Constraining Function as a Means of Reducing OR Traffic

Jonathon Salava MD, Thomas Riley IV MD, Felix H. Cheung MD,
Kristie Winters RN, Franklin D. Shuler MD, PhD and Ali Oliashirazi MD

Department of Orthopaedic Surgery, Marshall University, Huntington, WV 25701

Introduction

The burden of surgical site infections (SSI) results in greater utilization of health care resources[1-4], but it also takes a toll on the patient[5]. In order to reduce such infections, initiatives directed at optimizing the patient preoperatively and improving surgical technique have been developed. Enhancing the surgical environment has also had significant effects on infection rates. Operating rooms have accomplished SSI reductions by utilizing ventilation, addressing shedders, and limiting length of surgery and number of staff in the room. There is also evidence that limiting operating room (OR) traffic may decrease SSI rates[6-8]. One potential method of limiting traffic is to employ a constraining function, which requires completion of the constraining task prior to proceeding, to restrict unnecessary entry.

Objective of this QI/PS Project

We introduced a foot traffic monitoring tool requiring a signature prior to entering or leaving the OR as a constraining function and compared this traffic to a monitored control room to demonstrate the effectiveness of a constraining function in limiting OR traffic.

Methods

From January 1, 2012 to October 31, 2012 OR traffic, defined as the number of door openings between incision and closure, were monitored during the cases of two surgeons. One author's room was identified as the constraining room with sign-in sheets on the inside and outside of each entrance. Another author's room acted as a control room in which traffic was recorded by the circulating nurse without the remaining staff aware. Cases were limited to total hip and knee arthroplasties, as well as unicompartmental knee arthroplasties. The median and mean traffic for the two rooms were compared, and the Mann-Whitney U test and Student's t-test were utilized to assess for statistical significance.

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Joint Replacement

Operating Room Foot Traffic Monitoring Tool

Date:_____ Surgeon:_____

Name	In	Out	Time	Reason

Figure 1: Monitoring Tool

	Constraining Room	Control Room	
n	270	62	
Range	0-10	2-27	
Mean	3.17	10.55	(p<0.00001)
Median	3	10	(p<0.00001)

Figure 2: Range, mean, and median of traffic in the two rooms

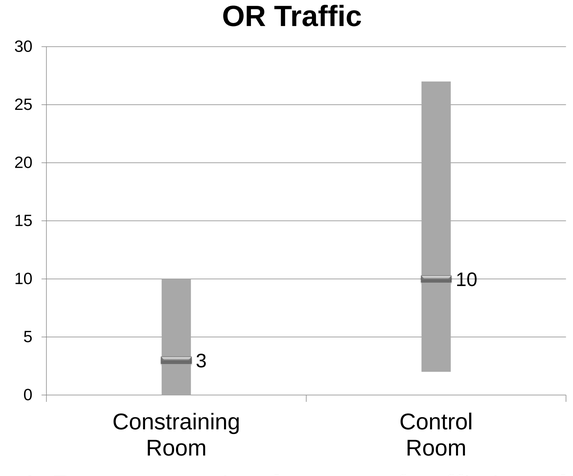

Chart 1: Bars representing the range of traffic in each room with the median identified as well

Results

A total of 332 arthroplasties were performed during the study period, 270 in the constraining room and 62 in the control room. The median and mean for the constraining room traffic was 3 and 3.17 respectively, with a range of 0 to 10 door openings. Conversely, the traffic in the control room was significantly higher with a median of 10 ($p<.00001$) and a mean of 10.55 ($p<.00001$) with a range of 2-27 door openings.

Discussion

The utilization of a constraining device, such as a foot traffic monitoring tool, demonstrated significantly less OR traffic when compared to the control room. The room traffic in the control group, however, remains within the range of traffic described in the current literature (6-83 door openings per case). The use of a constraining function in the OR setting is poorly described with no similar studies available for comparison. Most traffic studies utilize a sign with other monitoring methods, but are void of any constraining devices. Limitations of the study include a potential selection bias. The pre-study traffic of the constraining room was not known, and may have already been significantly less than that of the control room. A follow up study to analyze traffic trends after removal of the device may help validate its utility.

Conclusion

The OR traffic monitoring tool requiring staff to sign-in anytime the OR door is opened demonstrated great promise as a constraining function to limit room traffic. Further study is necessary to validate this effect. Currently, monitoring of the constraining room is being performed without a sign-in sheet for comparison.

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Who are you? A W.A.Y. to Help Families Recognize Medical Team Member Roles

Rebecca M. Hayes, MD,[1,2] Afton Wickline, MS-4,[3] Christina Hensley, MD,[1] Kelsey Cowen, MS-2,[3] Ashley Jessie, MD,[1,2] Melanie Akers, MSN RN NE-BC,[4] Jenna Dolan, MD,[1] Audra Pritt MD,[1] Shea Goodrich MD,[1] Kelly O'Neill, BSN RNC,[4] Susan L. Flesher, MD[1]

PROBLEM

- Family Centered Rounds are conducted daily on the pediatric floor, with multiple physicians (attending and residents) participating in a patient's care. However, not uncommonly parents would mention that they never saw a physician during the day.
- A pilot survey in October 2013 revealed that although 81% of families recognized the attending physician's picture, only 44% of families identified the attending physician's role correctly.
- This came as a surprise as the hospital had previously attempted several interventions to address this: handouts explaining the training and roles of team members with their pictures, pictures of team members posted in the hallway and new nametags identifying the attending physician and residents

AIM STATEMENT

•80% of the families would understand the roles of the supervising (attending) physician, doctors (resident physicians) and medical students after implementation of one or more QI interventions.

