

# FANNP NEWS



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The Publication of the Florida Association of Neonatal Nurse Practitioners



## “Remember your WHY!”

*Pamela Royal, DNP, APRN, NNP-BC, IBCLC*

“The heart of human excellence often begins to beat when you discover a pursuit that absorbs you, frees you, challenges you, or gives you a sense of meaning, joy, or passion” -*Terry Orlick*

My introduction to the world of healthcare came with the birth of my daughter, Taylor. She was born with Down syndrome and a congenital heart defect. I was only twenty-two years old at the time she was born and had no knowledge of her heart defect nor the fact that she had Down syndrome. Initially, I folded under the notion of the responsibility before me. Quickly after her diagnosis, however, I began advocating for and coordinating care for her many health issues that would

continue until her death at the age of nine years old. I had no idea the amount of strength, courage, and grit I would need to be her advocate. Taylor’s birth, life, and passing taught me so much about myself and how to provide compassionate care even when I didn’t feel the most confident in myself. I was being groomed for so many roles I would play in life, from motherhood, wife, nurse, caregiver, and more.

When I became a registered

SEE “REMEMBER” on page 5

## Conference Update

The Conference Planning Committee with BOD support, have made once again, a very hard decision and will continue with the hybrid conference as was originally planned earlier this year. We are sure many of you may be anxious about traveling as we watch the number of COVID cases rise, related to the highly contagious Delta variant, especially in the unvaccinated population. We have met with the Sheraton Sand Key, the conference hotel, discussing their guidelines to ensure that CDC guidelines are being followed. Their guidelines are as follows:

- all employees must be masked,
- housekeepers will only enter the room every 3 days,
- tight contact tracing (both employees as well as potential guests),
- continue social distancing (unfortunately this has required closure of the Island Grill Cafe and blocking every other piece of equipment in the gym).

We know that many return

SEE “CONFERENCE” on page 5

## Letter from the President

I hope everyone had a fun summer filled with sun, fun, and family...and not too much work. Our volunteers have been diligently working to organize our 32nd Annual FANNP Symposium and Review at the beautiful Sheraton Sand Key Resort in Clearwater, Florida scheduled for October 12-16, 2021. Although the pandemic has put a crimp in our style, we are still planning to offer a hybrid-style conference. This means we have limited in-person attendance, which will be socially distanced for your protection. Other options for attendance are "live" virtually from home and/or via the On-Demand Library to view sessions at your convenience to review for certification exams. Since we are offering both Track A (experienced NNPs) and Track B (student NNPs), you will have the ability to obtain almost double the CMEs by taking advantage of all these options. I hope you have all registered by now! If you have not, be sure to register ASAP to secure your spot.

Things will look a bit different on site, but we are working hard on the



course content that you have come to know. We will be adjusting schedules and events due to Covid, so please be patient with us as we plan. Look for updates on social media (@fannporg on Facebook, Twitter and Instagram). Our website [fannp.org](http://fannp.org) has up to date conference information as well. Conference events include Welcome Reception October 12th, FANNP Annual Membership Business Meeting and Brunch October 14th, and Poster Session Presentations the evening of October

14th. We have decided to forego the Beach Party this year to ensure the health of our attendees, but don't be misled...we will still have ample time for fun!

We cannot wait to see you in October and attempt to get back to some sort of normalcy amid all this chaos. Everyone stay safe! If you have any questions, please feel free to contact me at [president@fannp.org](mailto:president@fannp.org). We are always here for you.

