

Pediatric PERSPECTIVES

ADVANCING PATIENT CARE SERVICES AT ST. LOUIS CHILDREN'S HOSPITAL



**A day in the life of a
speech pathologist**

See page 6

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ON THE Cover

► **Janice Lanto, MS, CCC-SLP**, speech-language pathologist, works with young patient **Emmeline Elliot** to determine the best methods for correcting her speech patterns. See story on page 6.

FALL 2016 VOLUME 13, NO. 2

► Editorial board

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Questions?

Contact Sue Marten at Susan.Marten@bjc.org



From Peggy

Evidence-based practice, continuous improvement and transformation

In this issue of Pediatric Perspectives you will see the outcomes of a number of evidence-based practice (EBP) and research projects that were done at SLCH by our colleagues. These team members each asked a question about something they were seeing in their daily work with patients that they thought could be improved:

- Sleep for Pediatric ICU patients
- Monitor alarm noise and alarm fatigue
- Diaper dermatitis
- Bleeding in ECMO patients
- Pressure ulcers from EEG electrodes

Each person completed a project that reviewed the literature on the topic, tested some potential solutions to

the problems noted in their patient population, and then presented their finding to the appropriate leaders and groups to develop a plan for change. At least two of the projects are directly impacting hospital goals in a significant manner: Pressure ulcer prevention is part of our work to eliminate hospital-acquired harm, and alarm management is a new national patient safety goal from the Joint Commission.

As we implement the Children's Transformation System across the hospital, there will be many opportunities for everyone to contribute to improving our processes and how we care for our patients. We are introducing a structure for submitting improvement ideas on the unit/department DMS boards as part of our Daily Management System, which will provide many opportunities for testing new ideas.



One way to start this process
of generating improvement ideas
is to ask yourself,
"What do I struggle with
in doing my job?"



We will be asking the people who submit those new ideas to develop a plan and to study them to see if they produce the improvement intended. This will be an opportunity for everyone to use their creativity to continuously improve our patient outcomes, patient satisfaction, and employee engagement. Instead of having only a handful of clinical people doing EBP and research projects as we have in the past, everyone can study and test ideas for improving their work processes and methods of caring for our patients.

One way to start this process of generating improvement ideas is to ask yourself, "What do I struggle with in doing my job?" This simple question often is a clue to where a process is not working, or there is a lot of wasted time and energy going into a workaround that could be eliminated. The idea is to make doing the right thing, the easiest thing, and to ensure that things flow easily and smoothly for both the team member and the patient/family. I look forward to hearing about these ideas, and what you are struggling with as I visit patient care units in the coming weeks. This is where our transformation should really take off, and I know that your ideas are the fuel that will power it!

Peggy

Peggy Gordin, MS, RN, NEA-BC, FAAN,
is SLCH's Vice President of Patient Care Services.

She can be reached at Peggy.Gordin@bjc.org.

▶ NEW KNOWLEDGE

Fortified milk benefits extremely preterm infants

The many benefits of providing mother's milk or donor milk to the preterm infant are well known. The unique properties of human milk reduce feeding intolerance and help protect preterm infants from complications such as late-onset sepsis and necrotizing enterocolitis (NEC). Implicit with reduced rates of NEC are lower mortality rates, less long-term growth failure and fewer infants with adverse neurodevelopmental outcomes.

While human milk can exclusively support the growing needs of an infant born at term, it is difficult to do this for babies born preterm because of their specialized nutritional needs. In order to more closely achieve intrauterine growth rates and provide essential nutrients, a multi-nutrient fortifier is added to the diet of human milk fed to preterm infants.

Very low birth weight infants who receive fortified human milk have been shown to have improved growth and bone mineralization compared to those infants receiving unfortified breast milk.

Historically, the fortifier added to the human milk is composed of a cow's milk protein concentrate, vegetable oil fats, corn syrup solids and added vitamins and minerals. Recently, fortifier composed of concentrated and pasteurized donor human milk has been developed and studied in extremely preterm infants.