•The first Plan-Do-Study-Act cycle consisted of 3 modifications of the FCR introduction:

- Supervising doctor leads introduction and were given script to help standardize
- Level of education of each team member was included in the introduction
- Supervising doctor focused on engaging the family during introductions

TEAM MEMBERS

- The team consisted of 3 pediatric supervising doctors (attendings), 4 doctors (residents), 2 nurse leaders and 1 medical student

AFFILIATIONS

[1]Department of Pediatrics, Joan C. Edwards Marshall University School of Medicine, Huntington, WV; [2]Department of Internal Medicine, Joan C. Edwards Marshall University School of Medicine, Huntington, WV; [3]Joan C. Edwards Marshall University School of Medicine, Huntington, WV; [4] Pediatric Unit, Hoop's Family Children's Hospital at Cabell Huntington Hospital, Huntington, WV

AIM

80% of families understand roles

KEY DRIVERS	INTERVENTIONS
Clarity of verbal Introductions and descriptions of roles	• Attendings give introductions/descriptions. • Uniform presentation among all three attendings. • Use terms supervising doctor for attending, doctor for all residents, and medical student for the medical students.
Family's attention and engagement during introductions and descriptions	• Engage family before beginning introductions/descriptions. • Make eye contact. • If family seems to not be attentive, engage in conversation first. Utilize touch on arm if needed. • Turn TV down, address crying children before starting
Family's understanding of language used to describe the roles	
Family's expectations of an attending doctor.	• Consider attending physician's wearing white coats **
Readability and clarity of name tags	• Change nametags to have large tab that says supervising doctor for the attending and doctor for all the residents**
Accessibility of picture and written role.	• Place permanent glass board on wall at end of bed with space for picture and name of supervising doctor and lines to write names of doctors (residents) and medical students.**

** Possible interventions for future PDSAs.

•An anonymous survey was developed and used pictures to assess the families' recognition of care team members and their roles both pre and post-intervention. It asked the following two multiple-choice questions for each care team member:

1) Do you recognize this person?
2) What is their title/role?

•Baseline data was collected for 8 weeks. The intervention was started in May 2014 and post-intervention surveys were subsequently administered for 6 weeks. Surveys were distributed daily after the completion of FCR and targeted only the families who had experienced FCR that morning. Families were given approximately 30 minutes to complete the survey. Survey packets were organized to include only the specific members who took care of a patient (i.e. the supervising (attending) doctor, the 1-2 doctors (residents) and 1 medical student assigned to see the patient that day). Survey questions left blank or with multiple answers circled were counted as incorrect.

Do you recognize this person?
(a) Yes
(b) No

What is their title/role?
(a) Supervising doctor
(b) Doctor
(c) Medical student
(d) Nurse
(e) Patient care assistant
(f) Nursing student
(g) Other

Comparison of Pre to Post Intervention % of Families Who Knew Role

ROLE	Pre-Intervention	Post-Intervention	% Difference	P-Value
Supervising Doctor	49%	68%	+19%	0.005
Doctor	39%	69%	+30%	<0.001
Medical Student	75%	76%	+1%	0.094

CONCLUSION

Although we did not meet our goal of 80% recognition of healthcare team members' roles, we did significantly improve recognition with the first PDSA cycle. Ideas for future PDSA cycles include whiteboards in each patient room with pictures and names as well as nametags emphasizing the role of each member.

1st Phase Root Cause Analysis of Bloodborne Pathogen Exposures in an Academic Setting

Nick Chongswatdi, M.D. // Kathryn Bell, M.D. // Jonathan Hess, M.D. // Diane Alcorn, RN
Department of Family Medicine, Division of Occupational Health and Wellness

Impacts/ Beliefs of Efforts

According to the CDC, 50% of needlesticks go unreported nationally.
OSHA requires Employers to report exposures, Needlestick Safety and Prevention Act 2000.
Risk of transmission: HIV-0.3%, Hepatitis B-6% to 30%, Hepatitis C-1.8%.
Worldwide: 2 million of 35 million healthcare workers are exposed each year.
37.6% cases of Hepatitis B, 39% cases of Hepatitis C, 4.9% cases of HIV in Healthcare workers are from needlesticks.
Chronic HBV and HCV account for more than 50% of new cases of chronic liver disease—a leading cause of death.
Approximately 4.4 million people are estimated to be living with HBV and HCV infection; most do not know they are Infected.

In West Virginia, between 2007 and 2011:
Reported rates of acute hepatitis B increased by 36%.
Reported rates of acute hepatitis C increased by 150%.

Approximately 20% of BBPE at Marshall Health involved source patients with Hepatitis C and 2% of source patients with HIV/AIDS. Reporting of injuries can decrease rates of injury by identifying risk prone behaviors.
Barriers to reporting: Inadequate training, resources support and accessibility, ignorance or apathy to learn, perception of low risk, anxiety and fear, too time consuming, did not want to stop work at hand, felt post-exposure prophylactic was not beneficial.

Problem Statement

According to the CDC, approximately 50% of healthcare workers do not complete follow up for their blood borne pathogen exposures. Healthcare workers underreport exposure incidents. Our goal is to improve compliance of needlestick reporting and follow up visits and to determine infectious rate with or without post-exposure prophylaxis (PEP). To assure patient safety through compliance.