*Gayla Kaye-Steed, NNP-BC, APRN  
President, FANNP*



### 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.

Please visit [www.fannp.org](http://www.fannp.org) for more details

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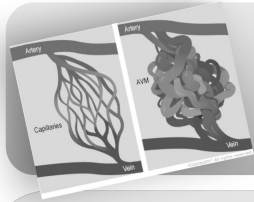
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# Rare Presentation of Hepatic Arteriovenous Malformation

Poster Abstract by Corrine O'Connell, BSN, RN, RNC



## Rare Presentation of Hepatic Arteriovenous Malformation

Corinne O'Connell BSN, RNC, NNP Student at University of Connecticut  
Supervision team: Michele Beaulieu DNP, APRN, NNP

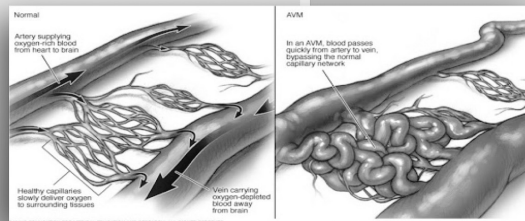
**Introduction:** Hepatic arteriovenous malformations (HAVM) are defects in the hepatic vascular system due to no capillary connection, creating a direct association between arteries and veins. Early diagnosis of this rare condition may prevent serious complications.

### History of Present Illness:

A 40+1 week old boy born to a G2P1 mother developed respiratory distress on NB day of life. PE revealed hyper-dynamic precordium, bounding femoral pulses, and bruits heard in the right quadrant of the abdomen.

### Images & Studies:

- X-ray: Cardiomegaly, increased pulmonary vascular markings
- Echocardiogram: Significant pulmonary hypertension, moderate PFO, small PDA with bidirectional shunting
- Right heart dilation, hyperkinetic ventricular function, and abnormal continuous flow pattern in the hepatic vasculature
- Liver ultrasound: Two to three hepatic arteriovenous malformations



**Discussion:** This case illustrates a rare, yet potentially dangerous diagnosis that can present with symptoms as simple as respiratory distress. Arteriovenous malformations

may be diagnosed in utero with a prenatal ultrasound. Early intervention can potentially limit life threatening sequelae.

### Family & Social History:

- Maternal: 26 y/o, received prenatal care, delivered at hospital different from OB, Spanish only, denies smoking, drug or alcohol, otherwise unremarkable
- Paternal: Unremarkable

### Hospital Course:

- Full-term, Apgar 9/9, 3.042 kg, initial PE unremarkable
- 15 hours of age: tachypnea, retractions, abnormal blood gas, pulse oximeter 80's%, oxygen requirements
- Beta-blockers, diuretics, transarterial embolization

### Arteriovenous Malformations

- Rare defects in vascular system
- Entanglement of arteries connected to veins without capillaries= direct association
- No capillaries= rapid blood flow, causing high-output cardiac failure, cyanosis, stroke
- Any part of body
- Uncomplicated pregnancies, no known teratogens
- Most are sporadic after conception, 5% autosomal dominant inheritance of genetic mutation

#### Embryologic development:

- AVM are primitive structures
- 3rd week-->vessel formation
- Defects in vessel pathway
- 4th week-->liver vasculature susceptible

#### Management after birth:

- Supportive measures
- Beta-blockers, digoxin, diuretics
- Coil embolization, surgical resection
- 50%-90% mortality

### Literature Cited:

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- Moore, K.L., Persaud, V.N., & Torck, M. G. (2019). *The Developing Human: Clinically Oriented Embryology* 11th Edition. Saunders.
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- Czyzy, U., Kurba, I., Aylekin, C. et al. Coil embolization of a congenital intrahepatic arterioportal shunt: increasing experience in management. *Pediatric Radiol* 38, 1253–1256 (2008)
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- Wassel, M., Wei, F., Adams, D., Alomar, A., Basaglia, E., Berenstein, A., Burrows, P., Frieden, I., Garzon, M., Lopez-Castillo, J., Lord, D., Morici, S., Pineda, J., Pinedo, J., and Viskochil, M. (2015). *Vascular Anomalies Classification: Recommendations From the International Society for the Study of Vascular Anomalies*. *Official Journal of the American Academy of Pediatrics*, 136(1) e203-e214.
- AVM Image:  
<https://kidshealth.org/en/parents/arteriovenous-malformations.html>  
<https://www.medicines.org/medicines/conditions/brain-arteriovenous-malformations-cause/2035290>

**Background:** Hepatic arteriovenous malformations (HAVM) are defects in the hepatic vascular system with no capillary connection, creating a direct association between arteries and veins. Early diagnosis of this rare condition may prevent serious complications.