This new human milk-derived fortifier is manufactured by ProLacta Bioscience. The product was first studied in a multicenter, randomized, controlled trial completed in 2008 to assess the effects of providing infants with birth weights ≤ 1250 grams an exclusive human milk diet. Infants were randomized to receive either their own mother's milk (or donor milk if mother's milk not available) plus a human milk-based fortifier or their mother's own milk fortified with a cow's milk-based fortifier (or preterm formula if no mother's milk was available). Infants in both groups received a large volume (nearly 80 percent) of feedings from their mother's own milk. Overall, there was a 77 percent reduction in the odds of developing NEC among infants fed the exclusive human milk diet compared to infants in the control group.

An additional study conducted in 2010 included extremely preterm infants who were unable to receive their mother's

own milk and were randomized to receive either donor human milk fortified with ProLacta or preterm formula. Infants receiving the exclusive human milk diet received significantly fewer days of parenteral nutrition and had significantly less incidence of surgical intervention for NEC. Data from both trials concluded that an exclusive human milk diet can decrease surgical treatment for NEC and the risk of sepsis.

The beneficial effects of a human milk diet on extremely preterm infants are superior to other feeding alternatives. The American Academy of Pediatrics states that all preterm infants should receive mother's own milk, and if mother's own milk is not available despite significant lactation support, pasteurized donor milk should be used as a substitute. In order to minimize morbidity and improve long-term outcomes every effort should be made to incorporate as much human milk as possible into the diets of extremely preterm infants. The use of a concentrated and pasteurized donor milk fortifier in combination with mother's milk or donor milk gives clinicians the ability to support the complex nutrient needs of extremely preterm infants while also preserving the host defenses that human milk offers to these vulnerable patients.



Human milk-based fortifier was developed for use in extreme preterm infants.

Infants receiving the exclusive human milk diet received significantly fewer days of parenteral nutrition and had significantly less incidence of surgical NEC.

Effects of hand hygiene education on compliance

Hospital-acquired conditions (HACs) are among the major causes of increased morbidity, mortality, and costs for health care facilities. The Centers for Disease Control and Prevention reported more than 200 patients die daily as a result of a HAC. Research supports hand hygiene (HH) as the cornerstone of infection prevention and the most effective method of reducing HACs.

However, despite the abundance of research to support the link between HH compliance and the reduction of HACs, many health care workers remain noncompliant with recommendations. In reviewing the literature, education alone was not effective in increasing HH compliance among health care providers. The most successful interventions involved a multimodal plan that included education, feedback and self-reporting to raise self-awareness.

To improve HH compliance, Brenda Golden, manager, Occupational Health, created education that specifies the appropriate times to perform HH and when it is necessary to use soap and water in place of an alcohol-based hand rub (ABHR). She also created a survey for health care providers that included self-reported compliance to raise awareness.

To test this intervention, Golden collaborated with nursing leadership on the 10th floor to gather pre- and post-intervention data. Over the first two weeks, she observed compliance with HH and opportunities for HH. During this period, 33 observations reflected 14 total opportunities before patient contact with a compliance rate of 43 percent, and 19 opportunities after patient contact with 74 percent compliance.

Following the pre-intervention period, didactic content that included the five moments of HH (see sidebar) was provided for 29 staff (35 percent of potential participants) on the unit over three weeks.

Self-assessment surveys were made available at all nurses' stations and in the break room. All nurses and patient care technicians were asked to complete a survey at the end of each shift they worked during two weeks of data collection. Post-intervention observations were then collected over two days to determine if compliance had improved.

Of the 37 surveys available for analysis, 13 respondents self-reported 75 percent compliance with hand hygiene during their previous shift, and 25 respondents

self-reported 100 percent compliance during their previous shift. Post-intervention observations included a total of 29 opportunities for HH. Of these, there were 12 opportunities before patient contact observed and 17 opportunities after patient contact noted. Hand hygiene compliance before patient contact among health care providers showed an increase of 56 percent – 43 percent to 67 percent. However, hand hygiene compliance after patient contact decreased 46 percent – 74 percent to 41 percent.

