

FANNP NEWS



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The Publication of the Florida Association of Neonatal Nurse Practitioners



34th FANNP Neonatal Nurse Practitioner Symposium: Clinical Update and Review *“The only review course for NNPs, by NNPs”*

The Conference Planning Committee has been hard at work to present you with our 34th FANNP Neonatal Nurse Practitioner Symposium: Clinical Update and Review. Dates are October 10-14, 2023, and once again we will be hosting our conference in beautiful Clearwater Beach. We have lined up a phenomenal set of speakers for the Advanced (A Track) and many of our tried-and-true speakers for the Review (B Track)! We will continue to host in-person attendance as well as our virtual platform. This has been a huge success! Registration is now open! In-person attendance will be limited, so make sure to register as soon as possible.

One change for this year's conference is related to venue. We will still be hosting the conference at the amazing Sheraton Sand Key; however, they will be performing some renovations

SEE “CONFERENCE” on page 7

Effect of Direct Breastfeeding Versus Mother's Human Milk Feeding by Bottle on Preterm Infant Outcomes: A Literature Review

By Jessica Gomez, MSN, APRN, NNP-BC, IBCLC

A diet of a mother's own milk (MOM) for a preterm infant (<37 weeks gestational age) improves short- and long-term health outcomes (Meier, 2019; Pineda et al., 2020). Since many preterm infants admitted to the neonatal intensive care unit (NICU) are too ill or have not developed direct breastfeeding (DBF) abilities (Lau, 2018a), they require expressed MOM feedings to be delivered via nasal or oral gastric tube. When the infant is able, the transition from gastric feeds to DBF is fraught with difficulties, and MOM is often fed by bottle (Gianni et al., 2018). In a study of 6997 preterm infants, only 6% directly breastfed at NICU discharge, and 42% received MOM at NICU discharge (Hallowell et al., 2016). However, DBF is beneficial during NICU admission as it improves maternal-infant bonding (Karimi et al., 2019) and improves breastfeeding duration for preterm infants (Fucile et al., 2021).

Despite the potential benefits of DBF, few studies have compared outcomes of preterm infants that are directly breastfed versus infants fed MOM by bottle during NICU hospitalization. Therefore, the purpose of this review is to synthesize published research evaluating the PICO question: Do (O) outcomes through early childhood, differ for (P) preterm infants (I) who were directly breastfed during NICU hospitalization versus those (C) receiving MOM by bottle?

Methods

This review followed the PRISMA checklist to ensure transparency and thoroughness (Page et al., 2021). A literature search was completed with the assistance of an academic research librarian on January 10, 2022, in the Cochrane Database of Systematic Reviews, Embase, Ovid MEDLINE, CINAHL, and Web of Science. In addition, the bibliographies of the included studies were reviewed. Given that no previous reviews had been published and the scarcity of evidence, no date limit was placed on the search. The search was completed using keywords related to breast milk, breastfeeding, lactation, prematurity, and low birth weight.

The inclusion criteria required English language, peer-reviewed studies that addressed outcomes through early childhood related to feeding method (DBF versus MOM feeding by bottle) during NICU hospitalization for infants born premature (<37 weeks gestation). Then findings were arranged based on the concepts from the guiding conceptual model (Figure 1; Lau, 2018b); nutritional growth and development outcomes listed any anthropometric growth and development-related outcomes, and non-nutritional growth and development outcomes listed any health-related outcomes.

SEE “FEEDING” on page 4

Letter from the President

Hello FANNP members! Who else is happy to see that summer has arrived? We at FANNP want to say “Congratulations” to all our MSN/DNP graduates and future colleagues! As you prepare for your certification exam, we hope that you review the fantastic content presented by our speakers. Once you pass your boards – please share on social media and tag us in your post! You can find us on Facebook (Florida Association of Neonatal Nurse Practitioners (FANNP)), Instagram (@fannporg), Twitter (@FANNPorg) or LinkedIn (Florida Association of Neonatal Nurse Practitioners).

The 2023 registration is open! We will continue to offer our hybrid meeting with on-site, livestreaming and on-demand options for our 34th National Neonatal Nurse Practitioner Symposium: Clinical Update and Review October 10-14, 2023. There are limited spots for in-person attendance. Please register

soon so that you can join us at the beach!

There are additional important dates to mark in your calendars. The deadline for submitting an abstract for poster presentation is July 1, 2023. Our poster session is a great way to network with your colleagues at the Symposium! Check our website and additional details in this newsletter. Nominations for the Kim Nolan Spirit award are due July 15th. Click on the “Spirit Award” link at the bottom of our FANNP webpage for more information.

Did you know we have funds dedicated to supporting our nurse scholars? FANNP offers scholarships for members pursuing Master’s or Doctorate degrees. Scholarships are awarded yearly at the FANNP symposium, and these monies can be used for tuition, books, or any expenses incurred while in school. Applications for a FANNP scholarship are due by September 15th.

In addition to scholar-



Colleen Reilly Moss

ships, FANNP accepts applications for grant funds throughout the year. You can find out about these opportunities and additional information on our website. FANNP is committed to supporting neonatal nurses and nurse practitioners as they achieve their professional goals. Mentors and preceptors– please encourage a student you know to apply!

