

Matthew Thompson, RN Phelps Memorial Hospital

OVERVIEW

1) Top
3Posters/Research
2) Top lecture
3) Top Innovative
Equipment
4) Recap
5) Questions



Poster #1



Reduction of Pressure Injuries Due to Prone Position in the OR



Sonya Jackson BSN, RN . Kim Womack MSN, RN . Central Arkansas Veterans Healthcare System

Corresponding Authors: Kimberly.Womack2@va.gov

Assessment:

An increase in surgery-related pressure injuries at our facility was noted during September 2016 when two neurosurgery patients were placed in the prone position on the Axis table for greater than six hours. The National Pressure Ulcer Advisory Panel (NPUAP) 2014 Guidelines recommend the use of padding to offload at risk area on the face and body in the prone position.1

Preparation and Planning:

Central Arkansas Veterans Healthcare System is one of the largest and busiest Veterans' Administration (VA) facilities. operating 551 beds. Multiple specialties operate in the 15 room surgical suite. Patients are primarily over the age of 65 with multiple comorbidities, placing them at high risk for perioperatively-acquired pressure injuries.

Description of the Team:

The Vascular Service Nurse, Perioperative Nurse Educator, the Neurosurgical team of nurses, Anesthesiologists and Surgeons participated. Coordination with the hospital informatics team and supply distribution team was essential to success.

Table 1. Facts About Surgical Prone Position

non surgical position to access the dorsolumber-secral spine for Prone is the most con

Just over 1 million spinal surgeries are performed annually in the United States?

The prevalence of pressure injuries in prone surgical patients is reported as high as 36%

Hospital-acquired pressure injury risk in neurosurgical patients is 3x higher than other surgical

Implementation:

The Perioperative Nurse Educator and Vascular Service Charge Nurse implemented a test of change, evaluating a 5-layer soft silicone self-adherent absorbent bordered foam dressing* applied to forehead, cheeks, chest and iliac crest before intubation on prone neurosurgical patients for cases lasting over 6 hours. See Figure 1. Seventeen patients were evaluated.

- . The skin was assessed preoperatively and findings noted on a spread sheet.
- . After the procedure, the dressings were removed, the skin was assessed and results noted.
- . On post-op day two, an OR nurse visited the patient, assessed the skin and documented findings.
- . Key to the success of the project was a new EMR template for pressure injury prevention, cued to the Scott Triggers, developed by the principal nurses and implemented by the hospital informatics team. See Figure 2.

Results:

Zero pressure injuries occurred on the 17 patients evaluated. The multidisciplinary team concluded that the dressings worked well and the protocol was implemented. Additional investigation was conducted to determine the number and sizes of dressings needed. The OR staff then collaborated with the Material Supply Distribution staff to develop Prone Kits which were then stocked routinely. See Figure 3. No pressure injuries have occurred on the 40+ prone surgical patients over the 9 months since implementation.

Figure 1. Placement of Protective Prophylactic Dressing



Figure 4. Frequire Points in Prone Position







Patients Since Implementation

Zero Pressure Injuries

Conclusion:

We successfully reduced HAPI incidence in neurosurgical patients through application of various sizes of self- adherent, absorbent soft silicone bordered foam dressings to the forehead, cheeks, chin, breast and symphysis pubis of patients placed in prone position during surgery, resulting in reduced pressure injuries and the pain and anxiety that accompanies them postoperatively. See Figures 1 and 3.

Implications for Perioperative **Nursing Practice:**

This Quality Improvement Initiative resulted in increased patient safety for our patients. Prone Kits including the correct dressing sizes to protect at-risk areas, readily available in our operating room, coupled with routine risk and skin assessments and accurate documentation in the EMR will ensure our Veterans continue to receive the best care available for pressure injury prevention.

Discussion:

Just over 1 million spinal surgeries are performed annually in the United States. Hospital-acquired pressure injury risk in neurosurgical patients is reported to be 3x higher than other surgical positions. Prone is the most common surgical position to access the dorsolumbar-sacral spine for neurosurgical cases and the prevalence of pressure injuries in prone surgical patients is reported as high as 36%.4 See Table 1.