Although the study had a small sample size for the educational intervention and self-reporting, results of pre- and post-observation compliance data indicate an opportunity for continued education related to the importance of hand hygiene compliance and the five moments of hand hygiene. This information will be used to design focused education with an opportunity for self-assessment and peer feedback for all health care providers regarding hand hygiene practices.

For more information contact Brenda Golden, BSN, RN at Brenda.Golden@bjc.org.



Angie Eschmann, RN, CNOR, and Brenda Golden, BSN, RN, make the five moments of hand hygiene a habit for every patient contact.

THE FIVE MOMENTS OF HAND HYGIENE

1. Before patient contact
2. Before clean or aseptic procedure
3. After body fluid exposure
4. After patient contact
5. After contact with patient equipment or surroundings

Janice Lanto, MS, CCC-SLP, works with patient Emmaline Elliott.



A day in the life of a speech-language pathologist

As parents know, it can be quite worrisome when their child is not talking like other children the same age. This can be the result of delayed development, or can be caused by something more serious like a genetic condition, facial abnormality, accident or injury. To meet the speech, language, communication, and swallowing therapy needs of children, SLCH employs a team of speech-language pathologists (SLPs) who specialize in many areas. These areas include general speech and language development, swallowing, augmentative and alternative communication, cleft palate and craniofacial disorders, hearing rehab, voice, and vocal cord dysfunction.

A referral to speech therapy is often generated by the pediatrician when a concern is noted by the parent or doctor. When a child arrives for an evaluation by one of our developmental SLP's, parents are asked to accompany the child to the treatment room. The therapist asks the parents questions about concerns and goals for their child; birth, medical, and developmental history; and the child's social and educational experience. This is an important part of the assessment because it allows the therapist to determine what information to gather to meet the child's unique needs.

The therapist will engage in play with the child and will frequently ask the parent to participate. Standardized assessment is performed in order to be able to compare the child's performance to that of same-aged peers. This can be as simple as showing your child a test book and asking the child to name or point to the picture. It can also involve the child demonstrating expressive and receptive communication skills during structured play tasks, like having a picnic or feeding a stuffed animal. The therapist may complete an oral-motor exam by looking into the child's mouth using a flashlight to determine if the oral structures are intact and whether the child is able to move the tongue in order to make speech sounds. The SLP may use a tongue depressor or a small mirror during this exam to check the mouth more completely.

When the evaluation is complete, the SLP will discuss the results with the parent and make recommendations. The SLP may recommend that the child comes back for therapy, or may feel that the child needs to be monitored over time. The SLP also provides resources in the community for further education or therapy if one of those services will also meet the needs of the child. The SLP will ask the parent for input as the treatment plan is created.

Follow-up sessions are much different than the evaluation. While the casual observer may think that they are simply watching play, the therapist has an objective for session interaction. The SLP may be requiring a child to imitate sounds and words to improve articulation while playing a game or completing a puzzle, may be focusing on vocabulary development and play skills while playing with a toy kitchen set, or may be teaching a child to follow directions while completing a craft activity. Parents are always welcome to observe these sessions and are often asked to participate with their child. The SLP will also provide the parent with home practice after each session, as the SLP recognizes that most development occurs at home. Some children attend therapy each week for only a short amount of time, while others require a more extensive, lengthy course of therapy.

No matter the needs of your child, the SLPs at SLCH are highly qualified and committed. We are honored to be a part of achieving better communication for SLCH patients.

For more information contact Sarah Becker at Sarah.Becker@bjc.org.

Reducing cardiorespiratory ALARM FATIGUE.

Alarm fatigue is a well-known phenomenon reported in the literature and identified as a contributing factor to sentinel events in hospitals across the country. The abundance of nuisance, false and non-actionable cardiorespiratory monitor alarms results in staff desensitization and sensory overload that places patients at risk for unintentional or unrecognized harm. In the pediatric setting there is additional risk since patients have varying normal vital signs based on physiologic age and development, so no single standard alarm limit value can provide the necessary safety threshold.