Our newsletter is designed to be a resource for you. Email your professional accomplish-

ments and awards for our Brag Board section of the newsletter to newsletter@fannp.org so that we can recognize you.

Have a great summer, and I look forward to seeing you in October!

Colleen Moss, DNP, APRN,
NNP-BC
President, FANNP



FANNP on Social Media

We would love to hear from students regarding their experience with FANNP, the conference and passing boards. Please join our Facebook account and let us know how FANNP has helped you. We will be posting short video segments called “Meet your board member”; these videos will give you insights to some of the current FANNP board members and allow you to put a name with the face for the conference and for networking possibilities.

Also be sure to follow us on Twitter and Instagram @FANNPorg. And this just in... FANNP can now be found on LinkedIn! Follow us at #fannp.

More information on all things FANNP, including valuable conference information can be found by going to our website at www.fannp.org.

There is so much valuable information here for your practice as an NNP!

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Food for Thought

A Prospective Observational Clinical Study in a 64 Bed Level IV NICU “Agreement of the Neonatal Pain, Agitation, and Sedation Scale (N-PASS) with NICU Nurses’ Assessment”

By: Alex Buck, APRN, NNP-BC

As Advanced Practice Nurses, we are always working to provide the best possible care for our patients. While caring for such a fragile patient population, whom cannot self-report pain, it is imperative that the nursing assessment of pain/agitation and sedation and medical management be an essential part of neonatal nursing care. It is necessary to have pain tools that are reliable, valid, and feasible to use. Considering there are multiple pain assessment tools, it is important that nurses are familiar and consistent with a pain scale to ensure the best management is being provided. The Neonatal Pain, Agitation, and Sedation Scale (N-PASS) and the Neonatal Infant Pain Scale (NIPS) are two similar assessment tools for scoring pain/agitation and are compared based on nursing assessment and usability. The study’s focus was to examine the clinical validity, feasibility, and utility of the N-PASS compared to the NIPS when used by bedside nurses (Benbrook et al., 2022).

The Neonatal Infant Pain Scale (NIPS):

- Originally validated in preterm and term infants with acute postoperative pain or pain associated with medical procedures (Benbrook et al., 2022). It is not validated to assess chronic pain.
- It assesses pain; however, it requires a separate tool to assess the need for sedation.
- There are six categories the NIPS assesses and quantifies to obtain a score of 0 (no pain) to 7 (pain). The categories are behavior, facial expression, breathing patterns, motor activity, state of arousal, and cry.

The Neonatal Pain, Agitation, and Sedation Scale (N-PASS):

- Developed to systematically assess pain, agitation, and sedation levels in critically ill infants with acute or ongoing pain (Benbrook et al., 2022).
- Contains two scoring scales, pain/agitation and sedation, and allows a scoring adjustment for preterm infants less than 30 weeks gestation.
- The pain score is based on five behaviors which include crying/irritability, behavior/state, facial expression, extremities/tone, and vital signs.
- The scoring scale is 0 to 10/11 depending on gestational age. The sedation score is derived of the same 5 behaviors; however, each category is scored on a 0, -1, -2 scale for a maximum score of -10,

meaning most sedated.

The association between patient characteristics and N-PASS scores as well as the agreement of bedside nursing assessment of pain and sedation while utilizing the N-PASS was examined and used to generate meaningful data to assist in decision making for management of pain and sedation. Keeping in mind, these scoring tools are beneficial for all patient populations, however, the study’s patient population included infants with at least 3 severe chronic conditions or diagnoses and have had over 30 days of ventilation support. The bedside nurse volunteers reported that the N-PASS demonstrated better clinical utility than the NIPS, particularly for use with infants who are chronically intubated and have complex medical histories (Benbrook et al., 2022). The study found that the N-PASS was valid for use in infants experiencing acute, postoperative, and prolonged pain. The N-PASS provides a systematic and consistent method to guide sedation management for critically ill infants. There was consistency found in nursing assessment and the adequacy of appropriate patient sedation and managing the need for PRN medications or increase in drip

SEE “N-PASS” on page 4

The Kim Nolan Spirit Award...

In Memory and Honor of Kim Nolan

The Kim Nolan Spirit Award is given annually to a NNP who exemplifies Kim’s exuberance and “can-do” attitude in service to profession, community, and/or family. This award is a very prestigious honor! To read more about Kim visit www.fannp.org. The deadline for nominations is July 15, 2023. The winner is announced each year at the FANNP Annual Conference.