Pressure injuries develop during surgery due to prolonged periods of pressure which cause reduced perfusion, tissue ischemia and cell death. Additionally, as the body is moves in the lateral plane with positioning, there is frictional force between the skin and support surface and shear strain in the deeper tissues. Moisture and body temperature also contribute by weakening skin structure and making it more susceptible to pressure and shear damage. While the sacrum and heel are the highest risk locations in supine position, the anatomical locations at risk in prone position are the breast region, knees, toes, penis, clavicles, illac crest, symphysis pubis and face. A 2016 study also found the chin and trochanters to be at risk in prone surgical position.5 See Figure 4.

Soft silicone self-adherent bordered foam dressings have been used to protect at-risk anatomical locations in other studies. In a prospective cohort study of surgical patients in prone procedures, no pressure injuries occurred over the chest and illac crest in 104 patients with the application of a soft silicone bordered dressing (2.9% incidence rate) as compared to 12 that occurred in the 114 patients in the control group without a dressing (10.5% incidence rate). Foam dressings are more effective than film dressings for protecting bony prominences in spinal surgery patients. Additionally, we observed that the soft silicone layer reduces epidural stripping injury and pain upon dressing removal for our veterans with thin, fragile skin.

Poster#2

Surgical Smoke Evacuation: a Survey of OR Nursing Staff

Karen Giuliano, RN, PhD; Steve Docsa; Randee Randoll; J. Cris Salinas, MD

Stryker Instruments, Kalamazoo, Michigan, USA; Stryker Endoscopy, San Jose, California, USA

Introduction

Electrosurgery devices, laser ablation and ultrasonic scalpels are widely recognized as major advances in surgical technology. Electrosurgery is used in more than 85% of the 24 million surgeries performed annually in the US 1

More than 150 different chemical constituents have been identified in surgical smoke, some with the capacity for causing human cell damage, cancer and infectious disease.²

Smoke evacuation devices are effective for limiting exposure. However, despite AORN recommendations, smoke evacuation devices have not been implemented into routine use in most operating rooms.

The purpose of our survey was to identify the level of OR nursing knowledge regarding the risks of surgical smoke exposure, and nursing perceptions on the barriers to routine smoke evacuation system use.

Methodology

A convenience sample of OR nurses was obtained from attendees at the 2017 AORN Global Conference & Expo in Boston, MA. IRB review determined the research as exempt and OR nurse participation was anonymous and voluntary.

Survey data was collected using Turning Technologies (Youngstown, OH) polling and response program. The Roy Adaptation Model provided the theoretical framework for this study.

Each survey consisted of five questions (Table 1). Each question focused on demographics or surgical smoke perception.

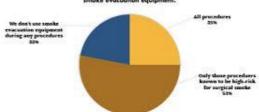
Туре
Demographic
Demographic
Multiple Choice
Multiple Choice
Multiple Choice

9100-005-152 Rev. None

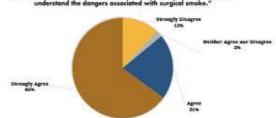
Results

Of the 212 active participants, 198 responses were received per question, for a participation rate of 93%. Nearly half, 47% of respondents worked for a community hospital (n=93), and 26% worked for a university medical center (n=51). RNs, or RN first assistants comprised 57% of the respondents (n=110), and 22% were clinical managers or senior nurse executives (n=42).

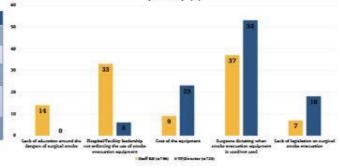
Indicate the types of procedures where you would normally use some type of



Select how strong you agree or disagree with the following statement, " understand the dangers associated with surgical smoke."



What do you think is the biggest barrier to using smoke evacuation equipment in your facility? (%)



Discussion

There is a common belief that inhaling smoke poses the greatest risk to scrubbed members of the surgical team. While surgeons working 20-40 cm from the point of smoke generation are exposed to the highest concentrations of surgical smoke³, nurses and other OR personnel, including anesthesia providers, are constantly exposed to the hazards of surgical smoke. Surgeons typically operate only a few times per week⁴, while nurses care for patients in the OR most days per week, heightening their exposure.