This is a significant problem and is currently a high priority of The Joint Commission and the American Association of Critical Care Nurses. As a member of the committee tasked with addressing this safety issue, Susie Jennison, RN, Pediatric ICU, conducted a project to determine if evidence-based practice supported or could offer guidance for decreased number of nuisance, false and non-actionable cardiorespiratory monitor alarms to decrease alarm fatigue and improve patient safety.

After a literature review, pre-intervention data were gathered in the 30-bed Pediatric ICU on whether each monitored patient was assigned the customized age-based cardiorespiratory monitor (CRM) alarm limit profile. Monitor pre-data was also gathered including the number of alarms signaled in the 24 hours for the patient profile audits. Jennison then worked with the Pediatric ICU Core Alarm Taskforce to identify process improvements that could increase compliance with customized age-based CRM alarm limit profiles. She completed extensive work with the clinical information system vendor to make the alarm profile user-friendly and to separate overlapping profile limits. For example, some patient

chronological ages were included in two categories and determinations for correct placement were needed. The default in the room alarm volume was decreased, and post-intervention monitoring demonstrated no safety events secondary to that volume change.

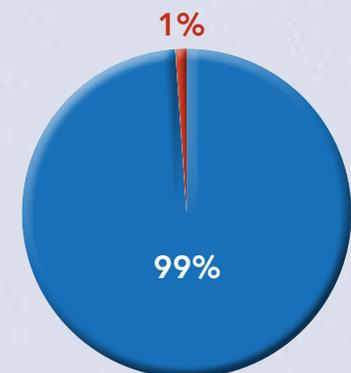
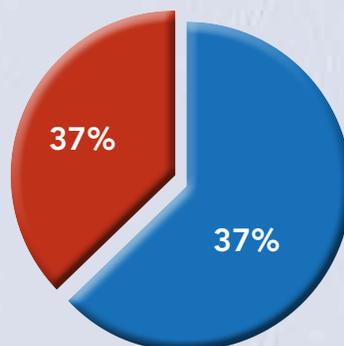
Following that step, collaboration was needed with the hospital's clinical information system vendor to add a section for documentation of the profile into the existing workflow. An extra line was added to account for the profile category, serving as a visual trigger for the nurse to check the monitor to examine the

patient profile. Following education, the correct profile increased from 63 percent to 99 percent.

Project outcomes demonstrated an overall reduction in system alarms that contribute to sensory overload and desensitization along with an increase in patient alarms. The increase in patient alarms represents increased safety for patients resulting from correct profiles. Next steps will include further examination of patient alarms to determine if any parameters need to be adjusted.

For more information contact Susan M. Jennison, BSN, RN, CCRN at Susan.Jennison@bjc.org.

PATIENT PROFILE ASSIGNMENTS BASED ON AGE GROUP



Incorrect profile (red) Correct profile (blue)

	ALARMS	BEDS	RATE	RR	P*
All Alarms				0.90	0.18
Days profiles set incorrectly	43,888	86	510.3		
Days profiles set correctly	45,223	99	456.8		
System Alarms (INOPs)				0.81	0.02
Days profiles set incorrectly	36,227	86	421.2		
Days profiles set correctly	33,786	99	341.3		
Patient Alarms				1.30	0.0005
Days profiles set incorrectly	7,661	86	89.1		
Days profiles set correctly	11,437	99	115.5		

Treating ECMO cannula site bleeding

As nurse coordinator for the ECMO team, Nicole O' Connor had noted that many patients were experiencing bleeding from the cannula sites. This bleeding can result in significant morbidity including daily blood product transfusion requirements and even hemorrhagic shock. As part of the Evidence-Based Practice Fellowship, she conducted a retrospective review of 34 ECMO patients that showed an incidence of bleeding in 71.1 percent of cannula sites. For these patients, hemostasis had been achieved only 13.7 percent of the time using current practice.