Recipients of the Kim Nolan Spirit Award receive the following:

- Complimentary conference registration and accommodations (1 year) for the NNP Symposium in October;
- One year waiver of FANNP dues;
- Recognition at the conference, in the newsletter, and on the website;
- Certificate suitable for framing;
- Lladro porcelain figurine;
- Beautiful bouquet of flowers



Kim Nolan

N-PASS from page 3

doses. Standardizing the approach to pain and sedation assessment among bedside nurses is the best way to assure infant's pain and sedation is appropriately managed. Bedside nursing familiarity and knowledge utilizing pain assessment tools is essential for Nurse Practitioners in their decision making on how best to manage pain and sedation in critical neonates, whether that be increasing, decreasing, or maintaining current pain management. Although assessment tools can be subjective, having this knowledge is vital for NNPs in decision making and carries

a lot of weight in how we appropriately manage our critical patients. It determines how our patients progress and recover. Being open to assessing and re-evaluating current practice ensures we don't fall into the dangerous mentality of "we've always done it that way" and are continuing to tailor our management for the best patient outcomes.

Reference:

Benbrook, K., Manworren, R. C., Zuravel, R., Entler, A., Riendeau, K., Myler, C., & Ricca, P. (2022). Agreement of the neonatal pain, agitation, and sedation scale (N-pass) with Nicu Nurses' assessments. *Advances in Neonatal Care*,

23(2), 173–181. <https://doi.org/10.1097/anc.0000000000000968>

Food for Thought is a quarterly addition to the FANNP Newsletter, where we discuss trending topics of importance in the Neonatal Intensive Care setting. We would love to hear what you and your colleagues are discussing currently in your workplace, and greatly value your input. Please feel free to send any "trending topics" that you would like to hear more about to newsletter@fanmp.org. In the ever-changing world of neonatology, remaining cognizant of current practices is of vital importance to furthering our education as providers!

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Results

Study Characteristics

The initial comprehensive search of the published literature identified 2263 studies. After initial abstract review and duplicate removal, 51 were included for full-text review. In the end, 11 publications from 10 studies were included in this review. All of the included studies had an observational design and had findings related to the effects of DBF versus bottle feeding MOM on preterm infant health and growth outcomes.

Findings

Nutritional Growth and Development

Two of the included studies provided growth and development-related outcomes (Casavant et al., 2017; Guedes et al., 2015). One study found that DBF practices during NICU hospitalization improved MOM outcomes at discharge, which was associated with improved growth velocity (Casavant et al., 2017). Additionally, the physical act of breastfeeding versus MOM feeding by bottle improved the stomatognathic development, or growth of the oral and craniofacial cavities, of 5-year-old children born premature (<36 weeks gestational age; Guedes et al., 2015).

Non-Nutritional Growth and Development

Ten of the included studies provided

non-nutritional growth and development outcomes (Biagi et al., 2018; Briere et al., 2015, 2016; Casavant et al., 2015, 2017; Doyle et al., 1992; Pinchevski-Kadir et al., 2017; Pineda, 2011; Rozé et al., 2017; Smith et al., 2003). Five of the studies demonstrated improved breastfeeding outcomes related to DBF versus MOM feeding by bottle during NICU hospitalization (Briere et al., 2016; Casavant et al., 2015, 2017; Pinchevski-Kadir et al., 2017; Pineda, 2011). Improved breastfeeding outcomes were measured as longer duration of MOM feeding regardless of feeding method. Two studies found that if the first oral feeding was DBF, the infant was more likely to be receiving MOM at discharge (Casavant et al., 2015, 2017; Pineda, 2011). In addition, breastfeeding outcomes at discharge improved when the infant started practicing DBF at an earlier gestational age or if the infant was ever directly breastfed in the NICU (Pineda, 2011).

Furthermore, higher frequency of DBF during NICU hospitalization was associated with improved breastfeeding outcomes at discharge (Casavant et al., 2017), one month after discharge, four months corrected gestational age (Briere et al., 2016), and greater than six months of age (Pinchevski-Kadir et al., 2017). Moreover, higher frequency of DBF may decrease the length of stay (Briere, 2015).

In addition to breastfeeding outcomes, one study found that NICUs with high

support of DBF were associated with lower rates of necrotizing enterocolitis (NEC; Rozé et al., 2017). The study found that NICUs with less supportive or intermediately supportive unit policies for DBF was associated with a significantly higher NEC risk versus highly supportive unit policies (Rozé et al., 2017).

Additionally, Biagi et al. (2018) found evidence that the infant oral microbiome and the MOM microbiome were significantly different when feeding MOM by bottle or gastric tube than after DBF began. Indeed, the study found that once DBF was initiated, the infant's oral microbiome and the MOM microbiome shifted to be more similar to the microbiome of a healthy, term infant prototype, demonstrating a positive effect of DBF.

Finally, two of the studies followed preterm infants through eight years old to evaluate cognitive function (Doyle et al., 1992; Smith et al., 2003). Both studies found that cognitive outcomes of NICU infants who directly breastfed were superior to MOM feeding by bottle, and MOM feeding by bottle was superior to not having received MOM. However, after adjustments for socioeconomic status (SES), no significant differences were found for DBF and MOM feeding by bottle groups (Doyle et al., 1992; Smith et al., 2003).

Discussion

It is undisputed that MOM delivered by any method is the best diet for

a preterm infant (American Academy of Pediatrics, 2012). This review focused on the effects of DBF versus MOM feeding by bottle for preterm infant outcomes. The available studies varied in quality and findings. Even so, all eleven publications found a neutral or positive effect of DBF in this population. Overall, there is a paucity of recent evidence to firmly answer the review question possibly due to a lack of researchers investigating the effects of DBF versus MOM feeding, the inability to randomize, or publication bias of neutral or negative findings.

