



# Cooper Bridges

A publication for nurses and healthcare professionals

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# Improving Patient Outcomes from Sepsis

Nurse Screening Every Patient, Every Day

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E-mail comments about Cooper Bridges to: Stauss-mary@cooperhealth.edu

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# From the Chief Nursing Officer

**Stephanie D. Conners** Senior Executive Vice President, Hospital Chief Operating Officer and Chief Nursing Officer

Cooper nurses are doing exciting things! I'm so proud of the professionalism and dedication of our nurses. Day in and day out, you make such a positive difference in the lives of our patients and families. Many of you do this while caring for your families, furthering your education or being involved in professional activities. You are true examples of our commitment to Safety, Service and Quality.

This edition of *Cooper Bridges* is a fine example of the dedication our nurses have toward advancing the science of nursing. For example, the Professional Practice Council banded together to write an article on improving nurse engagement. This is an excellent illustration of teamwork in action in the true spirit of "One Team, One Purpose." Together we can accomplish great things.

Our mission To Serve, To Heal, and To Educate has gone global! As I read Jane Ryan's story on her trip to educate nursing students in a remote area of India, I was thinking how wonderful it is that Cooper nurses are reaching out beyond our hospital borders to improve nursing care of the underserved. The Professional News section further emphasizes this point. The accomplishments of Cooper nurses are amazing. Be sure to congratulate your fellow nurses on their successes.

Our goal is to provide you with opportunities to explore the growth in nursing that Cooper offers. There are several other articles on evidence based nursing care that I'm sure you will find interesting. Please enjoy this edition of *Cooper Bridges*, and be proud as I am of the wonderful work Cooper nurses are doing. Thank you for all that you do. I look forward to continuing to work with you to advance nursing practice at Cooper.

"To do what nobody else will do, a way that nobody else can do, in spite of all we go through; that is to be a nurse." – Rawsi Williams

Regards,

#### Stephanie D. Conners

Email comments to conners-stephanie@cooperhealth.edu

#### **Cooper Bridges Mission:**

"To communicate and educate nurses and healthcare professionals to foster excellence in the delivery of patient care." Cooper Nurses interested in authoring an article for a future edition of *Cooper Bridges* may obtain submission guidelines by contacting: **Stauss-mary@cooperhealth.edu** 

## Improving Nurse Engagement

Danielle Baback, RN, MSN, CCRN; Suzanne D. Butler, RN, BSN, CPN, CCRN; Joan M. Pino Talbot, RN-C, MSN; Lisa Replogle, RN-C, BSN; Diana Hays, RN, CPN; Janet Tridente, RN, MSN, CCRN; Mary Ellen Bednar, RN, MSN, CPAN; Talia Zank, RN, BSN; Elizabeth Malane, RN, MSN, CCRN

urse engagement has been a hot topic among healthcare for a number of years. Nurse engagement and satisfaction can play a major role in patient satisfaction. The recent change in reimbursements for hospitals based on patient satisfaction scores requires hospitals to implement new programs that will increase nursing satisfaction and retention. The Professional Development Council at Cooper University Hospital (CUH) became interested in how to improve patient satisfaction through nurse satisfaction and engagement. The decision was made to research ways that other hospitals are improving nurse engagement and how it affects patient satisfaction. This paper compiles the results found through a review of the literature. Articles were retrieved using search words "nurse engagement" and "certification." These journal articles were from various resources including nurse management journals and other clinical nurse peer reviewed journals.

#### Nurse Engagement

The term engagement began to surface in business literature and organizational psychology over the past two decades and has more recently become noted in the nursing workforce (Simpson, 2009). Employee engagement has long been used as a strategy to increase job satisfaction and performance (Laschinger, Wilk, Cho & Greco, 2009). Work engagement is defined as a "fulfilling work-related state of mind that is characterized by vigor, dedication and absorption" (Simpson, 2009). Engagement targets staff involvement and participation in shaping the elements or outcomes of a project or initiative (Harmon, Sey, Hiner, Faron & McAdam, 2010). Specifically for nursing this could mean involvement in councils, policy changes and program development. With a continued global nursing shortage, it is vital for hospitals to decrease nurse turnover rates as well as ensure continued attraction of new nurses.

Low levels of nurse engagement have been associated with lack of job autonomy, decisional involvement, supportive management and performance feedback (Laschinger et al., 2009). By giving nurses the opportunity to participate in the organization, for example through shared governance, the nurse has a voice and the opportunity to help improve and make changes in the organization (Harmon et al., 2010). An improvement in nurse engagement requires support from nursing leadership in order to build a culture that values engagement in all aspects of the organization.

#### Strategies to Improve Nurse Engagement

Many strategies to improve nurse engagement have been developed and put to use throughout health care organizations. Strategies such as self-scheduling, nurse controlled assignments including admissions and transfers and shared governance are all examples of ways to increase nurse engagement (Agrawal, Berlin, Grote and Scheilder, 2012). Shared governance is often the most successful tool in improving nurse engagement and satisfaction. Shared governance gives nurses a voice in the organization as well as allowing them to develop greater autonomy in relation to their work conditions (Agrawal et al., 2012). This is also a way to

By giving nurses the opportunity to participate in the organization, for example through shared governance, the nurse has a voice and the opportunity to help improve and make changes in the organization. An improvement in nurse engagement requires support from nursing leadership in order to build a culture that values engagement in all aspects of the organization.





When a nurse feels engaged and a part of their organization, he or she will be more likely to stay at that organization and be satisfied with their job. By improving the outlook of nurses, we can improve the patient experience which will lead to increased satisfaction among patients and make them more likely to return to the organization.

improve nurse satisfaction by giving nurses the opportunity to improve patient care both in their own unit, as well as across the hospital.

Mentoring programs have also been found to improve nurse engagement and satisfaction as well as decreasing new nurse turnover. One healthcare system has developed a successful nurse mentoring program in which a novice nurse is paired with an experienced and motivated nurse during orientation (Harmon et al, 2010). The program pairs nurses based on clinical needs and personality traits and encourages new nurses to become familiar with the culture of the hospital and their department as well as improving clinical competence and confidence during the first year (Harmon et al, 2010). The program has successfully increased job satisfaction with the new and experienced nurse as well as increased new nurse retention throughout the entire hospital (Harmon et al, 2010).

