Reducing Unplanned Extubations in the Neonatal ICU: A Literature Review

Lisa Schuller
University of Missouri, DNP Program

Neonates admitted to a neonatal intensive care unit (NICU) often require intubation for respiratory failure necessitating the use of invasive mechanical ventilation. The NICU population is vulnerable to complications due to diagnoses such as prematurity, sepsis, respiratory distress, pulmonary or cardiovascular issues. Neonates are fragile and defenseless putting them at higher risk for adverse events and relying on healthcare providers to deliver safe, effective care (Morriss, 2008). Adverse events identified include nosocomial infections, catheter complications, abnormal cranial imaging, unplanned extubation (UPE), hypotension, death, acute renal failure, and respiratory arrest (Carvalho, Mezzacappa, Calil, & Machado, 2010). Many of these adverse events are preventable including UPEs.

The purpose of this literature review is to identify factors associated with UPEs and to discuss evidence based strategies that have shown a reduction in UPE rates in a NICU setting. Author recommendations and implications for addressing UPE are also included in the literature review. The search included pediatric intensive care units (PICU) and neonatal intensive care units (NICU).

Background and Significance
Neonates are at higher risk for UPE related to size, immature skin, short trachea, longer intubation times, the use of uncuffed endotracheal tubes (ETT), and minimal use of sedation and restraints (Fontanez-Nieves et al., 2016). UPE is defined as any dislodgement of an ETT from the trachea that is not intentional (Solutions for Patient Safety, 2018). Diagnosis is made through presence of vocalization, sudden cyanosis and desaturation, bradycardia, absence of respiratory movement, gastric distention, negative capnography, or radiologic evidence of a dislodged ETT (Carvalho et al., 2010).

Current practices for ETT use include securement methods such as tape or securement device, ETT placement verification by x-ray, ventilator tube management, patient and care activity, nurse to patient staffing ratios, and sedation. With UPE the tube may be left out if the patient is doing well or if the patient is ventilator dependent, the tube is replaced emergently increasing the risk for other adverse events: risk for multiple reintubation attempts, airway trauma, aspiration, barotrauma, chest compressions, code medications and death (Hatch et al., & Ely, 2016).
Hello FANNP Members!
Spring is coming! I hope those of you still experiencing Winter weather are keeping warm and safe. As you daydream about warmer temperatures, and preliminarily plan vacations, please keep FANNP in mind. The 30th National Neonatal Nurse Practitioner Symposium: Clinical Update and Review is scheduled for October 15-19, 2019 in beautiful Clearwater, Florida. The Planning Committee is working diligently to solidify some speaker details before the brochures are printed. It will be the organization’s 30th Anniversary, and the caliber of speakers is incredible. For the seasoned NNPs, we have confirmed some incredible speakers including debriefing and legal experts to enrich your practice. Many of you will be graduating from your respective NNP programs in a few short months. We are planning a legendary symposium that will celebrate your success and prepare you well for the NCC examination.

Remember, FANNP has many opportunities to assist you in achieving your career goals. There is scholarship money available for anyone who is attending or has attended courses in an NNP program any time from September 2018 to September 2019. The call for poster and podium presentation abstracts has been disseminated and will remain open until June 15th. Providing a podium presentation or poster is an excellent way to display your scholarly work, network, and build your career. Additionally, there are research grant funds available at any time throughout the year.

You may also be interested in building your career by getting involved with FANNP. We have numerous volunteer opportunities and are happy to welcome your talents and skills. As a member, you can also participate in the Board of Directors meetings. Our next meeting is scheduled for Wednesday, May 15th from 1400-1600. You can email memberinfo@FANNP.org to obtain details to join the meeting online using Zoom.

As we launch into our 30th year, I would like to encourage you to get to know FANNP more extensively. For some of you, that may include some volunteerism, while for others, it may include learning about the organization’s mission and vision. FANNP strives to facilitate proposed legislative plans that further neonatal advanced practice. To that end, recently, FANNP sponsored a gathering for the Florida Coalition of Advanced Practice Nurses (FLCAPN). The FLCAPN is planning a free webinar in late March to discuss proposed bills that affect APNs. We’ve placed info about this webinar on our website. Please consider attending and becoming more active in APN health policy and professional organizations such as FANNP and the FLCAPN.