Particle size generated varies and is dependent on the device used; electrocautery creates the smallest particles (0.07μm)⁵, larger particles are created by laser ablation (0.31μm)⁶, and the largest particles are those generated by ultrasonic scalpels (0.35-6.5μm)⁷. Particles that are 5μm or larger are deposited in the oropharyngeal walls, aerosols between 2 and 5μm are delivered to the airways and aerosols between 0.8 and 3.0μm reach the pulmonary parenchyma.⁸

Surgical masks are commonly used in the OR to provide a barrier to splashes and droplets impacting the wearer's nose, mouth and respiratory tract. However, they do not provide protection against airborne particles⁹ since most surgical masks are designed to filter particles >5µm.⁴

Most, 86% of nurses in this study agreed or strongly agreed that they understand the dangers associated with surgical smoke, yet only 25% use smoke evacuation in all procedures.

The results of this study provide a reference to nurse perception on surgical smoke evacuation and may help facilitate a discussion to support hospital goals and introduce smoke evacuation to all surgical procedures in alignment with AORN recommendations.

References

-). But 8, "No banding in the GR", Outpelied Surgery, Reseater 200
- Playto JI, et al. "Later Consented Sir Contemporate from Madiral Later Applications: a theta of the Science Barlet of Expenditure Contemporate States, and Contemporate States and Explore, July 2011
- Bit IS, O'Roll JE, Passit RJ. Direct RJ. Septed stocks a health based in the specific planter a their to questify expenses and servey of the one of casala extension reviews in CE plants corpus with. J Fluid Execute Assista Long. 2023;65:62.
- A. Bull E, Opticis for name association Part 1. The locarity of surgical spoke. AANAJ. 200,69:120:120
- qualifieties immigrides contest. Appl Occup Environ Ryg. 1981;8:774-796.

 4. Rechart C, Wisser W.E., Rechart C, Torrest Z, Rowen WC, Special from baser surgers: in their a bundle beautif beautif Leave Scop Med. 1887;73.
- Broket C, Wiser W.R. Reubst E. Bestell C, Terrort S, Barres WC. Sanda from base surgery. is Now a builth base? Leave Being Med. 1807/237 MC.
- De Dit, Store E, Martinia E, Anneal reporter from the determinating extension (Service) device. J Am Asia: Cytocal Superior, 2006;130
 Anneal Control Colony of Charles Special and Anneal Asia Colonia and Anneal Asia Colonia (MILLIST 1106-1106).

American College of Chesh Pignor-sea, Aericania colorence attenuent. Consensor conference as service delivery, Chesh 1981/2001/200-Color El Election A. Adinando A. Machinese Booth C. Bredley C. Bouyen S. et. al. Colorence on the use of respiratory and facility protection applications J. Breg. Subsc. 2012(6):176-28.

> AORN GLOBAL SURGICAL CONFERENCE & EXPO March 24-28, 2018 | New Orleans, LA

Poster #3



Orientation is Over: Now What?

MAGNET RECOGNIZED AMERICAN HURSES ENBENTMAJNO GENTER

Kaitlyn Nowak BSN, RN; Mary Szostakowski, MSN, RN; Alex Vasilevskiy, BSN, RN; Jake Runion, MBA, BSN, RN

Clinical Issue

A knowledge deficit around OR practices was identified in new RN caregivers. The project team explored opportunities to make new staff RNs feel more comfortable and competent in the perioperative environment. The team partnered with perioperative education to develop communication and education practices to support RNs during their first year post orientation. The team introduced supportive interventions to the new RN staff members to help them better understand and acclimate to their role.

Description of Team

A multidisciplinary project team was created and included nursing, physicians, perioperative education, sterile processing and administration.

Preparation and Planning

A task force was mobilized to observe and map current workflow processes and identify opportunities to increase RN knowledge and understanding. Nurses were surveyed to identify gaps in the post orientation process.

Assessment

The team assessed a need for additional education and supportive practices for RNs who completed their orientation but were not fully comfortable in their new environment.