One organization in the United States developed a system to improve nurse engagement as well as nursing-sensitive patient outcomes. This program was put into place after inconsistencies in the delivery of nursing care at their facilities lead to high dissatisfaction and turnover rates among nurses (Agrawal et al, 2012). This program, called the "Patient Caring Touch System" incorporated many different initiatives among nursing to make improvements. Some examples of initiatives introduced during this program include peer feedback, care teams, standardized documentation, leader development and shared accountability (Agrawal et al, 2012). Since rolling out the program in over 40 facilities across the country, the organization has seen a decrease in patient falls and medication-administration errors as well as an increase in nurse engagement and decrease in absenteeism and nurse turnover (Agrawal 2012).

Educating nurse leaders to ensure they have the appropriate

managerial and leadership skills is also an important factor in improving both nurse engagement and nurse satisfaction. One article found that many staff nurses felt their direct supervisor is the main reason for their job satisfaction (Agrawal et al, 2012). Education on conflict resolution, feedback delivery and hospital operations may help to improve the capability and leadership skills of nursing administration (Agrawal et al, 2012). Education impacts nurse managers, leaders nursing satisfaction and retention (Agrawal et al, 2012).

#### Conclusion

The quality of nursing and patient care can be improved by increasing nurse engagement through organizational wide changes such as self-scheduling, nurse controlled assignments, shared governance, mentoring programs, Patient Caring Touch System and educating nursing leadership. When a nurse feels engaged and a part of their organization, he or she will be more likely to stay at that organization and be satisfied with their job. By improving the outlook of nurses, we can improve the patient experience which will lead to increased satisfaction among patients and make them more likely to return to the organization.

Email comments to baback-danielle@cooperhealth.edu

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# Reasons Pediatric Patients Attend or Do Not Attend Scheduled Healthcare Appointments: A Qualitative Review from Parents' Perspective

Nora Vizzachero DNP APN CPNP

#### Abstract

Pediatric appointment nonattendance leads to restrictions in access to care and alterations in health care outcomes. At one urban pediatric healthcare practice appointment nonattendance averages about 40%. Barriers to appointment attendance may be personal, financial or institutional (Detman & Gorka, 1999; Margolis, Carey, Lannon, Earp & Leininger, 1995).

#### Purpose

The purpose of this practice inquiry study is to determine the factors that contribute to Cooper Pediatrics patients and the role of their parents or guardians, in attending or not attending scheduled medical appointments from the parents' perspective. Obtaining firsthand accounts of the factors that affect appointment attendance provided an opportunity for professionals in this setting to identify the needs of the population and potentially intervene to improve appointment attendance rates.

#### **Design and Methodology**

The Theory of Planned Behavior, with its three themes of attitude toward the behavior, subjective norm and perceived behavioral control, was the framework used to examine the factors that contribute to appointment nonattendance (Ajzen, 1991). Inquiry questions were what factors contribute to appointment attendance and nonattendance in our Camden outpatient pediatrics site and what actions may be taken to help improve attendance rates. A descriptive study design using structured interviews and qualitative content analysis was chosen for this practice inquiry project. This method allowed for identification and exploration of factors that affect children's appointment attendance. Study participants included 17 English speaking parents or guardians of children who are patients at the Camden, New Jersey practice site. Participants were chosen from sequential patients arriving for outpatient care in January through May of 2014.

#### Results

Three themes emerged in this investigation as to why patients fail to attend their scheduled healthcare appointments. The most significant theme to emerge was that of financial barriers. While previous research (Lacy, Paulman, Reuter & Lovejoy, 2004) mentions this as an issue, this inquiry showed inadequate finances for this group of participants to be the most important factor in appointment keeping. In order to attend an appointment these families needed to save money for gas, tolls and parking. They also had difficulty maintaining a reliable vehicle, and affording public transportation. Remembering appointments, negotiating getting a referral and planning transportation seemed to be more difficult in those already facing economic social challenges along with balancing responsibility for caring for others. The third theme consisted of institutional factors, such as the need for a system of appointment reminders, a more efficient or better understood referral process and a more user friendly transportation system. Likewise the ease of making and getting appointments and the wait for an available appointment, call back from a provider and the sometimes slow patient flow in the waiting room all are significant barriers for patients and families.

#### Conclusions

This inquiry reveals the need for additional research in this area. This inquiry did not explore the parents' impressions of what happens when they do not attend their appointment. Non-English speaking patients were not included in this inquiry; it is the investigator's opinion that they may have different experiences, providing additional factors. Conducting telephone interviews with patients and families that do not attend any of their scheduled appointments enough to be interviewed in person may be useful in revealing additional factors. Using Azjen's Theory of Planned Behavior to frame this phenomenon allowed the investigator to inquire about and analyze these factors. Current healthcare practice attempts to improve behavior in order to improve patient health. This inquiry has revealed some of these factors and identified some ways to encourage behavioral change.

Email comments to vizzachero-nora@cooperhealth.edu

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# Improving Patient Outcomes from Sepsis

### Nurse Screening Every Patient, Every Day

Christa A. Schorr RN, MSN, FCCM

#### Introduction

Sepsis is the body's systemic response to infection. It is a serious healthcare condition carrying high mortality rates and substantial costs of care. The result of the body's response to sepsis can lead to development of new organ system dysfunction. Severe sepsis is the condition when infection is complicated by acute organ dysfunction, which frequently requires organ system support such as mechanical ventilation or vasopressor therapy. The need for vital organ support leads to an extended treatment phase and longer hospital stays contributing to increasing mortality rates.

#### Background of the Surviving Sepsis Campaign

The Surviving Sepsis Campaign (SSC) leaders set out to decrease mortality from sepsis around the world with public

awareness, education and a performance improvement initiative. The SSC began with three initial phases. Phase I focused on the introduction of the campaign at several major international critical care medicine conferences. Phase II assembled an international consensus committee to create evidence-based guidelines for managing severe sepsis and septic shock. Phase III included a process to implement the SSC guidelines into practice, quality improvement techniques to treat sepsis and a resource for data collection.

The first guidelines were published in 2004 and have been revised twice, once in 2008 and again in 2012 (Schorr, Dellinger, 2014). The last changes in the guidelines led to a revision in the SSC sepsis performance improvement (PI) bundles. Previously, the 2004 guidelines reflected the 6 and 24 hour bundles which included eleven quality indicators. Currently the bundles consist

#### **TABLE 1** Surviving Sepsis Campaign Bundles

To be completed within 3 and 6 hours of time of presentation to emergency department or diagnosis (potential) on floors or in ICU.