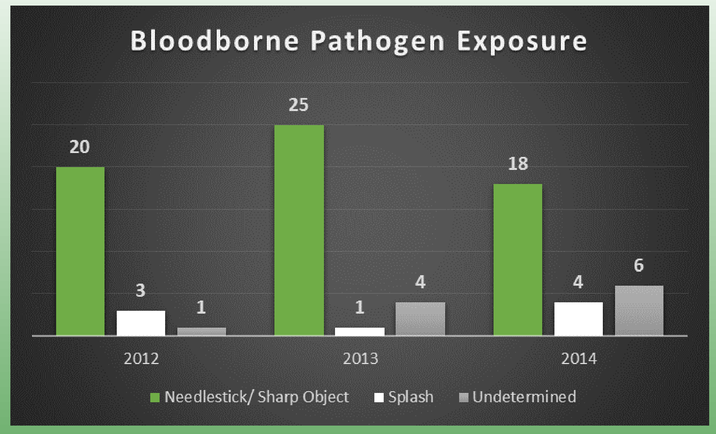
Table 1: Bloodborne Pathogen Exposure Reporting

	2012	2013	2014
Employees who completed follow-up for their BBPE	10	8	4*
Employees who did not complete follow-up for their BBPE	12	22	10
Employees who declined follow-up for their BBPE	2	0	2
Total BBPE exposures	24	30	28

**12 employees have pending follow-up for their BBPE*
**** No conversions of employees to Hepatitis B, Hepatitis C, or HIV**

Table 2: Source Patient Status

	2012	2013	2014
Source patient Hepatitis B+	0	0	0
Source patient Hepatitis C+	4	3	10
Source patient HIV+	2	0	0
Source patient status unknown	11	16	10



Further Improvements Implemented

Increase awareness of services offered by Marshall Occupational Health & Wellness. Post-Exposure follow up care is offered to all employees. We offer on-site follow up as well as extended evening hours by appointment.

Steps to Further Improvement

To gather data on Marshall Health employees to determine barriers to compliance by using a job-specific survey with the following questions:
Gender
Age Range
Task performing when exposure occurred.
Exposure history
Fears or apprehensions that kept you from reporting your exposure
Did you know what to do when exposure occurred?
Any other barriers that kept you from reporting your exposure?

1. After information has been reviewed, determine if initiation of increased education, convenience of services has made an impact. This information will be used to educate new and existing employees.
2. Form a Safety Sub-Committee with a focus on preventing bloodborne pathogen exposures. This committee will be comprised of Marshall Health management, Nurse Managers, Resident and Attending Physicians, and Housekeeping Management to define problems and develop strategies to prevent further exposures.
3. Review of sharps injury prevention devices, determine if new products would provide more safety to employees.
4. Increasing education on proper use and disposal of equipment, protocols for reporting/follow up.

Does Standardizing Albuterol Weaning Reduce Hospital Length of Stay, Readmission Rates, and Rapid Response Codes?

Tierra N. Crockett, MD; Jill Hopkins, MD; Ronnie L. Nida, RRT; Audra Pritt, MD

Purpose of Research

To reduce hospital length of stay, readmission rates, and rapid response codes in patients with asthma by standardizing albuterol weaning by using a validated scoring system that may be used by respiratory therapists, nurses, and physicians.

Scientific or Scholarly Rationale

Asthma causes significant morbidity and even mortality in the pediatric patient population. Standardizing albuterol weaning could not only reduce hospital length of stay, readmission rates, and rapid response codes, but it would then also decrease parental time off work, patient school absences, nosocomial acquired infections, hospital cost, and adverse psychological effects of hospitalization in children. Larger institutions have implemented and studied this model and have shown success, however, we would like to show this model can work at smaller institutions with fewer resources.

How to calculate the Pediatric Asthma Score (PAS)

Characteristic	0	1	2
Respiratory Rate -obtained over 30 sec, multiply x2			
2-3 years	≤34	35-39	≥40
4-5 years	≤30	31-35	≥36
6-12 years	≤26	27-30	≥31
> 12 years	≤23	24-27	≥28
Oxygen requirement -obtained with pt on room air for 2 min	≥93% on RA	89-92% on RA	≤88% on RA
Auscultation	Clear breath sounds	Expiratory Wheezes	Inspiratory and Expiratory Wheezes or Diminished breath sounds
Work of breathing -nasal flaring -suprasternal muscle use -intracostal muscle use -subcostal muscle use	≤1 accessory muscle	2 accessory muscles	≥3 accessory muscles
Dyspnea	Speaks full sentences, playful	Speaks partial sentences	Speaks short phrases, grunting

Procedures to be Performed

We will retrospectively look at all hospital admissions with ICD-9 codes of asthma or asthma exacerbation for age two to eighteen years and analyze their length of stay, readmission rates within thirty days and rapid response codes for a 1 year period of September 2013 to September 2014. We will then prospectively analyze, during the time period of September 2014 to September 2015, the same data after implementing albuterol weaning protocol and look for improvement in length of stay, readmission rates, and rapid response codes. We will exclude patients with the diagnosis of viral bronchiolitis, croup, chronic lung disease (BPD, CF, airway anomalies), cardiac disease, or those who require intubation and ventilator support.