**Case Summary:** This is a case presentation of a full-term male presenting at 15 hours of age with tachypnea, mild intercostal retractions, and a pre and post ductal pulse oximeter readings in the upper 80 percentile. The chest X-ray showed marked cardiomegaly and increased pulmonary vascular markings. A hyper dynamic precordium was apparent, bounding femoral pulses were felt, and bruits were heard in the right quadrant of the abdomen. An echocardiogram revealed significant pulmonary hypertension, moderate PFO and a small PDA with bidirectional shunting, right heart dilation, hyperkinetic ventricular function, and abnormal continuous flow pattern in the hepatic vasculature. A liver ultrasound revealed two

to three hepatic arteriovenous malformations. Treatment included supportive measures to manage respiratory distress, beta-blockers and potassium sparing diuretics to treat congestive heart failure, and transarterial embolization.

**Conclusion:** Hepatic arteriovenous malformations is an extremely rare condition that can initially present as respiratory distress in the neonate. It is important to consider the possibility of HAVM when infants present with signs of respiratory distress, hypoxemia, cardiomegaly, hyper dynamic precordium, and bounding pulses as early intervention can potentially limit life threatening sequelae.

*\*Abstracts for poster and podium presentations are submitted to the FANNP Planning Committee by FANNP members seeking to share their expertise on a topic pertinent to neonatology. This abstract was submitted to FANNP for use with the author's permission.*



# 2020 NNP Workforce Survey

Submitted by Christa Smith, MSN, APRN, NNP-BC

The National Association of Neonatal Nurse Practitioners (NANNP), in partnership with National Certification Corporation (NCC) invited current NNPs to participate in a survey regarding compensation, workplace environment, and overall job satisfaction. The survey was sent to 6558 board certified NNPs in March 2020, with 845 respondents. Below are some of the key findings:

- NNPs accounted for just over 2% of the estimated 325,000 licensed NPs in the US
- 87% practice in a Level III or Level IV NICU, at 46% and 41% respectively
- Salary for early career NNPs averaged \$109,000 with experienced NNPs (>30 years) earning an average of \$134,000
- NNPs with a doctoral degree earned \$7,000 more than average salary; NNPs in administrative roles earned approximately \$9,000 more than average salary
- NNPs living in the Western US received the highest compensation, while those in the South received the lowest
- Salary was the highest ranked benefit by importance, followed by health insurance, retirement benefits, and PTO
- PTO was a benefit listed by 87% of respondents, but 46% reported difficulty in using PTO due to staffing or scheduling issues
- Non-clinical professional development hours were not available to 63% of respondents; those that received professional hours were allotted 1-4 hours per week
- The 2020 NNP Workforce Survey had a lower respondent rate than previous years, possibly related to COVID-19, as well as a national trend in declining survey rates
- Most NNPs were older than 50 years of age (55%); only 9% were less than 35 years-old
- A lack of diversity was represented (89% identified as Non-Hispanic White), revealing a need for improvement as a national priority for delivering culturally competent and equitable care
- NNPs with a DNP have more than doubled since the 2014 survey; NNP specific accredited programs have also doubled since 2006
- 41% of NNPs work 24-hour shifts with 16% working days only; preferred shift is days at 40% followed closely by 24 hour shifts at 39% (of note 77% of NNPs working 24-hour shifts report no protected downtime)
- NNPs working over scheduled hours was 63% (up from 5% in 2014), and averaged 20 hours extra/month

The 2020 Workforce Survey, although smaller in size, reveals the importance for new NNPs of evaluating all aspects of a potential employer, including not only salary and benefits, but all other expectations, including but not limited to overtime requirements, career development, shift flexibility, and responsibilities of the role.

## References:

Snapp, B, Moore, T, Wallman, C, & Staebler, S 2021, '2020 neonatal nurse practitioner workforce survey: an executive summary', *Advances in Neonatal Care*, vol. 21, no. 3, pp. 242-246.

