritzker School of Medicine



+ Chavis A. Patterson, Ph.D.
Children's Hospital of Philadelphia



+ Terri Major- Kincade, MD, MPH
Pediatrician and Neonatologist



+ Shanté Nixon
Connect2NICU



+ Ashley Randolph
Glo Premies



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The first and only virtual training academy focused on delivering health and racial equity educational programs for perinatal and neonatal healthcare professionals. Our purpose is to raise awareness and offer real-time solutions for addressing health and racial equity.

Raising Global Awareness of RSV

Global awareness about respiratory syncytial virus (RSV) is lacking. RSV is a relatively unknown virus that causes respiratory tract infections. It is currently the second leading cause of death – after malaria – during infancy in low- and middle-income countries.

The RSV Research Group from professor Louis Bont, pediatric infectious disease specialist in the University Medical Centre Utrecht, the Netherlands, has recently launched an RSV Mortality Awareness Campaign during the 5th RSV Vaccines for the World Conference in Accra, Ghana.

They have produced a personal video entitled “*Why we should all know about RSV*” about Simone van Wyck, a mother who lost her son due to RSV. The video is available at www.rsvgold.com/awareness and can also be watched using the QR code on this page. Please share the video with your colleagues, family, and friends to help raise awareness about this global health problem.





Thirteen-year-old Emily Rose Shane was tragically murdered on April 3, 2010 on Pacific Coast Highway in Malibu, CA. Our foundation exists to honor her memory.

In Loving Memory

August 9, 1996 - April 3, 2010



Each year, the Emily Shane Foundation SEA(Successful Educational Achievement) Program provides academic and mentoring support to over 100 disadvantaged middle school students who risk failure and have no other recourse. We have served over 700 children across Los Angeles since our inception in the spring of 2012. Due to the COVID-19 outbreak, our work is in jeopardy, and the need for our work is greatly increased. The media has highlighted the dire impact online learning has caused for the very population we serve; those less fortunate. **We need your help now more than ever to ensure another child is not left behind.**

Make a Difference in the Life of a Student in Need Today!

Please visit emilyshane.org

Sponsor a Child in the SEA Program

The average cost for the program to provide a mentor/ tutor for one child is listed below.



| | |
|--------------------|---------|
| 1 session_____ | \$15 |
| 1 week _____ | \$30 |
| 1 month_____ | \$120 |
| 1 semester_____ | \$540 |
| 1 year_____ | \$1,080 |
| Middle School_____ | \$3,240 |

The Emily Shane Foundation is a 501(c)3 nonprofit charity, Tax id # 27-3789582. Our flagship SEA (Successful Educational Achievement) Program is a unique educational initiative that provides essential mentoring/tutoring to disadvantaged middle school children across Los Angeles and Ventura counties. All proceeds directly fund the SEA Program, making a difference in the lives of the students we serve.

National Perinatal Association and AngelEye Health Enter Strategic Partnership

Kristy Love

The National Perinatal Association (NPA) is an interdisciplinary organization that strives to be a leading voice for perinatal care in the United States. Our diverse membership is comprised of healthcare providers, parents & caregivers, educators, and service providers, all driven by their desire to give voice to and support babies and families at risk across the country.

Members of the NPA write a regular peer-reviewed column in Neonatology Today.



“Patient and Family Engagement Solution Provider to Serve as the Primary Corporate Sponsor of the NPA’s NICU Discharge Preparation and Transition Planning Guidelines”

The National Perinatal Association and AngelEye Health share a passionate belief that bringing a child home from the NICU should be a time of celebration

The [National Perinatal Association](#) (NPA), a 501c3 organization that pro-

vides education and advocacy around issues affecting the health of parents, babies, and families, today announced that it has entered into a strategic partnership with [AngelEye Health](#). Under the terms of the multi-year agreement AngelEye, a leading provider of patient and family engagement solutions for hospital neonatal and pediatric units will serve as the primary corporate sponsor of the NPA’s [Interdisciplinary Guidelines and Recommendations for NICU Discharge Preparation and Transition Planning](#) (The Guidelines). (1) Developed with the mission of educating healthcare providers and NICU families, the framework offers best practices for preparing families for their transition from the Neonatal Intensive Care Unit (NICU) to home.

“NICU discharge readiness is defined as the attainment of technical skills and knowledge, emotional comfort, and confidence with infant care by the infant’s primary caregivers at the time of discharge.”

NICU discharge readiness is defined as the attainment of technical skills and knowledge, emotional comfort, and confidence with infant care by the infant’s primary caregivers at the time of discharge. With this framework, NICU families will benefit from a continuum of individualized, family-centered, and culturally-competent support and education services that link the family to needed community resources and ensure a successful transition from NICU to home.

Comprehensive NICU discharge preparation and transition planning have proven to have a positive impact on infant and family outcomes. Based on existing literature, practice, available policy statements, and expert opinions, the recommendations were recently published in the [Journal of Perinatology](#). (2)

“The National Perinatal Association and AngelEye Health share a passionate belief that bringing [a child home from the NICU should be a time of celebration.](#)” said Jaylee Hilliard, MSN, RN, NEA-BC, CPXP, (3) senior director of clinical strategy, AngelEye Health. “Through this sponsorship of the Interdisciplinary Guidelines and Recommendations for NICU Discharge Preparation and Transition Planning, our organization is making a strong commitment to ensuring that discharge planning is executed in a timely, organized, and consistent manner, especially as we know first-hand how important it is to improve family and staff satisfaction, as well as patient care.”

The NPA initially developed the Guidelines to facilitate and ensure consistent and efficient comprehensive discharge preparation and transition planning for all families. This includes assisting providers in delivering clear and consistent messages of both action and guidance for parents and families - as well as offering a systematic approach to required tasks and advanced planning of discharge teaching prior to anticipated discharge.

“In their role as an industry-leading neonatal and pediatric family engagement technology provider, AngelEye understands the importance of family-centered care and is focused on supporting care teams and families with tools and resources that allow them to work together and be proactive throughout their child’s hospital stay and journey home.”

Ultimately, these recommendations are expected to ensure more uniformity and equity in discharge preparation, reducing the disparities, uncertainty, and stress often associated with the NICU discharge experience.

In their role as an industry-leading neonatal and pediatric family engagement technology provider, AngelEye understands the importance of family-centered care and is focused on supporting care teams and families with tools and resources that allow them to work together and be proactive throughout their child's hospital stay and journey home. The synergies between their mission and what the NPA was looking to accomplish by developing The Guidelines made the corporate sponsorship opportunity particularly attractive to the organizations.

“In their role as an industry-leading neonatal and pediatric family engagement technology provider, AngelEye understands the importance of family-centered care and is focused on supporting care teams and families with tools and resources that allow them to work together and be proactive throughout their child’s hospital stay and journey home.”

“Our partners at AngelEye Health understand the importance of family-centered care and how consistent communication and engagement with the care team facilitates a trustworthy patient and provider relationship both in the hospital and at home,” said Kristy Love, former NICU Parent and Executive Director of NPA. “With this sponsorship support of our guidelines, the National Perinatal Association will be empowered to carry out even more innovative programs and initiatives. We are extremely grateful for the collaboration and look forward to continuing to work together in support of families during their time of need.”

Under the terms of the multi-year partnership, AngelEye will license The Guidelines and plans to incorporate the recommendations into the company's future technology offerings.

“AngelEye Health is thrilled to join forces with The National Perinatal Association in support of their recently announced Interdisciplinary Guidelines and Recommendations for NICU Discharge Preparation and Transition Planning,” said [Christopher Rand, CEO at AngelEye Health](#). (3) “As an organization, we are passionate about empowering families with the tools and resources to navigate through every step of their NICU journey with the goal of bringing their child home.

Arming them with best practices for preparing for the discharge and transition process should be a key element of that process.

The National Perinatal Association (NPA) is an interdisciplinary organization of professionals, parents, students, and advocates.

NPA leaders are driven by their shared desire to support and advocate for women, pregnant people, infants, families, and the professionals who care for them.

AngelEye Health deeply understands the value that family engagement and family-centered care bring to the neonatal and pediatric intensive care environment.

We provide a complete HIPAA-compliant platform to integrate parents simply and seamlessly into the child's care team.

Our approach has a proven positive impact on the quality of the family experience, care delivery workflows for the dedicated bedside team, and patient outcomes. From admission to discharge, AngelEye positively impacts staff, families, and patients along the journey and ultimately to a successful transition home. The company was recently named to the Inc. 5,000 listing of America's Fastest-Growing Private Companies. www.angeleyehealth.com (3)

The newly launched and ever-expanding website www.NICUtoHome.org serves as a resource for NICU families and their care teams as they plan their transition from NICU care to community care.

“The newly launched and ever-expanding website www.NICUtoHome.org serves as a resource for NICU families and their care teams as they plan their transition from NICU care to community care.”

References:

1. <https://www.nature.com/articles/s41372-022-01313-9#Sec3>
2. <https://www.nature.com/articles/s41372-022-01313-9.pdf>
3. <https://www.angeleyehealth.com/about-us/>

Disclosure: The National Perinatal Association www.nationalperinatal.org is a 501c3 organization that provides education and advocacy around issues affecting the health of mothers, babies, and families.

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Respiratory Syncytial Virus:

How you can advocate for babies this RSV season

Track national data and trends at the CDC's website www.cdc.gov/rsv



Identify the babies at greatest risk



including those with CLD, BPD, CF, and heart conditions

Teach families how to protect



their babies from respiratory infections

Advocate broader insurance coverage for palivizumab prophylaxis so more babies can be protected *



Use your best clinical judgement



when prescribing RSV prophylaxis

Tell insurers what families need



and provide the supporting evidence



*See the NPA's evidence-based guidelines at www.nationalperinatal.org/rsv

Respiratory Syncytial Virus

Really Serious Virus

Here's what you need to watch for this RSV season

Coughing that gets worse and worse



Breathing that causes their ribcage to "cave-in"

Rapid breathing and wheezing



Bluish skin, lips, or fingertips

RSV can be deadly. If your baby has these symptoms, don't wait.

Call your doctor and meet them at the hospital.



Thick yellow, green, or grey mucus



that clogs their nose and lungs, making it hard to breathe

Fever that is more than 101° Fahrenheit



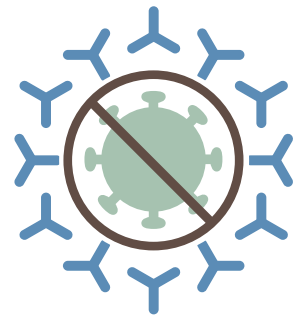
which is especially dangerous for babies younger than 3 months



www.nationalperinatal.org/rsv

Protecting your baby and family from

Respiratory Viruses:



What parents need to know this RSV and flu season



Like COVID-19, RSV (Respiratory Syncytial Virus) and flu affect the lungs and can cause serious breathing problems for children and babies. Talk to your family about the risks.



Certain diagnoses can make children and babies more vulnerable for serious complications from respiratory viruses - including prematurity, chronic lung disease, and heart conditions.



You can limit the spread of viruses by wearing a mask, washing your hands with soap & water, using an alcohol-based hand sanitizer, and getting vaccinated.



The fewer germs your baby is exposed to, the less likely they are to get sick. Let people know you need their help to stay well. Limit visitors. Avoid crowds. Stay away from sick people.



Immunizations save lives. Stay up-to-date with your family's flu vaccinations and COVID-19 boosters. This helps our community stay safe by stopping the spread of deadly viruses.

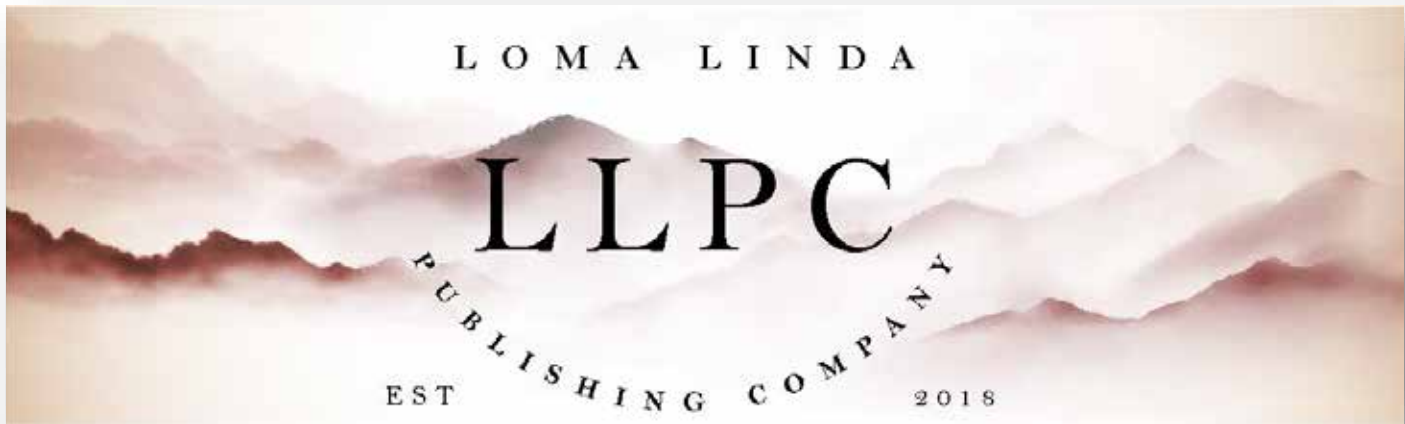


Babies older than 6 months can get a flu shot and COVID-19 vaccinations. There is no vaccine for RSV, but monthly antibody shots during RSV season can help protect them.



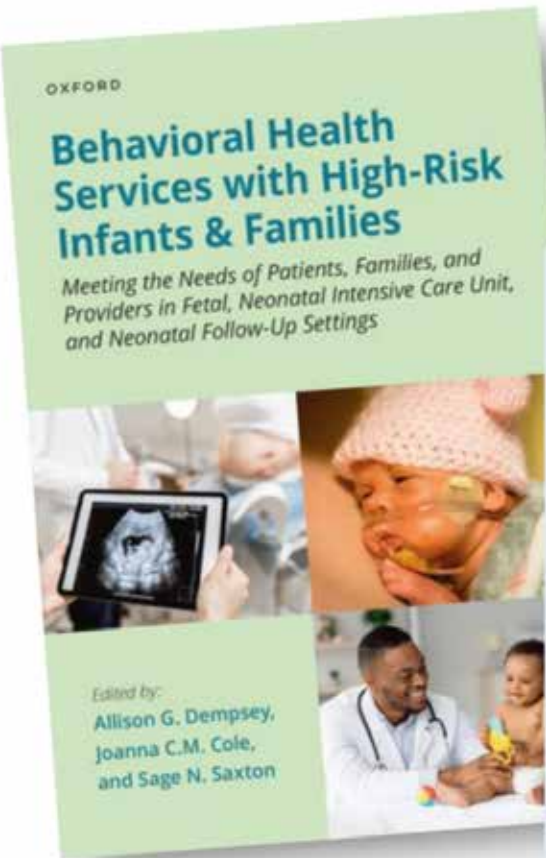
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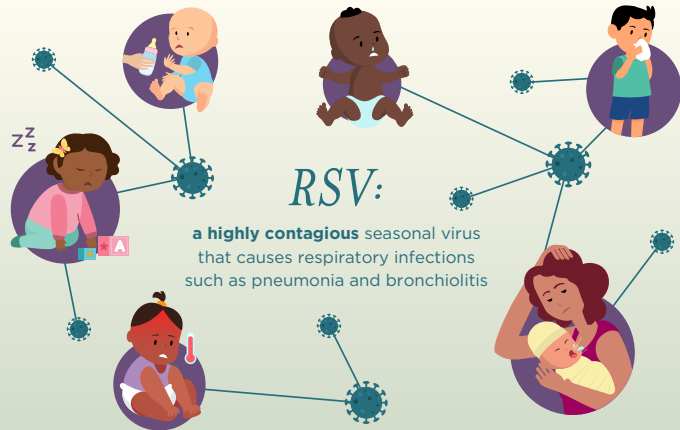
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Infants under age 1



RSV is the leading cause of hospitalization



16x more likely to get RSV than the flu



Postpartum Revolution

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Kids under age 5 experience



500,000 emergency room visits for RSV each year



57,000 hospitalizations for RSV each year

NCFIH National Coalition for Infant Health
Protecting Access for Premature Infants through Age Two

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INFANT AND FAMILY CENTERED DEVELOPMENTAL CARE: EVIDENCE FOR PRACTICE

Joy V. Browne, PhD, PCNS, IMH-E (IV)
Clinical Professor, Dept of Pediatrics
University of Colorado Denver School of Medicine
Pronouns: she/her/hers



USING THE EVIDENCE TO GUIDE PARENTS IN OPTIMIZING THE EARLY NICU ENVIRONMENT

Bobbi Pineda, PhD OTR/L, CNT
Assistant Professor, University of Southern California
Chan Division of Occupational Science and
Occupational Therapy,
Pronouns: she/her/hers



VARIATION IN FAMILY CENTERED CARE METRICS ACROSS CALIFORNIA

Jochen Profit, MD, MPH
Professor of Pediatrics (Neonatology), Stanford School of
Medicine
Chief Quality officer at CPQCC
Pronouns: he/him/his

Family Centered Care Taskforce: National NICU Parent Support Organizations: An Essential Partner

Keira Sorrells, Meegan Snyder



“An abundance of research confirms that having a premature or critically ill newborn in the NICU leaves parents at risk for developing acute stress disorder (1,4), posttraumatic stress disorder (1), and postpartum depression (2,3).”

An abundance of research confirms that having a premature or critically ill newborn in the NICU leaves parents at risk for developing acute stress disorder (1,4), posttraumatic stress disorder (1), and postpartum depression (2,3). We also know that enduring a NICU stay can have long-lasting adverse effects on both the child and the parents (11), such as lack of bonding (5), lower breastfeeding rates (7,8), impaired decision-making of the parents (9,11), and may even lead to the neglect or abuse of the child (10).

“Notably, of the eleven new recommendations, five relate specifically to the inclusion of and support for NICU families: recommendation on immediate Kangaroo Mother Care, recommendation on family involvement, recommendation on family support, recommendation on home visits, and best practice statement on parental leave and entitlements.”

On November 15, 2022, the World Health Organization launched new recommendations based on new evidence that has emerged over the years that can improve the care of preterm or low birth-weight infants. (6) Notably, of the eleven new recommendations, five relate specifically to the inclusion of and support for NICU families: recommendation on immediate Kangaroo Mother Care, recommendation on family involvement, recommendation on family support, recommendation on home visits, and best practice statement on parental leave and entitlements.

Commentary (12) on the recommendations published in *The Lancet* on November 15, 2022, stated: *“These recommendations call for a ‘re-positioning of power’ within health systems, allowing the mother and family to take the pivotal role in their baby’s care. Families need to be empowered and supported to take their central place as providers of care for their preterm and LBS infants.”* We would add to this statement that *all* families in the NICU, regardless of gestational age or birth weight, deserve the same.

“Peer-to-peer support should be central to developing this holistic, individualized support system for parents. Peer support can be defined as ‘the provision of emotional, appraisal and informational assistance by a selected social network member who possesses experiential knowledge of a specific behavior or stress and similar characteristics as the target population’ (13).”

Peer-to-peer support should be central to developing this holistic, individualized support system for parents. Peer support can be defined as ‘the provision of emotional, appraisal and informational assistance by a selected social network member who possesses experiential knowledge of a specific behavior or stress and similar characteristics as the target population’ (13). Peer support has long been recognized and utilized as a proven mental health intervention for various medical conditions such as breast cancer (14), diabetes (15), Post-Traumatic Stress Disorder in military veterans (16), and addiction recovery (17). The evidence for the efficacy and effectiveness of peer-to-peer support in the neonatal intensive care unit is less established; however, as noted in the National Perinatal Association’s Recommendations on Providing Psychosocial Support to NICU Families (18), peer-to-peer support is a “unique form of support that can complement or supplement, but not replace, services provided by professional NICU staff.”

There are several ways in which peer-to-peer support can be implemented and delivered to NICU families, including bedside one-on-one support, in-person support groups, virtual support groups, moderated online messaging forums, and virtual one-on-one support sessions via phone, text, or video conference. Many hospitals have well-organized peer support groups, education, and resources for families that a veteran parent support navigator leads, often in collaboration with NICU staff. Unfortunately, the prevalence of such programs is not ubiquitous. As well, community-based organizations with a national reach exist that can either fill that gap if a unit cannot start or sustain one or become an additional resource to the existing local, in-hospital group.

The NICU Parent Network is a US-based collaborative of over 40 community-based NICU family support organizations, many of which have a national presence. These organizations share key characteristics that may allay NICU staff’s concerns in recom-

mending a national organization that does not have a local presence in their area.