Inpatient Asthma Exacerbation Protocol

Exclusion Criteria: Age <2 y.o.; diagnosis of viral bronchiolitis or croup; history of CF, chronic lung disease, cardiac disease, airway anomalies

On Admission:
Calculate Pediatric Asthma Score (PAS)

Severe = PAS 6-10
- Call RT for immediate treatment of albuterol 5mg nebulizer
- Notify MD
- Place on CR monitor
- Oxygen for saturation <90%
- Give steroids if not already given
- Repeat PAS within 15 min of tx

Moderate = PAS 3 - 5
- Call RT for immediate treatment of albuterol MDI 6 puffs
- Place on CR monitor
- Oxygen for saturation <90%
- Give steroids if not already given
- Repeat PAS within 15 min of tx

Mild = PAS 0-2
- Initiate treatment per orders
- Repeat PAS at next treatment or maximum of 2 hours after admission

Inpatient Progression Through Protocol Based on Pediatric Asthma Score

Calculate PAS

PAS ≥3 AND worsens by 2
OR
PAS ≥6
→ **Intensify**
1. Call RT for immediate tx
   - PAS 6-10, albuterol 5mg neb
   - PAS <6, albuterol MDI 6 puffs
2. Notify MD
3. Repeat PAS w/I 15 min of tx

→ PAS improved by 2 or more AND PAS <6 → YES → **Continue Current Phase**

PAS <6
AND
Has not improved by 2 or more
AND
In phase <12 hours
→ **Continue Current Phase**

NO → NOTIFY MD OR CALL RAPID RESPONSE

PAS improved by 2 ore more
OR
PAS ≤2
*Notify MD if unable to wean treatment after 12 hours in phase
→ **Step Down Phase**
→ Ready for d/c?

DISCHARGE CRITERIA
-Patient on RA
-Albuterol q4
-Asthma teaching completed
-Asthma action plan provided
-Family able to manage at home

Protocol adapted from Colorado Children's Hospital & UNC

Description of Procedures Already Being Performed for Diagnostic or Treatment Purposes

Prior to implementation of weaning protocol, albuterol is weaned on as case-by-case basis with different physicians' discretion based on work of breathing, auscultation findings, and time since last treatment.

Risks and Potential Benefits of Research

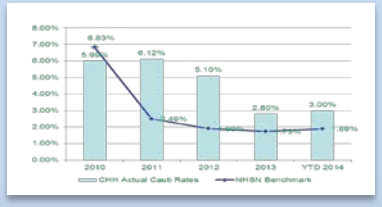
The risks of implementing an albuterol weaning protocol are very low, but potentially, patients could be weaned too soon. Also, risk involved in having respiratory therapists and nursing staff making medical decisions by allowing them to determine if albuterol can be weaned. However, the potential benefit is better patient care because asthma patients will be assessed more often using a validated scoring system for weaning albuterol. Therefore, patients will potentially have shorter hospital length of stay, readmissions and rapid response codes due to more frequent assessments.

HOOPS FAMILY Children's HOSPITAL AT CABELL HUNTINGTON HOSPITAL

Don't be *naughty*, prevent
C.A.U.T.I

Estimated **1 in 4 patients** receive an indwelling urinary catheter during hospitalization; **50%** of these are **unnecessary**.

CAUTI rates for CHH compared to NSHN benchmark since 2010.



MONEY, MONEY, MONEY!!!

C.A.U.T.I's are NOT reimbursed. Almost **ALL** are caused by instrumentation

Plans for Prevention of C.A.U. T. I

- Didactic education for residents by Urological specialists.
- Pilot C.A.U.T.I prevention protocol with 5North.
- Collaboration between nursing and residents to reduce catheter days and insertion frequency.
- Bladder scanner utilized **prior** to foley catheter insertion.
- Patient education on C.A.U.T.I via hand-out.

- Institute "foley rounds" with resident and charge nurse .
- If hemodynamically stable, consider removal of foley catheter.
- Bowel regimen for constipation to prevent urinary retention.

Contacts

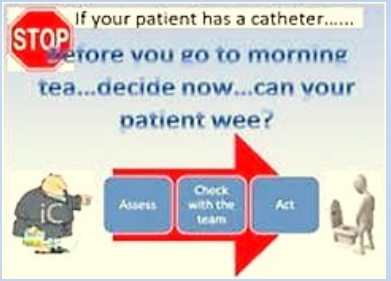
Sabrina Esenbock
Rob Sias, RN – MICU
Dr. A. Zawodniak – IM resident
Dr. Nusair – Infectious Disease
Dr. Shorman – Infectious Disease

Indications for urinary catheter:

1. Perioperative use
2. Accurate measurement of urinary output in critically ill patients (ICU).
3. Promote healing of pressure ulcers in incontinent patients.
4. Management of acute urinary retention or obstruction.
5. Improved patient comfort for end of life care.

Table 2.
A. Examples of Appropriate Indications for Indwelling Urethral Catheter Use [1,4]

Patient has acute urinary retention or bladder outlet obstruction
Need for accurate measurements of urinary output in critically ill patients
Perioperative use for selected surgical procedures: • Patients undergoing urologic surgery or other surgery on contiguous structures of the genitourinary tract • Anticipated prolonged duration of surgery (catheters inserted for this reason should be removed in PACU) • Patients anticipated to receive large-volume infusions or diuretics during surgery • Need for intraoperative monitoring of urinary output
To assist in healing of open sacral or perineal wounds in incontinent patients
Patient requires prolonged immobilization (e.g., potentially unstable thoracic or lumbar spine, multiple traumatic injuries such as pelvic fractures)
To improve comfort for end of life care if needed
B. Examples of *Inappropriate* Uses of Indwelling Catheters
As a substitute for nursing care of the patient or resident with incontinence
As a means of obtaining urine for culture or other diagnostic tests when the patient can voluntarily void
For prolonged postoperative duration without appropriate indications (e.g., structural repair of urethra or contiguous structures, prolonged effect of epidural anaesthesia, etc.)
Note: These indications are based primarily on expert consensus.