O'Connor assembled a multidisciplinary team and designed a project to identify and implement a more effective topical hemostatic strategy for ECMO cannula sites. Following an in-depth literature review and a survey of ECMO centers, StatSeal® was selected as an alternative hemostatic agent and included in a revised institutional cannula site dressing change guideline. ECMO specialists were trained on how to apply the product, and guideline compliance was tracked prospectively. Data on effectiveness of achieving hemostasis pre-intervention was collected retrospectively by chart review, and post-intervention was collected prospectively.

During the pilot, there were 46 total patients (34 pre-intervention and 12 post-intervention) with 51 cannula sites (38 pre-

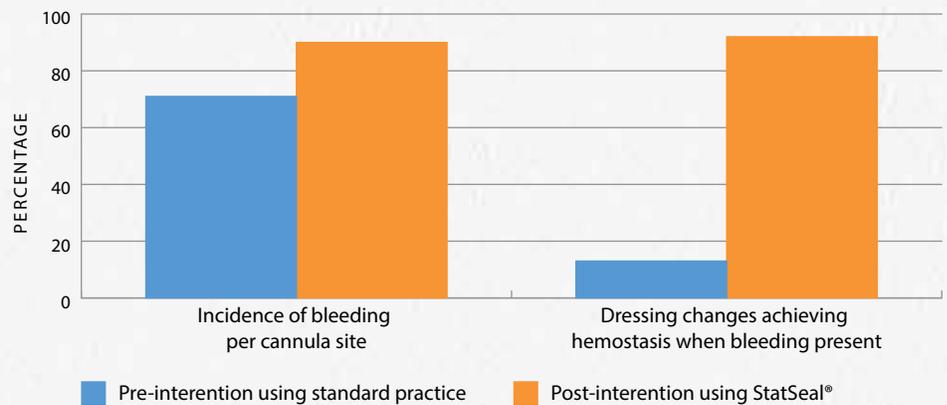
intervention and 13 post-intervention). The incidence of bleeding per cannula site was 71.1 percent in the pre-intervention group and 92.3 percent in the post-intervention group. Hemostasis was achieved in 13.7 percent of cannula dressing changes in the standard intervention group compared to 89.5 percent in the post-intervention group using dressing changes with StatSeal. There were no significant differences in the two groups with respect to mode, cannulation site, cannulation technique or systemic anticoagulation management.

The trial topical hemostatic agent was ineffective at achieving hemostasis when not applied per guideline with pressure over bleeding site or for serous drainage. In four patients, initial hemostasis was achieved, but bleeding resumed following patient movement

or cannula repositioning. In three of these patients, hemostasis was achieved following reapplication of StatSeal; one awake patient received a local injection of lidocaine with epinephrine at a bleeding distal suture.

O'Connor concluded that StatSeal is effective as a topical hemostatic agent for ECMO cannula site bleeding. However, proper application, including applying pressure for the appropriate period of time, is essential to achieving hemostasis. As a result, re-education of the team took place. Since implementation of the new guideline and product, patients are experiencing significantly less bleeding, which supports improved patient care.

For more information contact Nicole R. O'Connor, BSN, RN, RNC-NIC at Nicole.OConner@bjc.org



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Proper application, including applying pressure for the appropriate period of time, is essential to achieving hemostasis.

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COUNTING SHEEP

Sleep hygiene guidelines

Sleep is an important physiologic process, and lack of sleep is associated with a host of adverse outcomes. One of those negative outcomes is the development of delirium. Although studied primarily in adults, the impact of delirium on children has recently become an area of concern. Sleep deprivation is one of the primary contributors to development of delirium in the pediatric population, which in turn can increase the length of stay as well as increase morbidity. As a nurse in Pediatric ICU, Abby Orde, RN, recognized the need for an intervention to help patients achieve restful sleep in this complex environment and worked during her Evidence-Based Practice Fellowship to develop a sleep hygiene guideline.