However, multiple studies have moved beyond looking for benefits of DBF and focus on interventions to improve the practice (Fucile et al., 2018, 2021; Heine et al., 2021; Jayaraman et al., 2017; Mastrup et al., 2014; Wener et al., 2021). Some provide background supporting DBF because it prolongs breastfeeding duration (Wener et al., 2021) or provides a higher amount of bioactive components (Fucile et al., 2018). Others discuss DBF interventions as if the transition from milk expression to DBF is a beneficial and obvious step in a NICU mother's breastfeeding journey (Jayaraman et al., 2017; Mastrup et al., 2014). Though it may not be a next step for all mothers, nursing support of DBF desired by the mother can strengthen the mother's caregiving concept in the guiding conceptual framework.

Low rates of DBF in the NICU may occur for many reasons. Initially, the mother must have established and maintained her milk supply until the infant can start practicing DBF (Wooldridge & Hall, 2003). If the mother has maintained her supply, the transition from gastric feeds to oral feeds for preterm infants is gradual, spanning weeks to months depending on the infant's health (Gianni et al., 2018). Therefore, if the mother wishes to directly breastfeed, she must be available in the NICU for a prolonged period. Furthermore, the low rates of DBF could be related to the misconception that the establishment of DBF versus MOM by bottle prolongs NICU hospitalization (Wener et al., 2021). Finally, nurse support for DBF varies. Nurse education

regarding the importance of promoting breastfeeding can improve DBF rates for NICU infants (Pineda et al., 2009).

Implications for Research

Frequently the focus in the NICU is to increase access to MOM feeds, with little importance placed on bottle versus DBF (Wener et al., 2021). However, understanding the effects of DBF versus MOM feeds by bottle on NICU infants' short- and long-term health outcomes needs further clarification. Additionally, it is necessary to understand any emotional and developmental benefits of DBF versus MOM feeds by bottle for the mother-infant dyad.

To better understand the dose effect on outcomes, future studies need to quantify DBF over time as preterm infants transition from gastric to oral feeds. Furthermore, identifying the route of feeding and enteral feeding type (i.e., directly breastfed versus bottle fed with MOM or formula) would aid conclusions regarding infant outcomes.

Finally, oral feeding skills are often the last milestone for preterm infants to achieve prior to discharge. Current NICU culture encourages bottle feeding so the infant can feed orally when the mother is unavailable (Wener et al., 2021). Therefore, further exploration of the effect of DBF on an infant's length of stay (Briere et al., 2015; Briere, 2015) would be an appropriate first step.

Conclusions

Direct breastfeeding in the NICU is not a common practice (Hallowell et al., 2016) but it may improve access to MOM (Briere et al., 2016; Casavant et al., 2015, 2017; Pinchevski-Kadir et al., 2017; Pineda, 2011) and these benefits are dose dependent (Meier, 2019). Additionally, based on the conceptual framework used for this review, practices that promote DBF and increase MOM supply may improve infant health, growth, and development. Overall, the studies in this review presented neutral or beneficial evidence for DBF practices in the NICU. In conclusion, in order to support NICU mothers' transition from pumping to DBF when desired, many barriers must be overcome. Advanced practice nurses in the

NICU are perfectly positioned to encourage culture change and endorse DBF as a viable option, provide early and frequent DBF opportunities, and not imply that it will delay infant discharge.

**All Feature Articles are submitted to the FANNP Scholarship Committee by FANNP members seeking to further their education. This article was edited by the newsletter editors in conjunction with the student, and with the student's permission.*

***Due to space constraints, references for this article are not listed in this publication. However, a copy of full references and the Conceptual Model (Fig. 1) may be obtained on our website or by emailing newsletter@fannp.org.*



Need CEU's? Register for the FANNP 2022 On-Demand Library

FANNP invites you to "attend" FANNP's 33rd National Neonatal Nurse Practitioner Symposium: Clinical Update and Review 2022 through the On-Demand Library.

You can view conference sessions and earn CEU credits at your convenience, in your comfy clothes.

You will have the opportunity to:

- Review current concepts, trends, and management practices appropriate for the care of the high-risk neonate.
- Access on-line handouts for download.
- Study and review for certification exams.
- Earn up to 47.5 CEU credits.

Registration for the 2022 On-Demand Library is available until August 15, 2023. Audio-visual presentations are available until September 15, 2023. Registration is available on the FANNP website.



Florida News

The Florida Coalition of Advanced Practice Nurses is an organization that is actively involved in promoting legislation that actively improves access to care by nurse practitioners. Their mission statement and recent legislative efforts can be found on their website at www.aprnadvocacy.com. The Florida 2023 Legislative Session concluded on May 5th and multiple bills have moved forward. Information on these bills, their impact on your practice, and the process of advocacy via your local Florida legislators can also be found on the Florida Coalition website.