Tiffany Gwartney, DNP, APRN, NNP-BC
President, FANNP

The Florida Association of Neonatal Nurse Practitioners
1-800-74-FANNP • www.FANNP.org • P.O. Box 14572, St. Petersburg, FL 33733-4572

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 for more details.
Prevalence of unplanned extubations. UPE is identified as the fourth most common adverse event in the NICU in North America (Merkel et al., 2014). UPE rates are reported as number of UPEs per total number of ventilator days per timeframe multiplied by 100 (SPS, 2018). A systematic review by Silva, Reis, Aguiar, and Muchado (2013) identified UPE rates from 0.14 UPE to 5.3 UPE per 100 ventilator days. The suggested benchmark for the NICU follows the pediatric intensive care unit (PICU) benchmark of less than one per 100 ventilator days (Merkel et al., 2014). UPE rates in the NICU occur two to three times more often when compared to the PICU (Merkel et al., 2014).

Review of the Literature

An extensive literature search was conducted to look at unplanned extubations in neonatal intensive care units and the pediatric population with a focus on infants less than 1 year of age. MeSh terms used included airway extubation, adverse effects, endotracheal intubation, pediatric ICU and neonatal ICU. General search terms used included UPE, pediatric ICU, and neonatal ICU. Over 1,400 articles were identified and after exclusions, 12 articles were included for this review. Many studies looked at the before and after intervention UPE rates reported as rate per 100 ventilator days to determine if there was a positive effect. The literature review identified the following recurring themes: identification of contributing factors of UPE, standardization of ETT securement and care practices, and multiple interventions to reduce UPE rates.

Identification of contributing factors of unplanned extubation.

Identified contributing factors of UPE were noted in four articles. Associated identified factors are as follows: patient size, inadequate sedation, poor fixation of ETT, tube manipulation, performance of a procedure or cares, time intubated, restlessness/agitation, staff workload, and planned extubation less than 12 hours prior to event (Carvalho et al., 2010; Fitzgerald, Davis, & Hanson, 2015; Fontanez-Nieves et al., 2016; Silva et al., 2013). All of these factors need to be taken into account when looking at decreasing UPE rates in the neonatal population.

Carvalho et al. (2010) identified longer invasive ventilation duration as the most significant independent predictor for UPE. Fitzgerald et al. (2015) found an association between UPE and the following factors: inadequate patient sedation, loose ETT fixation, planned extubation in next 12 hours, and nurse from another unit. Fontanez-Nieves et al. (2016) identified loose tape, patient movement, excessive secretions, and duration of ventilation as risk factors and reported a significant difference in ventilator days of UPE subjects, 14 days compared to three days for subjects with no events. The systematic review done by Silva et al. (2013) identified risk factors for UPE: poor tube fixation, restlessness/agitation, tube manipulation, and performance of a procedure.

Standardization of endotracheal tube securement. Six articles implemented a change in ETT securement to address loose tape or securement of ETT in UPEs in the NICU (Fontanez-Nieves et al., 2016; Lai, Inglis, Hose, & Davies, 2014; Loganathan, Nair, Vine, Kowal, & Soraisham, 2016) and PICU (Meregalli, Baron, D’Alessandro, Danzi, Debaisi, 2013; Rachman, Watson, Woods, & Mink, 2009; Rachman & Mink, 2013).

Five cohort studies described securement processes to decrease UPE. Fontanez-Nieves et al. (2016) reduced UPE rates from 16.1 to 4.5 per 100 ventilator days through standardization of ETT securement process exceeding the study goal of a reduction by 50%. Loganathan et al. (2016) compared ETT taping to securement with a Neobar and found no statistically significant difference between the devices. Meregalli et al. (2013) implemented a standardized ETT taping protocol with staff education, which decreased UPE rates from 2.30 to 0.86 per 100 ventilator days. Rachman et al. (2009) utilized standardized taping, staff education on securement, sedation, and positioning. The authors significantly reduced UPE rates from 6.4 to 1 per 100 ventilator days, then continued to evaluate the sustained effects of their quality improvement project and found that the rate of UPEs did not significantly change over time. In a systematic review of RCT, Lai et al. (2014) found the evidence to be inconclusive for a best practice ETT securement recommendation. All of the authors used different securement methods with the common theme among studies was the use of standardized practices.