1. Community-based organizations are 501c3, public nonprofits, or small businesses. This distinction is important to note as a level of legal, compliance, and fiscal responsibility must be embedded when running a business to ensure a 501c3 status or Certificate of Good Standing is not revoked.
2. Community-based organizations are not run by or owned by a hospital – though they may still contract with a hospital as a vendor or service provider to provide peer-to-peer support programs, education, and family resources. They are autonomous entities governed by their Board of Directors or leadership team.
3. Peer-to-peer support programs should always be provided through the organization by a trained, veteran NICU or loss parent. The importance of appropriate peer specialist screening and training cannot be understated. Having a NICU or loss experience is not enough to allow a parent to have one-on-one contact with a family currently in crisis. This is for the mental health protection of the mentor and the mentee. Meegan Snyder, co-author of this piece and Director of the Premie Parent Mentor Program at Graham's Foundation, shares some highlights of their protocol below:

“Peer-to-peer support programs should always be provided through the organization by a trained, veteran NICU or loss parent. The importance of appropriate peer specialist screening and training cannot be understated. Having a NICU or loss experience is not enough to allow a parent to have one-on-one contact with a family currently in crisis.”

At Graham's Foundation, I do all screening and training in-house. I am a veteran NICU parent myself and have undergone training as a Trauma-Informed Professional and peer support specialist. Organizations vary in the demarcation point as it relates to the distance a prospective mentor has from their personal experience. For our organization, if they are at least one year from discharge, they can fill out an application that will lead to an interview with the Director.

The interview is one of the most important parts of our mentor screening. Prospective mentors are invited to share their stories with the Director and then listen to the Director share her own story. So much can be learned

from this interaction. The interview is set up this way for multiple reasons, a few of which are: can the parent be an active listener, can they listen to someone else's story and not make comparisons, and it offers an opportunity for the Director to have a first-hand understanding of their current emotional state while sharing their story.

Not all parents that are interviewed will go on to become a mentor. Often the parent may realize they are not ready to be a mentor. If it is decided that the parent is a good fit, they then start the training to become a mentor. The training starts with an online video and quiz and continues throughout their time as mentors via monthly meetings. We firmly believe in continuous learning and the support of our mentors. Our training program is designed to help prepare parents to interact with potential mentees in the best way possible. All our training is conducted virtually as a national organization with mentors across the country. We include topics such as Trauma Informed language, matching etiquette, knowing when a mental health professional should become involved, and more in these monthly meetings.

“Community-based organizations often expand their peer-to-peer support services to encompass the maternal healthcare journey from high-risk pregnancy through NICU, loss if it occurs, and post-discharge.”

4. Community-based organizations often expand their peer-to-peer support services to encompass the maternal healthcare journey from high-risk pregnancy through NICU, loss if it occurs, and post-discharge. This is a gap filled by many national organizations if hospital-run parent peer-support services do not formally extend beyond the baby's discharge from the NICU.
5. Community-based organizations often have deep networks of trained, veteran peer mentors with a wide variety of medical experiences, conditions, and experiences that allow the parent receiving support to be matched with a mentor who can most closely relate to the shared experience. These mentor networks may number from 20 to over 200 trained peer mentors.
6. Community-based organizations are likely equipped to provide services anytime, anywhere, regardless of the parents' location.
7. Community-based organizations often provide a variety of services in addition to peer-to-peer support that may include but are not limited to: counseling by mental health professionals, education through podcasts, webinars, apps, and

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printed materials, essential and emergent needs care packages and devices, financial assistance programs, and others.

8. Community-based organizations will often partner with local support organizations to ensure a holistic support network for the family is established. The overarching goal is for every parent to receive the individualized support, education, and resources they need.

Understanding the importance of peer-to-peer support for NICU families and the key characteristics of a national, community-based organization can enable hospital teams to feel confident in seeking partnerships with such organizations. There are a variety of ways in which these partnerships can be constructed. However, the NICU Parent Network strongly supports the provision of a relationship bound by a contract to define the expectations, roles, responsibilities, and consistency of the relationship clearly and thoroughly. The COVID-19 pandemic highlighted how critical having a contract in place can be as only those organizations in the NPN membership with a Business Associate Agreement were deemed essential by all levels of hospital and NICU administration and therefore did not see an interruption in their ability to provide much-needed services to families. Avoiding the volunteer designation in these instances proved to be a notable differentiation.

“The COVID-19 pandemic highlighted how critical having a contract in place can be as only those organizations in the NPN membership with a Business Associate Agreement were deemed essential by all levels of hospital and NICU administration and therefore did not see an interruption in their ability to provide much-needed services to families.”

As with any partnership with an entity outside the hospital, it is essential to thoroughly vet the organization, their leadership, and those who provide direct services to the families. Below is a list of questions and recommendations to help determine if an organization is credible, established, and operating as a business. Organizations should be transparent and have no problem providing complete and thorough responses to the following:

1. A 501c3 designation letter from the IRS or a copy of their Certificate of Good Standing from the Secretary of State should be provided.
2. References from clinicians they have partnered with and from families who have received their services.
3. Find out what their processes and programs are to support their mentors to avoid burnout and mitigate vicarious trauma & compassion fatigue.
4. Communication between the organization and unit staff leadership is critical. Ask how often they debrief with their unit point person.
5. Ask how they handle concerns where a mental health professional is needed.

6. Ask what the organization needs from *you* to ensure a successful relationship or partnership.
7. Ask about their screening and training protocols for their peer mentors. Ask what the qualifications are for their mentors to have direct contact with families.
8. Ask what their written policies and agreements are regarding confidentiality, liability, and boundaries with families. Organizations should have policies around social media interaction and privacy for the mentor and the family receiving services.
9. If the organization utilizes a Facebook group or other online community as part of its support services, they should be moderated by trained peer support staff or volunteers.

“HIPAA and fears about privacy and liability are often the number one roadblock for hospitals to connect with, partner with, or refer families to an outside organization.”

HIPAA and fears about privacy and liability are often the number one roadblock for hospitals to connect with, partner with, or refer families to an outside organization. This is another reason the Business Associate Agreement is important, as this contract is the legal document to afford these protections and legal compliance.

Preterm and sick newborns will continue to be admitted to the NICU, and this traumatic life experience will significantly impact families. We must never forget that these infants are new members of families, new citizens of our global community, and precious humans entering life with the odds stacked against them. As professionals in perinatal and maternal-infant health, we must ensure that we fully embrace and put into practice elevating the family as the central and essential member of that baby's care team. As such, we must ensure every family has equitable access to the variety of support, education, and resources available through local and national organizations and programs so that a holistic, individualized support system can be firmly in place for each of them.

References:

1. Greene M, Rossman B, Patra K, Kratovil A, Janes J, Meier P. Depression, anxiety, and perinatal-specific posttraumatic distress in mothers of very low birth weight infants in the neonatal intensive care unit. *J Dev Behav Pediatr* 2015; 36 (5): 362–370.
2. Kim WJ, Lee E, Namkoong K, Park ES, Rha DW. Progress of PTSD symptoms following birth: a prospective study in mothers of high-risk infants. *J Perinatol* 2015; 35 (8): 575–579
3. Hynan MT, Mounts KO, Vanderbilt DL. Screening parents of high-risk infants for emotional distress: rationale and recommendations. *J Perinatol* 2013; 33 (10): 748–753.
4. Jubinville, Jodi RN, MN, NNP-BC; Newburn-Cook, Christine PhD; Hegadoren, Kathleen PhD; Lacaze-Masmonteil, Thierry MD, PhD, FRCPC. Symptoms of Acute Stress Disorder in Mothers of Premature Infants. *Advances in Neonatal Care: August 2012 - Volume 12 - Issue 4 - p 246-253* doi: 10.1097/ANC.0b013e31826090ac
5. Kim, A.R., Kim, Sy. & Yun, J.E. Attachment and relationship-based interventions for families during neonatal intensive care hospitalization: a study protocol for a systematic re-

- view and meta-analysis. *Syst Rev* 9, 61 (2020). <https://doi.org/10.1186/s13643-020-01331-8>
6. WHO. WHO recommendations for care of the preterm or low birthweight infant. Geneva: World Health Organization, 2022. <https://apps.who.int/iris/bitstream/handle/10665/363697/9789240058262-eng.pdf> (accessed November 15, 2022).
 6. Aita M, Stremler R, Feeley N, Lavallée A, De Clifford-Faugère G. Effectiveness of interventions during NICU hospitalization on the neurodevelopment of preterm infants: a systematic review protocol. *Syst Rev*. 2017;6:225–9. <https://doi.org/10.1186/s13643-017-0613-5>.
 7. Pineda RG. Predictors of breastfeeding and breastmilk feeding among very low birth weight infants. *Breastfeed Med*. 2011 Feb;6(1):15–9. pmid:20807105
 8. Granger, CL, Embleton, ND, Palmer, JM, Lamb, CA, Berrington, JE, Stewart, CJ. Maternal breastmilk, infant gut microbiome and the impact on preterm infant health. *Acta Paediatr*. 2021; 110: 450– 457. <https://doi.org/10.1111/apa.15534>
 9. Treyvaud, K. et al. Very Preterm Birth Influences Parental Mental Health and Family Outcomes Seven Years After Birth. *J Pediatrics* 2014; 164:515-521
 10. Ishizaki Y. Mental health of mothers and their premature infants for the prevention of child abuse and maltreatment. *Health* 2013; 5 (3): 612–616.
 11. Huhtala M, Korja R, Lehtonen L, Haataha L, Lapinleimu P, Rautava P, et al. Parental psychological well-being and behavioral outcome of very low birth weight infants at 3 years. *Pediatrics* 2012; 129 (4): e937–e944
 12. New WHO recommendations for the care of preterm or low birthweight infants have the potential to transform maternal and newborn healthcare delivery. *The Lancet* 2022; [https://doi.org/10.1016/S0140-6736\(22\)02186-9](https://doi.org/10.1016/S0140-6736(22)02186-9)
 13. Dennis C-L. Peer support within a health care context: a concept analysis. *Int J Nurs Stud*. 2003;40(3):321–32.
 14. Taleghani F, Babazadeh S, Mosavi S, Tavazohi H. The effects of peer support group on promoting quality of life in patients with breast cancer. *Iran J Nurs Midwifery Res*. 2012 Feb;17(2 Suppl 1):S125-30. PMID: 23833594; PMCID: PMC3696969.
 15. Yin J, Wong R, Au S, Chung H, Lau M, Lin L, Tsang C, Lau K, Ozaki R, So W, Ko G, Luk A, Yeung R, Chan JC. Effects of Providing Peer Support on Diabetes Management in People With Type 2 Diabetes. *Ann Fam Med*. 2015 Aug;13 Suppl 1(Suppl 1):S42-9. doi: 10.1370/afm.1853. PMID: 26304971; PMCID: PMC4648131.
 16. Drebing, C. E., Reilly, E., Henze, K. T., Kelly, M., Russo, A., Smolinsky, J., Gorman, J., & Penk, W. E. (2018). Using peer support groups to enhance community integration of veterans in transition. *Psychological Services*, 15(2), 135–145. <https://doi.org/10.1037/ser0000178>
 17. Tracy K, Wallace SP. Benefits of peer support groups in the treatment of addiction. *Subst Abuse Rehabil*. 2016 September 29;7:143-154. doi: 10.2147/SAR.S81535. PMID: 27729825; PMCID: PMC5047716.
 18. Hall, S., Ryan, D., Beatty, J. et al. Recommendations for peer-to-peer support for NICU parents. *J Perinatol* 35 (Suppl 1), S9–S13 (2015). <https://doi.org/10.1038/jp.2015.143>

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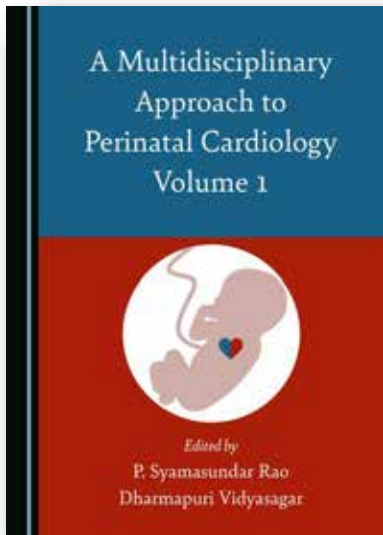


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A Multidisciplinary Approach to Perinatal Cardiology Volume 1

Edited by P. Syamasundar Rao and Dharmapuri Vidyasagar



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Book Description

Recent developments in diagnostic and therapeutic aspects of cardiac and neonatal issues have advanced the care of the newborn. To achieve excellence in cardiac care, however, close interaction and collaboration of the pediatric cardiologists with neonatologists, pediatricians, general/family practitioners (who care for children), anesthesiologists, cardiac surgeons, pediatric cardiac intensivists, and other subspecialty pediatricians is mandatory. This book provides the reader with up-to-date evidence-based information in three major areas of neonatology and prenatal and neonatal cardiology. First, it provides an overview of advances in the disciplines of neonatology, prenatal and neonatal cardiology, and neonatal cardiac surgery in making early diagnosis and offering treatment options. Secondly, it presents a multidisciplinary approach to managing infants with congenital heart defects. Finally, it provides evidence-based therapeutic approaches to successfully treat the fetus and the newborn with important neonatal issues and congenital cardiac lesions. This first volume specifically explores issues related to perinatal circulation, the fetus, ethics, changes in oxygen saturations at birth, and pulse oximetry screening, diagnosis, and management.

About the Editors

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- **WHO SHOULD TAKE THE PROGRAM?** This program is designed for both office and hospital staff in all disciplines that interact with pregnant patients and their families. A key focus is recognizing risk factors for perinatal mood and anxiety disorders, and mitigating their impact through provision of trauma-informed care.
- **WHY TAKE THE PROGRAM?** Families will benefit when staff have improved skills, through enhanced parental resilience and better mental health, and improved parent-baby bonding leading to better developmental outcomes for babies. Benefits to staff include improved skills in communicating with patients; improved teamwork, engagement and staff morale; reduced burnout, and reduced staff turnover.
- **HOW DOES THE PROGRAM ACHIEVE ITS GOALS?** Program content is representative of best practices, engaging and story-driven, resource-rich, and developed by a unique interprofessional collaboration of obstetric and neonatal professionals and patients. The program presents practical tips and an abundance of clinical information that together provide solutions to the emotional needs of expectant and new parents.
- **HOW WAS THE PROGRAM DEVELOPED?** This program was developed through collaboration among three organizations: a multidisciplinary group of professionals from the National Perinatal Association and Patient + Family Care, and parents from the NICU Parent Network. The six courses represent the different stages of pregnancy (antepartum, intrapartum, postpartum), as well as perinatal mood and anxiety disorders, communication techniques, and staff support.

Program Objectives

- Describe principles of trauma-informed care as standards underlying all communication during provision of maternity care in both inpatient and outpatient settings.
- Identify risk factors, signs, and symptoms of perinatal mood and anxiety disorders; describe treatment options.
- Define ways to support pregnant patients with high-risk conditions during the antepartum period.
- Describe obstetric violence, including ways that providers may contribute to a patient's experience of maternity care as being traumatic; equally describe ways providers can mitigate obstetric trauma.
- Describe the importance of providing psychosocial support to women and their families in times of pregnancy loss and fetal and infant death.
- Define the Fourth Trimester, and identify the key areas for providing psychosocial support to women during the postpartum period.
- Identify signs and symptoms of burnout as well as their ill effects, and describe both individual and systemic methods for reducing burnout in maternity care staff.

Continuing education credits will be provided for physicians, clinic and bedside nurses, social workers, psychologists, and licensed marriage and family therapists. CEUs will be provided by Perinatal Advisory Council: Leadership, Advocacy, and Consultation.

PROGRAM CONTENT



COMMUNICATION SKILLS CEUs offered: 1

Learn principles of trauma-informed care, use of universal precautions, how to support LGBTQ patients, obtaining informed consent, engaging in joint decision-making, delivering bad news, dealing with challenging patients.

Faculty: Amina White, MD, MA, Clinical Associate Professor, Department of OB/Gyn, University of North Carolina, Chapel Hill, NC; Sue Hall, MD, MSW, FAAP, St. John's Regional Medical Center, Oxnard, CA; Karen Saxer, CNM, MSN, University of North Carolina Maternal-Fetal Medicine, UNC Women's Hospital, Chapel Hill, NC; Tracy Pella, Co-Founder & President, Connected Forever, Tecumseh, NE.



PERINATAL MOOD AND ANXIETY DISORDERS CEUs offered: 1

Identify risk factors for and differential diagnosis of PMADs (perinatal mood and anxiety disorders), particularly perinatal depression and/or anxiety and posttraumatic stress syndrome. Learn the adverse effects of maternal depression on infant and child development, and the importance of screening for and treating PMADs.

Faculty: Linda Baker, PsyD, psychologist at Unstuck Therapy, LLC, Denver, CO; Sue Hall, MD, MSW, FAAP, neonatologist at St. John's Regional Medical Center, Oxnard, CA; Angela Davids, Founder of Keep 'Em Cookin', Baltimore, MD; Brittany Boet, Founder of Bryce's NICU Project, San Antonio, TX.



PROVIDING ANTEPARTUM SUPPORT CEUs offered: 1

Identify psychosocial challenges facing high risk OB patients, and define how to provide support for them, whether they are inpatient or outpatient. Recognize when palliative care is a reasonable option to present to pregnant patients and their families.

Faculty: Amina White, MD, MA, Clinical Associate Professor, Department of OB/Gyn, University of North Carolina, Chapel Hill, NC; Sue Hall, MD, MSW, FAAP, neonatologist at St. John's Regional Medical Center, Oxnard, CA; Angela Davids, Founder of Keep 'Em Cookin', Baltimore, MD; Erin Thatcher, BA, Founder and Executive Director of The PPRM Foundation, Denver, CO.



PROVIDING INTRAPARTUM SUPPORT CEUs offered: 1

Describe how to manage patient expectations for labor and delivery including pain management; identify examples of obstetric violence, including identification of provider factors that may increase patients' experience of trauma; learn how to mitigate patients' trauma, and how to provide support during the process of labor and delivery.

Faculty: Sara Detlefs, MD, Fellow in Maternal-Fetal Medicine, Baylor College of Medicine, Houston, TX; Jerry Ballas, MD, MPH, Associate Clinical Professor, UCSD Health System, Maternal-Fetal Medicine, Department of Obstetrics, Gynecology and Reproductive Sciences, University of California at San Diego, San Diego, CA; MaryLou Martin, MSN, RNC-NIC, CKC, Women's and Children's Services Nurse Educator, McLeod Regional Medical Center, McLeod, SC; Claire Hartman, RN, IBCLC, Labor & Delivery, University of North Carolina Hospital, Chapel Hill, NC; Crystal Duffy, Author of Twin To Twin (from High Risk Pregnancy to Happy Family), and NICU Parent Advisor, Houston, TX; Erin Thatcher, Founder and Executive Director of The PPRM Foundation, Denver, CO.



PROVIDING POSTPARTUM SUPPORT CEUs offered: 1

Define the 4th Trimester and the importance of follow-up especially for high risk and minority patients, learn to recognize risk factors for traumatic birth experience and how to discuss patients' experiences postpartum; describe the application of trauma-informed care during this period, including support for patients who are breastfeeding and those whose babies don't get to go home with them.

Faculty: Amanda Brown, CNM, University of North Carolina Hospital, Chapel Hill, NC; Sue Hall, MD, MSW, FAAP, neonatologist at St. John's Regional Medical Center, Oxnard, CA; Crystal Duffy, Author of Twin To Twin (from High Risk Pregnancy to Happy Family), and NICU Parent Advisor, Houston, TX.



SUPPORTING STAFF AS THEY SUPPORT FAMILIES CEUs offered: 1

Define burnout and compassion fatigue; identify the risks of secondary traumatic stress syndrome to obstetric staff; describe adverse impacts of bullying among staff; identify the importance of both work-life balance and staff support.

Faculty: Cheryl Milford, EdS, Consulting NICU and Developmental Psychologist, Director of Development, National Perinatal Association, Huntington Beach, CA; Sue Hall, MD, MSW, FAAP, neonatologist at St. John's Regional Medical Center, Oxnard, CA; Erin Thatcher, BA, Founder and Executive Director, The PPRM Foundation, Denver, CO

Cost

- RNs: \$10/CEU; \$60 for the full program
- Physicians, licensed clinical social workers (LCSWs), licensed marriage and family therapists (LMFTs): \$35/CEU; \$210 for the full program
- Although PACLAC cannot award CEs for certified nurse midwives, they can submit certificates to their own professional organization to request credit. \$35/CEU; \$210 for the full program

Contact help@myperinatalnetwork.org to learn more.

Faculty

Linda Baker, PsyD

Psychologist at Unstuck Therapy, LLC, Denver, CO.

Jerasimos (Jerry) Ballas, MD, MPH

Associate Clinical Professor, UCSD Health System, Maternal-Fetal Medicine, Department of Obstetrics, Gynecology and Reproductive Sciences, University of California at San Diego, San Diego, CA.

Amanda Brown, CNM, MSN, MPH

University of North Carolina-Chapel Hill Hospitals, Chapel Hill, NC.

Sara Detlefs, MD

Fellow in Maternal-Fetal Medicine, Baylor College of Medicine, Houston, TX.

Sue L. Hall, MD, MSW, FAAP

Neonatologist, Ventura, CA.