Federal News

The Medication Access and Training Expansion (MATE) Act portion of the larger Consolidated Appropriations Act of 2023 requires that any registered DEA practitioner complete 8 hours of training “on the treatment and management of patients with opioid or other substance use disorders.” This one-time training will be a condition of receiving or renewing a DEA license and is goes into effect June 27, 2023.

From the American Association of Nurse Practitioners (AANP)- Utah becomes the 27th state with full practice authority. These changes make it possible for states to attract a retain nurse practitioners and

improve patient access to quality care.

H.R. 2713 -The Improving Care and Access to Nurses (ICAN) Act continues to be supported by multiple nursing organizations including the American Association of Nurse Anesthesiology (AANA), American Nurses Association (ANA), and AANP. This bill was reintroduced in April 2023 after failing to pass in the last congressional session of 2022. This bill would improve care for millions of Americans by removing legislative barriers that have prevented APRNs from maximizing their ability to meet patient needs. From a statement from AANP President, April Kapu, “We urge Congress to pass this important legislation... These common-sense updates to the Medicare and Medicaid programs will better reflect the current healthcare workforce and ensure patients continue to receive the high-quality healthcare they need and deserve.” Nearly 90 physician groups, including the American Medical Association (AMA) have opposed the bill.

You can use your voice to support and influence legislation that promotes nurse practitioners as quality care providers to improve overall health and well-being, as well as facilitating patient access to care. Use the links at <https://www.votervoice.net/AANP/1/home>, to let your voice be heard.

References:

Get started!. FLORIDA COALITION OF ADVANCED PRACTICE NURSES. (n.d.). <http://www.aprnadvocacy.com/get-started>

AANP supports U.S. House legislation strengthening patient access to health care. American Association of Nurse Practitioners. (n.d.-a). <https://www.aanp.org/news-feed/utahs-new-law-will-improve-patients-health-care-access>

Utah's new law will improve patients' health care access. American Association of Nurse Practitioners. (n.d.-b). <https://www.aanp.org/news-feed/utahs-new-law-will-improve-patients-health-care-access>

Federal advocacy. American Association of Nurse Practitioners. (n.d.-b). <https://www.aanp.org/advocacy/federal>
Sullivan, T. (2023, February 15). Mate act becomes law: Dea Healthcare Provider

License holders required to complete 8 hours of education on opioid treatment. Policy & Medicine. <https://www.policymed.com/2023/01/mate-act-becomes-law-dea-prescriber-license-holders-required-to-complete-8-hours-of-education-on-opioid-treatment.html>



Registration is open for FANNP's 34th National NNP Symposium: Clinical Update and Review

October 10-14, 2023

at the Sheraton Sand Key Resort, Clearwater Beach, FL

FANNP leadership has planned a learning opportunity with multiple options for attendance:

- Limited on-site attendance (first come, first served).
- Virtual content for those unable to travel or wishing to stream from home.
- After conference “On-Demand” Library to view sessions for review or CEU credits.

We will be offering both the Advanced Track and Review Track with networking opportunities at the same pricing as 2022.

Visit the FANNP website (www.FANNP.org) to download the brochure and register.

Whether you are on-site or streaming, you will be able to access the on-demand feature after the conference is over to access the content you didn't attend during the live event, with the possibility of almost double the CEU's! A real bargain!

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which will affect the number of rooms available. We have arranged a block of rooms at The Sheraton's sister hotel, The Marriott, conveniently located just across the street. More information will be available online at www.fannp.org and via the mailed conference brochure. The room rates will remain the same discounted conference rate as the Sheraton Sand Key.

In addition to the review and lecture content, you will have amazing opportunities to connect with your peers, network with other NNPs and mentors, and have plenty of time for FUN! Be sure to join us for the poolside Welcome Reception, Beach Party, Poster Presentation Session, and FANNP Annual Business Brunch. You also won't want to miss the many raffles and networking opportunities provided by our amazing conference exhibitors and sponsors.

Happy summer and looking forward to seeing you all again in the fall!

*Mary Kraus, MSN, NNP-BC
FANNP Conference Chair*



Join us for Casino Night at the annual FANNP Beach Party on October 11, 7-10 pm!

Place your bets on a magical night of fun under the stars with your friends, family, and colleagues. Feel free to wear your glitziest casino attire (encouraged, not required) for a night of great fun and relaxation! There will be delicious food, dancing to the DJ, games, photo booth, and a cash bar. You won't need Lady Luck tonight, as we guarantee you'll have a fabulous time! The event costs \$35 for conference registrants and \$40 for guests.

Sign up option available with conference registration.