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Central Line Associated Blood Stream Infections in the trauma population: An initiative to reduce hospital acquired infections and central line days

Farzad Amiri MD, Matthew Krantz MD, Thomas Alberico MD, Rahman Barry MBBS, Alex Baronowsky MD, Jason, Brown MD, Jeffrey Groves MD, Hagger Ali MS3, Victoria Watson MS3, Jason Adams MS3, Audrey Dean MS3, Farid Mozafarri MD FACS, David Denning MD FACS

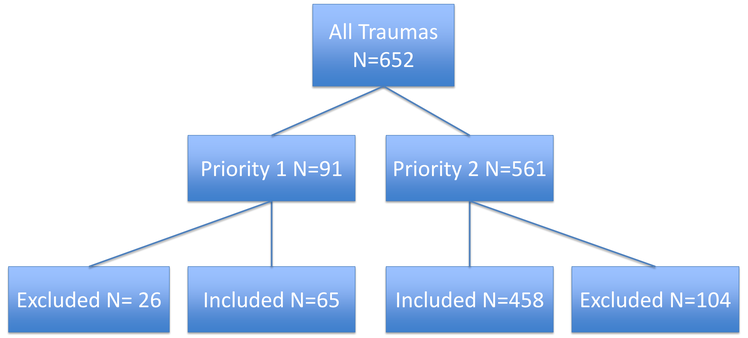
Marshall Health Department of Surgery

Introduction

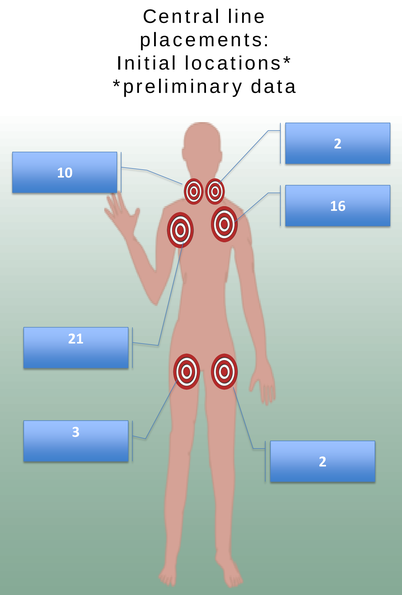
In the United States today, Central line associated blood stream infections (CLABSI), are a topic of much debate with scrutiny from Centers for Medicaid & Medicare. While the indications for placement and use of central lines are at the discretion of the prescribing physician, focus is now on criteria for removal of the central line, with early removal obviously allowing less time for infection to occur. The CLABSI rate nationally ranges from 1.14-1.65 per 1000 central line days. We propose instituting a protocol similar to those with urinary catheters that are aimed at reducing catheter associated urinary tract infections (CAUTI). Our goal is to reduce the average central line days in our trauma population.

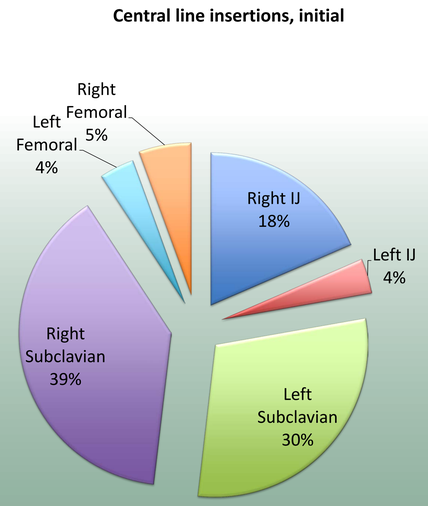
Methods

A retrospective analysis of our trauma population admitted from 10/1/2013 through 9/30/2014 were collected including whether central lines were placed emergently in the trauma bay or semi-urgently in the surgical ICU setting. Exclusion criteria include age <18, patients expiring within 30 days of admission, patients with sepsis or bacteremia prior to central line placement, peripherally inserted central catheters (PICC). Inclusion criteria includes central lines placed in patients >18 years of age, placed emergently or urgently in the trauma bay and/or ICU.



1 Year Trauma Registry	Value
Average Age	44
Total Hospital Days	2415
Average Hospital LOS	4.61
Total ICU Admissions	157
Total ICU LOS (days)	804
Total Ventilator Days	386
Average ICU LOS (days)	5.12
Total Central Lines (TLC)	55
Total Emergent	19
Total Ultrasound guided	9
Average TLC days	9.21





Results

A total of 652 patients were identified within our trauma registry, of those 130 were excluded by age, death, or burn with 523 left in the study. Of those 523 patients, 55 central lines were placed, 19 were placed emergently in the trauma bay, 9 ultrasound guided (non-emergently), and locations identified by picograph (see left). The average Hospital stay was 4.61 days, 30 percent of those required an ICU admission. The average ICU admission was 5.12 days, and Ventilated days were 2.45 days. The average Central line was placed for 9.21 days for all admissions.

Proposal

We propose a new set of protocols in order to reduce central line days as well as reduce the possibility of central line associated blood stream infections.

- Notify MD if central line site appears erythematous, indurated, purulent
- Notify MD daily if central line is in place >3 days for justification. Exceptions: Patient on TPN or central line placed for poor peripheral access.
- Nurse order: If patient is not on TPN, place peripheral IV's and notify MD before central line removal except in ICU setting
- Nurse order: may use central line

Discrepancy in EBUS Performance

Division of Pulmonary and Critical Care and Sleep medicine, Internal Medicine, JCESOM
Yousef R Shweihat,MD FCCP, DAABIP. Loui Abdelghani, MD

Introduction or Background

Endobronchial ultrasound guided biopsy is currently the initial test of choice for sampling the mediastinal lymph nodes and is recommended by different lung cancer societies as the first choice in mediastinal staging. It has been reported that only a few procedures are enough for training purposes on the special equipment needed to do the procedure. We believe to the contrary of the current available evidence, that extended periods of training and prolonged exposure to this procedure is needed to adequately use it to its full potential.