Claire Hartman, RN, IBCLC

Labor & Delivery, University of North Carolina Hospital, Chapel Hill, NC.

MaryLou Martin, MSN, RNC-NIC, CKC

Women's and Children's Services Nurse Educator, McLeod Regional Medical Center, McLeod, SC.

Cheryl Milford, EdS.

Former NICU and Developmental psychologist, in memoriam.

Karen Saxer, CNM, MSN

University of North Carolina Maternal-Fetal Medicine, UNC Women's Hospital, Chapel Hill, NC.

Amina White, MD, MA

Clinical Associate Professor, Department of Obstetrics and Gynecology, University of North Carolina, Chapel Hill, NC.

Parent/Patient Contributors:**Brittany Boet**

Founder, Bryce's NICU Project, San Antonio, TX.

Angela Davids

Founder, Keep 'Em Cookin', Baltimore, MD.

Crystal Duffy

Author of *Twin To Twin* (from High Risk Pregnancy to Happy Family), and NICU Parent Advisor, Houston, TX.

Tracy Pella, MA

Co-Founder and President, Connected Forever, Tecumseh, NE.

Erin Thatcher, BA

Founder and Executive Director, The PPROM Foundation, Denver, CO.

CANCELLATIONS AND REFUNDS

- For Individual Subscribers:
 - If you elect to take only one course, there will be no cancellations or refunds after you have started the course.
 - If you elect to take more than one course and pay in advance, there will be no cancellations or refunds after payment has been made unless a written request is sent to help@myperinatalnetwork.com and individually approved.
- For Institutional Subscribers:
 - After we are in possession of a signed contract by an authorized agent of the hospital and the program fees have been paid, a 50% refund of the amount paid will be given if we are in receipt of a written request to cancel at least 14 (fourteen) days prior to the scheduled start date for your hospital's online program.
 - Refunds will not be given for staff members who neglect to start the program. Also, no refunds for those who start the program, but do not complete all 6 courses within the time frame allotted.

For Physicians: This activity has been planned and implemented in accordance with the Institute for Medical Quality and the California Medical Association's CME Accreditation Standards (IMQ/CMA) through the Joint Provisership of the Perinatal Advisory Council: Leadership, Advocacy and Consultation (PAC/LAC) and the National Perinatal Association. PAC/LAC is accredited by the Institute for Medical Quality/California Medical Association (IMQ/CMA) to provide continuing education for physicians. PAC/LAC takes responsibility for the content, quality and scientific integrity of this CME activity. PAC/LAC designates this activity for a maximum of 6 *AMA PRA Category 1 Credit(s)™*. Physicians should only claim credit commensurate with the extent of their participation in the activity. This credit may also be applied to the *CMA Certification in Continuing Medical Education*.

For Nurses: The Perinatal Advisory Council: Leadership, Advocacy and Consultation (PAC/LAC) is an approved provider by the California Board of Registered Nursing Provider CEP 5862. When taken as a whole, this program is approved for 7 contact hours of continuing education credit.

For CAMFT: Perinatal Advisory Council: Leadership, Advocacy, and Consultation (PAC/LAC) is approved by the California Association of Marriage and Family Therapists to sponsor continuing education for LMFTs and LCSWs. CE Provider #128542. PAC/LAC maintains responsibility for the program and its content. Program meets the qualifications for 6 hours of continuing education credit for LMFTs and LCSWs as required by the California Board of Behavioral Sciences. You can reach us at help@myperinatalnetwork.org.

Follow us online at @MyNICUNetwork

www.myperinatalnetwork.org Phone: 805-372-1730



SHARED DECISION-MAKING PROTECTS MOTHERS + INFANTS

DURING COVID-19

KEEPING MOTHERS + INFANTS TOGETHER

Means balancing
the risks of...

- **HORIZONTAL INFECTION**
- **SEPARATION AND TRAUMA**



EVIDENCE

We encourage families and clinicians to remain diligent in learning **up-to-date evidence**.



PARTNERSHIP

What is the best
for this unique dyad?

SHARED DECISION-MAKING

- S**EEK PARTICIPATION
- H**ELP EXPLORE OPTIONS
- A**SSASS PREFERENCES
- R**EACH A DECISION
- E**VALUATE THE DECISION



TRAUMA-INFORMED

Both parents and providers
are confronting significant...

- **FEAR**
- **GRIEF**
- **UNCERTAINTY**

LONGITUDINAL DATA

We need to understand more about outcomes for mothers
and infants exposed to COVID-19, with special attention to:

- **MENTAL HEALTH**
- **POSTPARTUM CARE DELIVERY**



NEW DATA EMERGE DAILY. NANN AND NPA ENCOURAGE PERINATAL CARE PROVIDERS TO ENGAGE IN CANDID CONVERSATIONS WITH PREGNANT PARENTS PRIOR TO DELIVERY REGARDING RISKS, BENEFITS, LIMITATIONS, AND REALISTIC EXPECTATIONS.

Partnering for patient-centered care
when it matters most.

nann.org nationalperinatal.org



National
Association of
Neonatal
Nurses



Coping with COVID-19



A viral pandemic

A racial pandemic within a viral pandemic



Will mental illness be the next inevitable pandemic?

WWW.MYNICUNETWORK.ORG



COVID-19

National Network of NICU Psychologists FREE for our NICU COMMUNITY

- Helping Children and Families Cope
- Bonding with Your Baby
- Caregivers Need Care Too



Download at www.nationalperinatal.org/psychologists

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validated

Caring for Babies and their Families: Providing Psychosocial Support to NICU Parents

7- Module Online Course in NICU Staff Education



National Perinatal Association PERINATAL SUBSTANCE USE

nationalperinatal.org/position
www.nationalperinatal.org/Substance_Use



Educate. Advocate. Integrate.



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The National Urea Cycle Disorders Foundation



The NUCDF is a non-profit organization dedicated to the identification, treatment and cure of urea cycle disorders. NUCDF is a nationally-recognized resource of information and education for families and healthcare professionals.

www.nucdf.org | Phone: (626) 578-0833

Seniors Gain Access to Preventive COVID-19 Treatment

Michelle Winokur, DrPH

The Alliance for Patient Access, founded in 2006, is a national network of physicians dedicated to ensuring patient access to approved therapies and appropriate clinical care. AfPA accomplishes this mission by recruiting, training and mobilizing policy-minded physicians to be effective advocates for patient access. AfPA is organized as a non-profit 501(c)(4) corporation and headed by an independent board of directors. Its physician leadership is supported by policy advocacy management and public affairs consultants.

In 2012, AfPA established the Institute for Patient Access, a related 501(c)(3) non-profit corporation. The Institute for Patient Access is a physician-led policy research organization dedicated to maintaining the primacy of the physician-patient relationship in the provision of quality health care. In furtherance of its mission, IfPA produces educational materials and programming designed to promote informed discussion about patient access to approved therapies and appropriate clinical care.

Visit allianceforpatientaccess.org and instituteforpatientaccess.org to learn more about each organization.



“By including mAbs under Medicare Part B for the first time, the Centers for Medicare and Medicaid Services will expand patient access to these powerful – and now affordable – drugs.”

Starting next year, Medicare [will cover](#) monoclonal antibodies as a preventive treatment against COVID-19. (1) By including mAbs under Medicare Part B for the first time, the Centers for Medicare and Medicaid Services will expand patient access to these powerful – and now affordable – drugs.

Permanent coverage under Medicare Part B's vaccine benefit means seniors can get mAbs at no out-of-pocket cost. This is a substantial change in the short term, especially with an anticipated [winter wave](#) of COVID-19. (2)

“Long-term, covering mAbs as prophylaxis for seniors signals the federal policymakers’ potential openness to covering them for children. This precedent points toward CMS eventually including preventive mAbs, a type of immunization, in the federal government’s Vaccines for Children Program.”

An Important Precedent

Long-term, covering mAbs as prophylaxis for seniors signals the federal policymakers’ potential openness to covering them for children. This precedent points toward CMS eventually including preventive mAbs, a type of immunization, in the federal government’s Vaccines for Children Program.

If mAbs are approved for preventive care, at no cost, for one large population vulnerable to respiratory diseases – seniors- they should be available to *all* such patients, including infants and children.

“Next-generation RSV preventive mAbs are already in development and could, for the first time, provide protection to all infants and reduce the burden of RSV on both patients and the healthcare system.”

RSV and the Case for Inclusion

Infants, the principal beneficiaries of the Vaccines for Children Program, are at particular risk of the [respiratory syncytial virus](#). Indeed, 97% of all babies contract RSV by age 2, (3) which is the [leading cause](#) of bronchiolitis and pneumonia among infants. (4) Next-generation RSV preventive mAbs are already in development and could, for the first time, provide protection to all infants

and reduce the burden of RSV on both patients and the health-care system.

CMS's decision to provide seniors coverage for mAbs as a preventive treatment for COVID-19 may pave the way for other preventive mAbs that protect infants and children from RSV. (5) Such a policy would undoubtedly be welcome news for parents and providers hoping to protect infants and young children from the really serious virus.

“CMS’s decision to provide seniors coverage for mAbs as a preventive treatment for COVID-19 may pave the way for other preventive mAbs that protect infants and children from RSV.”

References:

1. <https://www.cms.gov/newsroom/fact-sheets/calendar-year-cy-2023-medicare-physician-fee-schedule-final-rule>
2. <https://www.nature.com/articles/d41586-022-03157-x>
3. <https://healthpolicytoday.org/2022/06/15/respiratory-syncytial-virus-takes-a-toll-on-families/>
4. <https://www.cdc.gov/rsv/index.html>
5. <https://healthpolicytoday.org/2022/03/31/alleviating-the-burden-of-rsv-for-infants-and-children/>

Michelle Winokur, DrPH, is the Executive Director of the Institute for Patient Access. This article was also published at healthpolicytoday.org.

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National Perinatal Association PERINATAL MENTAL HEALTH

nationalperinatal.org/position
www.nationalperinatal.org/mental_health

OFFER ANTICIPATORY GUIDANCE

Families need to know that women are more likely to develop depression and anxiety during the first year after childbirth than at any other time in their life.

Educate. Advocate. Integrate.

SHARED DECISION-MAKING

PROTECTS PARENTS + BABIES

COVID-19

INFORMED PROVIDERS

Seek participation
Help explore options
Assess preferences
Reach a decision
Evaluate the decision

CARE DELIVERY REQUIRES
PARTNERSHIP

nationalperinatal.org/NPAandNANN



99nicu

Sign up for free membership at 99nicu, the Internet community for professionals in neonatal medicine. Discussion Forums, Image Library, Virtual NICU, and more...”

www.99nicu.org



DID YOU KNOW?

Postpartum depression affects

10%

of fathers

Join  NPA

www.nationalperinatal.org/mental_health



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Keeping Your Baby Safe

during the COVID-19 pandemic

How to protect your little one from germs and viruses

Even though there are some things we don't know about COVID-19 yet, there are many more things that we do know. We know that there are proven protective measures that we can take to stay healthy.

Here's what you can do...

Wash Your Hands

- This is the single, most important thing you can do to stop the spread of viruses.
- Use soap.
- Wash for more than 20 seconds.
- Use alcohol-based sanitizers.



Limit Contact with Others

- Stay home when you can.
- Stay 6 feet apart when out.
- Wear a face mask when out.
- Change your clothes when you get home.
- Tell others what you're doing to stay safe.



Provide Protective Immunity

- Hold baby skin-to-skin.
- Give them your breast milk.
- Stay current with your family's immunizations.



Take Care of Yourself

- Stay connected with your family and friends.
- Sleep when you can.
- Drink more water and eat healthy foods.
- Seek mental health support.



Immunizations Vaccinations save lives. Protecting your baby from flu and pertussis lowers their risks for complications from coronavirus.



WARNING

Never Put a Mask on Your Baby

- Because babies have smaller airways, a mask makes it hard for them to breathe.
- Masks pose a risk of strangulation and suffocation.
- A baby can't remove their mask if they're suffocating.



If you are positive for COVID-19

- Wash with soap and water and put on fresh clothes before holding or feeding your baby.
- Wear a mask to help stop the virus from spreading.
- Watch out for symptoms like fever, confusion, or trouble breathing.
- Ask for help caring for your baby and yourself while you recover.



We can help protect each other.

[Learn more](#)

www.nationalperinatal.org/COVID-19



The Gap Baby: An RSV Story



A collaborative of professional, clinical, community health, and family support organizations improving the lives of premature infants and their families through education and advocacy.



The National Coalition for Infant Health advocates for:

- **Access to an exclusive human milk diet** for premature infants
- **Increased emotional support resources** for parents and caregivers suffering from PTSD/PPD
- **Access to RSV preventive treatment** for all premature infants as indicated on the FDA label
- **Clear, science-based nutrition guidelines** for pregnant and breastfeeding mothers
- **Safe, accurate medical devices** and products designed for the special needs of NICU patients

www.infanthealth.org

I CAN Digitally Involved (I CANDI): Happy Holidays and Warm Tidings from the International Children's Advisory Network

Abby Clark



“We cannot continue to empower kids worldwide without your help. As the end of the year approaches, we want to reflect on some highlights from our wonderful 2022!”

Happy holidays and warm tidings from the International Children's Advisory Network Inc. (iCAN)! This holiday season, we at iCAN want to thank our community for their generosity throughout 2022. On Tuesday, November 29, 2022, iCAN participated in the worldwide day of giving - Giving Tuesday. We sincerely thank those who supported iCAN, both financially and otherwise. We cannot continue to empower kids worldwide without your help. As the end of the year approaches, we want to reflect on some highlights from our wonderful 2022!

iCAN held its premier annual event, the iCAN Research, and Advocacy Summit presented by Jumo Health in Lyon, France, on July 11-15, 2022. It was a huge success, with over 150 people in attendance, including, for the first time, our Uganda chapter.

Additionally, this past October, iCAN attended the 2022 American Academy of Pediatrics National Conference and Exhibition (AAP NCE). Thank you to everyone who stopped by our booth. In 2023, iCAN will be at the 2023 AAP NCE held in Washington, D.C., on October 20 - 24 at booth 1841. Also in October, our president, Leanne West, spoke at the Patient Engagement Open Forum (PEOF) in Barcelona, Spain, on the topic of Patient Engagement (PE) and Patient Involvement (PI) in different areas of clinical and research practice.

iCAN partnered with the Multi-Regional Clinical Trials Center of Brigham and Women's Hospital and Harvard (MRCT) to bring a

youth member and our president, Leanne West, to the 2nd Caribbean Congress for Youth and Adolescent Health. There, they spoke on a panel regarding the importance of including young people in health research.

iCAN also partnered with Eli Lilly to send a youth member to share their story at the Twelfth Annual Eli Lilly Pediatric Symposium: Accelerating Drug Development in Pediatrics in November.

Thank you to those who made these, and many other events like these, a reality over the 2022 year!



iCAN CHAPTER NEWS

- For anyone interested, you can now Help Support A Child for the 2023 iCAN Research and Advocacy Summit sponsored by Jumo Health! Please see the flyer below or email abbyclark@icanresearch.org for more information.

“For anyone interested, you can now Help Support A Child for the 2023 iCAN Research and Advocacy Summit sponsored by Jumo Health! Please see the flyer below or email abbyclark@icanresearch.org for more information.”



Help Support a Child \$1,000

Help Our Youth Share Their Story

The International Children's Advisory Network, Inc. (iCAN) is a worldwide network of children's advisory groups, known as Kids Impacting Disease Through Science (KIDS) and Young Persons Advisory Groups (YPAGS). These dedicated youth member groups work in unison around the world to provide a voice for children and families in medicine, research, and innovation. Every year iCAN hosts a summit that brings these groups together in shared experience and camaraderie. iCAN is a tax exempt organization as described in Section 501(c)(3) of the Internal Revenue Code.

We want as many children to come to the summit as possible. However, attending the Summit is not always possible for our families who often experience financial hardships. So iCAN pays for lodging, most food, and a transportation stipend in addition to summit activities. As more youth join iCAN, we need your help more than ever! Your tax-deductible donation of \$1,000 will help bring a child to the Summit, to make it possible for that child to share their voice, and to interact with medical professionals and other kids like them. We will acknowledge you as an individual donor or you may dedicate the donation in honor of a loved one, as you wish.



www.icanresearch.org #iCANMakeADifference

- iCAN's Parent Chapter has developed a brief [survey](#) for our parent community about pediatric clinical trials. (1) The goal of this survey is to help families better understand as well as navigate the process of clinical trials. We would love to hear your input on this vital topic. To learn more, contact iCANParent@icanresearch.org. Additionally, we are recruiting parents to participate. Their child can be of any age and does not have to be involved with iCAN. All are welcome.

“We would love to hear your input on this vital topic. To learn more, contact iCANParent@icanresearch.org. Additionally, we are recruiting parents to participate. Their child can be of any age and does not have to be involved with iCAN. All are welcome.”

- For all interested doctors, iCAN is collecting quotes answering the question, “Why is Clinical Research Important?” to be included in the collaborative anthology project held in conjunction with the Pediatric Trials Network (PTN) and Duke Clinical Research Institute (DCRI). Click this link to the [sub-mission page](#) (2) or contact info@icanresearch.org to submit a quote.

SAVE THE DATE:

- iCAN's unique youth series ‘Ask the Experts’ has our final session of the year planned for **December 17, 2022, at 10:00 a.m. EST**. The topic is: “**The Innovation Pathway in Pediatric Care.**” To join this fun and free event, please register at www.icanresearch.org/events. (3) All are welcome to attend, and kids of all ages are invited to join. Additional sessions for 2023 will be coming, so keep your eyes open! We welcome all doctors, researchers, and community leaders to join us. Sign up for this session, as you will not want to miss it.

- **iCAN 2023 Summit Information -**
 - The summit next year will be held in Southern California from July 10 - July 14, 2023. We will partner with the International Society for Pediatric Innovation (ISPI).
 - You can stay up to date on all the coming information and updates by bookmarking www.icanresearch.org/2023-summit. (4) We need sponsors, speakers, and donations. To join in, email us at abbyclark@icanresearch.org. In case you missed the week-long event of the summer, the International Children's Advisory Network, Inc. (iCAN) is pleased to share our excitement about the 2022 iCAN Summit presented by Jumo Health in a [video](#) (5) highlighting the wonderful event. Check it out at: <https://youtu.be/5faoza6ONFA>. (5)



2023 ICAN SUMMIT

to be held July 10-14th in Southern California



Join Us In-Person for 2023 Kids - Make Your Summer Count!

- Travel to California
- Share your expert voice
- Shape the future of clinical research
- Support new pediatric innovation
- Learn about careers in healthcare
 - Engage with global leaders
- Meet friends from around the world
- Make a positive impact in healthcare



Learn more:

www.icanresearch.org

Registration opens March 1st, 2023



ICAN is not responsible or liable for any and all travel arrangements (including but not limited to flights, trains, cars, transport of any kind, accommodations, meals, reservations or other rental/vacation services acquired) by/for participants for any reason. ICAN is not responsible for any attendee medical needs. ICAN advises attendees to purchase travel insurance for the ICAN Summit.

If you want to create a project or initiate a new chapter, please contact Abby Clark at abbyclark@icanresearch.org to get started today. Chapter groups can be as small or large as needed - with the emphasis on helping to spotlight the youth voice. To learn more, check out <https://www.icanresearch.org/chapters>. (6)

References:

1. <https://www.surveymonkey.com/r/DMGCRXP>
2. https://duke.qualtrics.com/jfe/form/SV_0dlzmlruG2iHps2
3. <http://www.icanresearch.org/events>
4. <http://www.icanresearch.org/2023-summit>
5. <https://youtu.be/5faoza6ONFA>
6. <https://www.icanresearch.org/chapters>

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SHARED DECISION-MAKING PROTECTS MOTHERS + INFANTS DURING COVID-19

KEEPING MOTHERS + INFANTS TOGETHER

Means balancing...



EVIDENCE

We encourage families and clinicians to remain diligent in learning **up-to-date evidence**.

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We need to understand more about outcomes for mothers and infants exposed to COVID-19, with special attention to:

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NEW DATA EMERGE DAILY. NANN AND NPA ENCOURAGE PERINATAL CARE PROVIDERS TO ENGAGE IN CANDID CONVERSATIONS WITH PREGNANT PARENTS PRIOR TO DELIVERY REGARDING RISKS, BENEFITS, LIMITATIONS, AND REALISTIC EXPECTATIONS.

Partnering for patient-centered care when it matters most.



National Association of Neonatal Nurses

nann.org



nationalperinatal.org

Your Pregnancy and Substance Use

4 Things you can do to improve your health and lower your risk for complications



Get Prenatal Care

Start early. Go to all your visits. Empower yourself with information so you can make smart decisions. Build relationships with providers who understand Substance Use Disorders (SUDs) and know how to help. Partner with them to reach your goals. But remember, you do not need to be abstinent from substance use to get care. Go now.

Reduce Your Use

There are simple things you can do to limit the harm substances might do.