Multiple interventions to reduce UPE rates. Three articles found improvement in UPE rates with the implementation of multiple interventions (Crezee, DiGeronimo, Rigby, Carter, & Patel, 2017; Hu, Zhang, Huang, Hu, & McArthur, 2017; Powell, Gilbert, & Volsko, 2016). Crezee et al. (2017) implemented guidelines for handling intubated patients, standard tube position, standard ETT securement, post-operative handoff tool, and a post-UPE assessment tool reducing UPE rates from 1.15 to 0.54 per 100 ventilator days. Hu et al. (2017) implemented guidelines for standardized
EXTUBATIONS from page 3

tube securement and care for intubated infants. Care standards included having two licensed professional staff members participating in procedures and transferring or moving the infant. UPE rates were reduced from 2.3 to 0.36 per 100 ventilator days. Hu et al. (2017) also looked at staff compliance rates and had 100% compliance for staff education and documentation related to securement post intervention that was an increase from 66.7%. Standard care practices compliance increased from 0% since none were in place prior to intervention to 54.9%. Powell et al. (2016) implemented standardized moving of patient, assessment of tube placement with hand off communication, and standardized tube position, movement, and securement methods in a NICU setting with UPE rates decreasing from 3.8 to 2.7 per 100 ventilator days.

Implications and Conclusions

Interventions identified were based on factors associated to UPE specific to the unit where the intervention occurred. Several articles reviewed had multiple simultaneous interventions making it difficult to ascertain the effect of an individual intervention on UPE rates. The one recurring theme that had an effect on reducing UPE rates was standardized care practices for intubated infants particularly a standard securement method. Standardized care also included two licensed staff members for procedures, re-securing ETT, and transferring or moving patient; standard weaning/extubation protocol; and sedation/analgesia protocol. In all of the studies staff education and real time reinforcement of education was key to the success of reducing UPEs. Randomized control trials or higher levels of evidence based studies are needed in a NICU setting to identify process standardization bundles to help address this issue. There is also a need to look more closely at sedation in the NICU population to see if there is a benefit in reducing harm with no long-term neurological effects.

References


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

Submitted by Karen Theobald

FANNP Membership
Established in 1989, the Florida Association of Neonatal Nurse Practitioners (FANNP) promotes the highest standards of neonatal healthcare through education, practice and research.

FANNP welcomes members from out of state!
FANNP originated as a Florida-based organization and now represents neonatal nurse practitioners across the United States and internationally.

Help make a difference in your profession and renew your FANNP today!
Recommend membership to a friend or colleague.

FANNP offers you the opportunity for professional advancement through:
• Quality Educational Offerings
• Conference Registration Fee Discounts
• Professional Development Opportunities
• Research Grants
• Educational Scholarships
• Legislative Advocating and Updates
• Professional Recognition
• Annual Business Meeting Brunch
• Quarterly Newsletters
• Opportunities for Networking

FANNP Organizational Meetings
• FANNP holds an Annual Business Meeting and Brunch for the members.
  - The meeting is held during the Annual FANNP National NNP Symposium
  - All members are invited to attend this complimentary event
• The FANNP Board of Directors hold meetings 2-4 times per year. The meetings are done with Zoom Meeting and are open to all members.
• If you are interested in attending a meeting or have a topic of interest to be discussed, please contact memberinfo@fannp.org for more information.

Membership Terms are October thru October
• Membership dues paid Jan. 1 – June 30 will expire Oct. 31 of that year.
• Membership dues paid July 1 – Dec. 31 will expire Oct. 31 of the following year.

Examples:
• Dues paid March 15, 2019 – Membership will expire Oct.31, 2019
• Dues paid Aug. 15, 2019 – Membership will expire Oct. 31, 2020

Voting Membership:
• Open to all nurse practitioners whose field of interest includes neonatal care
• Have the right to vote and hold office in the association
  1-year membership – $50
  2-year membership – $90
  3-year membership – $135

Student Membership:
• Open to all RNs enrolled as NNP Students
• Have all privileges of Voting Members, except the right to vote and the right to hold office in the association
  1-year membership – $40

Associate Membership:
• Open to any person in an advance practice role, other than a NNP, interested in fostering the mission and goals of the organization
• Have all privileges of Voting Members, except the right to vote and the right to hold office in the association
  1-year membership – $25
  2-year membership – $45
  3-year membership – $65

Please contact memberinfo@fannp.org with any questions.

Conference Update
Hi Everyone! Your Conference Planning Committee has been hard at work to bring you another great conference! Be prepared for an interesting and pertinent keynote address entitled, A Personal Leadership Journey. A Track topics include Crisis Management, the NNP Roll in CDH, and a legal session with an NNP panel just to name a few, along with the ever-popular Journal Club and a question and answer session in game show format. Some new presenters will help round out B Track, and, along with the help of FANNP’s many qualified speakers and mentors, will be there to help you brush up on physiology or get ready for certification.