Working with a team that was already addressing pediatric delirium, Orde completed a literature review that identified interventions to support the child's home sleep routines. These included optimizing the environment for circadian rhythm maintenance; lighting management, noise reduction, clustering interdisciplinary care; decreasing medication that hinders restorative sleep, and adding supplements such as melatonin. A pre-intervention survey was conducted on the nurses' perceptions of the current state of

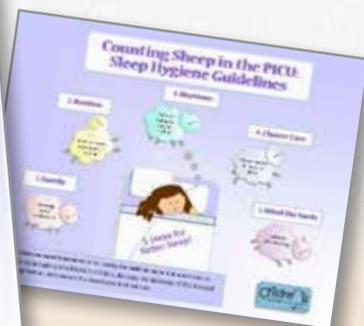
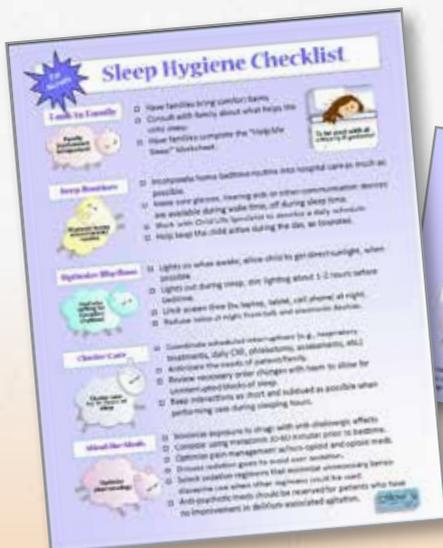
sleep in the Pediatric ICU population.

She then developed sleep hygiene guidelines based upon the evidence and delivered education for all unit staff. A checklist was used to guide nursing education, and posters were displayed throughout the unit to remind staff to adhere to the sleep hygiene guidelines. Orde provided education for parents on the importance of sleep using a tool that was distributed in all admission folders. Parents completed a "Help Me Sleep Sheet" on their child's home bedtime routines and sleep schedule, which staff used to help the child sleep better away from home.

Data collected during the pilot indicated that guidelines were currently being implemented at least 95 percent of the time. Pediatric ICU nurses reported satisfaction in the ease of use of the guideline and an increased amount of sleep for patients. Nearly 70 percent of patients experienced at least one four-hour block of non- or minimally interrupted sleep each night. Although parents were not surveyed, many have reported great satisfaction in being able to participate in planning and helping to achieve sleep for their child. Physicians have also collaborated on the initiative and have scheduled testing and medication administration to support patient sleep.

As a result of her project, Pediatric ICU nurses now report an increased ability to more accurately assess quantity and quality of sleep as well as an increased ability to select age-appropriate interventions to support sleep. These nurses also indicated a greater understanding of the need for sleep in patients receiving continuous sedation to prevent delirium. Next steps will include implementation of the sleep hygiene guidelines to other hospital units.

For more information contact Abigail Orde, BSN, RN, CCRN at Abigail.Orde@bjc.org



A checklist was used to guide nursing education, and posters were displayed throughout the unit to remind staff to adhere to the sleep hygiene guidelines.

Addressing skin breakdown from EEG electrodes

Patients are admitted to the epilepsy monitoring unit (EMU) for long-term monitoring to diagnose epilepsy or other brain dysfunction and to determine appropriate medical or surgical treatment. As part of their evaluation, electroencephalogram (EEG) leads are placed on the forehead and scalp. Secure and efficient placement of electrodes is a critical component of performing neurotelemetry but can cause problems.

Skin breakdown at the electrode sites of patients was observed by staff in the EMU who then began tracking these adverse outcomes. Previous efforts to decrease the incidence of skin breakdown included:

- Loosening head wraps
- Checking the skin under electrodes every 48 hours
- Preparing the skin sites with less friction during the scrub prior to placement

The incidence of skin breakdown did decrease with these interventions although episodes of skin breakdown continued to occur.