- Use fewer substances
- Use smaller amounts
- Use less often
- Learn how to use safer



Reducing or quitting smoking is a good place to start. Set your goals, then ask for help. One of the best things you can do is to stop using alcohol. We know that even small amounts are risky. And when combined with benzos and opioids, alcohol can kill.

Use Medications for Opioid Use Disorder (MOUD) if you are opioid dependent

Methadone and Buprenorphine (Subutex® or Suboxone®) are the "Standard of Care" during pregnancy because they:

- Eliminate the risks of illicit use
- Reduce your risk for relapse
- Can be a positive step towards recovery



Take Good Care of Yourself

You deserve a healthy pregnancy & childbirth.

- Eat healthy and take your prenatal vitamins
- Find the right balance of rest and exercise
- Surround yourself with people who care



Your Health Matters



Academy of Perinatal Harm Reduction

www.perinatalharmreduction.org



www.nationalperinatal.org

2022

Ask the Experts

With Anthony Chang, MD

International Children's Advisory Network
www.icanresearch.org



Hosted by:

Dr. Anthony Chang, MD



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iCANResearch.org/events

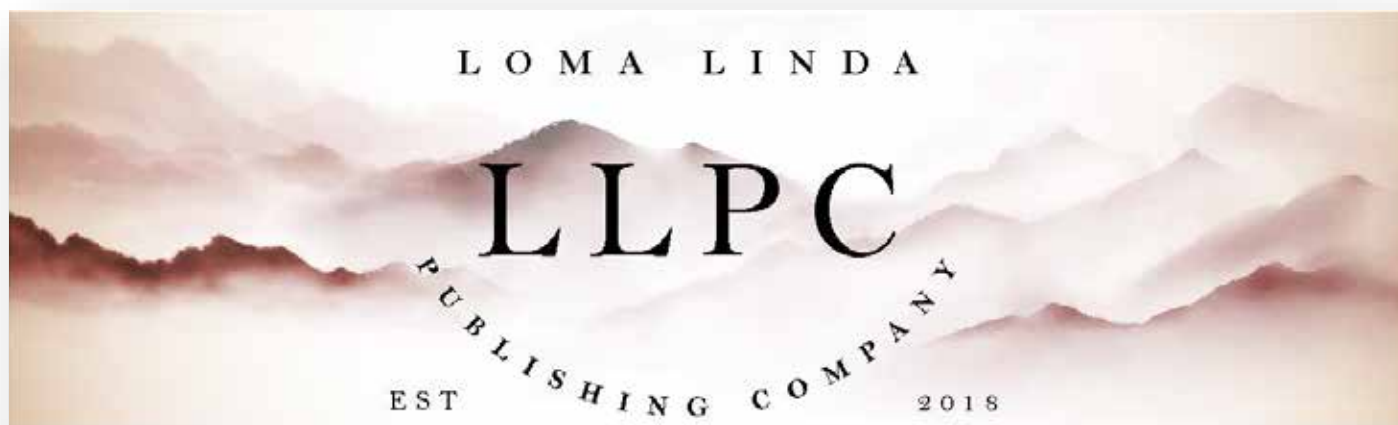
2022 Sessions Presented by iCAN and Dr. Anthony Chang:

| | |
|---------------|--------------------------------------|
| January 15: | Kids and Covid-19 |
| February 19: | Leadership |
| March 19: | Insight Into Pediatric Heart Disease |
| April 16: | Innovation in Pediatrics |
| May 21: | Advisors vs. Advocates |
| June 18: | What does it mean to be Rare? |
| July 11: | 2022 iCAN Summit Week |
| August 20: | What Can Kids do to Help? |
| September 17: | Insight into Pediatric Cancer |
| October 15: | Specialty Careers in Medicine |
| November 19: | Patient Rights |
| December 17: | Hot Topics in Pediatrics |

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The Academy of Neonatal Care serves to educate Respiratory Therapists, Nurses, and Doctors in current and best practices in Neonatal ICU care. We prepare RT's new to NICU to fully function as a bedside NICU RT. Our goal is to enrich NICU care at all levels. Beginner to Advanced Practice, there is something for you at:

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Keeping Your Baby Safe from respiratory infections



RSV
COVID-19
colds
flu

How to protect your little ones from germs and viruses

This year is an especially dangerous cold and flu season - especially for vulnerable infants and children. Fortunately, there are proven protective measures that we can take to stay healthy.

Here's what you can do...

Wash Your Hands

- This is the single, most important thing you can do to stop the spread of viruses.
- Use soap.
- Wash for more than 20 seconds.
- Use alcohol-based sanitizers.



Limit Contact with Others

- Stay home when you can.
- Stay 6 feet apart when out.
- Wear a face mask when out.
- Change your clothes when you get home.
- Tell others what you're doing to stay safe.



Provide Protective Immunity

- Hold your baby skin-to-skin.
- Give them your breast milk.
- Stay current with your family's immunizations.



Take Care of Yourself

- Stay connected with your family and friends.
- Drink more water and eat healthy foods.
- Seek mental health support.
- Sleep when you can.



Get Immunized

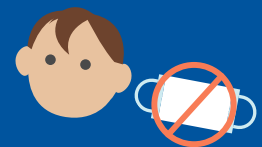
Vaccinations save lives. Protecting your baby from COVID-19, flu and pertussis lowers their risks for complications from respiratory infections.



WARNING

Never Put a Mask on Your Baby

- Because babies have smaller airways, a mask makes it hard for them to breathe.
- Masks pose a risk of strangulation and suffocation.
- A baby can't remove their mask if they're suffocating.



If you feel sick or are positive for COVID-19

- Wash with soap and water and put on fresh clothes before holding or feeding your baby.
- Wear a mask to help stop the virus from spreading.
- Watch out for symptoms like fever, confusion, or trouble breathing.
- Ask for help caring for your baby and yourself while you recover.



We can help protect each other.
www.nationalperinatal.org/rsv



PROTECT YOUR FAMILY FROM RESPIRATORY VIRUSES

flu coronavirus

pertussis RSV



WASH YOUR HANDS
often with soap and warm water.

SOAP

GET VACCINATED
for flu and pertussis. Ask about protective injections for RSV.



COVER COUGHS AND SNEEZES.
Sneeze and cough into your elbow.

USE AN ALCOHOL-BASED HAND SANITIZER.



STAY AWAY FROM SICK PEOPLE
Avoid crowds. Protect vulnerable babies and children.

www.nationalperinatal.org

National Perinatal Association

FREE RESOURCES FOR YOUR NICU

Coping During COVID-19



Targeted interventions to improve the mental health of parents, infants, families, and providers

BONDING WITH YOUR BABY



HELPING CHILDREN AND FAMILIES COPE

CAREGIVERS NEED CARE TOO



National Network of NICU Psychologists

nationalperinatal.org/psychologists

Respiratory Syncytial Virus:

How you can advocate for babies this RSV season

Track national data and trends at the CDC's website www.cdc.gov/rsv



Identify babies at greatest risk



including those with CLD, BPD, CF, and heart conditions

Teach families how to protect



their babies from respiratory infections

Advocate for insurance coverage for palivizumab prophylaxis so more babies can be protected *



Use your best clinical judgement



when prescribing RSV prophylaxis

Tell insurers what families need



and provide the supporting evidence



*See the NPA's evidence-based guidelines at www.nationalperinatal.org/rsv

Survey Says: RSV

RESPIRATORY SYNCYTIAL VIRUS, or RSV, is a dangerous virus that can lead to:

- Hospitalization
- Lifelong health complications
- Death

for infants and young children



ACCORDING TO A NATIONAL SURVEY, Specialty Health Care Providers say:

- 80% They treat RSV as a priority, "often" or "always" evaluating their patients
- 77% RSV is the "most serious and dangerous" illness for children under four
- 77% Barriers to access and denials from insurance companies limit patients' ability to get preventive RSV treatment



But Parents are Unprepared.

- 18% Only 18% know "a lot" about RSV
- 22% Only 22% consider themselves "very well" prepared to prevent RSV



RSV EDUCATION & AWARENESS CAN HELP

After parents learned more about RSV, they were:

- 65% "More concerned" about their child contracting the disease
- 67% Likely to ask their doctor about RSV



NCJIH National Coalition for Infant Health
Preventing RSV in Preterm Infants through Age Five

Learn More about RSV at www.infanthealth.org/rsv

Featured Program at the World Congress of Pediatric Cardiology and Cardiac Surgery: Cardiovascular Disease in the Neonate

Gil Wernovsky, MD, FAAP, FACC

For the first time in the history of this prestigious international conference, a comprehensive scientific track, **“Cardiovascular Disease in the Neonate,”** will be featured throughout the convention. This meeting is for all who care for neonates with heart disease, including neonatologists, bedside and advanced practice nurses, fellows and trainees, respiratory therapists, and more.

Background: The World Congress of Pediatric Cardiology and Cardiac Surgery (WCCPCS) is an international quadrennial meeting designed to promote the sharing of ideas to improve cardiac care for children across the globe. Separate pediatric cardiology (est. 1980) and cardiac surgery (est. 1989) were combined to form the current collaborative structure in 1993. In 2015, after six years of extensive research and planning and competing against seven other countries, the International Steering Committee awarded the bid to host the 8th Quadrennial Meeting to the **USA for the first time ever.** This historic meeting, considered the “Olympics of Our Field,” will occur in our nation’s capital, Washington DC, from August 27th – September 1st, 2023.

The WCPCCS will bring together over 4,500 physicians, nurses, the medical industry, administrative stakeholders, and technology leaders from around the globe to collaborate and develop in-

novative and sustainable models of care for children and young adults with congenital and acquired heart disease. As care for the neonate with cardiac disease has been increasingly collaborative and successful, the WCPCCS organizing team partnered with the Neonatal Heart Society, the Pediatric Cardiac Intensive Care Society, the Society of Pediatric Cardiovascular Nurses, and 11 other societies to form a comprehensive, collaborative program.

“This historic meeting, considered the “Olympics of Our Field,” will occur in our nation’s capital, Washington DC, from August 27th – September 1st, 2023. ”

Vision: To improve the global standard for pediatric and congenital cardiac care.

Mission: To organize the most comprehensive scientific forum ever convened for this patient population and their caregivers to improve the duration and quality of life for neonates, infants, children, and adults with pediatric and congenital cardiovascular



disease.

Special Features:

- **A Multi-Dimensional Anatomy Lab** (*first of its kind*) integrates historical pathologic heart specimens, traditional angiography, echo and cross-sectional imaging, newer approaches to 3D printing, surgery and/or catheter intervention planning, as well as state-of-the-art virtual and augmented reality.
- **Digital Futures and Technology** (*first of its kind*) features hands-on sessions with academic centers and tech industry partners. There will be scheduled demonstrations and presentations from global experts in artificial intelligence, machine learning, augmented, virtual and extended reality, applied visual effects, and gamification/simulation.

Selected Sessions:

- Hemodynamics of the Extremely Premature Infant
- Cardiovascular Implications in Patients with Congenital Diaphragmatic Hernia
- Echocardiography by the Neonatal ICU Practitioner
- Hemodynamics of Septic Shock
- The Fetal and Neonatal Brain in Congenital Heart Disease
- Management Of the PDA in Very Tiny Babies: Does it Need Closure? If So, How?
- Oral Abstracts in Neonatal Cardiology
- The Effects of Pain, Analgesia, and Sedation on the Neonatal Brain
- Pulmonary Hypertension: Basics & Beyond in 2023
- Surgery and Cath in Tiny Babies - Why?, When?, How?
- Featured Plenary Sessions on Hypoplastic Left Heart Syndrome, Transposition of the Great Arteries, and Tetralogy of Fallot
- Ethical Issues in Intensive Care
- Roundtable Lunch: How to Best Optimize Neurodevelopmental Care?
- Quality Improvement in the NICU
- Hands-On ECMO
- Acute Persistent Pulmonary Hypertension of the Newborn: State-of-the-Art Management
- Arrhythmias in the NICU

Hope to see you there!

Financial Funding/Disclosure: No disclosures indicated

NT

Corresponding Author



Gil Wernovsky, MD, FAAP, FACC
Co-Chair, 8th World Congress of Pediatric Cardiology and Cardiac Surgery
Pediatric Cardiology and Cardiac Intensive Care
Children's National Hospital, Washington DC USA

www.wcpccs2023.org

SHARED DECISION-MAKING PROTECTS MOTHERS + INFANTS DURING COVID-19

KEEPING MOTHERS + INFANTS TOGETHER
Means balancing the risks of...
• **HORIZONTAL INFECTION**
• **SEPARATION AND TRAUMA**

EVIDENCE
We encourage families and clinicians to remain diligent in learning **up-to-date evidence**.

PARTNERSHIP
What is the best for this unique dyad?
SHARED DECISION-MAKING
• **SEEK PARTICIPATION**
• **HELP EXPLORE OPTIONS**
• **ASSESS PREFERENCES**
• **REACH A DECISION**
• **EVALUATE THE DECISION**

TRAUMA-INFORMED
Both parents and providers are confronting significant...
• **FEAR**
• **GRIEF**
• **UNCERTAINTY**

LONGITUDINAL DATA
We need to understand more about outcomes for mothers and infants exposed to COVID-19, with special attention to:
• **MENTAL HEALTH** • **POSTPARTUM CARE DELIVERY**

NEW DATA EMERGE DAILY. NANN AND NPA ENCOURAGE PERINATAL CARE PROVIDERS TO ENGAGE IN CANDID CONVERSATIONS WITH PREGNANT PARENTS PRIOR TO DELIVERY REGARDING RISKS, BENEFITS, LIMITATIONS, AND REALISTIC EXPECTATIONS.

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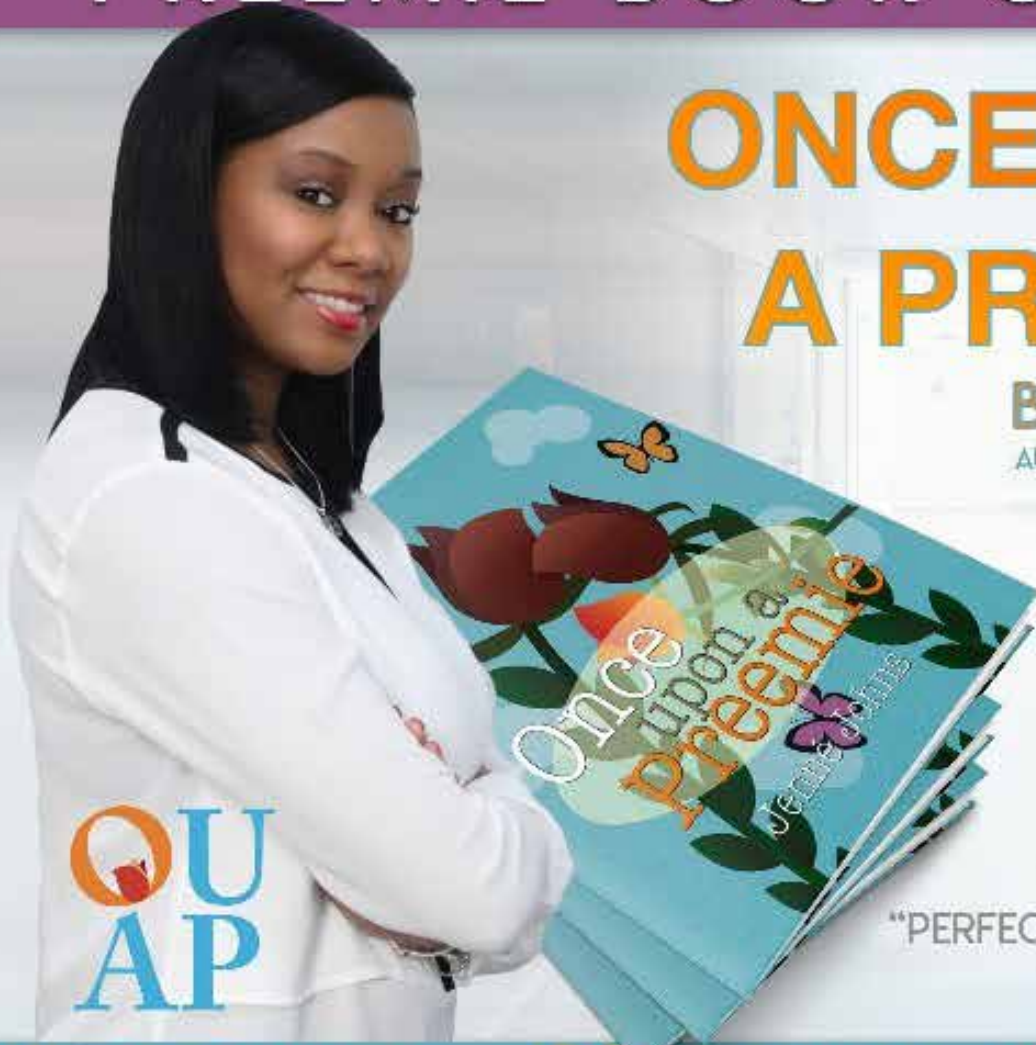


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PREEMIE BOOK ON SALE

ONCE UPON A PREEMIE

BY JENNÉ JOHNS
AUTHOR | SPEAKER | ADVOCATE



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“ENCOURAGING”

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ONCE UPON A PREEMIE IS A BEAUTIFUL NEW WAY TO LOOK AT THE LIFE OF A PREEMIE BABY. IT EXPLORES THE PARENT AND CHILD NEONATAL INTENSIVE CARE UNIT (NICU) JOURNEY IN A UNIQUE AND UPLIFTING WAY.

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- NATIONAL ASSOCIATION OF PERINATAL SOCIAL WORKERS
- CONGRESSIONAL BLACK CAUCUS ANNUAL LEGISLATIVE CONFERENCE
- NATIONAL MEDICAL ASSOCIATION ANNUAL CONFERENCE
- HUDSON VALLEY PERINATAL PUBLIC HEALTH CONFERENCE
- MATERNITY CARE COALITION ADVOCACY DAY

MEDIA APPEARANCES



AVAILABLE FOR \$12.99 ON AMAZON OR ONCEUPONAPREEMIE.COM

Still a Premie?

Some preemies are born months early, at extremely low birthweights. They fight for each breath and face nearly insurmountable health obstacles.

But that's not every preemie's story.

Born between 34 and 36 weeks' gestation?

STILL A PREMIE

Just like preemies born much earlier, these "late preterm" infants can face:



Jaundice



Feeding issues



Respiratory problems

And their parents, like all parents of preemies, are at risk for postpartum depression and PTSD.



Born preterm at a "normal" weight?

STILL A PREMIE

Though these babies look healthy, they can still have complications and require NICU care.

But because some health plans determine coverage based on a preemie's weight, families of babies that weigh more may face access barriers and unmanageable medical bills.

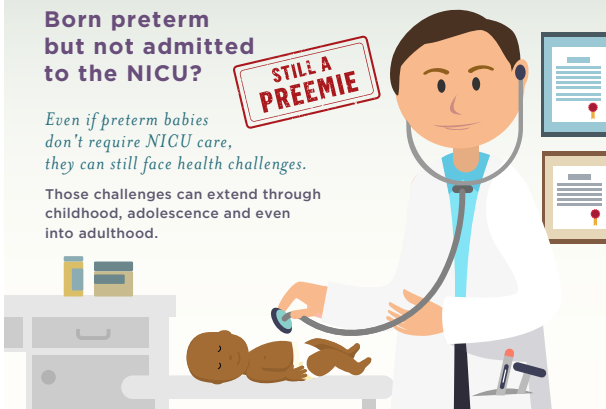


Born preterm but not admitted to the NICU?

STILL A PREMIE

Even if preterm babies don't require NICU care, they can still face health challenges.

Those challenges can extend through childhood, adolescence and even into adulthood.



Some Premies



Will spend weeks in the hospital



Will have lifelong health problems



Are disadvantaged from birth

All Premies



Face health risks



Deserve appropriate health coverage



Need access to proper health care

NCJFH National Coalition for Infant Health
Protecting Access for Premature Infants through Age Two
www.infanthealth.org

OPIOIDS and NAS

When reporting on mothers, babies, and substance use

LANGUAGE MATTERS



I am not an addict.

I was exposed to substances in utero. I am not addicted. Addiction is a set of behaviors associated with having a Substance Use Disorder (SUD).



I was exposed to opioids.

While I was in the womb my mother and I shared a blood supply. I was exposed to the medications and substances she used. I may have become physiologically dependent on some of those substances.



NAS is a temporary and treatable condition.

There are evidence-based pharmacological and non-pharmacological treatments for Neonatal Abstinence Syndrome.



My mother may have a SUD.

She might be receiving Medication-Assisted Treatment (MAT). My NAS may be a side effect of her appropriate medical care. It is not evidence of abuse or mistreatment.

My potential is limitless.

I am so much more than my NAS diagnosis. My drug exposure will not determine my long-term outcomes. But how you treat me will. When you invest in my family's health and wellbeing by supporting Medicaid and Early Childhood Education you can expect that I will do as well as any of my peers!



Learn more about Neonatal Abstinence Syndrome at www.nationalperinatal.org

National Perinatal Association



Nurses: parents trust you.