*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!*



## REMEMBER from page 1

nurse, I hadn't worked in eight years and was pregnant with my fourth child. I remember dreading my work weekend. I remember being so happy when it ended. I always worried about my level of competency and wanted so badly to be strong and able to provide the care I would want for my daughter and other loved ones. It took time. It took experience. It took patience. It took failure. All of these helped mold me into the nurse I am and continue to strive to be. I will never arrive. I just hope to continue to improve.

My journey to becoming an advanced practice nurse was very challenging. I faced so many obstacles and less-than-ideal circumstances during the time I was obtaining my degree. There were so many times I felt I had nothing else to give but EVERY SINGLE TIME I remembered "why" I was working towards my goal of becoming a neonatal nurse practitioner and kept pushing forward. There were tears, there were bouts of frustration, and there were days I felt defeated, but that little nudge to keep going persisted.

Now, as a doctorate-prepared neonatal nurse practitioner, I believe in setting an example and embodying the professional and compassionate provider I wish to see in others. There are times I fail and that failure is just as important as my successes. I work hard to learn from my failures. I aim to learn from others and teach and guide in a way that promotes and fosters excellence. There are several healthcare providers I hold in high esteem, and I try to pattern my practice after them. The most influential nurse professional was my daughter's first nurse. She cared for her on many occasions throughout her life and gave care in a way that exemplified care, love, hope, comfort, and healing. She not only provided this

to my child but my family also. She was a leader by example. My "why" begins with my daughter and continues with the lives of the many families for which I am privileged to provide care. Through these experiences, I keep Taylor "Tater Tot" Royal's spirit alive.



## CONFERENCE from page 1

attendants would gather in the Mainstay Bar in the evenings to socialize and we are working at having the outdoor bar stay open later so that socialization can take place outdoors. FANNP made the decision early on to limit on-site registration so that social distancing in the classroom could be maintained and this remains the plan.

Additionally, FANNP as an organization has decided that we will require masking of all attendants/exhibitors and will require proof of vaccination in order to attend the live in-person classroom setting. These decisions were not made lightly but we feel it is our responsibility as healthcare providers to the most vulnerable population, to limit possible exposure risks.

We understand that you still may have concerns about traveling or may

have travel restrictions due to your agency; if you have already registered for in-person attendance and would like to change to virtual, please let us know at your earliest convenience. If you have not purchased airfare, we encourage you to do so now but also purchase travel insurance in case travel must be cancelled at the last minute. We will continue to monitor daily the national, state, and local public health recommendations to ensure that we can continue to offer a safe conference environment and will let you know of any further changes.

*Sincerely,  
Mary Kraus, MSN, NNP-BC  
Conference Chair  
Florida Association of Neonatal  
Nurse Practitioners*



# Brag Board

Congratulations to Dr. Terri Marin for her recent publication on Renal Oxygenation Measured by Near-Infrared Spectroscopy in Neonates

in the August 2021 edition of *Advances in Neonatal Care*. The purpose of the literature review was to provide an overview of NIRS principles for measuring renal oxygenation, and to describe current evidence of how this technology is being used among infants admitted to the NICU relative to the prediction and identification of Acute Kidney Injury (AKI).

Marin, Terri PhD, NNP-BC, FAANP; Williams, Bryan L. PhD *Renal Oxygenation Measured by Near-Infrared Spectroscopy in Neonates, Advances in Neonatal Care: August 2021 - Volume 21 - Issue 4 - p 256-266 doi: 10.1097/ANC.0000000000000779*



*Terri Marin*

In addition, Dr. Marin and colleagues published the article 'Renal Oxygenation (rSO<sub>2</sub>) Population Parameter Estimates in Premature Infants Routinely Monitored with Near-Infrared Spectroscopy', also found in *Advances in Neonatal Care*. The purpose of the study was "to characterize the distribution and estimate population parameters for renal oxygenation measured by NIRS during the first 14 days of life among preterm infants."