Don’t forget the many networking opportunities, including the Welcome Reception on Tuesday, Beach Party on Wednesday, and Poster Session on Thursday. All that, PLUS the beautiful beach setting of the Sheraton Sand Key in Clearwater Beach! Make your plans NOW to attend, October 15-19, 2019. See you there!

Mary Kraus, MSN, NNP-BC
FANNP Conference Chair
Submitted by Jeni Blake-Castro

FANNP had the pleasure of allowing nursing student, Jeni Blake-Castro, to observe the FANNP Business Brunch Meeting at this past year’s Annual Conference and Symposium for a Leadership and Management in Nursing class assignment. The following is an excerpt from her submitted paper on observations of nursing leadership in action:

Every speaker showed great passion for her work within the organization and to the practice of neonatology. The Past-President encouraged all members to be active and involved within the organization, stating that increased diversity brought new ideas and growth. The speaker for the Legislation Committee took a moment to remember Barbara Lumpkin, the nurse behind House Bill 423 (also known as the Barbara Lumpkin Prescribing Act), which allowed physician assistants and APRNs to prescribe controlled substances. A renowned nurse advocate, Lumpkin’s work with lawmakers clearly exemplified the qualities of being both a visionary and innovator.

The Research Committee Chair encouraged the members in attendance to come forward with any ideas they had regarding research, as the organization had enough funding for up to ten grants. She also mentioned that she would be happy to mentor anyone regarding the grant writing process and stated that the organization was full of mentors. Nursing leaders are often mentors and coaches, especially when aiding new nurses or those unfamiliar with certain processes. The information gained from the research projects would then be disseminated through the FANNP by way of poster presentations and the newsletter. The Newsletter Editor also encouraged the attending members to submit articles of interest for its quarterly publication, which would contribute to the knowledge of both the profession and organization. This commitment to finding new and innovative ways to solve problems is one of the hallmarks of a nurse leader.

The Scholarship Speaker further reiterated the organization’s commitment to both initial and continuing education as it relates to the adoption of the most effective evidence-based practices. As research has shown, the highest quality of care and best patient outcomes often results through using best practices. The speaker also referenced a quote that echoed the sentiments of the nurse leader I interviewed at the beginning of the semester: “A comfort zone is a wonderful thing, but nothing ever grows there”. It is vital to empower nurses to be a part of the change process as participation in quality improvement projects, research projects, and legislative advocacy helps to grow the nurse professionally and personally.

Even though I wasn’t sure what to expect from the business meeting, I am exceptionally grateful to have attended. Each speaker’s enthusiasm and dedication to the field of neonatology was both palpable and inspiring. I saw several of the key characteristics of nursing leaders in the men and women present, and I found myself exhilarated by the dedication expressed for growing the profession. The energy and collaborative camaraderie I felt at this meeting has motivated me to investigate joining a professional nursing organization within my own specialty. Thank you for this learning opportunity.

Thank you, Jeni, for your attendance at the FANNP Business Meeting and your enthusiasm for recognizing the importance of nursing leadership.

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@fannp.org. In the ever-changing world of neonatology, remaining cognizant of current practices is of vital importance to furthering our education as providers!

The Kim Nolan Spirit Award

...In memory and honor of Kim Nolan

Do you know a special NNP? 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. To read more about Kim, and to nominate someone today, visit award@fannp.org!

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 in the newsletter and on the website;
• Certificate suitable for framing;
• Lladro porcelain figurine, “Angel with child”
• Beautiful bouquet of flowers

Nominations due July 1, 2019.
Presenting a Poster at FANNP

Why?

When considering whether or not you want to present a poster at a national meeting, the first question you may have is, “Why would I want to do that?” The most obvious answer is that you want to share your work with your colleagues. You may have completed original research. You may have encountered an unusual case that you want to present. You may have been a part of a successful practice improvement. Or you may have this as a requirement for an educational program.

Presenting posters at national meetings, such as FANNP, has many advantages. This may be the stepping-stone for you in developing a national reputation for your knowledge and experience on a particular topic. Presenting a poster is often in first step in gaining an audience for future oral presentations. The networking opportunities often provide a venue for collaborating with colleagues in your field or in your area of expertise (Wood & Morrison, 2011).

How?

One of the first steps in writing an abstract for FANNP is to look over the submission guidelines. You will note that the guidelines state, “These will be selected on the basis of overall quality, originality and appropriateness to NNP practice.” In reviewing this requirement, it is important that you note the emphasis on preparing a presentation directed toward advanced practice.