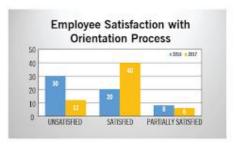
Implementation

The team introduced post-orientation practices to the new surgical RNs and then subsequently to the surgical technologists and ancillary staff.

- An assessment of new staff comfort level in the perioperative environment was conducted
- An interdisciplinary committee was created to facilitate the post orientation process
- · A staff in-service was conducted and designed to engage employees in the process
- Education and reference materials were provided to staff, posted in each OR and other strategic areas throughout the surgery center
- · Next day case look up and review
- · New nurses were offered more time to double scrub with experienced RNs and surgical technologists
- . New nurses were given the opportunity to take buddy call with a more seasoned RN
- · A overview describing case specific information was created and provided to all new RNs
- Each new staff member was paired with a senior nurse of their choice to assist them as they transitioned to staff nurse
- · 1:1 mentoring of staff occurred to improve staff understanding of perioperative processes
- Weekly meetings were held with all new staff members to give support, answer questions and reflect on their weekly progress
- . Nurse driven orientation guidelines created by unit based council
- . Staff assumed "ownership" of their practice and became more proficient in tasks specific to their service

Outcome

A change in post orientation practices resulted in an optimized workflow, an increase in nursing satisfaction, and a better understanding of the perioperative environment. Orientees were surveyed and reported increased satisfaction and comfort in the work environment. The change helped foster a sense of ownership in the orientation process.



Implications for Perioperative Nursing

- Perioperative nursing involvement in the post orientation process is essential
 to RN growth, development, comfort level, and job satisfaction. Nursing
 knowledge and support of perioperative practices in the new hire period will
 contribute to a safer and more comfortable environment for everyone. Nurses
 who are well trained and supported are more likely to be happy in their
 position which leads to sustainment.
- "Mentorship is a strategy that can be used to successfully socialize nurses to practice; prepare them for the professional expectations of the discipline; boost confidence; and provide for personal, professional, and intellectual growth and development" (AORN Position Statement on Responsibility for Mentoring, 2017).

Lecture#1 Patient Positioning

- The primary reason for positioning
 - Factor to consider
 - 3 Types of Positions
 - Proper patient handling

Imnovative Equipment #1

Aquillex ifluid management system

HOLOGIC®

- Maintain maximum control
- Confident in your deficit readings.
 - Easy to use
- Achieving and maintaining distention and visualization.



l'Africanqiup Equipment #1

HOLOGIC®



Innovative Equipment #2

Arthroplastics - Aquavac

- Suction Mat
- Water control
- Standard Suction
- Enhanced surgeon comfort
- Reduced OR turnover time