Heather Hagedorn, EEG technician, participated in the Evidence-Based Practice Fellowship and began her project by conducting a thorough literature search to identify a more effective intervention to address the incidence of skin breakdown. She found little research published on this topic, with most articles exploring various products and application techniques. Based on her review, she developed the following clinical question to guide the project: "For patients requiring long-term EEG monitoring in the EMU, does the use of an adhesive foam pad with electrode placement on the forehead reduce skin breakdown compared to current practice?"

A multidisciplinary team of EEG technicians and nurses was formed to identify the best practice for applying and securing electrodes to prevent skin breakdown. The Hydrodot Skin Saver Pad

was obtained for a pilot study. Five EEG technicians participated in a workshop delivered by the skin, wound and ostomy nurse to learn more about pressure ulcers. The EEG technicians used the terms

NO SKIN SAVER	Pre-Intervention N = 50 10/5/15-11/30/15		
	Blanchable Redness (BR)		
Duration of Electrode Application	Number of Subjects	Number with BR	Percentage
1 Day	32	5	15.6%
2 Days	10	6	60%
3 Days	4	1	25%
4 Days	4	3	75%
Overall Total with BR	50	15	30%

USING SKIN SAVER	Post-Intervention N = 50 12/7/15 – 4/19/16		
	Blanchable Redness (BR)		
Duration of Electrode Application	Number of Subjects	Number with BR	Percentage
1 Day	32	3	9.3%
2 Days	10	3	30%
3 Days	4	2	50%
4 Days	4	1	25%
Overall Total with BR	50	9	18%*

Right: Skin breakdown from EEG electrodes



Above: Application of Hydrodot® Skin Saver Pads with electrodes



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“Does the use of an adhesive foam pad with electrode placement on the forehead reduce skin breakdown compared to current practice?”

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blanchable, non-blanchable, open/clean and open/discolored as the descriptive terms for skin breakdown while collecting data in the EMU. Skin under the frontal electrodes was checked every other day for signs of breakdown, and results were documented that included

- Lead placement
- Skin condition prior to and after use of the new adhesive foam pad
- Number of days of EEG recording
- Patient age

Data was collected on 100 patients in the EMU, and subjects were matched for days of monitoring. A 12 percent reduction in blanchable redness was found in patients using the adhesive foam pads, and no pressure ulcers requiring staging were noted throughout the pilot. However, the patients in the pilot were otherwise “healthy” subjects. The critical care patients who also undergo long-term monitoring were not included. Hagedorn is expecting to see positive results with these patients as well, and her team will continue to monitor for skin breakdown.

For more information contact
Heather Hagedorn, R.EEG.T at
Heather.Hagedorn@bjc.org

Valuing professional CERTIFICATION

As pediatric health care becomes more specialized, complex, and more technologically advanced, there is an increasing demand for accountability. Professional certification demonstrates that an individual health care provider has achieved a more advanced level of qualifications, knowledge and skills in a specialty practice area. Certification represents a commitment to evidence-based practice and professional standards. It indicates to patients, employers, licensing and accrediting bodies, and the public that the certified nurse or paramedic is capable, competent and current in a practice area. Research has demonstrated that certification influences professional practice and patient outcomes.

Studies over the past decade with nurses have reported that certification increases their sense of control over their practice and autonomy, and also enhances communication and collaboration. One study of certified nurses concluded the value of certification is in promoting continued excellence in professional care and “is a clear indicator of commitment, not only to one’s specialty, but also to one’s personal and professional growth and dedication.” Certification denotes achievement among peers and recognition in the organization. The certified nurse is seen as one with advanced knowledge and expertise in the specialty. Because certification is associated positively with job satisfaction, it may also contribute to recruitment and retention.