Marin T, Williams BL, Mansuri A, Mundy C, Cockfield C, Mann PC, Stansfield BK. *Renal Oxygenation (rSO<sub>2</sub>) Population Parameter Estimates in Premature Infants Routinely Monitored with Near-Infrared Spectroscopy. Adv Neonatal Care. 2021 Aug 19. doi: 10.1097/ANC.0000000000000927. Epub ahead of print. PMID: 34417355.*

Congratulations, Terri! Your research in the care of neonates is inspiring!

And something else to brag about... Long-time FANNP Keynote Speaker, Madge Buus-Frank, DNP, APRN-BC, FAAN received the 2021 Lifetime Achievement Award from NANN. This prestigious award recognizes individuals who have made a profound impact on the neonatal nursing field. Dr. Buus-Frank is an instructor in pediatrics and an integral part of a research team at The Dartmouth Institute. Over the course of her career, Dr. Buus-Frank has been a staunch advocate



*Madge Buus-Frank*

for both improvement in care for vulnerable newborns, as well as for the advancement of the NNP role. Congratulations Madge! Thank you for all you do for the community of neonatal care!

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](mailto:newsletter@fannp.org) to share these accomplishments.





## LEGISLATIVE UPDATE

Submitted by Paula Timoney, DNP, APRN, NNP-BC

### Changes in Standards & Criteria for Nurse Practitioner Education

Two documents governing nurse practitioner education have recently been released. There are significant changes in each document. I encourage you to review these documents. A major PROPOSED change is the minimum of 1000 direct care clinical hours, 250 of which can be simulation, for NP students. It is thought that this is reflective of the American Association of Colleges of Nursing (AACN) & the National Organization of Nurse Practitioner Faculties (NONPF) recommendation of DNP as entry-level for NPs.

*The Essentials: Core Competencies for Professional Nursing Education* were released by the American Association of Colleges of Nursing (AACN) in March 2021. Schools of Nursing are reviewed and accredited by the Commission on Collegiate Nursing Education (CCNE) using these criteria. It is expected that the Essentials be implemented over a three-year period.

The DRAFT of the **Standards for Quality Nurse Practitioner Education, 6th Edition** were recently released by The National Task Force (NTF) on Quality Nurse Practitioner Education. The NTF, a 19-organization collaborative, has maintained a commitment to quality nurse practitioner (NP) education through regular, periodic review of the standards and criteria. The draft is the result of a comprehensive consensus-building process to ensure these national standards reflect the current higher education and healthcare environments as well as support quality NP education programs.

See excerpts below:

#### **The Essentials: Core Competencies for Professional Nursing Education**

Since 1986, the American Association of Colleges of Nursing (AACN) has published the *Essentials* series that provides the educational framework for the preparation of nurses at four-year colleges and universities. In the past, three versions of *Essentials* were published: *The Essentials of Baccalaureate Education for Professional Nursing Practice*, last published in 2008; *The Essentials of Master's Education in Nursing*, last published in 2011; and *The Essentials of Doctoral Education for Advanced Nursing Practice*, last published in 2006. Each of these documents has provided specific guidance for the development and revision of nursing curricula at a specific degree level. Given changes in higher education, learner expectations, and the rapidly evolving healthcare, new thinking and new approaches to nursing education are needed to prepare the nursing workforce of the future.

*The Essentials: Core Competencies for Professional Nursing Education* provides a framework for preparing individuals as members of the discipline of nursing, reflecting expectations across the trajectory of nursing education and applied experience. In this document competencies for professional nursing practice are made explicit. These *Essentials* introduce 10 domains that represent the essence of professional nursing practice and the expected competencies for each domain. The domains and competencies exemplify the uniqueness of nursing as a profession and reflect the diversity of practice settings yet share common language that is understandable across healthcare professions and by employers, learners, faculty, and the public. The competencies accompanying each domain are designed to be applicable across four spheres of care (disease prevention/promotion of health and wellbeing, chronic disease care, regenerative or restorative care, and hospice/palliative/supportive care), across the lifespan, and with diverse patient populations. While the domains and competencies are identical for both entry and advanced levels of education, the sub-competencies build from entry into professional nursing practice to advanced levels of knowledge and practice. The intent is that any curricular model should lead to the ability of the learner to achieve the competencies. The Essentials also feature eight concepts that are central to professional nursing practice and are integrated within and across the domains and competencies.