Statement of Problem or Question

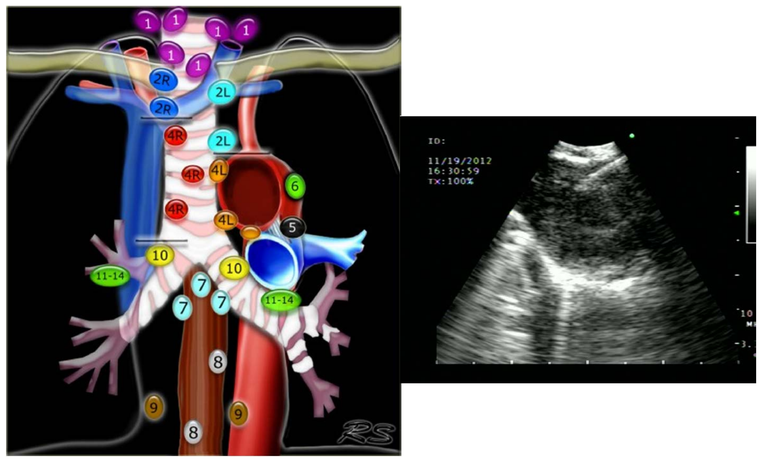
In our institution, we are studying the overall performance of our physicians in the use of endobronchial ultrasound guided biopsy both as a diagnostic tool and as a staging tool for lung cancer. We are looking at the different factors that affect the adequacy and yield of this procedure. Training and length of experience and number of procedures performed are being studied as factors.

Findings to Date

We have reviewed a large number of the procedures performed (154 procedures). To date, the adequacy of the procedure has been about 90% for all users which is in agreement to what is reported in the literature from the major centers.
There is a slight difference between the different practitioners with adequate sampling ranging from 85 to 96%.
Mediastinal staging for lung cancer (obtaining 3 or more lymph nodal samples) was not consistent between practitioners.
There was a difference between practitioners regarding the indications for the procedure. Benign etiology as an indication varied from 18% to 62%.

Objectives of Program/Intervention

Our goal is to increase the adequacy of the use of EBUS-TBNA. We also want to increase the rate of adequate mediastinal staging if performed for a suspected lung cancer case,



Description of Program/Intervention (Methods)

The collection of data has not yet been completed. We are reviewing the last 6 months of procedures currently. It is expected that the adequacy of the sampling process will improve when the practitioners have more experience in the procedure.
If the data from the last 6 months does not show any improvement in the yield or adequate sampling, a series of lectures are planned. Interventions with posters and reminders on the location and access to different mediastinal stations will be placed in the different bronchoscopy suites.
Notes to encourage sampling all mediastinal nodes when staging for cancer will also be placed in the bronchoscopy suite.

Success factors & Lessons Learned

We have identified a discrepancy in the performance of EBUS guided bronchoscopy and biopsy between the different practitioners.
Once the final data is available, and interventions are implemented, improvement in yield and adequacy of sampling are expected.
New procedures and skills need to be monitored by the programs and hospitals to assure the safe performance of these procedure

Future goal: or Conclusion/Implementation

After completing collection of additional data and implementation of our interventions, we will reassess the different discrepancies and performance of this new, standard of care procedure.

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Implementation of Universal Decontamination Protocol In a Burn ICU

Stacy Jones MD, Ekong Uffort MD, Farid Mozaffari MD, Curtis Harrison MD

Introduction:
Hospital acquired infections cause significant morbidity and mortality, especially in burn patients. Recent studies have shown that decontamination protocols have decreased the incidence of hospital acquired infections in the ICU. Recent observations in our burn unit have shown a high incidence of hospital acquired infections, especially with methicillin resistant *Staphylococcus aureus* and *Pseudomonas aeruginosa*. The purpose of this study was to develop a universal decontamination protocol for a high volume burn center and evaluate its effect on the incidence of overall infections in the burn patient population.

Methods:
A universal decontamination protocol was established in May 2014 for all burn patients who were admitted to the ICU. This protocol consists of a daily bath from the neck down with 2% chlorhexidine, even on the burns. All patients on admission and monthly thereafter are treated with Bactroban to the nose for 5 days. Previous to this protocol the burn patients were cleaned with Dial soap and water daily and only received Bactroban treatment if the admission nasal swab was positive. The incidence of MRSA colonization, central line infections, catheter associated urinary tract infections, and ventilator associated pneumonia were compared prior to and after the implementation of the protocol to assess efficacy

Results:
Results are currently pending due to recent initiation of this protocol however a significantly lower incidence of infection clinically has been seen by the staff since it's induction.

Discussion:
Patients with burns are at significant risk for hospital acquired infections due to the loss of the protective layer of skin and the resultant immune suppression related to burns. Thus a higher incidence of infections have been seen in this patient population with resultant increases in morbidity and mortality. Decontamination protocols have been shown to improve hospital acquired infection incidence. We plan to show that a decontamination protocol can be established for burn patients with improvement in overall incidence of infection as a result.

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IMPROVING PATIENT HANDOFFS:
A STANDARDIZATION PROCESS

SCOTT STUDENY, M.D. // SUSAN FLESHER, M.D.