Examples are given in the FANNP Call for Abstracts for the suggested categories and formats for the listed categories. The listed categories are: Original Research, Case Study, Patient Safety, Innovations in Practice or Education, Quality Improvement, and Benchmarking Initiatives. FANNP does not recommend topics that might be more appropriate for the novice neonatal nurse, as this group is not the target of the symposium.

Each venue, whether a national conference, a journal, or a regional meeting, will have specific guidelines for abstract submission. It is imperative to follow the guidelines closely. This step may mean the difference between acceptance and rejection.

Author:  Mary Beth Bodin, DNP, CRNP, NNP-BC, Neonatal Consultant sbodin2006@comcast.net


BRING IT ON ANSWERS  Questions on page 12

1.  C- O2 sat monitor readings taken from the right radial artery are pre-ductal in nature, while monitor readings from the dorsalis pedis (both right and left) as well as the left radial artery are post-ductal in nature. In PPHN, right to left shunting occurs, causing a difference of 5-10% in pre and post-ductal O2 saturations.

2.  B- Mean airway pressure (MAP) is the mean or average pressure transmitted to the airways throughout an entire respiratory cycle. MAP is dependent on the ventilator rate, gas flow through the ventilator circuit, PIP, PEEP, and inspiratory time.

3.  C- Reticulocyte count reflects new erythroid activity and is persistently elevated with ongoing RBC destruction.

FANNP’s National Neonatal Nurse Practitioner Symposium: Clinical Update and Review, 2019

POSTER & PODIUM PRESENTATION CALL FOR SUBMISSIONS

SUBMISSION DEADLINE:  June 15, 2019

FANNP is seeking abstracts for posters and podium presentations for the annual FANNP’s National Neonatal Nurse Practitioner Symposium on October 15th-19th, 2019. 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). 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 NOW AT FANNP.ORG
**LEGISLATIVE** from page 1

U.S. Rep. Donna Shalala (D-FL-27), Secretary of Health and Human Services under former President Bill Clinton and chair of the 2010 Committee on the Robert Wood Johnson Foundation Initiative on the Future of Nursing Report at the Institute of Medicine, won a Miami-area congressional seat. Shalala has built a reputation as a staunch supporter of nurses throughout her distinguished career, most recently serving as president of the University of Miami. (Campaign for Action, November 2018) Shalala serves on the House Committees on Rules and Education and Labor.

U.S. Rep. Lauren Underwood (D-IL-14), is an RN who is the youngest black female to be elected to Congress. Her focus has been on public health policy and she has a strong interest in the Affordable Care Act, focusing on pre-existing conditions. She holds two master's degrees in public health and nursing. Her background includes work during the Obama administration on public health, emergencies, and disaster response. She has also worked for the Department of Health and Human Services.

U.S Rep. Karen Bass, (D-CA-37), originally a vocational nurse, moved on to become a physician's assistant. She serves on the House Committee on Foreign Affairs and is on the House Judiciary Committee (3).

**Florida Legislative News**

**Breaking News**

Senator Jeff Brandes and Representative Pigman filed SB 972 and HB 821, respectively. These bills will enable Advanced Practice Registered Nurses (APRNs) to practice to the full extent of their education and training without requiring a protocol agreement after meeting certain requirements. APRNs may also elect to continue to practice under protocol arrangement.

Although the bills are not identical, the task of developing compromise language is currently being addressed (2).

**Student Loan Defaults: How This Can Affect Your Nursing License**

The Department of Education has now started the process of forwarding student loan default notices for all professions to the Florida Department of Health, Division of Medical Quality Assurance. In the past nine months there has been an overabundance of notices regarding nurses defaulting on student loans, therefore requiring the DOH prosecuting attorneys to begin preparing these cases to go before a Probable Cause Panel of the Board of Nursing. This panel will then review all documents and decide whether there is enough evidence to prove probable cause exists in the case to move forward with a discipline on the licensee in default of his/her student loan. All student loan recipients are obligated to pay back any funds borrowed to obtain their education and not doing so violates the contract one has signed with their lender.

Any licensee who has probable cause found by the Board will be issued a discipline on their nursing license with the minimum disciplinary action imposed to include:

1. License suspension until a new payment plan or scholarship obligation is agreed upon;
2. Probation for the remainder of the student loan or scholarship obligation; and
3. 10% fine equal to the defaulted loan amount

The Florida Statute 456.072(1) discusses these terms in detail (4).