To access *The Essentials*: <https://www.aacnnursing.org/Portals/42/AcademicNursing/pdf/Essentials-2021.pdf>

SEE "LEGISLATIVE" on page 8

## LEGISLATIVE from page 7

### The National Task Force (NTF) on Quality Nurse Practitioner Education

#### Major Changes:

The APRN Consensus Model (APRN Consensus Work Group & National Council of State Boards of Nursing APRN Advisory Committee, 2008) continues to serve as a foundation for the standards and criteria. A standard was added to each of four chapters to establish clear expectations for quality. For ease of use, six chapters were reduced to four chapters. This 6th edition merges existing and new criteria as appropriate under the applicable standard. The previous editions contained an elaboration section for each criterion. The elaboration sections were eliminated and required evidence was strengthened to clearly outline expected documentation. Moreover, the glossary definitions and appendices were revised to reflect the document intent.

As part of its initial work, the NTF explored emerging trends in health profession and higher education.

- One of these trends is the transition to time-variable, competency-based education (CBE). The consensus was that NP education has not developed CBE and assessment processes sufficiently to support the elimination of a minimum number of direct care clinical hours for quality education.
- The second trend addressed by the NTF was the inclusion of interprofessional education (IPE) in NP education programs. The NTF agreed that IPE experiences are essential for preparing NPs for IP practice.
- The third trend addressed by the NTF was advancement of simulation for health professions education. The NTFS address the use of simulation to support the learning and assessment particularly for the development of competencies prior to engaging in precepted direct care experiences.
- Finally, the fourth trend addressed was the need for increased emphasis on diversity, equity, inclusion (DEI) in health professions education. The NTF addresses institution and program policies and practices related to (DEI).

#### References:

[https://cdn.ymaws.com/www.nonpf.org/resource/resmgr/board\\_resources/20210727\\_draft\\_ntfs.pdf](https://cdn.ymaws.com/www.nonpf.org/resource/resmgr/board_resources/20210727_draft_ntfs.pdf)

## FANNP Scholarships

FANNP awards scholarships of \$1000 - \$2000 annually to nurses and NNPs continuing their educational pursuits in the field of neonatal health care. Scholarship recipients are announced in October at the FANNP Symposium. Scholarship monies can be used for tuition, books or any expenses incurred while in school.

FANNP members pursuing a degree in neonatal health care are encouraged to apply for a scholarship. Preceptors, mentors, and instructors please encourage students to become a FANNP members and apply for scholarships.

To obtain an application or for questions, please contact FANNP via email at: [scholarships@fannp.org](mailto:scholarships@fannp.org)

### Scholarship Application 2022 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 2022 Scholarship is September 15, 2021 to September 15, 2022 (i.e. to be eligible for a 2022 Scholarship you must have attended classes sometime between September 15, 2021 and September 15, 2022).
  - 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.