#### Within 3 Hours

- Measure lactate level
- Obtain blood cultures prior to administration of antibiotics
- Administer broad spectrum antibiotics
- Administer 30ml/kg crystalloid for hypotension or lactate  $\geq$  4mmol/L (36 mg/dL)

of seven quality indicator targets, four to be completed within the first 3 hours and the remainder within the first 6 hours (Table 1) (Dellinger, et al., 2013).

The 2012 guidelines place emphasis on the significance of the PI process in sepsis care. Key to this process is the nurse at the bedside. Nurses have a vital role in promoting optimal care for patients with severe sepsis. Awareness of the new SSC guidelines and the implications for nursing care is essential (Kleinpell, Aitken, Schorr, 2013). The SSC is not only about the early identification and treatment of patients, but also recognizes that nurses are active participants in the PI and data collection process (Kleinpell, Schorr, 2014).

#### Identification of the Problem

Results of the Phase III SSC PI program revealed a sustained improvement in compliance with the quality indicators with prolonged involvement in the campaign (Levy, Dellinger, Townsend, 2010; Levy, Dellinger, Townsend, 2010). A significant decrease in mortality was also observed. Interestingly, the mortality for patients presenting to the Intensive Care Unit (ICU) from the Emergency Department (ED) was 27% compared to 44.3% for those presenting to the ICU from the units other than the ED (i.e. general medical, medical/surgical, telemetry etc.). Despite the association with an overall observed decrease in mortality, the SSC leadership realized that the primary efforts in Phase III focused on the ED and the ICU. Although the group of patients admitted to the ICU from the floors accounted for only 34.8% of the patients in the SSC database, the mortality in this group was much higher than those admitted to the ICU from the ED (Levy et al, 2010).

Based on these findings, the campaign has initiated a PI program funded by the Gordon and Betty Moore Foundation, targeting hospital floor patients. This program includes sixty hospitals, divided into four regions throughout the United States. Cooper University Hospital (CUH) is participating as a member of the East Coast collaborative. The program is being implemented in collaboration with the Society of Hospital Medicine.

### Possible Reasons for Poor Outcome when Severe Sepsis Develops on Inpatient Floors

There are several potential reasons for a worse prognosis in severe sepsis patients presenting to the ICU from the floors. One possible reason may be that patients are admitted from the ED to the floor with un-identified severe sepsis, (i.e. organ dysfunction or tissue hypoperfusion that was not recognized until deterioration occurs on the floor). Another possible reason may be



that patients presenting to the ED with severe sepsis may be determined by the ED clinician to be stable for the floor (not require an ICU bed). Over time, their clinical status declines and then they are transferred to the ICU.

In a single center study of 1853 patients admitted to the hospital with severe sepsis over a 5 year period, 45% were initially admitted to a non-ICU setting (Whittaker, Fuchs, Gaieski, 2014). Adverse outcomes in this group of patients were linked to older age, higher burden of comorbid conditions, an oncology diagnosis, a do not resuscitate order at admission and were more severely ill (Whitaker, 2014). Patients with severe sepsis admitted to a non-ICU setting commonly experience a new functional disability, regardless of their baseline functional status (Odden, Rohde, Bonhan, 2013). The findings from the SSC data and studies reporting adverse outcomes in this group require attention to promote timely management to decrease long term disability and even death.

#### Focus Groups – Collaborative Design

The hospital floors initiative at CUH is currently underway and known as SSC Phase IV. The initiative includes application of the new 3 and 6 hour severe sepsis bundles based on the most recent SSC guidelines and built into the long-established SSC PI program. The focus of this initiative is the 3 hour bundle which includes obtaining a serum lactate and blood cultures before administration of antibiotics, administration of broad spectrum antibiotics and administration of 30 ml/kg crystalloid in those patients with a lactate  $\geq$  4 mmol/L and/or hypotension. (Table 1) The 6 hour bundle may be started on the hospital floors, but usually requires transfer to a higher level of care to fully accomplish.

The SSC Phase IV initiative is concentrating on hospital floors, with an emphasis on nurses screening every patient on every shift for severe sepsis using a severe sepsis screening tool. The initiative is also associated with techniques for nurses to communicate early severe sepsis identification, which will lead to the initiation of timely management of severe sepsis. Nurse and physician champions from these units are encouraged to work with their ED and ICU counterparts to facilitate promotion and support of the program.

Similar to Phase III, this program provides tools to facilitate educational sessions with nursing and physician staff (focus on early identification of severe sepsis), including evaluation for



Education is essential when starting any new program but the odds of retaining the information over time remains minimal. Even in the presence of a strong foundation in medicine, diagnosing sepsis is not an easy task for most clinicians.

presence of (a) active or newly suspected infection, (b) systemic manifestations of infection and (c) presence of new organ dysfunction. When patients are identified as meeting the criteria for severe sepsis, data is reviewed and confirmed with the clinical team (time zero or T0) in an expedited manner with focus on implementation of the 3 hour bundle indicators and facilitation of access into the 6 hour bundle if indicated.

#### Site Level Phase IV Collaborative Team Strategy

A viable Phase IV severe sepsis program requires support on multiple levels in order to facilitate change in clinical behavior. This includes nurse screening, development of a script for staff to communicate findings supporting severe sepsis and potentially developing an order set for severe sepsis. Initiatives to help move the early identification process forward may include 24/7 severe sepsis surveillance via the electronic medical record (alerts) using a modified electronic warning system (score to alert clinicians of a change in clinical status). A sepsis response team may also be deployed. The early inclusion of nursing staff and hospitalists in the planning of this program is essential. Additional members of the team should include medical informatics, pharmacy, critical care and emergency medicine providers, unit based medical technicians and if applicable a sepsis response team leader.

Education is essential when starting any new program but the odds of retaining the information over time remains minimal. Even in the presence of a strong foundation in medicine, diagnosing sepsis is not an easy task for most clinicians. Often the systemic manifestations of sepsis may go unnoticed or when recognized may not appear to need urgent intervention, often influenced by individual physician diagnostic capability and workload. The systemic manifestations of sepsis that should raise awareness for physicians may be overlooked or managed from a distance. Even when notified by nursing staff, physicians in training may not recognize the physiologic changes that can lead to a more severe infectious process (Assuncao, Akamine, Cardoso, 2010). Establishing communication and equal respect lends to collaborative success in this program.