Commemorating the One-Year Anniversary of the Parkland Shooting

Let us remember those who lost their lives on February 14th in Parkland, Florida:

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alyssa Alhadeff</td>
<td>14</td>
</tr>
<tr>
<td>Scott Beigel</td>
<td>35</td>
</tr>
<tr>
<td>Martin Duque</td>
<td>14</td>
</tr>
<tr>
<td>Nicholas Dworet</td>
<td>17</td>
</tr>
<tr>
<td>Aaron Feis</td>
<td>37</td>
</tr>
<tr>
<td>Jaime Guttenberg</td>
<td>14</td>
</tr>
<tr>
<td>Chris Hixon</td>
<td>49</td>
</tr>
<tr>
<td>Luke Hoyt</td>
<td>15</td>
</tr>
<tr>
<td>Cara Loughran</td>
<td>14</td>
</tr>
<tr>
<td>Gina Montalto</td>
<td>14</td>
</tr>
<tr>
<td>Joaquin Oliver</td>
<td>17</td>
</tr>
<tr>
<td>Alaina Petty</td>
<td>14</td>
</tr>
<tr>
<td>Meadow Pollack</td>
<td>18</td>
</tr>
<tr>
<td>Helena Ramsay</td>
<td>17</td>
</tr>
<tr>
<td>Alex Schachter</td>
<td>14</td>
</tr>
<tr>
<td>Carmen Schentrup</td>
<td>16</td>
</tr>
<tr>
<td>Peter Wang</td>
<td>15</td>
</tr>
</tbody>
</table>

References:

**FANNP Newsletter Submission Calendar**

<table>
<thead>
<tr>
<th>Edition</th>
<th>Article Submission Deadline</th>
<th>Publish Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 2019</td>
<td>02/08/19</td>
<td>03/09/19</td>
</tr>
<tr>
<td>Summer 2019</td>
<td>05/10/19</td>
<td>06/08/19</td>
</tr>
<tr>
<td>Fall 2019</td>
<td>08/09/19</td>
<td>09/07/19</td>
</tr>
<tr>
<td>Winter 2019</td>
<td>11/08/19</td>
<td>12/07/19</td>
</tr>
</tbody>
</table>

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.

**Interested in helping with the editing of the newsletter?? Please email the above link!**
Megameatus Intact Prepuce

1. Definition- Megameatus Intact Prepuce (MPI) is a rare variant of hypospadias.

2. Etiology- Failure of the distal, glanular portion of the urethra to tubularize characterized by a deep glanular groove and abnormal opening of the urethra.

3. Diagnosis- Difficult to determine at birth, as in many cases, the prepuce normally intact. As some male infants are not circumcised after birth, it may never come to medical attention until the prepuce is routinely retracted.

4. Clinical Findings- Megameatus intact prepuce is a variant hypospadias found either at the time of neonatal circumcision or late in life in non-circumcised boys at the time of retraction of the prepuce. Males with MIP may have variations in the size of the meatal opening. Patients who present with the more enlarged forms of the meatus may present with a splayed urinary stream. If the MIP is diagnosed at the start of a circumcision, the procedure should not be completed as the foreskin may need to be used for repair.

5. Diagnostics- There are no other urologic anomalies associated with MIP variant of hypospadias and no radiologic evaluation is needed in the absence of any other symptomatology.

6. Repair- Refer patients to pediatric urology by 6 months of age. Surgical repair is not always indicated. If surgical repair is indicated, it is done by 6-18 mons of age. Surgical repair may be indicated for those patients with the larger appearing meatus that opens close or at the coronal margin.

7. Prognosis- Low complication rates associated with surgical correction, and adequate functional outcome such as a normal urinary stream. Complications are rare and functional outcomes are generally satisfactory.

References

Dr. Leslie Parker, Associate Professor for the College of Nursing at the University of Florida has received an RO1 grant award from the National Institute of Nursing Research (NINR) for her study titled, “Optimal Feeding Tube Dwell Time in VLBW to Reduce Feeding Tube Contamination”. Congratulations Dr. Parker!

Congratulations also go out to Dr. Terri Marin for being selected to receive the Excellence in Mentoring Award from the Beta Omicron Chapter of Sigma Theta Tau. “The chapter is pleased to recognize your hard work and dedication in mentoring faculty and assuming the triad faculty roles of teaching, research, and service. Thank you for your dedication and commitment to the nursing profession and congratulations on your award.” The award was presented to Dr. Marin during the Induction Ceremony on February 23, 2019.