Two SLCH specialty units, the Transport Team and the Vascular Access Team, have made certification by all team members a

goal. For the Transport Team to maintain program accreditation by the Commission on Accreditation of Medical Transport Systems, both registered nurses and paramedics must achieve certification after two years of employment. Although there are several certifications that meet this requirement, most team members have chosen to become certified in Neonatal and Pediatric Transport (CNPT). To help prepare for the examination, the unit has several textbooks as well as a study guide for team members.

The CNPT designation is for three years. As team members earn certification, their names are added to a plaque in the unit, and the certification can be added to their flight badge. Right now 90 percent of registered nurses and 60 percent of paramedics have earned certification.

Vascular Access nurses are a small but essential team who aspire to uphold the mission of their professional organization, the Association for Vascular Access (AVA): “to distinguish the vascular access specialty and define standards of vascular access through an evidence-based approach designed to enhance healthcare.” After at least one year on the team, they encourage each other to become certified. Their educator, Jennifer Hoermann, BSN, RN, VA-BC, leads study sessions as needed when team members are becoming eligible to take the examination. These nurses believe that certification clearly validates their knowledge and expertise for a unique role in providing care for children. Their goal is for all eligible nurses on the Vascular Access team to be certified by December 2016.

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Research has demonstrated that certification influences professional practice and patient outcomes.

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Preventing DIAPER DERMATITIS

Diaper dermatitis is one of the most common skin problems experienced by children and seen in both the inpatient and outpatient settings. It is a painful, inflammatory skin reaction caused by moisture, friction, and contact with urine and feces that may be overlooked as a primary problem. Hospitalized pediatric patients are at higher risk for this skin breakdown than the average, healthy child. These patients may have altered nutrition, may be treated for infection with antibiotics, have decreased mobility, and experience increased stools; all creating a higher risk for skin breakdown. While working in the Pediatric ICU, Jessica Wallace had frequently cared for children suffering from diaper dermatitis and wanted to learn whether a standardized preventive intervention would decrease the incidence.

A comprehensive literature review found interventions that protected patients. These included:

- Frequent diaper changes
- Gentle cleansing of the skin, avoiding excessive use of soap
- Phototherapy

One study reported that the use of a preventative petroleum-based cream resulted in a decrease in diaper dermatitis rates from 24 percent to 11 percent.

Another hospital using a petroleum-based cream reported a rate of diaper rash at only 2.5 percent. Based on this evidence, Vitamin A & D ointment was selected to use on every child with intact skin with every diaper change. The petroleum-based cream was selected because it was readily available, had little allergenic properties and was cost-effective.

A team of nurses, patient care technicians and representatives from Material Services collected data and ensured the appropriate supply of a petroleum-based cream for each unit. Prior to implementation, data was collected on one 20-bed inpatient pulmonary

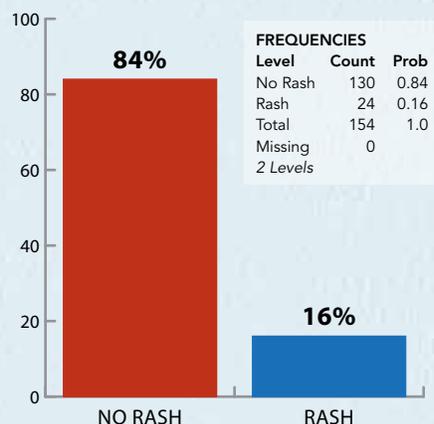
unit to establish the current rate of diaper dermatitis. Education was then provided for staff and parents about the preventative use of Vitamin A & D ointment, and posters reminded everyone about the project.

Data from the inpatient pulmonary unit demonstrated a 5 percent reduction in the incidence of diaper rash, and the intervention is now being trialed in the Heart Center. Based on the results, the intervention may be adopted throughout the hospital and incorporated into a revised diaper dermatitis guideline.

For more information contact Jessica Wallace, BSN, RN, CCRN at Jessica.Wallace@bjc.org

DIAPER DERMATITIS BY THE NUMBERS

Distributions Implementation
Status=Pre-Implementation



Distributions Implementation
Status=Post-Implementation