#### **Effective Clinician Communication**

Nurse to physician communication can be a challenge, as nurses are trained to communicate in a narrative style whereas physicians are taught to report in brief bullet type points. Effective communication creates a more effective work environment in addition to building a safe quality environment (Manojlovich, 2010). Basic to any PI program is the mutual respect among the team. For this program to excel, the clinical team (physicians and nurses) will need to acknowledge the competence of the nurse to identify a severe sepsis patient requiring rapid intervention. On the other hand, the nurse needs to develop appropriate skills to assess a patient for severe sepsis and communicate his/her findings to the physician.

The communication method may be scripted using situation, background, assessment and recommendation (SBAR). The SBAR technique for healthcare professionals promotes quality and patient safety through effective communication with common agreed upon expectations (Institute for Healthcare Improvement, 2014).

#### Example:

**INTRODUCTION:** Dr. Jones, this is Mary Smith RN. I am calling about your patient Mr. Black.

**SITUATION:** Mr. Black is experiencing fever with chills and is complaining of severe pain in his right leg.

**BACKGROUND:** The background information is that he was admitted yesterday with cellulitis of his right lower extremity. At 8 am today, he reported that the redness has extended 2 inches outside the markings placed on admission. His temperature is 101.5°, heart rate is 98 and respiratory rate is 24. He is complaining of severe pain.

**ASSESSMENT:** My assessment of the situation is that he may be experiencing a worsening of his soft tissue infection.

**RECOMMENDATION:** I recommend that you see him immediately and that we order a serum lactate, blood cultures and a basic metabolic panel. Do you agree?

The physician should confirm, clarify and request additional information and then work with the nurse to take appropriate action with this patient.

#### Nurse Engagement

Nursing engagement may be a major component to improving sepsis survival, especially if educated and resourced with the capability to recognize systemic physiologic changes in patients early. Floor nurses have a patient load that may range from 4-8 patients depending on the type of unit and hospital size. Caring for an average of 6 patients requires a great deal of organizational skills. A full assessment of these patients is generally completed at the start of each shift. Incorporating a sepsis screening tool alongside the daily shift assessment may be an efficient and effective method to identify sepsis early. Unlike the ED where patients are assessed soon after arrival by the a triage nurse, nurses practicing in units outside the ED may not get to the assessment of all of his/her assigned patients until 2-3 hours into the shift. Built-in electronic records warning systems to alert the nurses to whom patients should receive priority evaluation may facilitate early identification and initiation of treatment.

#### **Screening Methods**

Screening for severe sepsis may be achieved with (a) a paper screening tool, (b) an electronic sepsis alert or (c) a hybrid of paper and electronic screening. Although somewhat easy to complete, paper data collection has limitations in that another staff member typically confirms that the screening was positive



and data collection is required for feedback to the team. Electronic severe sepsis screening may be accomplished through 24/7 automated surveillance of electronic data capture including vital signs and laboratory data.<sup>13</sup> The surveillance method requires that specified parameters be written so that the screening method is consistent. This automated process may be linked to a sepsis alert where the 24/7 electronic surveillance triggers an alert message to the nurse indicting that the patient may have sepsis. This may be done via a message to a smart device or a pop-up alert on the EMR for the specific patient.

Although there is a sense of efficiency with electronic surveillance, it is equally important to include the clinician assessment and confirmation of sepsis criteria. Once the assessment for infection is completed, the surveillance system can be designed to review blood pressure readings and laboratory data to determine if organ dysfunction is present. The clinicians should review the information and determine if the organ dysfunction is chronic or if it is related to the infection. Once confirmed that the organ dysfunction is new and related to the infection, proceeding with confirmation and implementation of the severe sepsis bundles should follow.

#### What are we doing at Cooper University Hospital?

Leadership from Dr. R. Phillip Dellinger facilitated a core focus group (Figure 1) which worked to follow the plan outlined by the SSC Phase IV Collaborative faculty. The faculty issued tight rules in that screening every shift was primary and data collection using the SSC database for evaluation of the metrics was required. The process of how this was implemented in the various institutions was unique based on the size of the hospital, resources and level of expertise in performance improvement.

Methods to stream line procedures geared toward severe sepsis

#### FIGURE 1 Team Members

#### Sepsis Collaborative Process Owners:

- •Danielle Majuri RN, MSN, APN, Patient Safety Manager
- •Sebastien Rachoin MD, Hospitalist

#### Sepsis Collaborative Team:

- Pam Crabtree, RN, PI Outcomes Manager
- R. Phillip Dellinger, MD, Chief Medicine; Intensivist
- Dan Fabius, MD, Hospitalist
- Melinda Rosseland, RN, MSN, Medical Informatics Analyst
- Christa Schorr, RN, MSN, Critical Care Research

patient identification has been tested and implemented on the pilot unit Kelemen North 10. During the planning process the focus group used the Lean Six Sigma standardized improvement methodologies to identify procedures to decrease waste and improve quality. The process owners (unit based champions) for the program include a nurse and a physician leader both with a vested interest in the unit involved in the PI initiative. Key members of the floor Severe Sepsis Program engaged in a walk through the steps (workout) on how to identify a severe sepsis patient using a formal protocol. The intervention focused on plotting out the steps necessary to identify areas that work well (i.e. medical technician obtains vital signs every shift within 1 hour of arrival of all admitted patients), require clarification (i.e. where in the process is the physician notified) or need a more efficient method to perform a specified task (i.e. administer antibiotics). Findings from the workout provided information to help the team simplify the overall process and eliminate areas where inefficiencies may occur.

Over the course of several months, the development of a checklist in the documentation flow sheet evolved into an automated screening tool and sepsis alert within the electronic medical record. Although the program's focus is on early identification of severe sepsis, leadership recognized the importance of the tool's evaluation of patients with vital signs out of range of normal limits. The rationale is that the tool may identify a decline in the patient's clinical status due to a diagnosis other than sepsis.