Pocket Notebook

Submitted by Sekinah Ajiboye, CRNP, NNP-BC

Tetralogy of Fallot

Definition:

- Cyanotic congenital heart disease consisting of 1. Right ventricular hypertrophy 2. Ventricular Septal Defect (VSD) 3. Aorta overriding both ventricles 4. Pulmonary stenosis

Etiology:

- Multifactorial: untreated and uncontrolled maternal Diabetes Mellitus, phenylketonuria, chromosomal mutations, high maternal intake of retinoic acid (Diaz-Frias & Guillame, 2022). Can also be associated with genetic syndromes e.g., DiGeorge syndrome, Alagille syndrome

Physical exam findings and assessment

- Cyanosis and desaturations, normal S1 and loud S2, harsh systolic ejection murmur in the left to mid upper sternal border that radiates posteriorly

“Tet spells”: an increase in pulmonary vascular resistance and/or a decrease in systemic vascular resistance leads to right to left shunting across the VSD, causing significant cyanosis, hypoxia, and desaturations. Treatment (aimed to either decrease PVR or increase SVR): Sedation (morphine), oxygen, knee to chest maneuver

- CXR: Boot shaped heart; EKG: Right atrial enlargement and RVH
- Gold standard imaging: echocardiogram

Differential Diagnosis

- Cyanotic heart defects (transposition of the great arteries with intact ventricular septum, Ebstein anomaly, double outlet right ventricle), total anomalous pulmonary venous return, hypoplastic left heart syndrome, truncus arteriosus (Diaz-Frias & Guillame, 2022).

- Pneumonia, pneumothorax, bronchiolitis

Treatment and management

- Prostaglandins may be indicated if there is severe pulmonary stenosis for ductal patency to provide pulmonary blood flow postnatally

- Surgical management (usually performed within the first 12 months of life - timing depends on the severity of cyanosis and other symptoms)

- I. Blalock-Taussig shunt: a shunt is created between a systemic artery (such as the left subclavian artery) and the pulmonary artery to increase pulmonary blood flow
- II. VSD repair and transannular patch on pulmonary artery to widen the pulmonary artery

Reference

Diaz-Frias, J., Guillame, M. (2022). Tetralogy of Fallot. Pubmed; StatPearls Publishing. <https://www.ncbi.nlm.nih.gov/books/NBK513288/>

Brag Board



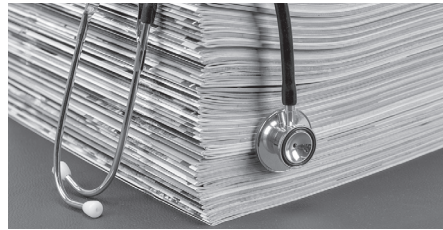
On April 19, **Dr. Terri Marin** was recognized as a Distinguished Alumni by Stony Brook University School of Nursing. Per her nomination: “Dr. Terri Marin graduated Stony Brook University in 2002 from the Neonatal Nurse Practitioner program. Since Dr. Marin graduated from Stony Brook’s neonatal nurse practitioner program in 2002, she earned her PhD in Nursing from Emory University in 2012. She has become a respected, grant funded researcher in the use of near-infrared spectroscopy in neonatal renal injury and gut oxygenation. Dr. Marin is one of a few neonatal nurse researchers in the country. She is well published, a national speaker and is the editor of the neonatal section of the Journal of Perinatal and Neonatal Nursing. Dr. Marin was recently tenured as an Associate Professor at Augusta University College of Nursing.” Congratulations Dr. Marin on receiving this distinguished award!

Stephen Stoeber DNP, NNP-BC has been named Nurse Practitioner Program Director for Morgan Stanley Children’s Hospital at NY Presbyterian.

Jessica Jones graduated with her DNP from the University of Florida. She has accepted a position as a clinical assistant professor at Baylor SON. She will be teaching in the online DNP program; neonatal and general courses. We are excited that she will also be joining the FANNP conference planning committee!

Recent publications by our FANNP members:

Ramirez, L., Mohamed, R., Marin, T., Brands, M., Snyder, E., Sullivan, J. (2023). Perinatal intermittent



hypoxia increases early susceptibility to Ang II-induced hypertension in adult male, but not female Sprague Dawley rats. *American Journal of Physiology: Renal Physiology*. PMID: 36951371. doi: 10.1152/ajprenal.00308.2022 [Online ahead of print].

Marin, T., Dowell, S., Wright, K., Mansuri, A., Mann, P.C. (2023). Late-onset hyponatremia in premature infants. *Journal of Perinatal and Neonatal Nursing*. [Online ahead of print].

Marin, T., Ghosh, S., Mansuri, A., Mundy, C., Cockfield, C., Sullivan, J., Stansfield, BK. (2023). Routine diaper changes affect renal oxygenation in premature infants: a non-a priori analysis. *Advances in Neonatal Care*. [Online ahead of print].

Savin, M., Bordelon, C., Moss, C., & Baker, L. (2023). Using active learning to evaluate student competency beyond clinical skills. *The Journal for Nurse Practitioners*, 19. <https://doi.org/10.1016/j.nurpra.2023.104596>

Do you have a colleague, mentor, or student that you’d like to recognize for the Brag Board section of the newsletter? Or maybe you’re the one doing some amazing work in the neonatal realm! Brag about it! Please email newsletter@fannp.org to share these accomplishments.