You can help reduce the risk of Sudden Infant Death Syndrome (SIDS), the leading cause of death among infants between 1 month and 1 year of age. Take our **free continuing education (CE) activity** to stay up to date on the latest safe infant sleep recommendations. Approved for 1.5 contact hours.

Learn more about the free online activity at <https://nichd.nih.gov/SafeSleepCE>.

The CE activity explains safe infant sleep recommendations from the American Academy of Pediatrics and is approved by the Maryland Nurses Association, an accredited approver of the American Nurses Credentialing Center's Commission on Accreditation.



Eunice Kennedy Shriver National Institute
of Child Health and Human Development



Compiled and Reviewed by Saba Saleem, BS, OMS 4

AAP Issues Reports On Common Cause Of Intellectual Disability: Congenital Hypothyroidism

NEWS PROVIDED BY

[American Academy of Pediatrics](#)

December 19, 2022

Congenital hypothyroidism (CH), an inborn condition in which thyroid hormone (TH) levels are insufficient for normal development, is one of the most common preventable causes of intellectual disability worldwide. Proper screening, diagnosis and early initiation of treatment can prevent serious impacts, including permanent intellectual disability. However, 70% of newborns worldwide do not undergo screening, which is not established in all countries globally. The clinical report, "Congenital Hypothyroidism: Screening and Management," along with an accompanying technical report, are published in the January 2023 *Pediatrics* (published online Dec. 19). The reports, written by the AAP Section on Endocrinology and Council on Genetics, along with the Pediatric Endocrine Society and the American Thyroid Association, offer updated recommendations on newborn screening for CH, which can be performed via a blood sample that should be obtained after 24 hours of life (preferably between 48 to 72 hours). The report includes recommendations for the optimal evaluation and treatment of infants with CH. In addition, the reports recommend that all women take prenatal vitamins containing 150 mcg of iodine daily before and during pregnancy and during breastfeeding because iodine is a critical component of TH production.

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SOURCE AAP News

NT



NCDC Expands Updated COVID-19 Vaccines to Include Children Ages 6 Months through 5 Years

NEWS PROVIDED BY

[CDC Newsroom Release](#)

December 9, 2022

Following FDA action, today CDC expanded the use of updated (bivalent) COVID-19 vaccines for children ages 6 months through 5 years. Children ages 6 months through 5 years who previously completed a Moderna primary series are eligible to receive a Moderna bivalent booster 2 months after their final primary series dose. Children ages 6 months through 4 years who are currently completing a Pfizer primary series will receive a Pfizer bivalent vaccine as their third primary dose.

Updated COVID-19 vaccines are formulated to protect against some of the more recently circulating viruses.

Most importantly, COVID-19 vaccines are critical to providing ongoing protection as immunity wanes and the virus continues to mutate.

The vast majority of children in this age group have not received any doses of a COVID-19 vaccine. CDC is working to increase parent and provider confidence in COVID-19 vaccines and improve uptake among the 95% of children who are not vaccinated or who have not completed the COVID-19 vaccine primary series. Parents should talk to their child's health care provider to ensure their child is up to date on their COVID-19 and other vaccines.

Contact: [Media Relations](#)

(404) 639-3286

SOURCE CDC

NT

The National Urea Cycle Disorders Foundation



The NUCDF is a non-profit organization dedicated to the identification, treatment and cure of urea cycle disorders. NUCDF is a nationally-recognized resource of information and education for families and healthcare professionals.

www.nucdf.org | Phone: (626) 578-0833

Kids Born by C-Section May Have Weaker Response to Vaccines

NEWS PROVIDED BY

[U.S. News HealthDay](#)

November 16, 2022

By Denise Mann

Babies born via cesarean section may not mount as strong an immune response after some childhood vaccines compared to babies delivered vaginally, researchers suggest.

Antibody levels can be checked in blood or saliva, and babies born vaginally had higher levels of antibodies in their saliva to pneumonia shots at one year and meningococcal shots at 18 months, a new study showed.

But the study authors are quick to caution that their findings are not a reason to skip recommended childhood vaccinations.

“Vaccines are one of the best ways that you can protect your child against disease,” said study author [Debby Bogaert](#), a clinical fellow and honorary consultant in pediatric infectious diseases at the University of Edinburgh in Scotland. “Although we observed differences in how the two different groups of babies responded to the vaccines, there was still enough of an immune response in both groups to provide protection against infection.”

The findings also can’t be inferred to say whether babies born via C-section are more likely to develop other infections such as COVID-19, flu or respiratory syncytial virus (RSV), all of which are circulating now.

“Our research only focused on vaccines that are currently given in early childhood that protect against certain lung infections and meningitis,” Bogaert said.

The study took place in the Netherlands, where vaccine schedules and recommendations differ from the United States. The U.S. Centers for Disease Control and Prevention recommends infants receive four doses of the pneumonia shot at 2, 4, 6 and 12-15 months. The meningococcal vaccine is not routinely recommended for infants in the U.S.

In addition to higher antibody levels against pneumonia and meningitis in saliva, infants

born via vaginal delivery showed changes in their populations of good and bad gut bacteria that reflected the higher antibody responses to the two vaccines.

The study was published Nov. 15 in [Nature Communications](#).

The findings add weight to other studies suggesting that the route of delivery can affect a baby’s vaccine response, said [Dr. Paul Krogstad](#), a professor of pediatrics and infectious diseases at UCLA Health in Los Angeles.

“The antibodies made from these two vaccines were highest in breast-fed and vaginally delivered infants,” said Krogstad, who reviewed the findings.

“More women have the opportunity to choose to breastfeed versus bottle-feed, but the mode of delivery is largely driven by what is safest for mother and infant,” he said.

Importantly, the new study can’t say that babies born via C-section will get more infections or have more severe bouts of vaccine-preventable illnesses.

“It says the immune system is not as well prepared to produce antibodies that we can measure in the lab,” Krogstad said.

More information is needed to draw any firm conclusions about how the new find-

Supporting NICU Staff so they can support families



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- Evidence-Based

National Perinatal Association

NPN
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www.mynicunetwork.org

ings affect a baby's health and well-being.

More information

Visit the U.S. Centers for Disease Control and Prevention to view the [recommended infant vaccination schedule](#) in the United States.

SOURCES: Debby Bogaert, PhD, senior clinical fellow and honorary consultant, pediatric infectious diseases, University of Edinburgh, Scotland; Paul Krogstad, MD, professor, pediatrics and infectious diseases, UCLA Health, Los Angeles; *Nature Communications*, Nov. 15, 2022

SOURCE U.S. News HealthDay

NT

Home Births in the U.S. Increase to Highest Level in 30 Years

NEWS PROVIDED BY

[CDC, National Center for Health Statistics](#)

November 17, 2022

Home births in the United States rose 12% from 2020 to 2021, and reached the highest level since at least 1990. These findings are included in a new report to be released on Thursday by CDC's National Center for Health Statistics (NCHS).

The report "[Changes in Home Births by Race and Hispanic Origin and State of Residence of the Mother: United States, 2019-2020 and 2020-2021](#)" examines changes in the percentage of home births in the United States from 2019 to 2020 and from 2020 to 2021 broken down by race and Hispanic origin, month, and state of residence.

Other findings documented in the report:

The 12% increase in home births from

2020 to 2021 follows a 22% increase from 2019 to 2020, with increases by maternal race and Hispanic origin ranging from 21%-36%.

The percentage of home births for all U.S. women increased between 2020 and 2021 for most months, peaking in January 2021 at 1.51%.

From 2020 to 2021, the percentage of home births increased in 30 states, with increases ranging from 8% for Florida to 49% for West Virginia.

There were 51,642 home births in 2021, an increase of 13% from 2020 (45,646). This increase followed a 19% rise in the number of home births from 2019 (38,506) to 2020.

For (non-Hispanic) White women, the percentage of home births increased 10%, from about 1.9% of all births in 2020 to almost 2.1% in 2021. This followed a 21% increase from 2019 (1.55%) to 2020.

Home births among (non-Hispanic) Black women increased 21%, from 0.68% to 0.82% of all births from 2020 to 2021. The percentage of home births increased 36% from 2019 (0.50%) to 2020.

For Hispanic women, home births increased from 0.48% in 2020 to 0.55% in 2021, an increase of 15%. The percentage of home births increased 30% from 2019 (0.37%) to 2020.

The home births report will be available on the NCHS web site at www.cdc.gov/nchs.

Contact: CDC, National Center for Health Statistics, Office of Communication (301) 458-4800
E-mail: paoquery@cdc.gov

SOURCE CDC, NCHS Pressroom

NT

Not So Fast for NSAID Closure of Heart Defect in Preterm Newborns

NEWS PROVIDED BY

[MedPage Today](#)

December 7, 2022

By Nicole Lou

Trial results favor waiting for patent ductus arteriosus to close on its own.

Early ibuprofen administration did not help babies born preterm with patent ductus arteriosus (PDA), as waiting for the heart defect to close on its own was associated with non-inferior, perhaps even better clinical outcomes, in a randomized trial.

For infants born with moderate or larger PDAs, expectant management worked at least as well as early ibuprofen for the trial's composite primary endpoint at 36 weeks postmenstrual age, at 46.3% versus 63.5% for early ibuprofen (risk ratio [RR] 0.73, 95% CI 0.59-0.91, $P < 0.001$ for non-inferiority), as supported by the three individual components of the composite endpoint:

Necrotizing enterocolitis: 17.6% vs 15.3% (RR 1.15, 95% CI 0.67-1.97)

Moderate-to-severe bronchopulmonary dysplasia: 33.3% vs 50.9% (RR 0.66, 95% CI 0.48-0.90)

Death: 14.0% vs 18.2% (RR 0.77, 95% CI 0.44-1.32)

Rates of other adverse outcomes were similar between the two study groups, according to Willem-Pieter de Boode, MD, PhD, of Radboud University Nijmegen Medical Center in the Netherlands, and colleagues. Findings from the BeNeDuctus study were published in the [New England Journal of Medicine](#) and presented at the 2022 [Hot Topics in Neonatology](#) meeting.

A common finding in preterm infants, PDA occurs when the vessel connecting the aorta and the pulmonary artery does not close normally and results in a left-to-right shunt. Ibuprofen and other cyclooxygenase inhibitors have been used to close PDAs in newborns, though they [have not been shown](#) to improve neonatal morbidity and mortality in [placebo-controlled, randomized trials](#).

"The results of this trial should not be interpreted to suggest that there is no causal relationship between PDA and neonatal

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morbidity in extremely preterm infants,” de Boode and colleagues wrote.

“Rather, it is plausible that an attempt to close the PDA with ibuprofen may be more harmful than the condition itself,” they said, citing prior observational data consistent with the suggestion of excess bronchopulmonary dysplasia with ibuprofen use due to the inhibition of angiogenesis.

The researchers called for further study of potentially safer and more effective treatments for PDA.

BeNeDuctus was a non-inferiority trial conducted at 17 neonatal ICUs in the Netherlands, Belgium, and Denmark. Included were 273 babies who were born extremely preterm (<28 weeks gestational age) and had PDAs at least 1.5 mm in diameter.

Infants were randomized soon after birth to expectant management or early ibuprofen.

Expectant management comprised withholding treatment to close PDA unless criteria were met for cardiovascular failure associated with a left-to-right shunt. Peers assigned early ibuprofen received it starting at a median postnatal age of 63 hours at a median dose of 10 mg/kg, followed by two subsequent doses of 5 mg/kg.

The study cohort had a median gestational age of 26 weeks and birth weight of 845 g (1.86 lbs). Baseline maternal and neonatal characteristics were similar except for a greater preponderance of mothers with hemolysis, elevated liver enzymes, and low platelets in the expectant management group.

Results may not be generalizable to infants of different races or gestational ages or to those receiving prolonged invasive ventilation, de Boode and colleagues warned. They also had to stop enrollment after randomizing less than half of the planned sample size due to slow recruitment and funding issues.

“Our trial focused on the short-term effects of PDA management in the neonatal period and cannot inform management beyond this period, including whether neonatal follow-up should include routine echocardiographic screening for potentially prolonged exposure to transductal left-to-right shunting,” they added.

Disclosures

The study was funded by the Netherlands Organization for Health Research and De-

velopment and the Belgian Health Care Knowledge Center.

de Boode disclosed no relationships with industry.

Primary Source

New England Journal of Medicine

Source Reference: *Hundscheid T, et al “Expectant management versus early ibuprofen for patent ductus arteriosus” N Engl J Med 2022; DOI: 10.1056/NEJ-Moa2207418.*

SOURCE MedPage Today

NT

AAP Issues Reports on Point-of-care Ultrasonography Applications in the NICU

NEWS PROVIDED BY

[American Academy of Pediatrics](#)

November 28, 2022

Point-of-Care Ultrasonography (POCUS) can be performed at the bedside of patients in neonatal intensive care units (NICU). If performed in a timely fashion, POCUS has the potential for enhancing quality of care and improving outcomes. The clinical report, “Use of Point-of-Care Ultrasonography in the NICU for Diagnostic and Procedural Purposes,” along with an accompanying technical report, are published in the December 2022 Pediatrics (published online Nov. 28). Although the performance and interpretation of ultrasonography have traditionally been limited to pediatric radiologists and pediatric cardiologists, POCUS refers to ultrasonography performed at the bedside by non-radiology and non-cardiology practitioners in the NICU for diagnostic, therapeutic, and procedural purposes. The reports, written by the Committee on Fetus and Newborn and the Section on Radiology, state that the technology is increasingly used world-

wide. Yet, there are no published guidelines on implementation of point-of-care ultrasonography programs in U.S. neonatal intensive care units. The AAP suggests institutional guidelines for the use of point-of-care ultrasonography and other steps to help overcome barriers in use of the technology.

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SOURCE AAP News

NT

American Academy of Pediatrics, Section on Advancement in Therapeutics and Technology

Released: Thursday 12/13/2018 12:32 PM, updated Saturday 3/16/2019 08:38, Sunday 11/17/2019 and Friday 11/20/2020

The American Academy of Pediatrics' Section on Advances in Therapeutics and Technology (SOATT) invites you to join our ranks! SOATT creates a unique community of pediatric professionals who share a passion for optimizing the discovery, development and approval of high quality, evidence-based medical and surgical breakthroughs that will improve the health of children. You will receive many important benefits:

- Connect with other AAP members who share your interests in improving effective drug therapies and devices in children.
- Receive the SOATT newsletter containing AAP and Section news.
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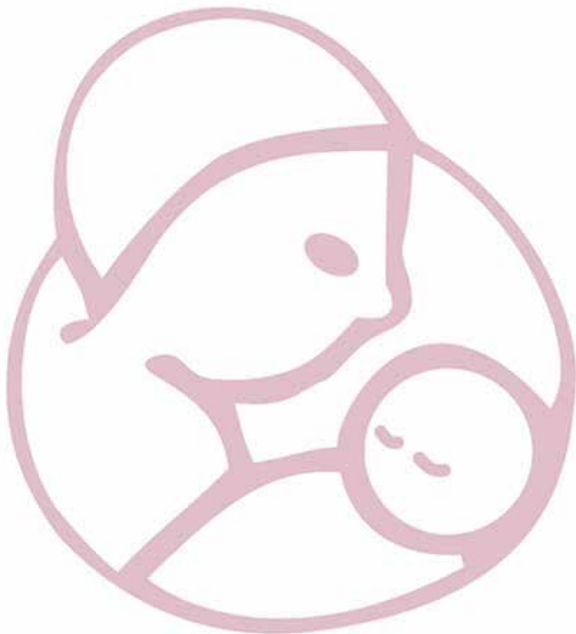
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PAC/LAC's core values for improving maternal and child health have remained constant for over 30 years – a promise to lead, advocate and consult with others.

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- Network with other pediatricians, pharmacists, and other health care providers to be stronger advocates for children.
- Invitation for special programming by the Section at the AAP's National Conference.
- Access to and ability to submit research abstracts related to advancing child health through innovations in pediatric drugs, devices, research, clinical trials and information technology; abstracts are published in Pediatrics.

AAP members can join SOATT for free. To activate your SOATT membership as an AAP member, please complete a short application at <http://membership.aap.org/Application/AddSectionChapterCouncil>.

The Section also accepts affiliate members (those holding masters or doctoral degrees or the equivalent in pharmacy or other health science concentrations that contribute toward the discovery and advancement of pediatrics and who do not otherwise qualify for membership in the AAP). Membership application for affiliates: <http://shop.aap.org/aap-membership/> then click on "Other Allied Health Providers" at the bottom of the page.

Thank you for all that you do on behalf of children. If you have any questions, please feel free to contact:

Christopher Rizzo, MD, FAAP, Chair, crizzo624@gmail.com

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Drug deaths among pregnant women hit a record high

NEWS PROVIDED BY

[NBC Health News](#)

December 6, 2022

By Erica Edwards

There have always been barriers to treatment for substance use during pregnancy. The pandemic made it worse.

The number of pregnant women and new mothers dying from [drug overdoses](#) grew

dramatically as the pandemic took hold, reaching a record high in 2020, a new study finds.

The research, published [Tuesday in JAMA](#), provides a stark look at how substance use disorder is harming pregnant people who are less likely than others to seek or receive help for a dependency on opioids and other drugs.

"Drug use is incredibly stigmatized in general," said Dr. Nora Volkow, director of the National Institute on Drug Abuse. "It goes to an ever higher level of stigma among pregnant women."

Researchers at Columbia University Mailman School of Public Health looked at the death certificates of 7,642 people who died while pregnant or had just given birth from 2017 through 2020. Of those, 1,249 died of a drug overdose — usually from methamphetamine, cocaine or the synthetic opioid [fentanyl](#).

During that time, the rate of overdose deaths in that group nearly doubled, from 6.56 to 11.85 per 100,000. And the rate of overdose deaths particularly sped up in 2020, said Emilie Bruzelius, a doctoral candidate of epidemiology at Columbia. She does not work with pregnant women or those with substance use disorder, but did crunch the numbers for the new research.

"When you stop and take a minute and think about those 1,200 deaths, it's incredibly sad," she said.

Drug overdoses of women in their child-bearing years in general also increased, especially during 2020, Bruzelius's study found.

While the rate of overdose deaths among women of childbearing age was higher — 19.76 per 100,000 in 2020, compared with 14.37 per 100,000 in 2017 — the rate of increase was much faster among pregnant women and those who'd given birth within the previous year.

Dr. Tricia Wright, an obstetrician and addiction medicine expert at the University of California, San Francisco, was unsurprised by the latest research.

"Overdose deaths in general have increased, and pregnant women aren't immune to the effects of addiction," Wright said.

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Medications to help drug withdrawal

Opioid use among pregnant women has been skyrocketing for more than a decade, increasing by 131% from 2010 to 2017, according to the [Centers for Disease Control and Prevention](#). Left untreated, their babies are more likely to be born too early and at a low birth rate, and must go through drug withdrawal that can last for weeks.

Medications like methadone and buprenorphine to treat the disorder can be used safely in pregnant women and greatly increases the chances mom will carry the baby to full term, said Dr. Stephen Patrick, a neonatologist and director of the Vanderbilt Center for Child Health Policy in Nashville.

“It’s not even a question. We know — convincingly — that outcomes are better with these medications,” he said. He was not involved with the new research.

Even doctors who treat opioid use disorder may be unlikely to help a woman if she’s pregnant. Patrick led a 2020 [study](#) that found pregnant women who called treatment centers were less likely than other women to get an appointment.

“Oftentimes what we find is addiction medicine doctors not comfortable taking care

of pregnant women, and obstetricians not comfortable taking care of addiction,” Patrick said. Pregnant people are left stuck in the middle.

The pandemic worsened the situation.

“Pregnant women became even more vulnerable during Covid because access to treatments for anything that wasn’t Covid went down,” said Dr. Anna Lembke, a professor of psychiatry and addiction medicine at Stanford University School of Medicine.

“So now you’ve got a population of patients who already have barriers to treatment, are reluctant to access treatment, and then access to treatment isn’t readily available,” Lembke said. She was not involved in the new study.

“At the same time, fentanyl was increasing everywhere throughout the country,” Wright said. “It was kind of a perfect storm.”

A Biden administration [report](#), released in October, called for broader access to opioid treatment medication among pregnant women and de-stigmatize addiction treatment during pregnancy.

“The power of stigma is exceptional,” Patrick said. “It drives people away from treat-

ment, and kills them.”


SOURCE NBC Health News

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2023 Virginia Apgar Award in Neonatal Perinatal Medicine. Call for Nominations

Deadline: January 27, 2023

The American Academy of Pediatrics’ Section on Neonatal-Perinatal Medicine is now accepting nominations for the 2023 Virginia Apgar Award. This award, widely recognized as the highest honor in our field, is given annually to an individual whose career has had a profound continuing influence on the well being of newborn infants. It is named after Dr. Virginia Apgar, whose eponymous score was but one of her many pioneering achievements in obstetric anesthesiology, academic medicine, neonatal care, and public health.