Innovative Equipment #2

Arthroplastics - Aquavac LGS

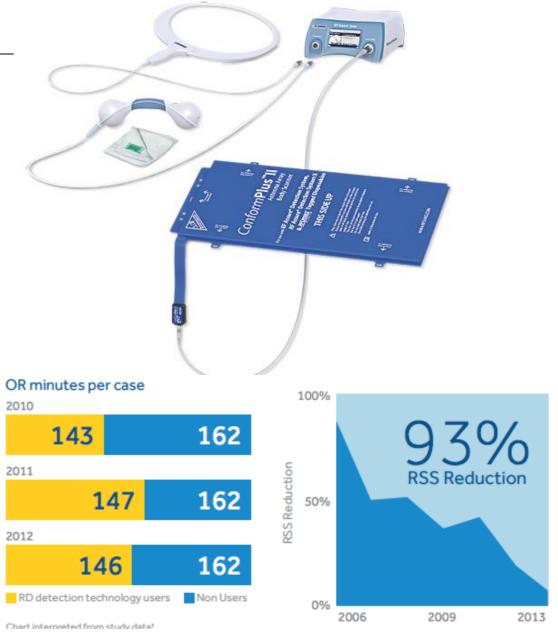
https://youtu.be/EmIDMfEX3bE

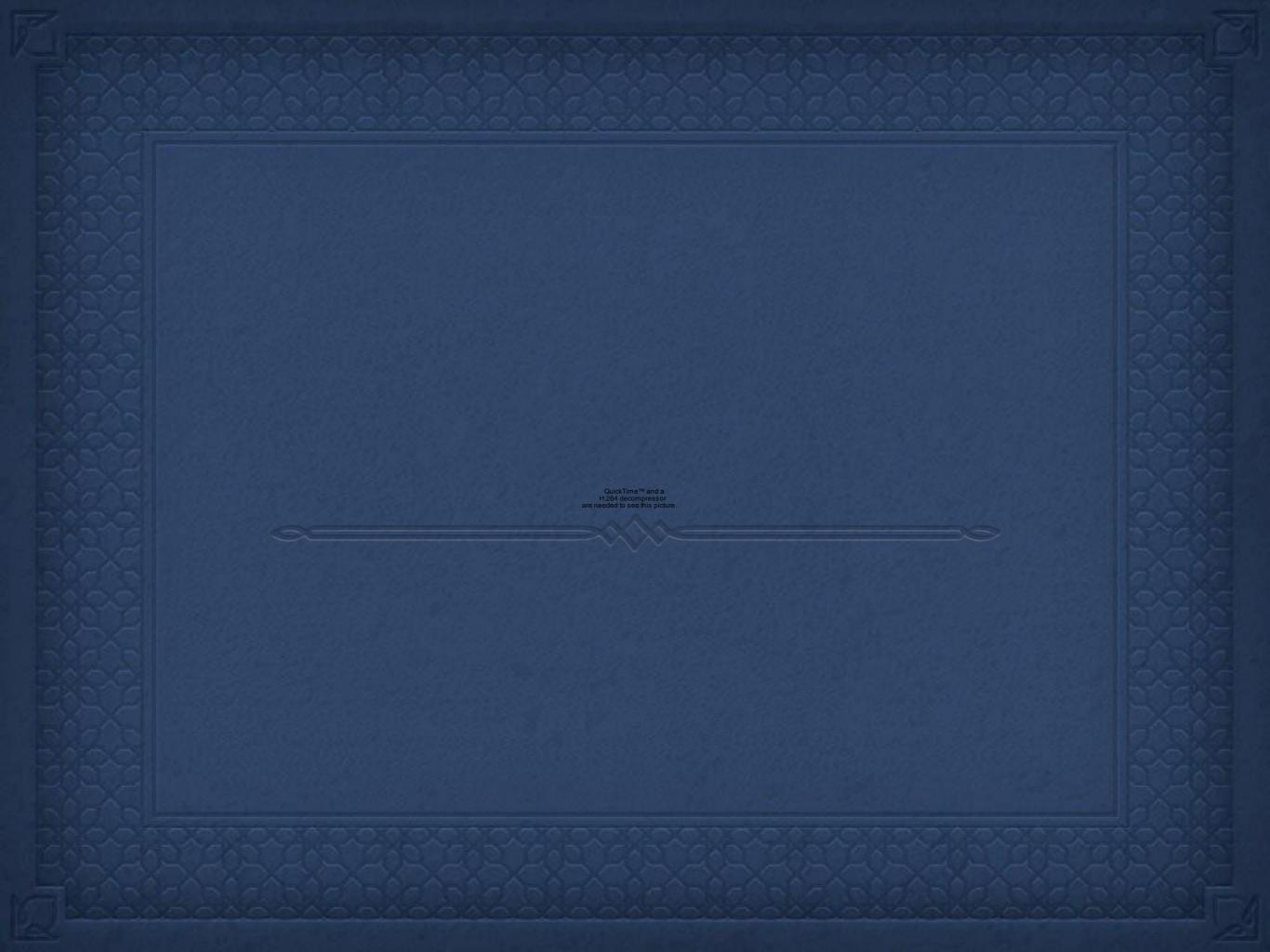
Innovative Equipment #3

 Most common RSI are sponges
 Accurately and reliably detects tagged sponges.