MARSHALL UNIVERSITY SCHOOL OF MEDICINE: PEDIATRICS DEPARTMENT

PROPOSED PLAN

Currently, there is no standardized format for the patient handoff used amongst the General Pediatric Floor Team. The current process involves a nonintegrated, paper handoff tool (Excel spread sheet) that includes various information, including name, date of birth, date of admission, admitting diagnosis, medicines, lab results and pending labs, and a non-standardized verbal handoff of information regarding each patient. We will survey the current residents and faculty about the handoff process that is in place as part of a pre-intervention measure of the current system. The process of standardizing patient handoff will occur in two parts. The first phase will be to implement the I-PASS handoff system, a standardized verbal tool. The residents of the pediatric program will undergo a 2-hour workshop that includes didactic lectures, role-playing, and lessons on team work and communication.

The second phase of standardizing the handoff process will include adapting an electronic/paper handoff tool that is integrated with the electronic medical records. It will replace the aforementioned nonintegrated, paper handoff tool.

The patient handoff process will be evaluated by residents and pediatric hospitalists after implementation of each phase of the standardization. The primary outcomes will be medical errors, adverse events, and level of confidence among the residents with the handoff system.

BACKGROUND

In today's world of postgraduate medical education, work hour restrictions have created an issue that was not present in the days past: an increased number of patient handoffs. Patient handoffs are a communication between two health care teams or individuals when a shift change occurs, although this definition is not clearly defined in literature. These handoffs are vital in today's health care system. With increasing number of patient handoffs, there is also the possibility of higher rates of medical errors and adverse events.

Miscommunications or "handoff errors" are a leading cause of medical error or adverse events. The majority of patient handoffs have a verbal and a written component. While there may be some structure, there is usually no standardized format. There is a need to standardize patient handoffs and some programs have implemented a standard format that has shown to decrease medical error and adverse events associated with patient handoffs.

I-PASS
BETTER HANDOFFS. SAFER CARE.

Children's Hospital
at Cabell Huntington Hospital

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Misclassification of Operative Wounds

Marco Yung, M.D. // Brian Gibson, M.D. // Farid Mozaffari M.D.

Dept. of Surgery, Joan C Edwards School of Medicine, Marshall University

Abstract

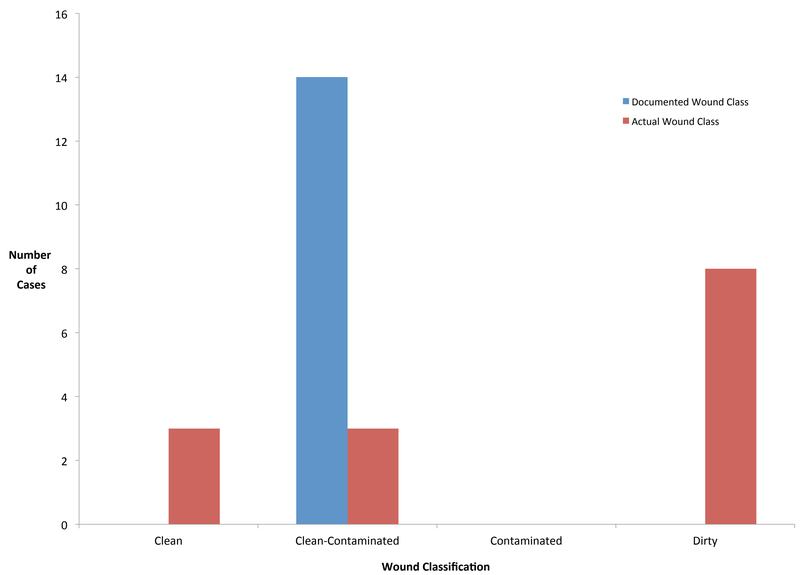
Misclassification of operative wounds can lead to an underestimation of the risk for a surgical site infection. Operative reports from 15 exploratory laparotomies were reviewed to determine a wound classification. This was compared to the one documented peri-operatively by the operating room staff. Correct classification was found in only 20% of cases, 20% were placed incorrectly into a higher class and 53% was misclassified into a lower wound class. Correct wound classification will allow accurate stratification of a patient's risk of developing a surgical site infection. This is becoming increasingly important in an age of outcomes based performance review. Further study will be needed in order to expand the sample size.

Introduction

Our institutional practice is for a wound classification, based on the degree of contamination, to be documented for each procedure by the operating room nurse. The wound classification is often done without input from the operative surgeon. Unfortunately, the degree of contamination may change depending on the course of the surgery (ie. Iatrogenic bowel injury) and may not be accurately reflected in the documented wound classification. This is especially true in exploratory laparotomies as they can range from a clean case (lysis of adhesions) to a dirty case (perforated viscous). We hypothesize that misclassification of wounds in exploratory laparotomies leads to an underestimation of the wound class.

Methods

There were a total of 234 general surgical cases performed in the month of November 2013, of which 16 were exploratory laparotomies. The operative reports were reviewed and a wound classification given based on the intra-operative findings. Wound classifications were based on the CDC guideline for prevention of surgical wound infections (1). The four wound classes are: Clean, clean-contaminated, contaminated, and dirty (Table 1).



Graph 1. Wound classifications for exploratory laparotomies in Novemeber 2013 as documented by the operating room nurse vs the wound classification on review of the operative note.