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All AAP fellows interested in Neonatal - Perinatal Medicine are invited to submit nominations. The nominee need not be a member of the AAP. The nomination should include a cover letter and curriculum vitae of the nominee. A second letter in support of the nomination is required and up to four support letters will be accepted. Candidates who have been previously nominated in the previous two years but not selected may be re-nominated by a letter indicating renewal of their prior nomination. It is not necessary to resubmit all the paperwork if the original nomination package was complete.

The nominations must be received by January 27, 2023. Please send all nominations to:

Jim Couto, MA

Director, Perinatal & Neonatal Initiatives

American Academy of Pediatrics

345 Park Blvd

Itasca, IL 60143

jcouto@aap.org

630/626-6656

The Virginia Apgar Award is sponsored by a grant from Abbott and will be presented at the meeting of

the Neonatal - Perinatal Medicine Section during the 2023 National Conference & Exhibition of the

American Academy of Pediatrics in Washington, DC.

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2023 Avroy Fanaroff Neonatal Education Award

CALL FOR NOMINATIONS

DEADLINE January 27, 2023

The AAP is now accepting nominations

for the Section on Neonatal - Perinatal Medicine Avroy Fanaroff Neonatology Education Award. This award will be given annually to an individual who has made outstanding contributions to education in neonatal-perinatal medicine. It is named after a true pioneer in our field, Dr. Avroy Fanaroff, in honor of his decades of commitment to our understanding of newborn-their physiology, and their families.

The candidate's contribution may be one of innovative education technique; original concept; seminal event; an exemplary, effective, high impact program; or a substantial long-term contribution to the highest ideals of education. Preference will be made to educational efforts that have had a demonstrable effect on clinical care.

The recipient is chosen by the SONPM Executive Committee each year at the SONPM Perinatal Spring Workshop. Final AAP Board of Directors approval will be granted in June of 2023 and the recipient will be notified at that time.

If you wish to nominate an individual, or yourself, please submit:

- A letter of interest including justification as to why this individual should receive the award.
- The candidate's curriculum vitae.
- Two supporting letters from two members of the Section on Neonatal-Perinatal Medicine.

If you are interested in re-nominating an individual, please contact Jim Couto before submitting any

materials. (Candidates who have been previously nominated in the previous two years but not selected may be re-nominated by a letter indicating renewal of their prior nomination.)

ALL INFORMATION MUST BE COMPLETE BEFORE MAILING IN YOUR NOMINATION.

Please send all materials no later than

January 27, 2023 to:

Jim Couto, MA

Director, Perinatal & Neonatal Initiatives

American Academy of Pediatrics

345 Park Blvd

Itasca, IL 60143

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The Avroy Fanaroff Neonatal Education Award is sponsored by a grant from Mead Johnson Nutrition and will be presented at the meeting of the Section on Neonatal - Perinatal Medicine during the 2023 National Conference & Exhibition of the American Academy of Pediatrics in Washington, DC.

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2023 Neonatal Landmark Award

2023 NEONATAL LANDMARK AWARD

Call for Nominations

Deadline: January 27, 2023

Nominations are now accepted for the Section on Neonatal-Perinatal Medicine Landmark Award. This award is given to an individual in recognition of a seminal contribution which has had a major impact on Neonatal-Perinatal practice. The recipient does not necessarily have to be the author of the original description or publication of the contribution, but could be the individual responsible for dissemination and acceptance of the innovation within/by the profession and/or lay community. To be eligible, the "event" must have occurred at least 15 years ago, and the nominee must not have received the Virginia Apgar Award. The award can be awarded posthumously.

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FAX 847/434-8000

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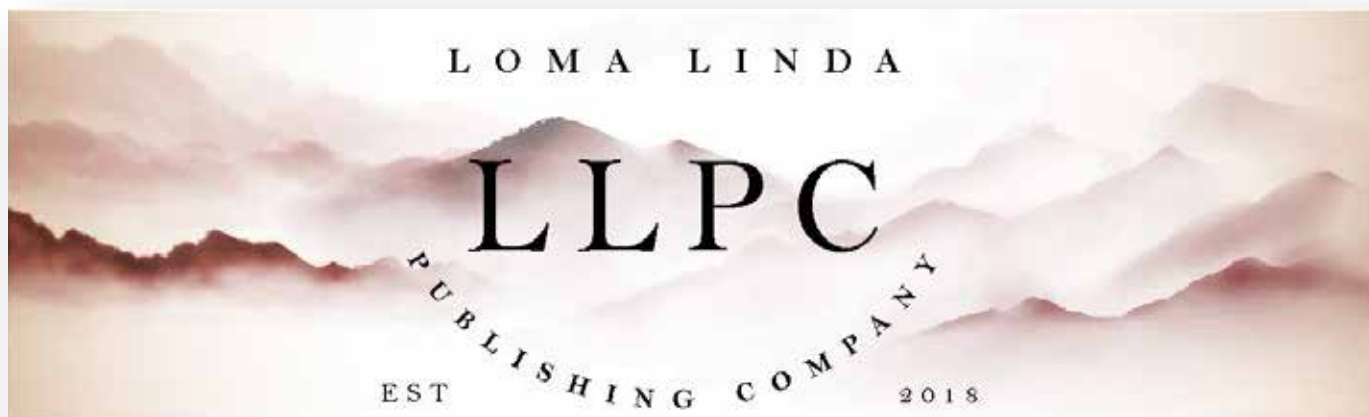
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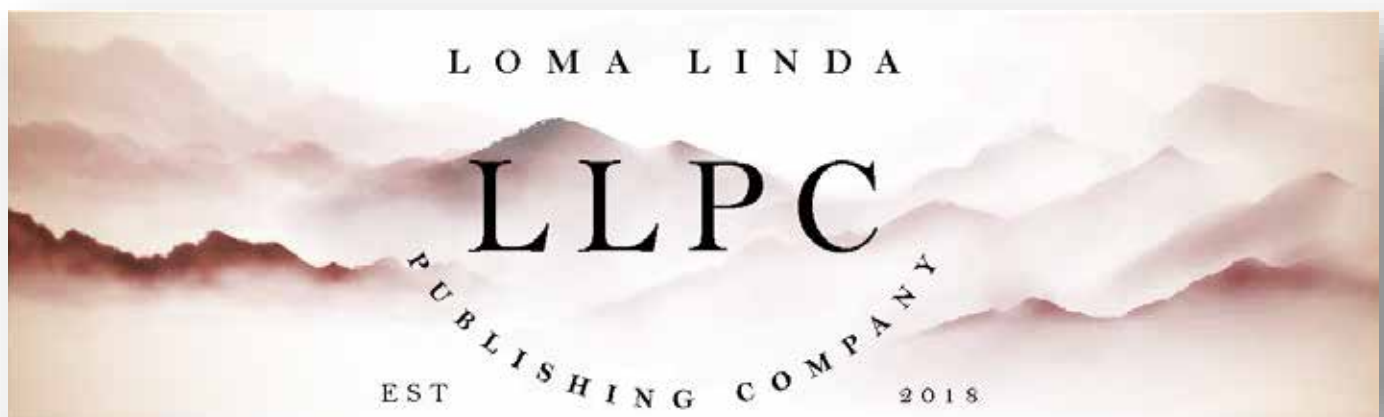


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Genetics Corner: Mild Expression of COL7A1-Associated Epidermolysis Bullosa in a Mother and Child

Subhadra Ramanathan, MS, MSc, CGC, and Robin D. Clark, MD

“A 2-week-old male with small blisters on both hands presented to the Emergency Department of an outside children’s hospital. His mother had noticed the bullous lesions on his hands on DOL 2. He was admitted for two days, during which he had a skin biopsy and was treated with topical and oral antibiotics.”

Case Report:

A 2-week-old male with small blisters on both hands presented to the Emergency Department of an outside children’s hospital. His mother had noticed the bullous lesions on his hands on DOL 2. He was admitted for two days, during which he had a skin biopsy and was treated with topical and oral antibiotics. His mother was instructed to follow up with a dermatologist. The blisters increased in number on his hands and feet. Due to insurance issues, he was seen at three months by an adult dermatologist, who did not provide a diagnosis. At around four months of age, he was evaluated by a pediatric dermatologist (Figures 1 and 2). The initial skin biopsy results were unavailable, so a second skin biopsy was performed. Based on his clinical presentation, a provisional epidermolysis bullosa (EB) diagnosis was made. He was referred to Clinical Genetics.

When evaluated in the Genetics clinic at five months and in follow-up at seven months of age, bullae were resolving, and the resolved lesions had healed well without scarring. There were no oral or mucosal lesions. The infant was thriving and was on target for his developmental milestones. No other health concerns were identified. The pregnancy was uneventful. Fetal ultrasound exams were normal. The baby was delivered by NSVD at term

to a healthy 24-year-old primigravida mother. Birth weight (3.48 kg) and length (50.8 cm) were normal. There were no postnatal complications except for mild jaundice. The baby was discharged with the mother after receiving phototherapy for one day. No skin lesions were appreciated.

“The infant was thriving and was on target for his developmental milestones. No other health concerns were identified. The pregnancy was uneventful. Fetal ultrasound exams were normal. The baby was delivered by NSVD at term to a healthy 24-year-old primigravida mother. Birth weight (3.48 kg) and length (50.8 cm) were normal. There were no postnatal complications except for mild jaundice.”

The family history was significant for dystrophic thick great toenails in his mother and maternal grandfather. The mother also reported occasional blisters on her feet when she walked a lot. There was no other family history of skin lesions, birth defects, developmental delay, intellectual disability, early infant deaths, or multiple miscarriages. Parental consanguinity was denied.

“There was no other family history of skin lesions, birth defects, developmental delay, intellectual disability, early infant deaths, or multiple miscarriages. Parental consanguinity was denied.”

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Gene testing with an epidermolysis bullosa gene panel was ordered while dermatohistopathology results were pending.

Histopathology on skin biopsy did not identify any definitive evidence of epidermolysis bullosa, but the clinical findings, preserved collagen VII staining, and intact lamina densa on electron microscopy supported a diagnosis of epidermolysis bullosa simplex. Molecular genetic testing detected a pathogenic variant in *COL7A1*: c.6007G>A (p.Gly2003Arg) associated with the dystrophic form of EB. This variant was maternally inherited.

“Histopathology on skin biopsy did not identify any definitive evidence of epidermolysis bullosa, but the clinical findings, preserved collagen VII staining, and intact lamina densa on electron microscopy supported a diagnosis of epidermolysis bullosa simplex.”

Assessment and counseling:

Epidermolysis bullosa (EB) is a genetic skin disorder characterized clinically by blister formation from mechanical trauma. The main types of epidermolysis bullosa are:

- **Epidermolysis bullosa simplex:** The most common type of EB affects mainly the palms of the hands and soles of the feet. Heat and friction increase the risk of blisters that occur in the basal keratinocytes and heal without scarring.
- **Junctional epidermolysis bullosa:** This type of EB is characterized by fragility of the skin and mucous membranes, and blisters form with little or no trauma. Blistering may be severe, and granulation tissue can form on the skin around the oral and nasal cavities, fingers and toes, and internally around the upper airway. Examination of the skin basement membrane on transmission electron microscopy can detect splitting in the lamina Lucida of the basement membrane of the epidermis or just above the basement membrane at the level of the hemidesmosomes in the lowest level of the keratinocytes layer.
- **Dystrophic epidermolysis bullosa:** EBD is divided into two major types based on the inheritance pattern: recessive dystrophic epidermolysis bullosa and dominant dystrophic epidermolysis bullosa. Each type is further divided into multiple clinical subtypes. The diagnosis is confirmed by molecular genetic testing or skin biopsy. Immunofluorescence staining on a skin biopsy specimen may help establish the broad category of EB type based on the level of clefting in the skin. Collagen VII staining using antibodies is diminished or absent but may be normal in milder types.
- **Kindler syndrome:** This type of EB can involve all layers of the skin with extreme fragility. The blisters tend present in infancy or early childhood. It increases sun sensitivity and can cause the skin to look thin, mottled, and wrinkly.

The skin histopathology that suggested a diagnosis of EB simplex and the molecular genetic testing results that supported a dystrophic type of EB were discrepant in our patient. This may have been due to the site from which the skin sample was obtained. Pathogenic variants in *COL7A1* cause a wide variety of dystrophic EB (EBD) phenotypes. The significant family history of dystrophic toenails in the mother and maternal grandfather, and occasional blisters on the feet in the mother, without other significant skin lesions, supported an autosomal dominant inheritance pattern with variable expression.

“The COL7A1 variant in our patient was located in a hotspot region of the gene associated with dominant EBD, at amino acid residues 2000-2080, in the triple helical domain of the protein. This same variant was reported as being causative in the original family described by Bart et al. in 1966 (1, 2).”

The *COL7A1* variant in our patient was located in a hotspot region of the gene associated with dominant EBD, at amino acid residues 2000-2080, in the triple helical domain of the protein. This same variant was reported as being causative in the original family described by Bart et al. in 1966 (1, 2). Bart subtype of EBD (EBD, Bart, MIM #132000) is a more severe phenotype than expressed in our patient, characterized by congenital absence of skin on the lower extremities, blistering of the skin and mucous membranes, and congenital absence or deformity of nails.

Clinical, ultrastructural, and immunohistologic findings were reported on 37 family members from the original Bart kindred (3). There was a wide variability of clinical symptoms in affected family members ranging from nail involvement only to congenital absence of skin on the lower extremities. Twenty-one family members had a congenital localized absence of skin (CLAS) with blistering of the skin or mucous membranes and nail abnormalities. Ten had blistering and nail involvement without CLAS, 3 had nail involvement only, and two had blistering only. While there was complete penetrance, there was variable expressivity. Importantly, at least two mildly affected family members (with nail involvement only) had offspring with blistering or CLAS. The same variant was also reported in a family from China with Bart syndrome in which three members presented with congenital absence of skin at birth, and one had blisters on the mucous membranes. There was complete healing with minimal scarring on follow-up (4).

These reports of severe EBD in patients with the same *COL7A1* variant as this family led us to counsel the family that future affected offspring could have a severe presentation with congenital localized loss of skin. We counseled the family that the infant's presentation appears mild, with decreasing frequency and resolution of blisters without scarring. While we do not expect him to have severe symptoms, as the mother is heterozygous for the pathogenic *COL7A1* variant, she has a 50% chance of having off-

spring with EBD, type Bart with the possibility of CLAS, and other features of this subtype.

“ While we do not expect him to have severe symptoms, as the mother is heterozygous for the pathogenic COL7A1 variant, she has a 50% chance of having offspring with EBD, type Bart with the possibility of CLAS, and other features of this subtype.”

Practical applications:

1. Dystrophic epidermolysis bullosa presents with a variable phenotype with wide intrafamilial variability. The significance of the mother’s dystrophic toenails was only appreciated after the return of the genetic test results.
2. EBD can present with mild blisters, in this case, on day of life 2. Any blisters in a newborn warrant genetic and dermatologic evaluations. The consequences of a late diagnosis could be a second and perhaps more severely affected child born to these parents.
3. Believe the clinical presentation when the presentation conflicts with dermatopathology and use genetic testing early in the evaluation. A recent retrospective review of EB by Saunderson *et al.* (2019)(5)suggested that “rapid molecular diagnostic testing can provide the precise diagnosis of EB in many cases, negating the need for skin biopsy... for less severe cases.”
4. Clinical correlation of the pathogenic variants requires a careful review of the published literature review, which is crucial in providing a recurrence risk for the family.



Figure 1: Bullous lesion on the palm of our patient:



Figure 2: Healing lesions on ankle and heel.

References:

1. Bart BJ, Gorlin RJ, Anderson VE, Lynch FW. Congenital localized absence of skin and associated abnormalities resembling epidermolysis bullosa: a new syndrome. *Arch Derm.* 93:296-304,1966.
2. Christiano AM, Bart BJ, Epstein EH Jr, Uitto J. Genetic basis of Bart’s syndrome: a glycine substitution mutation in the type VII collagen gene. *J Invest Dermatol.* 1996 Jun;106(6):1340-2. doi: 10.1111/1523-1747.ep12349293. PMID: 8752681.
3. Zelickson B, Matsumura K, Kist D, Epstein EH, Bart BJ. Bart’s Syndrome: Ultrastructure and Genetic Linkage. *Arch Dermatol.* 1995;131(6):663–668. Doi:10.1001/archderm.1995.01690180037006
4. Chen Z, Bu W, Feng S, Wang H. Bart’s syndrome in a family affected three consecutive generations with mutation c.6007G>A in COL7A1. *J Dermatol.* 2018 Aug;45(8):1000-1002. doi: 10.1111/1346-8138.14352. Epub 2018 May 3. PMID: 29722429
5. Saunderson RB, Vekic DA, Mallitt K, Mahon C, Robertson SJ, Wargon O. A retrospective cohort study evaluating the accuracy of clinical diagnosis compared with immunofluorescence and electron microscopy in children with inherited epidermolysis bullosa. *Br J Dermatol.* 2019 May;180(5):1258-1259. doi: 10.1111/bjd.17648. Epub 2019 Feb 25. PMID: 30657165.

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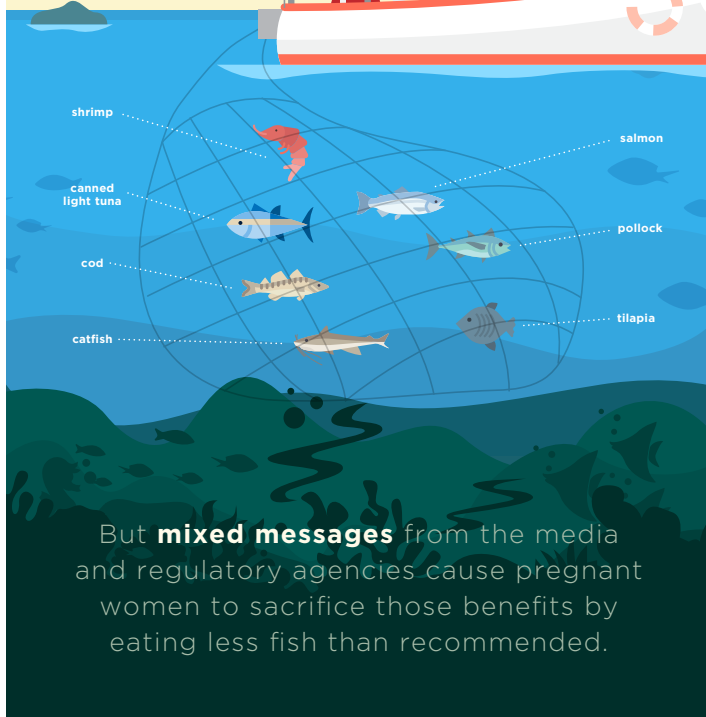
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Instead of teaching the body to create antibodies and defenses, they provide antibodies that are readily available.



Both support the immune system's defenses.

Many vaccines are readily and easily available.
The technology behind vaccines has been around for decades.

Preventive monoclonal antibodies can provide protection for diseases where there isn't an existing vaccine or there isn't an existing vaccine for certain patient groups.



Both protect against disease and provide a public health benefit by decreasing the burden of disease.

Polio
Measles
COVID-19
And more

RSV
COVID-19



Both can provide tailored protection from a variety of diseases.

Yes

Yes



Both vaccines and preventive monoclonal antibodies undergo extensive testing for safety and efficacy.

Vaccines and Preventive Monoclonal Antibodies

WHAT'S THE DIFFERENCE?

The Importance of Immunization

Vaccines and preventive monoclonal antibodies are two different types of immunization. While they function differently, they both serve the same purpose: protecting people from serious illnesses and diseases.

Different Technology, Same Protective Value



<https://www.who.int/news-room/feature-stories/detail/how-do-vaccines-work#:~:text=Vaccines%20contain%20weakened%20or%20inactive,rather%20than%20the%20antigen%20itself.>

https://static1.squarespace.com/static/5523bf7e4b0111e688e6/562445af0134140f954206/1948968910485/NCI_H_Monoclonal+Antibodies+Inclusion+in+the+VFC+Program_Position+Paper_Mar+2022.pdf

READ NPA's statement: **BLACK LIVES MATTER**

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Susan Hepworth, Mitchell Goldstein, MD, MBA, CML



2023

Associate Membership
& Event Sponsorship

NCfIH National Coalition
for Infant Health

Protecting Access for Premature Infants through Age Two

www.infanthealth.org

Introduction

Each year in the United States, parents welcome about 4 million babies to the world. The next two years of life mark a period of extraordinary growth and development – transitioning from milk to solid foods, from baby coos to first words, from shaky first steps to independent walking.

For some families, however, infants' early years are fraught with challenges. About one in every nine babies is born prematurely and, tragically, not all preemies survive. Those who do often face lifelong health challenges: visual and hearing impairments, feeding and GI complications, cerebral palsy, chronic lung disease or learning difficulties.

And early health challenges aren't limited to preemies. Jaundice and feeding issues can also plague term infants, while seasonal threats such as respiratory syncytial virus can cause problems for infants and young children alike. These experiences also pose emotional challenges for parents.

Unfortunately, access to appropriate health care may elude infants and their families. Some parents must fight for their infants to receive the medication, nutrition and level of care they need. Those who succeed may be left with yet another challenge: staggering medical bills that leave them financially strapped.