Congratulations Dr. Parker and Dr. Marin from FANNP!

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.
Florida APRN and RN License Requirements for License Renewal

Submitted by Paula Timoney

This is the first renewal period in Florida since the APRN license became a license separate from the RN license. The renewal requirements for each license differ. Your CEUs must be complete in CE Broker before you can apply for renewal.

APRN Requirements for Renewal:
- National certification or CEUs
- Safe and Effective Prescribing of Controlled Substances 3 hours
- Human Trafficking: Recognition, Referral, and Treatment 2 hours

RN Requirements for Renewal:
- Medical Errors 2 hours
- Laws and Rules of the Board 2 hours
- Human Trafficking 2 hours
- Domestic Violence (every other renewal cycle) 2 hours
- Recognizing Impairment in the Workplace (every other renewal cycle) 2 hours
- General CEU 16 hours

RENEW EARLY AND READ CAREFULLY!

Scholarship Application 2019 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 related to the health care field during the application period.
   a. The application period for the 2019 scholarship is September 15, 2018 to September 15, 2019 (i.e. to be eligible for a 2018 scholarship you must have attended classes sometime between September 15, 2018 and September 15, 2019).
   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.

To obtain a scholarship application contact FANNP via email scholarships@fannp.org
COMPLETED applications must be postmarked by Sept. 15 each year.

FANNP Dates to Remember

<table>
<thead>
<tr>
<th>Event/Item</th>
<th>Date/Deadline of Event/Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>FANNP Grant</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Poster Presentation Abstracts</td>
<td>June 15</td>
</tr>
<tr>
<td>Kim Nolan Spirit Award</td>
<td>July 1</td>
</tr>
<tr>
<td>FANNP Scholarship</td>
<td>September 15</td>
</tr>
<tr>
<td>National Neonatal Nurses Day</td>
<td>September 15</td>
</tr>
<tr>
<td>Annual National Neonatal Nurse Practitioner Symposium: Clinical Update and Review*</td>
<td>October 15-19, 2019</td>
</tr>
<tr>
<td>Nurse Practitioner Week*</td>
<td>November 10-16, 2019</td>
</tr>
</tbody>
</table>

*Dates change annually

EDUCATIONAL OFFERINGS

Emory Neonatology Conference 2019
April 11-12, 2019
Emory Conference Center Hotel
Atlanta, GA
www.pediatrics.emory.edu

Spring 2019 National Advanced Practice Neonatal Nurses Conference
May 30-June 1, 2019
Hyatt Regency Indian Wells
Greater Palm Springs, CA
www.academyonline.org

2019 Council of International Neonatal Nurses Conference
May 5-8, 2019
Skycity Convention Center
Auckland, New Zealand
www.coinn2019.com

18th Annual World Congress on Neonatology
June 14-15, 2019
Montreal, Quebec, Canada
www.neonatalconferenceseries.com

5th International Neonatology Association Conference
July 12-14, 2019
Tijuana, Mexico
www.worldneonatology.com/2019

Fall 2019 National Advanced Practice Neonatal Nurses Conference
September 12-14, 2019
Caribe Royale
Orlando, FL
www.academyonline.org

Florida APRN and RN License Requirements for License Renewal

Submitted by Paula Timoney

This is the first renewal period in Florida since the APRN license became a license separate from the RN license. The renewal requirements for each license differ. Your CEUs must be complete in CE Broker before you can apply for renewal.

APRN Requirements for Renewal:
- National certification or CEUs
- Safe and Effective Prescribing of Controlled Substances 3 hours
- Human Trafficking: Recognition, Referral, and Treatment 2 hours

RN Requirements for Renewal:
- Medical Errors 2 hours
- Laws and Rules of the Board 2 hours
- Human Trafficking 2 hours
- Domestic Violence (every other renewal cycle) 2 hours
- Recognizing Impairment in the Workplace (every other renewal cycle) 2 hours
- General CEU 16 hours

RENEW EARLY AND READ CAREFULLY!

Scholarship Application 2019 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 2019 scholarship is September 15, 2018 to September 15, 2019 (i.e. to be eligible for a 2018 scholarship you must have attended classes sometime between September 15, 2018 and September 15, 2019).
   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.

To obtain a scholarship application contact FANNP via email scholarships@fannp.org
COMPLETED applications must be postmarked by Sept. 15 each year.