EDUCATIONAL OFFERINGS

Florida Association of Nurse Practitioners Annual Conference
July 15-16, 2023
Jacksonville, FL
<https://aprnadvocacy.com>

ANN National Neonatal & Advanced Practice Neonatal Nurses Conference
10th Annual Symposium for Nurse Leaders
September 6-9, 2023
Las Vegas, NV
conferenceinfo@academyofneonatalnursing.org

NANN 39th Annual Conference
Sept. 26-28, 2023
Anaheim, CA
www.nann.org

11th Annual Fall Conference on Current Concepts in Neonatal Care (Symposia Medicus)
Oct 4-7, 2023
Napa, CA
<https://www.emedevents.com>

The 34th FANNP Neonatal Nurse Practitioner Symposium: Clinical Update and Review
October 10-14, 2023
Sheraton Sand Key
Clearwater Beach, FL
www.fannp.org



Miami Neonatology Conference
November 13-15, 2023
Miami, FL
<https://med.miami.edu>

MUSC Neonatal Pharmacology Conference
November 13-15, 2023
Charleston, SC
<https://medicine.musc.edu>

Hot Topics in Neonatology
December 11-13, 2023
National Harbor, MD
www.hottopicinneonatology.org

Bring it On Answers (Questions on page 12)

1. B – Prerenal AKI is caused by inadequate renal perfusion. The most common causes are hypotension and renal hypoperfusion.
2. B – Clef lip and/or palate is associated with many syndromes but can occur in isolation. Pierre Robin sequence is characterized by a U-shaped palatal cleft, micrognathia and glossoptosis.
3. C – Ureteropelvic junction obstruction is more common in males and the most common cause of congenital hydro-nephrosis. The anomaly impedes urine flow from the renal pelvis into the proximal ureter.

References:

- McEwen, S.T. & Vogt, B.A. (2020). The kidney. In A.A. Fanaroff & J.M. Fanaroff (Eds.), *Klaus & Fanaroff's Care of the High-Risk Neonate* (7th ed., pp. 333-351).
- McCandless, S.E., & Kripps, K.A. (2020). Genetics, Inborn Errors of Metabolism, and Newborn Screening. In A.A. Fanaroff & J.M. Fanaroff (Eds.), *Klaus & Fanaroff's Care of the High-Risk Neonate* (7th ed., pp. 121-147).

2023 FANNP Dates to Remember

FANNP Grant.....	Ongoing
Poster Presentation Abstracts.....	July 1
Kim Nolan Spirit Award.....	July 15
FANNP Scholarship.....	September 15
Conference On-Demand Library.....	September 15
National Neonatal Nurses Week*.....	Sept. 11-17
FANNP Neonatal Nurse Practitioner Symposium: Clinical Update and Review*	Oct. 10-14
Nurse Practitioner Week*.....	Nov. 12-18

**Dates change annually*

Newsletter Submission Calendar

Edition	Month	Article Submission Deadline	Publish Date
Spring 2023		02/11/23	03/11/23
Summer 2023		05/13/23	06/10/23
Fall 2023		08/12/23	09/09/23
Winter 2023		11/11/23	12/09/23

In addition to the core components of the newsletter, we would love to hear what you have to say! Please send in anything you would like to see added to the newsletter, whether it is an interesting article, a hot topic in the neonatal world, or even a shout out regarding a fellow FANNP member who is doing awesome things! We want to hear from you! Please submit following the above guidelines to newsletter@fannp.org.

reminder

Apply for a FANNP Scholarship Today

Applications for the 2023 FANNP Scholarships will be accepted until September 15, 2023. Scholarships will be awarded at the Annual FANNP Business Meeting on October 12, 2023.

FANNP wants to help students pursuing a degree in neonatal health care. FANNP provides scholarships of \$1000 - \$2000. Take advantage of these funds and don't leave education money on the table. Scholarship monies can be used for tuition, books or any expenses incurred while in school.

Educators, preceptors, and mentors encourage students to become FANNP members and apply for scholarships.

Please see the scholarship eligibility guidelines in the newsletter or on the FANNP website and contact scholarships@fannp.org for an application.



FANNP Scholarship Application 2023 Eligibility Guidelines

1. Applicants must be FANNP members.
 - a. All voting members, student members and associate members are eligible.
 - b. Priority for scholarship awards will be given to voting members, followed by student members and then associate members.
 - c. Priority for scholarship awards will be based on length of membership and service to FANNP.
2. Applicants must be a licensed RN, ARNP, NNP or equivalent.
 - a. Preference will be given to currently licensed NNPs working towards an advanced NNP degree.
3. Applicants must attend an educational program leading to a degree related to the health care field during the application period.
 - a. The application period for the 2023 Scholarship is September 15, 2022 to September 15, 2023 (i.e. to be eligible for a 2023 Scholarship you must have attended classes sometime between September 15, 2022 and September 15, 2023).
 - b. An applicant may receive a maximum of two scholarship awards for each degree sought.
4. Applicants will provide a short article, case study, practice pointer, evidenced-based practice update or literature review to be published in the FANNP Newsletter.

A few pictures of Bob from over the many years at FANNP Conferences. A true testament to his "larger than life" personality!