Cooper University Hospital's pilot unit has implemented an EMR sepsis alert with 24/7 surveillance of laboratory and vital sign data. The system is interactive requiring the nurse to assess the patient, applying available data and physical assessment to identify whether a patient has an active or suspected infection (Figure 2). After this presence of selection is made, the tool screens recent data potentially revealing new organ dysfunction that may be related to the current infection. The alert prompts communication between the physician and nurse to determine if new orders are needed and or if the patient requires urgent intervention (Figure 3).

#### Next Steps-Evaluation and Feedback

The development of a consistent feedback evaluation loop completed on a routine basis can lead to prompt improvement in severe sepsis patient management. During the evaluation phase, new ideas may be developed including protocol revisions, electronic order sets, sepsis response teams, bundled labs (i.e. blood



Sepsis Alert				
	This patient r	neets the criteria	for Sepsis.	
Notify the pr	ovider that the patien	nt meets the criteria for Sep	sis. Please comm	unicate
Treatment Ter	<u>.</u>	ne provider danig 30AA.		
Attending Pro	wider: Robert Cooper,	MD		
Situation:	am, im-mis			
• The patient	screened positive for Se	epsis.		
Background:	C cuitoria			
Active or ne	wly suspected infection	n (State the current or suspect	ed infection)	
Assessment:	sciousposs Within Dofi	nod Limite Alort		
• No data rec	orded	neu Linnis Alert		
<ul> <li>Pulse: 107</li> <li>Resp: 18</li> </ul>				
<ul> <li>SpO2: 100%</li> <li>BP: 113/54 r</li> </ul>	, mmHa			
• No intake or •	routput data in the 24 H	nours ending 02/04/15 1349		
WBC Date	Value	Range	Status	
2/3/2015	18.0*	4.5 - 11.0 K/ul	Final	
Date	Value	Range	Status	
NORMAL RAN	GES:	0.5 2.2 mmoi/L		
0.5-2.2 mmc -VENOUS	DI/L BLOOD FILTRATE IN PATIE	NTS AT REST		
0.5-1.5 mmc –ARTERIAI	ol/L L PLASMA			
POC GLUCOSE (BE	DSIDE)		61.1	
6/26/2013	56	Range	Status	
1NR	50	70 - 110 mg/ai	Final	
NR Date 7/21/2013	Value 1.1	Range 0.8 – 1.2	Final Status Final	
MR Date 7/21/2013	Value 1.1	70 - 110 mg/dl Range 0.8 - 1.2	Final Status Final	
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mil Date 7/21/2013 Recommendat • CBC, BMP, these orde • Blood Cult	Value 1.1 tions: and Liver Profile have n rs? ures have not been dra	Range 0.8 – 1.2 tot been drawn in the last 24 h wn in the last 12 hours, can I p	Status Final ours, can   proceed	d to plac
Recommendat CBC, BMP, these orde Blood Cult Lactate has Are there a	Value 1.1 tions: and Liver Profile have n rs? ures have not been dra s not been drawn in the no other labs you woul	Range 0.8 – 1.2 ot been drawn in the last 24 h wn in the last 12 hours, can   proceed to d like me to obtain?	Final Status Final ours, can I proceed roceed to place th place this order?	d to plac
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cultures and lactate), mini-order sets specific to sepsis patients (i.e. lab orders and fluid bolus administration orders), documentation changes including a sepsis screen per shift and assessment of electronic sepsis triggers. Depending on the size of the hospital and available resources, the program can expect to see process changes within a few months. Sustaining change and maintaining the program requires ongoing education, consistent data collection, team and individual feedback. The feedback loop is essential so that the staff, leadership and administration are aware of their contribution to improving the care in the severe sepsis patient population.

Members of CUH's PI team have been reviewing the sepsis alerts on a daily basis, providing feedback to the focus group, clinical unit leadership, as well as direct one-on-one clinician feedback for specific cases when a fall out in compliance was observed. Several huddles have been held with the nursing staff to identify barriers with valuable information provided to the focus group. Ongoing data collection and analysis has been underway since July 2014.

#### Conclusions

Nurses play a critical role in the process of early recognition, diagnosis, and treatment in severe sepsis and septic shock patients. Nurse driven quality improvement projects to target sepsis can be used to improve the identification of severe sepsis and to implement the interventions within the severe sepsis bundles, targeting multidisciplinary and multispecialty involvement, bridging the care from the ED, medical-surgical, and intensive care units. Cooper University Hospital continues to lead the way in sepsis quality initiatives with core leadership in the Surviving Sepsis Campaign and with the New Jersey Hospital Administration efforts to decrease sepsis mortality.

Email comments to schorr-christa@cooperhealth.edu

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### Save the date:



Cooper's First Annual Advanced Practice Provider Clinical Symposium November 14, 2015 at Rowan University at Cooper Medical School



Cooper's Women's & Children's Conference December 2, 2015 at Crowne Plaza Hotel, Cherry Hill

## Non-Surgical Tumor Treatment Options

Susan Lori Hunter, RN, MSN, CRN, APN

Interventional Radiology is rapidly growing to become an integral part of the cancer treatment team, whether the goal is palliative or curative. Approaching tumors surgically can be a challenge for a variety of reasons including type, size and location. Complications resulting from general anesthesia, wound healing and a lengthy recovery can all contribute to making a surgical approach inappropriate for certain patients. Adding to the complexity of an individual treatment plan are the patients preferences, co-morbidities and overall health. Multiple options are now available for tumor treatment including several varieties of ablations, embolizations and internal radiation delivery, performed by an Interventional Radiologist. These procedures can improve both survival and quality of life.

The most frequently used ablation methods in the United States are radiofrequency, microwave and cryoablation (Hinshaw, Lubner, Ziemiewicz, Lee & Brace, 2014). All of these methods cause cellular death by reaching temperatures in the target area that cause coagulation necrosis while minimizing damage to surrounding structures. Ablation procedures are most commonly performed using Computerized Tomography (CT) guidance to localize tumor target zones during which patients are kept comfortable with sedation and both intravenous and local anesthesia. Selection of the delivery device is dependent on tumor size with the depth and width of the impact zone being carefully calculated to impact malignant cells while avoiding healthy tissue. While these devices are a relatively large gauge, the incisions used to introduce them are very small, requiring only a small dressing to the site post procedure.