FANNP Dates to Remember

<table>
<thead>
<tr>
<th>Event/Item</th>
<th>Date/Deadline of Event/Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>FANNP Grant</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Poster Presentation Abstracts</td>
<td>June 15</td>
</tr>
<tr>
<td>Kim Nolan Spirit Award</td>
<td>July 1</td>
</tr>
<tr>
<td>FANNP Scholarship</td>
<td>September 15</td>
</tr>
<tr>
<td>National Neonatal Nurses Day</td>
<td>September 15</td>
</tr>
<tr>
<td>Annual National Neonatal Nurse Practitioner Symposium: Clinical Update and Review*</td>
<td>October 15-19, 2019</td>
</tr>
<tr>
<td>Nurse Practitioner Week*</td>
<td>November 10-16, 2019</td>
</tr>
</tbody>
</table>

*Dates change annually

EDUCATIONAL OFFERINGS

Emory Neonatology Conference 2019
April 11-12, 2019
Emory Conference Center Hotel
Atlanta, GA
www.pediatrics.emory.edu

Spring 2019 National Advanced Practice Neonatal Nurses Conference
May 30-June 1, 2019
Hyatt Regency Indian Wells
Greater Palm Springs, CA
www.academyonline.org

2019 Council of International Neonatal Nurses Conference
May 5-8, 2019
Skycity Convention Center
Auckland, New Zealand
www.coinn2019.com

18th Annual World Congress on Neonatology
June 14-15, 2019
Montreal, Quebec, Canada
www.neonatalconferenceseries.com

5th International Neonatology Association Conference
July 12-14, 2019
Tijuana, Mexico
www.worldneonatology.com/2019

Fall 2019 National Advanced Practice Neonatal Nurses Conference
September 12-14, 2019
Caribe Royale
Orlando, FL
www.academyonline.org
Stay informed and keep us posted! Get the latest news and updates from FANNP, including valuable conference information at www.fannp.org.

In addition, don’t forget to join us on Facebook and follow us on Twitter and Instagram @FANNPorg and be sure to let us know when you PASS YOUR BOARDS!!

NANN 35th Annual Conference
October 9-12, 2019
The Westin Savannah Harbor
Savannah, GA
www.nann.org

The 30th FANNP Neonatal Nurse Practitioners Symposium: Clinical Update and Review
October 15-19, 2019
Sheraton Sand Key Resort
Clearwater Beach, FL
www.fannp.org

MUSC Neonatal Pharmacology
November 13-15, 2019
Francis Marion Hotel
Charleston, SC
www.education.musc.edu

CLASSIFIEDS

Linkous & Associates, LLC
Neonatal Nurse Practitioner Recruitment Specialists
LinkousRecruiting.com
800.738.NNPs (6677)

Since 1991, we’ve worked to exceed the expectations of both the candidate and the client, while making the search process seemingly effortless. There are some great NNP positions available nationwide. Let us help you find the opportunity you’ve been searching for.

JOIN OUR TEAM!

Children’s Hospital of Philadelphia is looking for NICU Neonatal Nurse Practitioners for our:
• Division of Neonatology
• Division of General, Thoracic and Fetal Surgery

Successful candidates will become part of our world-class team of specialists, surgeons, nurse practitioners, physician assistants, staff nurses, respiratory therapists, nutritionists and others who strive to make breakthroughs possible for children every day.

LEARN MORE
Karin Huber, Advanced Practice Provider Recruiter
huberk@email.chop.edu
609-744-8981

Thank you to our current advertisers for their support of FANNP! For information on Classified Advertising in the FANNP Newsletter, please refer to the guidelines and fees, which can be found at fannp.org under the “Newsletters” heading.

The University of Tampa
New Online DNP Program

The University of Tampa’s new Doctor of Nursing Practice is designed for APRNs living in Florida. This convenient, online program can be completed in six semesters. With a focus on real-world relevancy, the DNP prepares students for advanced clinical, administrative and academic roles.

Visit www.ut.edu/nursing or call (813) 258-7409.
1) Comparison of which of the following oxygen values would demonstrate right to left ductal shunting?
   A. Umbilical artery line and left radial artery
   B. Umbilical artery line and right dorsalis pedis artery
   C. Umbilical artery line and right radial artery

2) In relation to ventilation, the term that best describes the average pressure delivered to the proximal airways from the beginning of one inspiration to the beginning of the next is:
   A. Airway resistance
   B. Mean airway pressure
   C. Lung compliance

3) An elevated reticulocyte count is evidence of:
   A. Depressed megakaryocyte production
   B. Increased neutrophil production
   C. Increased erythropoiesis

Answers on page 7