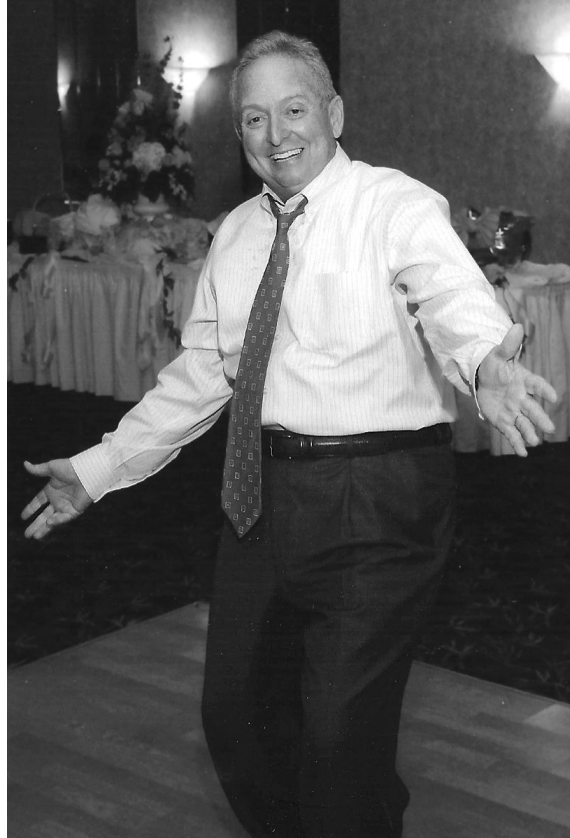
FANNP Has Established the Robert "Bob" Rogers Poster Session Grant Fund

In February 2023 FANNP lost a good friend and supporter.

Jacqui Hoffman's husband Bob Rogers was an honorary social host and greeter at FANNP Conferences. He attended our social gatherings and loved to meet student NNPs from all over the country to hear their stories. Bob would tell them jokes and offer words of encouragement.

At the time of his death, Bob honored FANNP and requested in lieu of flowers, contributions be made to FANNP to support students attending the FANNP Conferences. FANNP has established a grant fund in his name to support NNP students presenting at or attending the Poster Session at our annual conference.

Please consider contributing to this fund using the link found on the FANNP website.



"He was larger than life." – Jacqui Hoffman



FANNP's National Neonatal Nurse Practitioner Symposium: Clinical Update and Review, 2023

POSTER & PODIUM PRESENTATION CALL FOR SUBMISSIONS

**SUBMISSION DEADLINE:
July 1, 2023**

FANNP is seeking abstracts for posters and podium presentations for the annual FANNP's National Neonatal Nurse Practitioner Symposium October 10-14, 2023. The planning committee invites submissions by members and non-members and participation is open to health professionals whose specialty has a focus on the neonatal population (this includes but is not limited to NNPs, RNs, Clinical Nurse Specialists, & Neonatologists).

Those accepted will have the opportunity to participate in a Podium and Poster Presentation Workshop. The workshop discusses the necessary elements for abstract development, the process for virtual poster development, how to prepare a virtual poster PowerPoint presentation and how to create an effective podium presentation. Consider sharing your knowledge and experience with others. Additionally, a Poster Presentation looks great on your resume and can make you shine brighter at your next performance review.

We invite colleagues to share their expertise in one of the following categories:

- Original Research
- Innovations in Practice or Education

- Patient Safety
- Quality Improvement and Benchmarking Initiatives
- Case Studies

More information is available at FANNP.org.


You may also email Dr. Humphries at jennhumphriesdnp@gmail.com

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Sobi, Inc. is an international biopharmaceutical company dedicated to rare diseases, with a focus in immunology, hemophilia, inflammatory, genetic, and metabolic diseases. Respiratory syncytial virus (RSV) is a leading cause of hospitalization in infants aged <1 year. High-risk populations include infants and children who are born prematurely and those with chronic lung disease or congenital heart disease. RSV hospitalizations in preterm infants have been increasing since 2014 and often result in ICU admission and the need for mechanical ventilation.

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Calling for Research Proposals... FANNP Grants Available

Each year FANNP sets aside funds for the support of research projects. Applications for funding are reviewed by the Research Committee. The Research Committee makes recommendations to the Board of Directors on proposals received. Members of the Research Committee are appointed by the Board of Directors. The grant application period is rolling—there is no deadline for grant submission. Grants will be awarded within six weeks following submission, based on the Research committee and BOD decision.

For more information, please email Terri Marin, Research Chair at grants@fannp.org or visit www.fannp.org.



*Bring
it on...*

Practice Questions to Prepare for the NNP Certification Exam

1. A 34-week infant is hypotensive with decreased urine output and a creatinine of 1.2 mg/dl. The most likely cause of the infant's renal failure is:
 - A) Acute tubular necrosis
 - B) Prerenal failure
 - C) Postrenal failure
2. You are called to assess an infant with micrognathia and cleft palate. The infant likely has:
 - A) CHARGE syndrome
 - B) Pierre Robin sequence
 - C) Potter sequence
3. A term male infant has not voided since birth. His creatinine is 1.4mg/dl on DOL 1. He has no masses on his abdominal exam. What is the likely cause of his renal failure?
 - A) Polycystic kidney disease
 - B) Renal artery thrombosis
 - C) Ureteropelvic junction obstruction

Answers on page 9

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