Radiofrequency ablation (RFA) uses an alternating electrical current to attack target tissue and will provide a large enough area of ablation to treat tumors of the liver, lung, kidney and bone. However, local recurrence rates in the perivascular region can be problematic, most likely caused by the impact of blood flow on heat generation (Hinshaw, et al., 2014). Microwave ablation employs an alternating electromagnetic field and can generate heat much more quickly than during RFA. This allows for penetration of certain tissues such as bone more readily. Microwaves also have less impact on vasculature making it ideal for tumors near major vessels. With a larger ablation zone, fewer applicators are needed and faster heating results in significantly decreased procedural time (Brace, 2006).

Cryoablation causes cell death by freezing, but interestingly, by two different mechanisms: fast and slow freezing. Fast freezing causes intracellular ice crystals to form resulting in destruction of the cell membrane and organelles. While slower freezing causes extracellular ice crystal formation, changing osmolality leading to cell dehydration and death (Hinshaw, et al., 2014). A disadvantage of this type of ablation is the rapid release of debris into the circulation, the likely cause of systemic complications not seen with heat based ablation. While control of the ablation zone is also more precise with cryoablation, the number of probes used and the time needed to reach optimal temperatures can make procedural time more lengthy than with microwave or RFA. Local





recurrence rates have also been problematic with cryoablation, particularly with renal cell carcinoma, necessitating more intense follow than when treated with nephrectomy (Tennant, 2011). Procedural discomfort for ablation procedures is usually well managed with analgesia and complications are minimal.

Embolization procedures utilize an intra-arterial approach and attack tumors by limiting blood supply. Boosting the effectiveness of these treatments is achieved by combining chemotherapeutic agents or radiation with the substances used to block blood flow. Arterial access is obtained and a catheter is advanced as near to the tumor as possible, beads soaked with chemotherapeutic agents, most frequently doxorubicin or in some situations inrinotecan, are then deployed under close observation with fluoroscopy.

#### **Professional News** (continued from page 16)

#### 2015 CUH NURSING AWARDS WINNERS:

Agnes Asamoah, RN, OCN, – The Shaina Horton Memorial Award for Excellence in Service

**Jill Dyar, RN, BSN,** – The Philip and Carole Norcross Award for Excellence in Perioperative Nursing.

Julie Carl, RN, MSN, APN, – Excellence in Advanced Practice Nursing

Edward Fenn, RN, BSN, – The Rose Smith & Sue Zamitis Memorial Award for Excellence in Oncology Nursing

Valerie Gibson, BSN, RNC-NIC, – The John Henry Kronenberger Memorial Award for Excellence in Neonatal Nursing Jennifer Glendening, MSN, CMSRN, RN-BC, CPHQ, – The Women's Board of Cooper Hospital Allied Health Professional Excellence Award

Jaclyn Hayden, RN, BSN, – The Dr. Ronald Bernarden Memorial Award for Excellence in Pediatric Nursing.

**Pamela Iannello, CNA,** – The Barbara & Jack Tarditi Award for Excellence in Service (non nursing)

Keith Kline, RN, BSN, – Award for Excellence in Trauma Nursing Valerie Knighton LPN, – The Women's Board of Cooper University Healthcare Award for Excellence in Ambulatory Nursing

Sharon McLean, RN, BSN, CPHQ, – The Barbara & Jack Tarditi Award for Excellence in Nurse Mentorship Laura Profico, RN, BSN, CEC, – The Charlotte Tobiason Memorial Award for Excellence in Obstetrical Nursing

Nancy Sensor, RN, – The Carol G. Tracey Compassion Award Christina Smith, RN, MSN, CPN, NEA-

BC, – The Philip & Carole Norcross for Excellence in Nurse Leadership Angela Spinelli, RN, BSN, CAPA, –

The Barbara & Jack Tarditi Award for Excellence in Nursing Research

Megan Sweeney, BSN, RN-BC, – The Selma & Martin Hirsch Award for Excellence in Medical/Surgical Nursing Adam Thaler, RN, – The Cooper Heart Institute & Heart House Award for Excellence in Cardiovascular Nursing Jenieve Thompson, RN, BSN, CCRN, – Award for Excellence in Critical Care Nursing

#### **OTHER:**

Stacey Staman, RN, MSN, CCRN, and Janice Delgiorno, RN, MSN, APN, served as item writers for the new Trauma Nursing Certification Exam that will be offered through Board of Certification of Emergency Nursing (BCEN).

Mary Stauss, RN, MSN, CEN, was one of the recipients of 2015 NJ ENA Team Award for NJ ENA Southern Education Collaborative Emergency Nurse Course. Transcatheter Arterial Chemoembolization (TACE) is most often used for hepatic cancers and can be an option for patients who have had difficulty tolerating systemic chemotherapy or have been found to have progression despite aggressive treatment. With TACE, a higher concentration of chemotherapeutic agents can be used than when given systemically and they are delivered more directly to the lesion. While randomized control trials are lacking, some data suggest improved outcome with TACE while other studies show the benefit to be primarily from embolization (Requarth, 2011). Some providers also use TACE simply as a bridge until transplant is an option (Perez-Rojas, 2012). After an overnight admission to monitor for postprocedure complications, patients will follow up with their oncologist with CT or Magnetic Resonance Imaging being recommended in four to six weeks to assess response.

Selective Internal Radiation Therapy (SIRT) can also be an alternative for liver lesions as the increased doses of radiation sometimes used with traditional approaches can cause radiation hepatitis and liver failure (Requarth, 2011). Because arterial flow is responsible for the bulk of tumor blood supply while normal liver tissue receives most of its flow from the portal veins, an arterial approach can target these lesions much more specifically while preserving as much healthy tissue as possible. Several steps are involved in preparing for SIRT. After an initial consultation, an angiogram is scheduled to perform mapping. This determines if certain vessels may need embolization to minimize potential for radioactive microspheres to impact areas outside the liver. In addition, the extent of blood flow from the liver to the lungs is established (Requarth, 2011).

Once imaging has confirmed that the patient can be treated with SIRT, the embolization will be completed within one or two weeks. Using an intra-arterial approach, a catheter is threaded through to the tumor site where microspheres containing yttrium-90, a radioactive element, are deployed. With a half-life of only two and a half days, the Y-90 delivers beta radiation directly, a majority within the first two weeks post treatment (Espat & Pishvaian, 2014). As with chemoembolization, this approach allows for a larger dosing with minimal impact on surrounding structures.