Infants are a vulnerable and voiceless population. Protecting their access to appropriate health care requires that families, advocates and health care providers unite in support of education, awareness and effective policymaking.



Dr. Susan McCune

of FDA speaks at the 2019 Infant Health Policy Summit



About the National Coalition for Infant Health

The National Coalition for Infant Health (NCfIH) is a collaborative of professional, clinical, community health and family support organizations focused on improving the lives of infants and their families. NCfIH's mission is to promote lifelong clinical, health, education and support services needed by premature infants and their families.

NCfIH promotes its mission by championing the following values:

- **SAFETY**

Products, treatments and related public policies should prioritize these fragile infants' safety.

- **ACCESS**

A patient-centered care approach to health care will ensure infants can access care tailored to their specific needs.

- **NUTRITION**

Access to safe and proper nutrition will keep all infants healthy - especially those born preterm.

- **EQUITY**

Prematurity and related complications disproportionately impact minority and economically disadvantaged families. Equitable access to care will help reduce existing disparities.

NCfIH is organized as a 501(c)4 nonprofit advocacy organization of over 200 diverse stakeholders, including professional, clinical, community health and family support organizations.

NCfIH Steering Committee members include:

- Alliance for Patient Access
- American Academy of Pediatrics
- Association of Women's Health, Obstetric and Neonatal Nurses
- Council of International Neonatal Nurses
- Expecting Health
- GLO Preemies
- Hand to Hold
- National Association of Neonatal Nurses
- National Association of Neonatal Therapists
- National Black Nurses Association
- National Perinatal Association
- NICU Parent Network
- PremieWorld

NCfIH Associate Membership

Educational Initiatives & Advocacy Programs

NCfIH sponsors educational initiatives and advocacy programs designed to encourage informed policymaking and educate on the benefits of access to optimal health care. These include:

- Conducting stakeholder policy and advocacy training workshops
- Providing media outlets with opinion editorials and comment
- Organizing stakeholder meetings with health policymakers
- Participating in policy conferences and panels
- Producing online educational resources such as infographics and videos
- Offering comment or testimony on proposed legislation and regulations
- Hosting summits, roundtable meetings, webinars and other events to highlight access barriers and policy solutions



Why Become an Associate Member

Associate members sustain NCfIH's advocacy and education efforts with their financial support, allowing NCfIH to continue fighting for policies that protect and promote infant health. Becoming an associate member allows you to:

- A** • Interact with steering committee members and broader NCfIH membership
- B** • Raise awareness among coalition membership about issues impacting infants and their families
- C** • Advise coalition leadership and membership on policy issues impacting the infant health community
- D** • Connect with academic and clinical leaders from across the country

Annual Associate Membership Levels

| | Bronze Membership (\$25,000) | Silver Membership (\$50,000) | Gold Membership (\$75,000) | Platinum Membership (\$100,000) |
|--|---------------------------------|---------------------------------|-------------------------------|------------------------------------|
| When appropriate, the opportunity to join with other associate members in participating in NCfIH sponsored programming and events. | ✓ | ✓ | ✓ | ✓ |
| Opportunity to nominate members to join NCfIH's membership. | ✓ | ✓ | ✓ | ✓ |
| Opportunity to preview draft materials and offer comments, suggestions and proposed revisions. | | ✓ | ✓ | ✓ |
| Opportunity to submit up to three questions on the annual NCfIH online membership survey. | | ✓ | ✓ | ✓ |
| Opportunity to submit an eight-question stand-alone survey to NCfIH membership. | | | | ✓ |
| Recognition as a sponsor at the 2023 Steering Committee meeting and opportunity to present an issue or policy topic. | | ✓ | ✓ | ✓ |
| Recognition as a sponsor at the 2023 Infant Health Policy Summit and opportunity to present an issue or policy topic. | | | ✓ | ✓ |

While the programming of NCfIH is financially supported by grants, donations, associate membership dues and sponsorships, the establishment of NCfIH's policy priorities, selection of its membership and production of its programming lie solely within the province of NCfIH's leadership and management.

Annual Event Sponsorships

2023 Infant Health Policy Summit

In September, the National Coalition for Infant Health will produce the 9th annual Infant Health Policy Summit in Washington, DC. The summit is designed to shed light on the core access and safety challenges facing the nation's infants and their families.



STRUCTURE: The event will commence with a speakers & sponsors' reception the evening prior to the plenary session, with the plenary featuring speakers, interactive panel presentations and agenda-setting, solutions-oriented discussions.

OUTCOMES: The summit will provide the foundation for a national strategy to guide NCfIH partners and stakeholders in educating policymakers, the media and public and promote informed decisions regarding access, safety, nutrition, and appropriate clinical care standards.

INVITEES: Invitees include NCfIH steering committee members, and approximately 100 policy-minded health care providers, patient advocates, preemie and infant support groups, and policymakers.

SPONSORSHIPS

Platinum (\$50,000)

- Receive recognition on the summit webpage and event signage
- Submit a full-page ad in the conference brochure
- 6' exhibitors table

Gold (\$25,000)

- Receive recognition on the summit webpage and event signage
- Submit a half-page ad in the conference brochure
- 6' exhibitors table

Silver (\$15,000)

- Receive recognition on the summit webpage and event signage
- 6' exhibitors table

Bronze (\$10,000)

- Receive recognition on event signage
- 6' exhibitors table

Exhibit (\$2,500)

- 6' exhibitors table

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- Recognition on buffet lunch signage

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- Recognition on continental breakfast signage

WiFi Access (\$2,000)

- Recognition on WiFi signage

Networking & Coffee Break (\$1,000)

- Recognition on networking and coffee break signage



2023 Steering Committee Meeting

In May, the NCfIH Steering Committee will convene for its annual meeting.

STRUCTURE:

The NCfIH Steering Committee meeting will feature presentations on policy and advocacy matters impacting infant health and their families.

OUTCOMES:

The meeting will provide the foundation for an updated national strategy to guide NCfIH members in educating policymakers, the media and public, and promote informed decisions regarding policy issues impacting access to approved therapies and appropriate care for infants and their families.

INVITEES:

NCfIH Steering Committee members.

SPONSORSHIPS

Platinum (\$15,000)

- Recognition on the meeting agenda, reception signage and printed materials
- Opportunity to submit four questions in the pre-meeting survey of Steering Committee members
- 15-minute time slot on the agenda to present a policy matter

Gold (\$10,000)

- Recognition on the meeting agenda and printed materials
- Opportunity to submit four questions in the pre-meeting survey of Steering Committee members

Bronze (\$5,000)

- Receive recognition on the meeting agenda and printed materials

NCfIH National Coalition
for Infant Health

Protecting Access for Premature Infants through Age Two

2020 K St NW | Suite 505
Washington, DC 20006

Contact

Contact Susan Hepworth for more information or to secure your associate membership or event sponsorship.

susan@infanthealth.org

(202) 951-7084



[InfantHealth.org](https://www.infanthealth.org)



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Loma Linda University School of Medicine
Division of Neonatology
Department of Pediatrics
Email: mgoldstein@llu.edu

National Coalition for Infant Health Values (SANE)

Safety. Premature infants are born vulnerable. Products, treatments and related public policies should prioritize these fragile infants' safety.

Access. Budget-driven health care policies should not preclude premature infants' access to preventative or necessary therapies.

Nutrition. Proper nutrition and full access to health care keep premature infants healthy after discharge from the NICU.

Equality. Prematurity and related vulnerabilities disproportionately impact minority and economically disadvantaged families. Restrictions on care and treatment should not worsen inherent disparities.

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SKIN-TO-SKIN CARE

DURING

COVID-19



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work with your medical team to create a plan

GET CLEAN
WASH YOUR HANDS, ARMS, and CHEST

with soap and water for 20+ seconds. Dry well.



PUT ON FRESH CLOTHES

change into a clean gown or shirt.

IF COVID-19 + WEAR A MASK

and ask others to hold your baby when you can't be there



National Perinatal Association

nicuawareness.org
nationalperinatal.org/NICU_Awareness
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The Signs & Symptoms of RSV

RESPIRATORY SYNCYTIAL VIRUS

Know the Signs & Symptoms of RSV



Cough



Runny Nose



Struggling to Breathe
(breastbone sinks inward when breathing)



Difficulty Eating



Lethargy



Wheezing

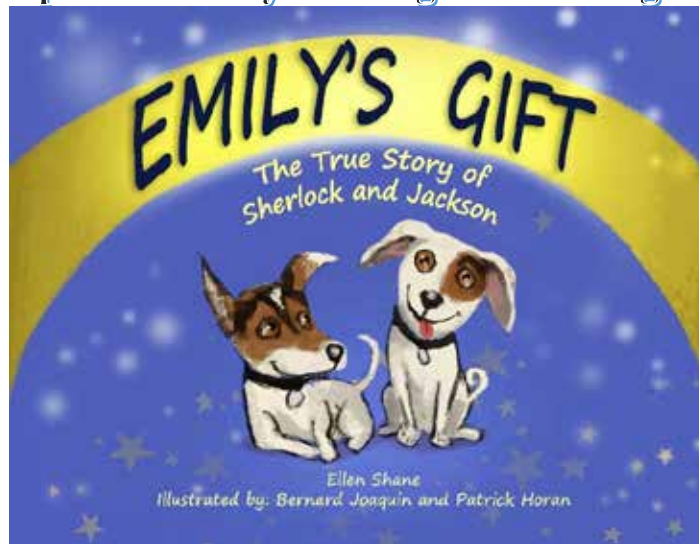
RESPIRATORY SYNCYTIAL VIRUS

is a highly contagious seasonal virus that can lead to hospitalization for some babies and young children.

Know the Signs.



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For more information, please visit emilyshane.org.

The Premie Parent's SURVIVAL GUIDE to the NICU

By

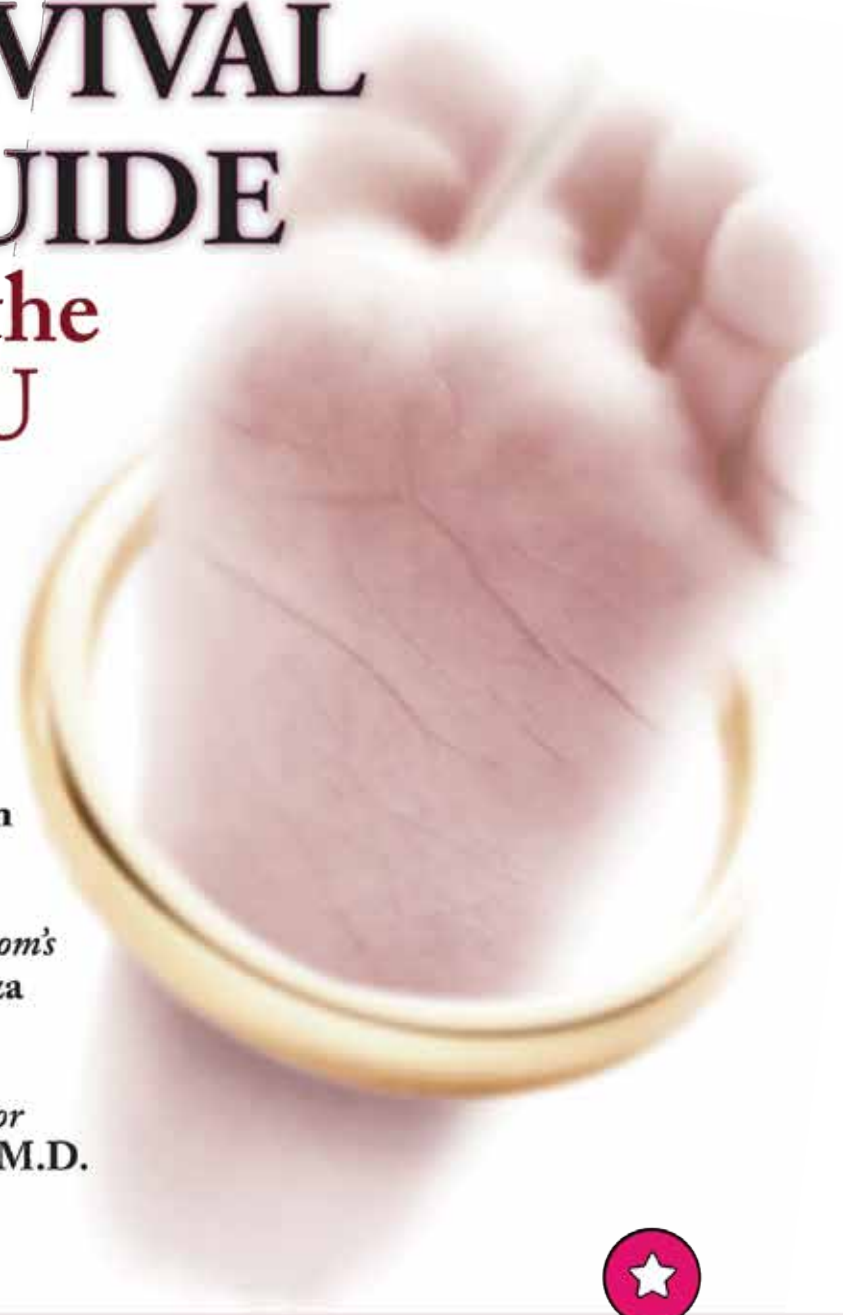
little man's
Nicole Conn

&

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with

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nationalperinatal.org/position
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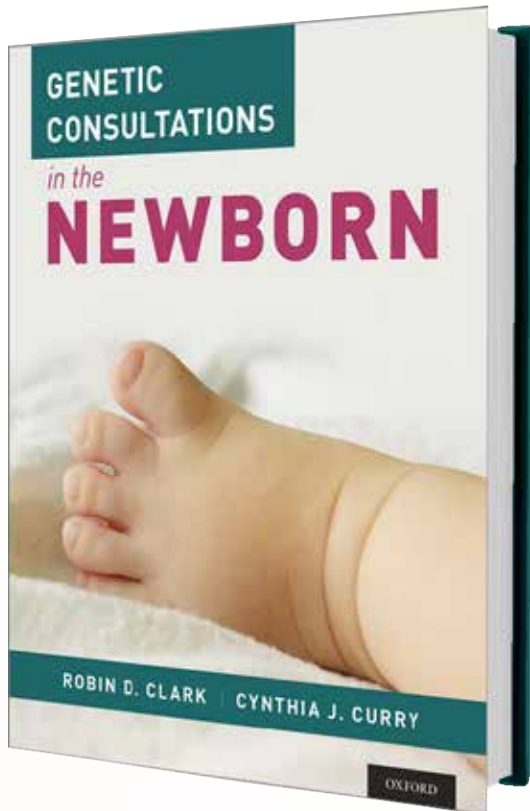


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OXFORD

Clinical Pearl: Buprenorphine versus Methadone for Opioid Use Disorder in Pregnancy

Joseph R. Hageman, MD

“Several important findings begin with the lower risk of adverse neonatal outcomes associated with buprenorphine use compared with methadone in pregnancy (1). However, the risk of adverse maternal outcomes was similar (1).”

I was impressed as I reviewed a large cohort study done in Massachusetts by Suarez and colleagues at Brigham and Women's Hospital and Harvard Medical School using national data from 2010-2018 from 2,548,372 pregnancies of pregnant women enrolled in public insurance programs using buprenorphine versus methadone for opioid use disorder (1). Several important findings begin with the lower risk of adverse neonatal outcomes associated with buprenorphine use compared with methadone in pregnancy (1). However, the risk of adverse maternal outcomes was similar (1).

“Neonatal abstinence syndrome (NAS) was seen in 52% of those infants exposed to buprenorphine in the 30 days before delivery compared to 69.2% of infants exposed to methadone in the 30 days prior to delivery (adjusted relative risk 0.73, 95% con. Int. 0.71-0.75) ”

- Neonatal abstinence syndrome (NAS) was seen in 52% of those infants exposed to buprenorphine in the 30 days before delivery compared to 69.2% of infants exposed to methadone in the 30 days prior to delivery (adjusted relative risk 0.73, 95% con. Int. 0.71-0.75) (1).
- Preterm birth in early pregnancy was seen in 14.4% of infants born to mothers exposed to buprenorphine compared to 24.9% of infants exposed to methadone (adjusted relative risk 0.58 (95% C.I. 0.53-0.62) (1).
- Severe maternal complications were seen in 3.3% of buprenorphine pregnant women compared with 3.5% metha-

done pregnant women (adjusted relative risk 0.91 with 95% confidence interval 0.74-1.13) (1).

- One other point that the authors made was that the buprenorphine mothers were felt to receive better overall care compared with the methadone mothers (1).

“One other point that the authors made was that the buprenorphine mothers were felt to receive better overall care compared with the methadone mothers (1).”

References

1. Suarez EA, Huybrechts KF, Straub S, et Al. Buprenorphine versus Methadone for Opioid Use Disorder in Pregnancy. *N E J Med* 2022; 387 (22): 2033-2044.

Disclosures: The author has no disclosures

NT

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work with your medical team to create a plan

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with soap and water for 20+ seconds. Dry well.



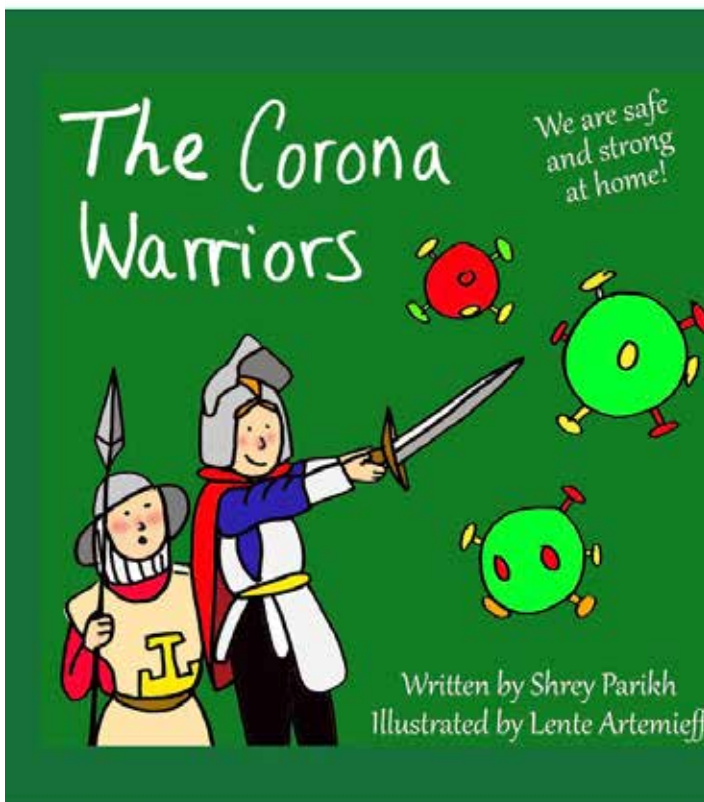
PUT ON FRESH CLOTHES

change into a clean gown or shirt.