## POCKET NOTEBOOK

*Christa Smith, MSN, APRN, NNP-BC*

### Glucose-6-Phosphate Dehydrogenase (G6PD) Deficiency

- 1) Definition - most common enzyme disorder of RBCs. G6PD is the first enzyme of the pentose phosphate pathway that converts  $\alpha$ -D-glucose-6-phosphate into D-glucono-1,5-lactone-6-phosphate and is involved in the generation of NADPH. As erythrocytes lack the citric acid cycle, the pentose phosphate shunt is the only source of NADPH. NADPH is required for the generation of reduced glutathione, which is important for the protection against oxidative damage. The G6PD gene is located at the X-chromosome at Xq28. G6PD Deficiency is a mutation in the G6PD enzyme that once challenged with oxidant stress, causes hemolysis, leading to hemolytic anemia and subsequent hyperbilirubinemia.
- 2) Etiology
  - a. X-linked recessive disorder, with prevalence in persons of African, Asian, and Mediterranean descent.
  - b. Many isoforms of abnormal G6PD enzymes (ex. Mediterranean type produces severe hemolysis typically, while hemolysis in African Americans is usually mild).
  - c. Factors such as infection, certain medications (ex. sulfa), chemicals (ex. naphthalene found in moth balls), and foods (ex. fava beans) can cause oxidative stress in persons with G6PD Deficiency, leading to hemolysis.
- 3) Clinical Presentation
  - a. Hemolytic Anemia
  - b. Risk of associated sepsis
  - c. Hyperbilirubinemia/risk of kernicterus
  - d. Tachypnea/tachycardia
  - e. Poor feeding/lethargy
- 4) Monitoring
  - a. Routine CBC, reticulocyte count, peripheral smear
  - b. Screening for G6PD may be found on some state newborn screens
  - c. ACD (acid citrate dextrose) yellow tube for G6PD assay if abnormal CBC smear
  - d. Monitor fluid and electrolytes
- 5) Treatment
  - a. Phototherapy
  - b. Blood and/or exchange transfusion
  - c. IVIG (currently no consensus on use in severe hemolytic anemia)
  - d. Avoidance of triggering medications/chemicals/foods
  - e. Frequent feedings, IV fluids

#### References:

- Diehl-Jones, W. & Fraser, D. (2015). Hematologic Disorders. In M. T. Verklan & M. Walden (Eds.), Core curriculum for neonatal intensive care nursing (5th ed.) (pp. 671-673). St. Louis, MO: Elsevier.
- Frank JE. Diagnosis and management of G6PD deficiency. *Am Fam Physician*. 2005 Oct 1;72(7):1277-82. PMID: 16225031.
- Manco-Johnson, M., McKinney, C., Knapp-Clevenger, R. & Hernandez, J. (2016). Newborn Hematology. In S. Gardner, B. Carter, M.E. Hines, & J. Hernandez (Eds.), *Merenstein & Gardner's handbook of neonatal intensive care* (8th ed.) (pp. 485-492). St. Louis, MO: Elsevier.

## FANNP Dates to Remember

ANA and WHO have again designated 2021 the Year of the Nurse.

Event/Item	Date/Deadline of Event/Item
FANNP Grant.....	Ongoing
FANNP Scholarship .....	Sept. 15, 2021
Annual National Neonatal Nurse Practitioner Symposium: Clinical Update and Review*.....	Oct. 12-16, 2021
Nurse Practitioner Week* .....	Nov. 7-13, 2021

\*Dates change annually

### FANNP Newsletter Submission Calendar

Edition	Article Submission Deadline	Publish Date
Summer 2021	05/08/21	06/05/21
Fall 2021	08/07/21	09/04/21
Winter 2021	11/06/21	12/04/21
Spring 2022	02/5/22	03/5/22

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](mailto:newsletter@fannp.org).



## FANNP Online

Get the latest news and updates from FANNP, including valuable conference information at [www.fannp.org](http://www.fannp.org).

Also, remember to join us on Facebook and follow us on Twitter and Instagram @FANNPorg. Be sure to tag us and let us know when you PASS YOUR BOARDS!!

## 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](http://www.fannp.org). The deadline for nominations has passed, and the winner will be announced at this year’s FANNP Conference.



Kim Nolan

## BRING IT ON ANSWERS from page 12

1. B- The binding of oxygen to hemoglobin varies with the PaO<sub>2</sub>. The relationship is linear and gives rise to a S-shaped curve, the oxyhemoglobin dissociation curve. The amount of O<sub>2</sub> that combines with hemoglobin at a given PO<sub>2</sub> depends on the position of the curve. With decreased affinity (shift to the right), hemoglobin releases more easily to the tissues. With increased affinity (shift to the left), oxygen is unloaded less rapidly and efficiently in the peripheral tissues. Fetal hemoglobin has an increased affinity for O<sub>2</sub> and is progressively replaced by adult hemoglobin from weeks 32-36 of gestation.
2. C- Congenital heart block is frequently detected in utero as fetal bradycardia. The most common causes include anatomic defects and fetal exposure to maternal antibodies related to systemic rheumatologic disease such as lupus.
3. B- Fetal blood flow: Umbilical vein carries oxygenated blood from the placenta to the fetus via ductus venosus (40-60% of venous blood bypasses the liver to the IVC). The remainder passes through the liver to the IVC via hepatic veins. From the IVC and right atrium, blood flows into the left atrium via foramen ovale (fossa ovalis is a remnant of the foramen ovale). The ductus arteriosus moves blood from the pulmonary artery to the aorta.