Both the chemoembolization and radiation embolization may be associated with a condition called Post Embolic Syndrome, a group of vague symptoms including fever, nausea, vomiting, abdominal pain and a generalized achiness that can persist for up to seven days (Perez-Rojas, 2012). Treatment for this self-limiting process focuses on symptom control; maintaining hydration, using patient controlled analgesia for pain management and antiemetics.

Ablation and embolization procedures are scheduled only after consultation with an Interventional Radiologist. A complete history, review of systems and physical exam are performed at the time of the consultation with appropriate labs and specialty clearances requested if warranted. In addition, an open discussion with patient and family members regarding risks and benefits is essential. Current imaging is carefully reviewed with them to determine the most appropriate procedure for the patient.

Although all of these procedures are considered minimally invasive, an overnight stay may be warranted to monitor for complications and provide pain control. With ablations and embolizations requiring no major incisions or general anesthesia they can be an attractive alternative for patients who are frail or with significant co-morbidities. They are also sometime preferred over surgery simply because of speedy recovery. Whether the goal is curative, palliative or to serve as a bridge to other therapies these treatments provide an alternative that is well tolerated and can greatly improve quality of life. So, remember, when a surgical approach is not an option for your patient, consultation with the Interventional Radiology team may provide choices that can make a world of difference.

Email comments to hunter-susan-l@cooperhealth.edu

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### REFLECTIONS

# Nursing Research on the Road: Travels to India

Jane Greene Ryan PhD, RN, MSN

**F**or the past three years, I have been part of the Drexel College of Nursing and Health Professions student-faculty partnership with Akal College of Nursing, a Sikh faith-based college in Baru Sahib, India. Every year our partners host an international nursing conference and invite us to participate as presenters and guests. Once there, they also use our skills as nurse educators and researchers. For the last two years, we have taken one Drexel University MSN education student with us as part of their practicum experience. As you can imagine, the students have said these experiences have changed their lives! Our first student, a critical care nurse, taught the Indian BSN students pathophysiology, cardiac monitoring and care of the critically ill patient. Our second student, a neonatal intensive care nurse, taught both BSN and MSN students pediatric care focusing on developmental issues and care of the well newborn.

Getting there isn't easy. The 14 hour flight leaves Newark around 8 PM, but because of the time zones, we arrive in Delhi 8 PM the next evening. After sleeping overnight, often in our hosts' ashram, we board a train for a 5 hour journey up into the Himalayas. Think our journey is done? Think again! We're met at the end of our train trip by drivers from Akal College and begin a 4 hour trek up to the mid-level of the Himalayas (5,000 feet elevation). At first the roads are four lanes and filled with brightly decorated trucks and buses carrying produce and people all across India. Soon, the roads go from four lanes to two and from paved roads to gravel, becoming narrower as we move up into the Himalayas. There are deep ravines on either side without guard rails and vehicles honking as they careen around sharp curves on the 'wrong' side of the road. Not for the faint of heart or weak of stomach but as I clutch whomever is closest I remind myself of several things: 1) its exquisitely beautiful once we get there and 2) the drivers are experienced, older, have lived in these mountains their whole lives and want to arrive safely as much as we do!





And beautiful it is. I've spent most of my life traveling to remote areas but I can safely say this region of India is the most spectacular place I've ever seen. The college nestles about half-way up the side of one of the many Himalayan Mountains. Looking down you can see lush farms terraced into the hill sides with ox-drawn plows, subsistence farmers crouched in the fields working the land by hand, a beautiful river running through the valley and several small villages. Looking up all you see is mountains but my Indian students tell me there's a village which we can visit if we hike 6 hours along small paths. Knowing how I love community-based care they've promised to take me when we go back this fall.

My most memorable experience was the first visit in 2012. Our day began when our driver took us along a small, narrow winding gravel road leading from the college toward the valley. After about a 20 minute drive we were let out at the side of the road and began hiking down a tiny one-person path usually used by farmers, their children and herds of goats or sheep. It was late fall and quite cold so I was surprised when my students and their faculty were dressed only in sweaters when we set off on our morning hike to conduct community visits. But as I was to learn, they knew their mountains, as it got quite warm as the day progressed! For the next two days we visited more than 10 families, three schools and a prenatal clinic where a midwife was vaccinating mothers, newborns and young children. The scenery was breath-taking and the students delightful.

Our sister college is well-known for her commitment to her rural neighbors. Students and their nursing faculty provide community-based visits twice a week throughout the year. All children within walking distance are welcome to attend a free day school. If they live more remotely, they are almost always accepted as boarding students. The college prepares thousands of meals per day and has kitchens which are always open with food available for their rural neighbors. The tenets of their faith guide their daily life with service to the poor at the heart of their teachings. In a region of the world where violence against women and girls is a daily occurrence, their forthright position of equality and peaceful coexistence is wonderful to see. I look forward to my next visit this coming fall, a visit which I'm sure will continue to influence the way I think about health and wellness in remote regions of the globe and of course I'll keep bringing back more stories and pictures!

Email comments to ryan-jane@cooperhealth.edu



c/o The Cooper Health System 3 Executive Campus, Suite 240-B Cherry Hill, New Jersey 08002

### Professional News

#### **DEGREES**:

Maureen Anderson, RN, BSN, received her BSN from Wilmington College

Ellen M. Boales, BSN, RNC-HRO, received her BSN from Thomas Edison State College

Deborah Byrd, RN, BSN, received her BSN from Rowan University

Regina Chavous-Gibson, RN, MSN, CBC, CCE, received her MSN in Nursing Education from Walden University

Sandy Durflinger, RN, MSN/Education, received her MSN from Walden University

Christina Fox, RN, BSN, completed her BSN at Ohio University

Lynette Jones, MSN, RN-BC, received her MSN in Nursing Leadership & Education from Wilmington University

Edward Fenn, RN, BSN, received his BSN from Rowan University

Susan Joo, RN, BSN, CEN, received her BSN from Rowan University

Jalpa Lotia, RN, BSN, received her BSN from Wilmington University

Andrea Lore, RN, MSN, CCRN, received her MSN in Nursing Education from Drexel University

Jennifer Orr, RN, BSN, completed her BSN at Ohio University

Kathryn Reifsnyder, RN, BSN, CGRN, received her BSN from Drexel University

Barbara Sanders, RN, BSN, received her BSN from Thomas Edison State College

Elaine Todd, RN, MSN, OCN, received her MSN from Thomas Edison State College Cheryl Eller, RN, BSN, received her BSN from Rowan University