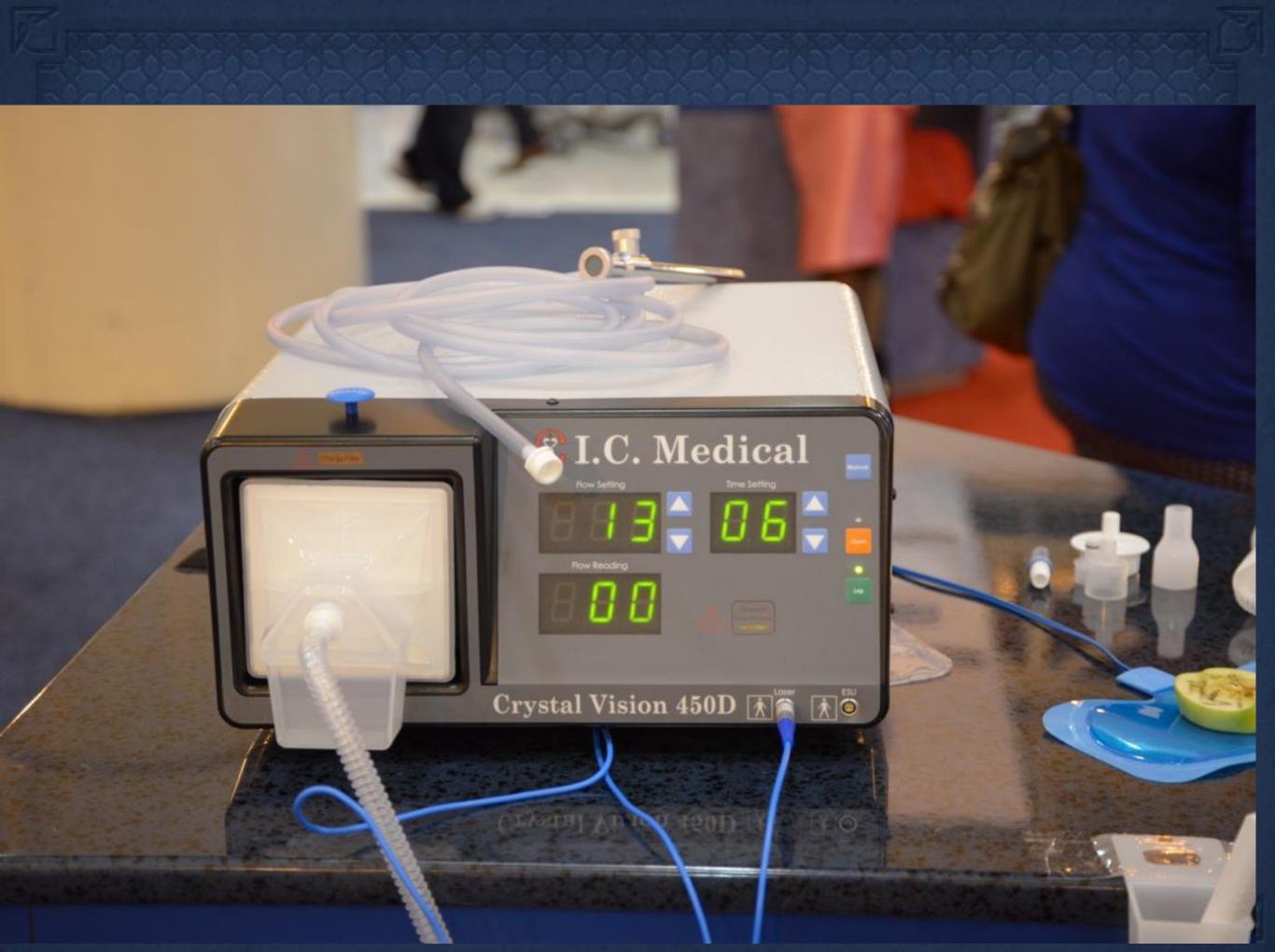
- Transmit non-ionizing, low frequency radiowaves.

- Ensures surgical items counts are correct











MAY THE CURSE BE WITH YOU







Any questions?

THANKS FOR LISTEN =)
Special Thank you to
Kathleen, Lorrie,
Mary McDermott
all the other OR administrators
and all the operating room staff