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and ask others to hold your baby when you can't be there



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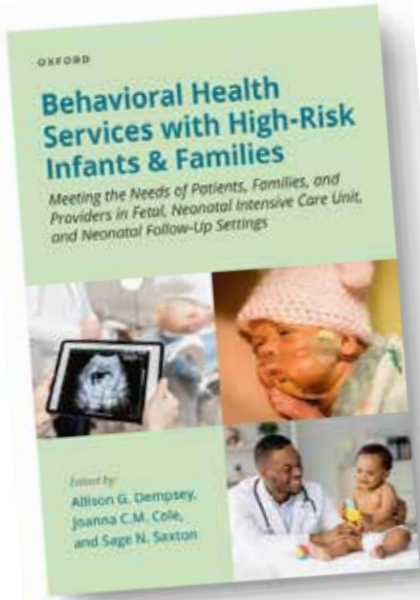
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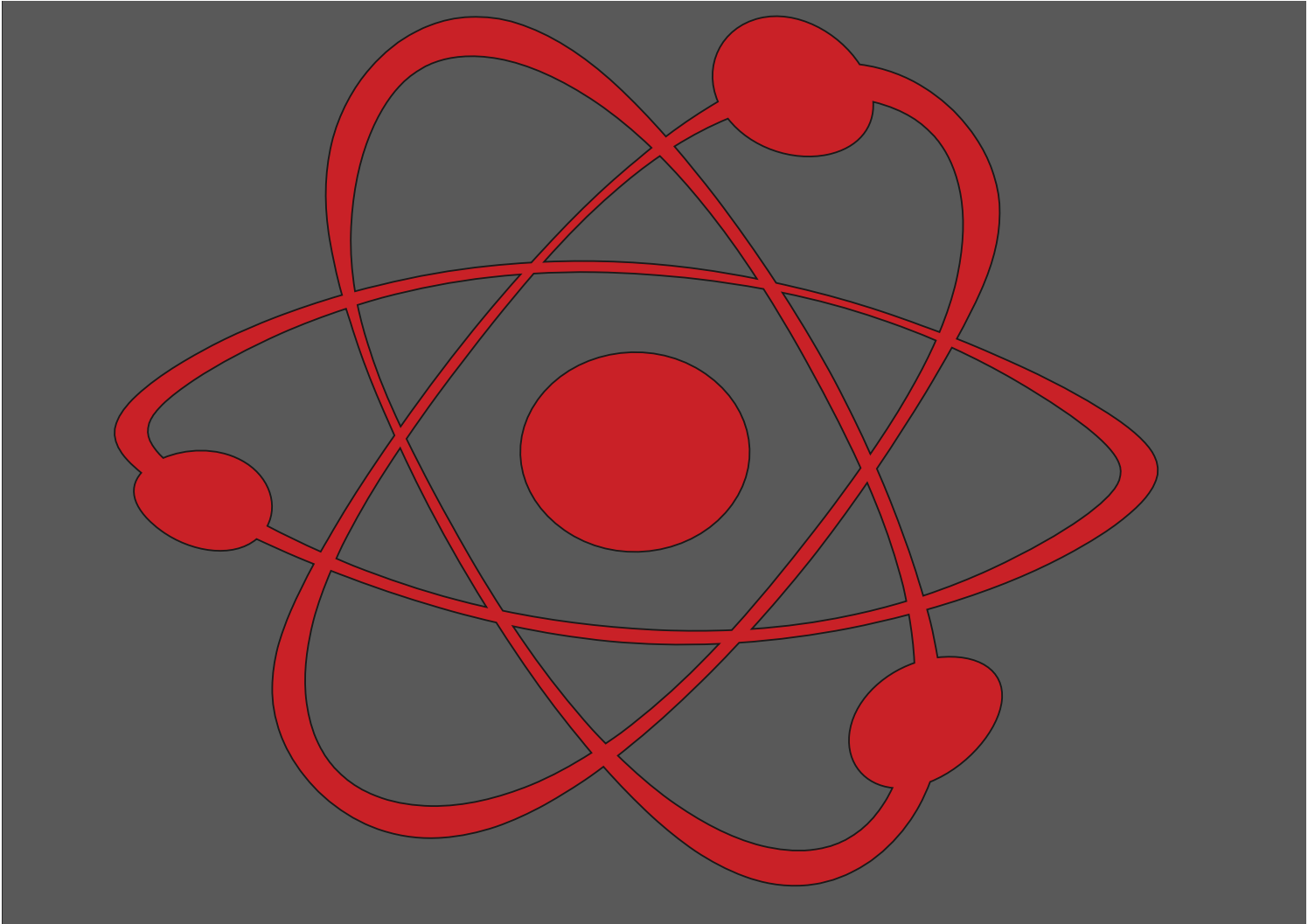
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Will your **PRETERM INFANT** need **EARLY INTERVENTION** services?

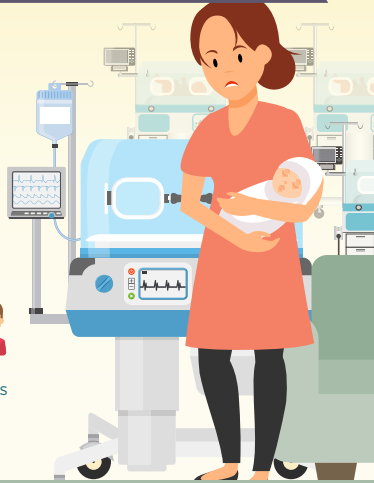
Preterm infants are:

2x more likely to have developmental delays

5x more likely to have learning challenges



1 in 3 preterm infants will require support services at school



Early intervention can help preterm infants:



Enhance language and communication skills



Build more effective learning techniques



Process social and emotional situations



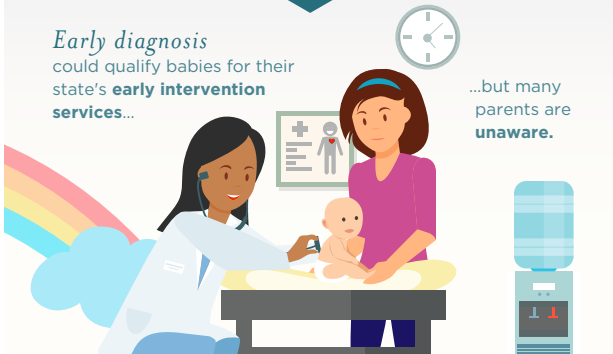
Address physical challenges



Prevent mild difficulties from developing into major problems

Early diagnosis could qualify babies for their state's **early intervention services**...

...but many parents are **unaware**.



NICU staff, nurses, pediatricians and social workers should talk with NICU families about the challenges their baby may face.

Awareness, referral & timely enrollment in early intervention programs can help **infants thrive** and grow.



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www.infanthealth.org

Visit CDC.gov to find contact information for your state's early intervention program.

Las nuevas mamás necesitan acceso a la detección y tratamiento para **LA DEPRESIÓN POSPARTO**



1 DE CADA 7 MADRES AFRONTA LA DEPRESIÓN POSPARTO, experimentando



Sin embargo, sólo el **15%** recibe tratamiento¹

LA DEPRESIÓN POSTPARTO **NO TRATADA PUEDE AFECTAR:**

El sueño, la alimentación y el comportamiento del bebé a medida que crece²



La salud de la madre

La capacidad para cuidar de un bebé y sus hermanos

PARA AYUDAR A LAS MADRES A ENFRENTAR LA DEPRESIÓN POSPARTO



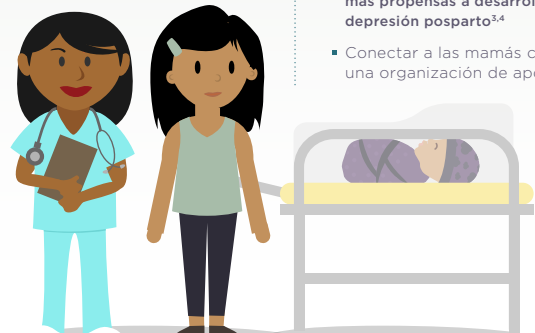
LOS ENCARGADOS DE FORMULAR POLÍTICAS PUEDEN:

- Financiar los esfuerzos de despistaje y diagnóstico
- Proteger el acceso al tratamiento



LOS HOSPITALES PUEDEN:

- Capacitar a los profesionales de la salud para proporcionar apoyo psicosocial a las familias... **Especialmente aquellas con bebés prematuros, que son 40% más propensas a desarrollar depresión posparto**^{3,4}
- Conectar a las mamás con una organización de apoyo



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¹ American Psychological Association. Accessed on: <http://www.apa.org/women/resources/reports/postpartum-depression.aspx>

² National Institute of Mental Health. Accessed on: <https://www.nimh.nih.gov/health/publications/postpartum-depression-facts/index.shtml>

³ Journal of Perinatology (2019) 35, 529–536. doi:10.1097/JP.0000000000000147

⁴ Prevalence and risk factors for postpartum depression among women with preterm and low-birth-weight infants: a systematic review. Vigod SN, Villages L, Dennis CL, Ross LE BJOG. 2010 Apr; 117(5):540-50.

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The Future is Now for Babies, Families, and Systems
Sand Key, FL
March 8-11, 2023
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Perinatal District 8 Conference
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Perinatal District 6 Conference
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Chicago, IL
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NEONATOLOGY TODAY

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Outstanding BC/BE Neonatologist Opportunities in Florida's Collier County

Nicklaus Children's Health System and Nicklaus Children's Pediatric Specialists (NCPS), the health system's physician-led multispecialty group practice, have three exceptional opportunities for board-certified or board-eligible (BC/BE) fellowship-trained neonatologists with a minimum of three years of experience (preferred) for a 19-bed Level II NICU located on Florida's Gulf Coast in Collier County.

Each position will be part of a comprehensive perinatal and neonatal program for babies in a Level II NICU. These roles present a unique and exciting opportunity for motivated candidates to flourish in a burgeoning market. Applicants should possess a passion for advocacy and improving care for all children. The BC/BE neonatologists will be responsible for attending deliveries, providing prenatal consultations to high-risk babies, resuscitating and stabilizing newborns in the delivery room, rounding on well babies, as well as provide leadership, oversight and supervision in the Level II nursery. Candidates should be proficient in newborn resuscitation, including neonatal intubation, umbilical line placement and peripheral cannulation, lumbar punctures, etc. These roles offer salaries that are competitive and commensurate with experience.

Nicklaus Children's neonatology program is consecutively ranked among the best in the nation by *U.S. News & World Report*. It was the first of its kind in South Florida and receives referrals of the most critically ill neonates from hospitals throughout Florida, Latin America and the Caribbean. The Level II NICU will be a part of the NCPS Section of Neonatology and the neonatologists will have access to the educational and professional development resources of Nicklaus Children's Health System.

Founded in 1950, the rebranded Nicklaus Children's Hospital, a 309-bed freestanding children's hospital and Level I trauma center, is renowned for excellence in all aspects of pediatric medicine and has numerous subspecialty programs that are routinely ranked among the best in the nation. It is also home to the largest pediatric teaching program in the southeastern U.S. Many of our physicians have trained or worked at other leading medical institutions. Join a phenomenal team that brings lifelong health and hope to children and their families through innovative and compassionate care.

Collier County is located on the Southwest Coast of Florida with easy access to Southwest Florida International Airport. Outdoor activities include golf, boating, fishing and beautiful beaches.

Competitive compensation and benefits package.

Qualified candidates please contact:

Joyce Berger, Physician Recruiter

joyce.berger@nicklaushealth.org or 786-624-3510

nicklauschildrens.org/NCPS

DFW

Clinical Trial Center (Full-Time, Day Shift) - Research Coordinator

The Loma Linda University Health's Clinical Trial Center is actively seeking and recruiting top clinical research coordinator talent.

Our mission is to participate in Jesus Christ's ministry, bringing health, healing, and wholeness to humanity by creating a supportive faculty practice framework that allows Loma Linda University School of Medicine physicians and surgeons to educate, conduct research, and deliver quality health care with optimum efficiency, deploying a motivated and competent workforce trained in customer service and whole-person care principles and providing safe, seamless and satisfying health care encounters for patients while upholding the highest standards of fiscal integrity and clinical ethics. Our core values are compassion, integrity, humility, excellence, justice, teamwork, and wholeness.

Able to read, write and speak with professional quality; use computer and software programs necessary to the position, e.g., Word, Excel, PowerPoint, Access; operate/troubleshoot basic office equipment required for the position. Able to relate and communicate positively, effectively, and professionally with others; provide leadership; be assertive and consistent in enforcing policies; work calmly and respond courteously when under pressure; lead, supervise, teach, and collaborate; accept direction. Able to communicate effectively in English in person, in writing, and on the telephone; think critically; work independently; perform basic math and statistical functions; manage multiple assignments; compose written material; work well under pressure; problem solve; organize and prioritize workload; recall information with accuracy; pay close attention to detail. Must have documented successful research administration experience focused on managing clinical trials function. Able to distinguish colors as necessary; hear sufficiently for general conversation in person and on the telephone; identify and distinguish various sounds associated with the workplace; see adequately to read computer screens and written documents necessary to the position. Active California Registered Nurse (RN) licensure preferred. Valid Driver's License required at time of hire.

The Clinical Trial Center is actively involved in many multi-center global pediatric trials, which span different Phases of research to advance health care in children. Please reach out to Jaclyn Lopez at 909-558-5830 or JANLopez@llu.edu with further interest. We would love to discuss the exciting research coordinator opportunities at our Clinical Trials Center.

Additional Information

- Organization: Loma Linda University Health Care
- Employee Status: Regular
- Schedule: Full-time
- Shift: Day Job
- Days of Week: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday



LOMA LINDA
UNIVERSITY



Loma Linda University Children's Hospital is hiring Neonatal Nurse Practitioners

Children's Hospital, centrally located in Southern California, has earned Magnet Recognition as part of the American Nurses Credentialing Center's (ANCC) Program.

We are looking for experienced or new graduate Neonatal Nurse Practitioners (NNPs) who are excited to join a cohesive team that practices in a collaborative, fast-paced, high-acuity setting.

- Full-time and part-time positions available
- Level IV, 84-bed Neonatal Intensive Care Unit (NICU)
- Regional referral center encompassing Tiny Baby unit, ECMO, Cardiac ICU, Neuro NICU and Surgical services
- Maternity services and delivery center
- 24/7 coverage by NNP team and Fellows
- Competitive employee benefit packages



For more information, please contact:

Karin Colunga, MSN, RN, PNP-BC
Director of Advanced Practice Nursing
kecolunga@llu.edu | 909-558-4486

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News and Information for BC/BE Neonatologists and Perinatologists



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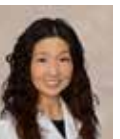
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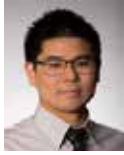
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warm water.

GET VACCINATED
for flu and pertussis.
Ask about protective
injections for RSV.



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AND SNEEZES.**
Sneeze and cough
into your elbow.

**USE AN
ALCOHOL-BASED
HAND SANITIZER.**



**STAY AWAY
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Avoid crowds.
Protect vulnerable
babies and children.

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Neonatology and the Arts

This section focuses on artistic work which is by those with an interest in Neonatology and Perinatology. The topics may be varied, but preference will be given to those works that focus on topics that are related to the fields of Neonatology, Pediatrics, and Perinatology. Contributions may include drawings, paintings, sketches, and other digital renderings. Photographs and video shorts may also be submitted. In order for the work to be considered, you must have the consent of any person whose photograph appears in the submission.

Works that have been published in another format are eligible for consideration as long as the contributor either owns the copyright or has secured copyright release prior to submission.

Logos and trademarks will usually not qualify for publication.

This month we continue to feature artistic works created by our readers on one page as well as photographs of birds on another. This month's original artwork again features Paula Whiteman, MD who submitted a Poinsettia. Our bird of the month is submitted by William Lutin, MD, PhD this month. This is a Phinizy Barred Owl on Close Snag



Mita Shah, MD,
Neonatal Intensive Care Medical Director
Queen of the Valley Campus
Emanate Health, West Covina, CA

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Manuscript Submission: Instructions to Authors

1. Manuscripts are solicited by members of the Editorial Board or may be submitted by readers or other interested parties. Neonatology Today welcomes the submission of all academic manuscripts including randomized control trials, case reports, guidelines, best practice analysis, QI/QA, conference abstracts, and other important works. All content is subject to peer review.

2. All material should be emailed to: LomaLindaPublishingCompany@gmail.com in a Microsoft Word, Open Office, or XML format for the textual material and separate files (tif, eps, jpg, gif, ai, psd, or pdf) for each figure. Preferred formats are ai, psd, or pdf. tif and jpg images should have sufficient resolution so as not to have visible pixilation for the intended dimension. In general, if acceptable for publication, submissions will be published within 3 months.

3. There is no charge for submission, publication (regardless of number of graphics and charts), use of color, or length. Published content will be freely available after publication. There is no charge for your manuscript to be published. NT does maintain a copyright of your published manuscript.

4. The title page should contain a brief title and full names of all authors, their professional degrees, their institutional affiliations, and any conflict of interest relevant to the manuscript. The principal author should be identified as the first author. Contact information for the principal author including phone number, fax number, e-mail address, and mailing address should be included.

5. A brief biographical sketch (very short paragraph) of the principal author including current position and academic titles as well as fellowship status in professional societies should be included. A picture of the principal (corresponding) author and supporting authors should be submitted if available.

6. An abstract may be submitted.

7. The main text of the article should be written in formal style using correct English. The length may be up to 10,000 words. Abbreviations which are commonplace in neonatology or in the lay literature may be used.

8. References should be included in standard "NLM" format (APA 7th may also be used). Bibliography Software should be used to facilitate formatting and to ensure that the correct formatting and abbreviations are used for references.

9. Figures should be submitted separately as individual separate electronic files. Numbered figure captions should be included in the main file after the references. Captions should be brief.

10. Only manuscripts that have not been published previously will be considered for publication except under special circumstances. Prior publication must be disclosed on submission. Published articles become the property of the Neonatology Today and may not be published, copied or reproduced elsewhere without permission from Neonatology Today.

11. NT recommends reading Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals from ICMJE prior to submission if there is any question regarding the appropriateness of a manuscript. NT follows Principles of Transparency and Best Practice in Scholarly Publishing (a joint statement by COPE, DOAJ, WAME, and OASPA). Published articles become the property of the Neonatology Today and may not be published, copied or reproduced elsewhere without permission from Neonatology Today.

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NEONATOLOGY TODAY is interested in publishing manuscripts from Neonatologists, Fellows, NNPs and those involved in caring for neonates on case studies, research results, hospital news, meeting announcements, and other pertinent topics.

Please submit your manuscript to: LomaLindaPublishingCompany@gmail.com



NICU BABY'S Bill of Rights

1- THE RIGHT TO ADVOCACY

My parents know me well. They are my voice and my best advocates. They need to be knowledgeable about my progress, medical records, and prognosis, so they celebrate my achievements and support me when things get challenging.

2- THE RIGHT TO MY PARENTS' CARE

In order to meet my unique needs, my parents need to learn about my developmental needs. Be patient with them and teach them well. Make sure hospital policies and protocols, including visiting hours and rounding, are as inclusive as possible.

3- THE RIGHT TO BOND WITH MY FAMILY

Bonding is crucial for my sleep and neuroprotection. Encourage my parents to practice skin-to-skin contact as soon as and as often as possible and to read, sing, and talk to me each time they visit.

4- THE RIGHT TO NEUROPROTECTIVE CARE

Protect me from things that startle, stress, or overwhelm me and my brain. Support things that calm me. Ensure I get as much sleep as possible. My brain is developing for the first time and faster than it ever will again. The way I am cared for today will help my brain when I grow up. Connect me with my parents for the best opportunities to help my brain develop.

5- THE RIGHT TO BE NOURISHED

Encourage my parents to feed me at the breast or by bottle, whichever way works for us both. Also, let my parents know that donor milk may be an option for me.

6- THE RIGHT TO PERSONHOOD

Address me by my name when possible, communicate with me before touching me, and if I or one of my siblings pass away while in the NICU, continue referring to us as multiples (twin/triplets/quads, and more). It is important to acknowledge our lives.

7- THE RIGHT TO CONFIDENT AND COMPETENT CARE GIVING

The NICU may be a traumatic place for my parents. Ensure that they receive tender loving care, information, education, and as many resources as possible to help educate them about my unique needs, development, diagnoses, and more.

8- THE RIGHT TO FAMILY-CENTERED CARE

Help me feel that I am a part of my own family. Teach my parents, grandparents, and siblings how to read my cues, how to care for me, and how to meet my needs. Encourage them to participate in or perform my daily care activities, such as bathing and diaper changes.

9- THE RIGHT TO HEALTHY AND SUPPORTED PARENTS

My parents may be experiencing a range of new and challenging emotions. Be patient, listen to them, and lend your support. Share information with my parents about resources such as peer-to-peer support programs, support groups, and counseling, which can help reduce PMAD, PPD, PTSD, anxiety and depression, and more.

10- THE RIGHT TO INCLUSION AND BELONGING

Celebrate my family's diversity and mine; including our religion, race, and culture. Ensure that my parents, grandparents, and siblings feel accepted and welcomed in the NICU, and respected and valued in all forms of engagement and communication.

Presented by:



NICU PARENT NETWORK

NICU Parent Network

Visit nicuparentnetwork.org to identify national, state, and local NICU family support programs.

* The information provided on the NICU Baby's Bill of Rights does not, and is not intended to, constitute legal or medical advice. Always consult with your NICU care team for all matters concerning the care of your baby.

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NANT 13 - Call for Abstracts

Presented by the National Association of Neonatal Therapists (NANT)

Conference Dates:

Main Conference: April 14-15, 2023

Pre-Conference: April 13

Location: Tucson, AZ USA*

*Barring any restrictions to the contrary, NANT 13 is scheduled to be held in-person. However, in the event such restrictions occur, the event will be hosted online including all accepted sessions/posters.

The theme for NANT 13 is *Inspiring Competence & Confidence*.

NANT and our Members aim to deliver best practices for NICU babies and parents all over the world. This advanced practice area requires a high level of competence, fueled by interprofessional collaboration and research.

Competence is not finite—it is an ongoing commitment to the pursuit of scientific knowledge and skill proficiency. We never arrive or are experts in all areas of practice. We rely on each other and use our unique professional lenses and experiences to advance the field of neonatal therapy.

We are calling upon you to share your research and clinical expertise. What can you contribute to the standard of care? How can you fill the gaps in neonatal therapy competency?

NANT intends to develop attendees' confidence to serve, lead, and implement collaboratively. We seek the right individuals, research, and tools to make that happen.

Sharing your valuable work in this internationally attended conference is a powerful way to inspire new levels of competence and confidence in this specialty.

We invite you to submit an abstract to present an oral or poster presentation at NANT 13.

[Click here](#) to submit an abstract.

Abstract Submission Deadline: Monday, August 15, 2022



Save the Date for the Second Fragile Infant
Forum for the Implementation of Standards (FIFI-S)

January 18-20, 2023

“Implementing Evidence Based Strategies to
Alleviate Stress in the Baby and Family in
Intensive Care”

For more information contact
PACLAC.org



“Storyteller” painting by Sharron Montague Loree, 1982





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