### References:

1. Breinholt, J.P. (2017). Cardiac disorders. In E.C. Eichenwald, A.R. Hansen, C.R. Martin, & A.R. Stark (Eds.), *Cloherty and stark’s manual of neonatal care* (8th ed.) (pp. 570-1). Philadelphia, PA: Walters Kluwer.
2. Fraser, D., & Diehl-Jones, W. (2015). Assisted ventilation. In M. T. Verklan & M. Walden (Eds.), *Core curriculum for neonatal intensive care nursing* (5th ed.) (pp. 489-90). St. Louis, MO: Elsevier.
3. Verklan, M.T. (2015). Adaptation to extrauterine life. In M. T. Verklan & M. Walden (Eds.), *Core curriculum for neonatal intensive care nursing* (5th ed.) (p. 60). St. Louis, MO: Elsevier.

## EDUCATIONAL OFFERINGS 2021-2022

*\*\*Check with individual conferences for changes in dates or cancellations due to Covid-19*

### NANN 37th Annual Conference "Virtual"

September 13-15, 2021  
Denver, CO  
[www.nann.org](http://www.nann.org)

### 20th Annual World Congress on Neonatology

September 20-21, 2021  
Vancouver, Canada  
[www.neonatal.conferenceseries.com](http://www.neonatal.conferenceseries.com)

### The 32nd FANNP Neonatal Nurse Practitioners Symposium: Clinical Update and Review

October 12-16, 2021  
Sheraton Sand Key  
Clearwater Beach, FL  
[www.fannp.org](http://www.fannp.org)



### Neonatal Pharmacology Conference

MUSC  
November 8-10, 2021  
Francis Marion Hotel  
Charleston, SC  
[www.medicine.musc.edu/education/cme](http://www.medicine.musc.edu/education/cme)

### Vanderbilt University Medical Center 40th Annual Conference: Advances and Controversies in Neonatal Medicine

November 11-12, 2021  
Hilton Garden Inn  
Nashville, TN  
[www.pediatrics.vumc.org](http://www.pediatrics.vumc.org)

### Hot Topics in Neonatology

December 5-8, 2021  
Gaylord National  
National Harbor, MD  
[www.hottopicsinneonatology.org](http://www.hottopicsinneonatology.org)

### Neo Conference

March 2-4, 2022  
Manchester Grand Hyatt  
San Diego, CA  
[www.neoconference.com](http://www.neoconference.com)

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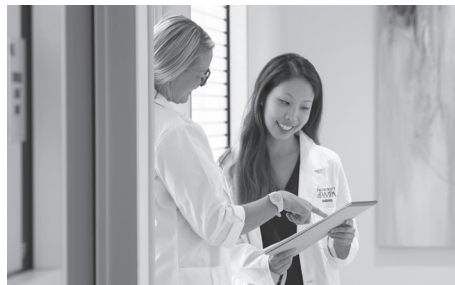
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Bring it On...



**Practice Questions  
to Prepare  
for the NNP  
Certification Exam**

1. The oxygen dissociation curve is shifted to the \_\_\_\_\_ for fetal hemoglobin, which represents the \_\_\_\_\_ affinity for fetal hemoglobin for oxygen.
  - A. Right, decreased
  - B. Left, increased
  - C. Right, increased
2. Which best describes the electronic fetal monitoring strip associated with congenital heart block?
  - A. Variable decelerations
  - B. Tachycardia
  - C. Bradycardia
3. The following four shunts are present in the fetal circulation:
  - A. Ductus venosus, renal artery, aorta, and placenta
  - B. Ductus venosus, fossa ovalis, ductus arteriosus, and placenta
  - C. Ductus arteriosus, placenta, hepatic vein, and chorionic villi

Answers on page 10

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