#### CERTIFICATIONS:

MaryAnn Cupta, RN, BSN, CCM, – case manager certification Mary Sue Flaherty, RN, CEN, MICN, received her NJ Mobile Intensive Care Nurse endorsement Stephanie Glatts, RN, BSN, CCRN, passed the CCRN exam

Fatmata Kamara, RN, BSN, PCCN, CCRN, passed the CCRN exam Rebecca Johnson RN, BSN, CEN, CPEN, passed the CPEN exam

#### **PRESENTATIONS:**

Mary Ellen Bednar, MSN, RN, CPAN, presented a lecture on the "Organizational Needs of the Pain Specialty Practice Group (SPG) and Use of Integrative Medicine Postoperatively" at the for American Society of Peri Anesthesia Nurses' conference April 27, 2015 at the Grand Hyatt Hotel and Convention Center in San Antonio, Texas.

Sharon Byrne, DNP, APN, NP-C, AOCNP, CNE, presented the

research abstract R99, Investigator-Initiated Protocol for Medical Record, Database Study of National Indio Cooperative Enterprises (NICE) -Camden County Cancer Screening Project, MD Anderson Cancer Center Cooper, Clinic Patient Outcomes at the ONS 40th Annual Congress in April.

Jane Greene-Ryan, PhD, RN, presented a poster "Experiences of a multi-disciplinary team of perioperative nurses during the process of creating and sustaining a year-long (and on-going) research process" at the Eastern Nursing Research Society Conference in Washington, D.C., April 15-17, 2015. Jane Greene-Ryan, PhD, RN, moderated a panel discussion "Creating a Culture of Health in Africa and Asia through Nursing and Interdisciplinary Research" at the Eastern Nursing Research Society Conference in Washington, D.C., April 15-17, 2015.

Jane Greene-Ryan, PhD, RN, and Evelyn Dogbey, PhD, FNP, presented a poster "Role of RNs in preventing global preterm births" at the Eastern Nursing Research Society Conference in Washington, D.C., April 15-17, 2015.

Elizabeth Malane, RN, MSN, CCRN, Janet Tridente, RN, MSN, CCRN, and Jane Greene-Rayan, RN, PhD, presented a poster "Improving patient outcomes by creating a process for an all- RN model to obtain Vancomycin/ aminoglycoside blood levels for patient on intravenous Vancomycin/ aminoglycosides" at the Eastern Nursing Research Society Conference in Washington, D.C., April 15-17, 2015.

Grace Mansilla, RN, MSN, presented a poster "Senior Nursing Students' Experiences Caring for a Patient in Pain" at the Eastern Nursing Research Society Conference in Washington, D.C., April 15-17, 2015.

Adele McCloskey, RN, MSN, CCRN, and Stacey Staman, RN, MSN, CCRN, presented a poster at Children's Hospital of Pennsylvania's 12th Annual Topics Explored: Surgical and Trauma Nursing Conference in November 2014 entitled "Utilizing Simulation Technology to Introduce Crisis Resource Management Principles to Pediatric Staff Nurses". Donna O'Shea, RN, MSN, Cheryl Koehl, RN, MSN, and Jane Greene-Ryan, RN, PhD, presented a poster "Creating a Safe Culture in Which to Grow: Experiences from a Nurse Residency Program" at the Eastern Nursing Research Society Conference in Washington, D.C., April 15-17, 2015.

Deborah Schoch, PhD, RN-C, IBCLC, CCE, CPST, presented a poster at Christiana Hospital for the 9th Annual Nursing Research Conference on November 7, 2014 and Cooper University Health Care Nursing Conference on December 3, 2014: "Determinants of Breastfeeding Readiness in Premature Infants".

Deborah Schoch, PhD, RN-C, IBCLC, CCE, CPST, spoke at the 9th Annual Research conference at Christiana Hospital on "Determinants of Breastfeeding Readiness in Premature Infants".

Deborah Schoch, PhD, RN-C, IBCLC, CCE, CPST, presented a lecture "Are You Vulnerable?" at the Cooper University Health Care Research Conference in December 3, 2014.

Mary Stauss, RN, MSN, CEN, presented 3 lectures "Winter Emergencies-Frostbite," "Hemodynamic Monitoring in the ED: A-lines & CVPs" and "Early Goal Directed Therapy for Sepsis-Review & Updates" at the New Jersey Emergency Nurses Association 2015 Emergency Care Conference, March 20-21, 2015, Atlantic City, NJ.

Janet Tridente, RN, MSN, CCRN, and Jane Greene-Ryan, RN, PhD, presented a poster "Exploring the perceptions of an inter-disciplinary healthcare team involved in a Lean Six Sigma (LSS) process resulting in significant changes to clinical practice regarding aminoglycoside therapy monitoring" at the Eastern Nursing Research Society Conference in Washington, D.C., April 15-17, 2015.

Linda Wicker, RN, MSN, CCRN, presented a poster at Christiana Hospital for the 9th Annual Nursing Research Conference on November 7th 2014 and Cooper University Health Care Nursing Conference on December 3, 2014 entitled "An Interdisciplinary and Multi-Departmental Educational Program Toward Baby Friendly Designation" Nora Vizzachero, DNP, RN, APN,

Nora Vizzachero, DNP, RN, APN, presented a poster "Reasons pediatric patients attend or do not attend scheduled healthcare appointments: A qualitative review from parents' perspectives" at the Eastern Nursing Research Society Conference in Washington, D. C., April 15-17, 2015.

#### **APPOINTMENTS:**

Mary Ellen Bednar, MSN, RN, CPAN, has been appointed as the coordinator for American Society of Peri Anesthesia Nurses' Pain Specialty Practice Group.

Mary Ellen Bednar, MSN, RN, CPAN, has been appointed Secretary for New Jersey Bermuda Perianesthesia Nurses Association (NJBPANA) a component of (ASPAN) American Society of Perianesthesia Nurses.

Sharon Byrne, DNP, APN, NP-C, AOCNP, CNE, with the MD Anderson Cancer Center Cooper, Cancer Screening Project, has been elected as Coordinator-elect for the Prevention/Early Detection Special Interest Group of the Oncology Nursing Society (ONS).