Class I/Clean:	An uninfected operative wound in which no inflammation is encountered and the respiratory, alimentary, genital, or uninfected urinary tract is not entered. In addition, clean wounds are primarily closed and, if necessary, drained with closed drainage. Operative incisional wounds that follow nonpenetrating (blunt) trauma should be included in this category if they meet the criteria.
Class II/Clean-Contaminated:	An operative wound in which the respiratory, alimentary, genital, or urinary tracts are entered under controlled conditions and without unusual contamination. Specifically, operations involving the biliary tract, appendix, vagina, and oropharynx are included in this category, provided no evidence of infection or major break in technique is encountered.
Class III/Contaminated:	Open, fresh, accidental wounds. In addition, operations with major breaks in sterile technique (e.g., open cardiac massage) or gross spillage from the gastrointestinal tract, and incisions in which acute, nonpurulent inflammation is encountered are included in this category.
Class IV/Dirty-Infected	Old traumatic wounds with retained devitalized tissue and those that involve existing clinical infection or perforated viscera. This definition suggests that the organisms causing postoperative infection were present in the operative field before the operation

Table 1. Four classes of wound contamination.

Results

15 of the 16 cases were documented as a class II wound. One case did not have a wound classification entered. On review of the operative records, one case was incorrectly categorized as an exploratory laparotomy and was excluded from the analysis. Three of the cases fit the definition of a clean wound. Three others were found to be clean-contaminated and correctly classified. 8 cases were found to be dirty wounds (Graph 1). Only 20% of wounds were correctly identified. 3 wounds were incorrectly documented into a higher class and 8 were misclassified into a lower wound class.

Discussion

Surgical site infections (SSI) are the most common hospital acquired infections (HAI), accounting for 31% of all HAIs (2). In addition, SSIs are associated with a 3% mortality rate (3). Precise data from the surveillance of SSIs is essential in reducing the risk of SSI. Correct classification is especially important as we transition to outcomes based performance review. Accurate wound classification will allow identification of patients who are at higher risk of SSIs. Examination of one month's exploratory laparotomies revealed that a large percentage of wounds were misclassified. We hope to expand the time period in which operations are reviewed to increase our sample size. Using this data, we may be able to influence a change in our current practice that will reduce the error in wound classifications.

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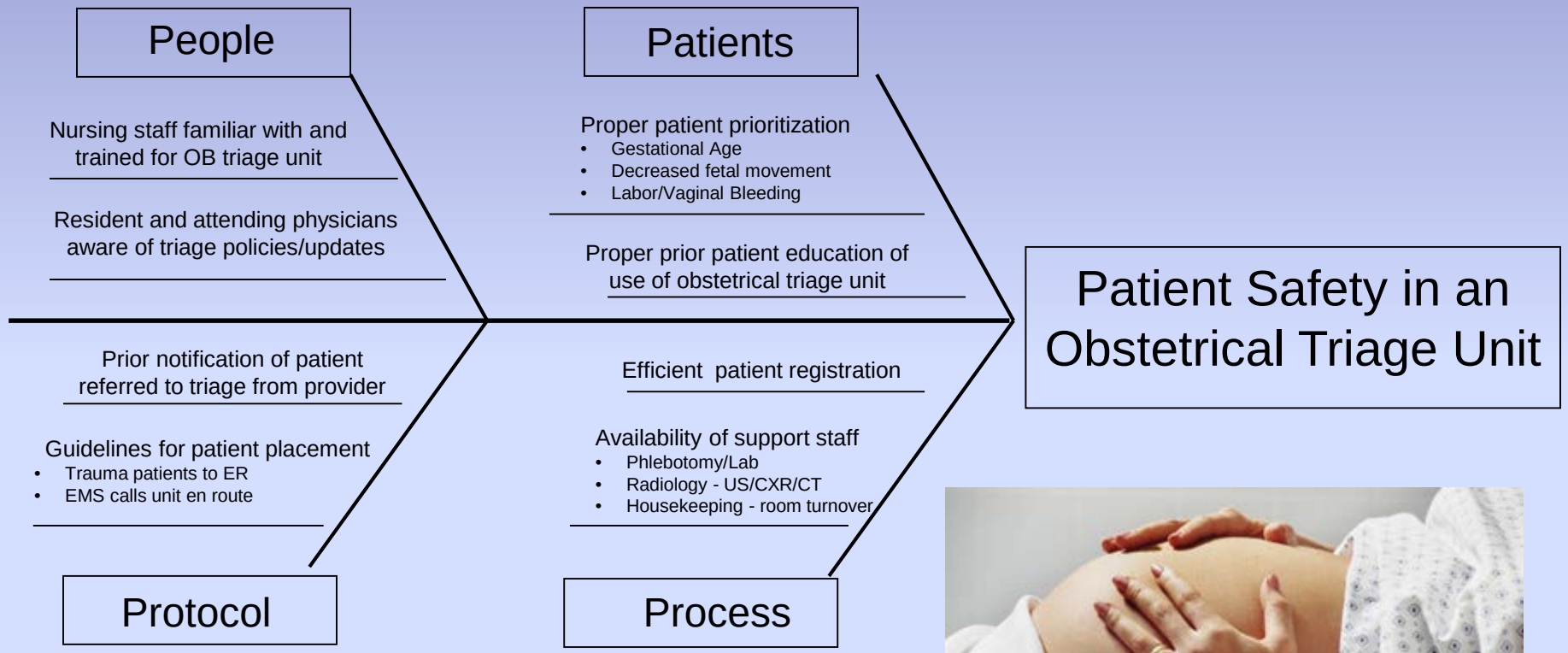
Optimization of an Obstetrical Triage Unit



Use of an Ishikawa diagram or cause-and-effect diagram to improve patient safety

Ashleigh Clickett, DO
Jared Brownfield, MD
Arifa Khokar, MD
Rachel Edwards, MD

The Post-Operative Checklist

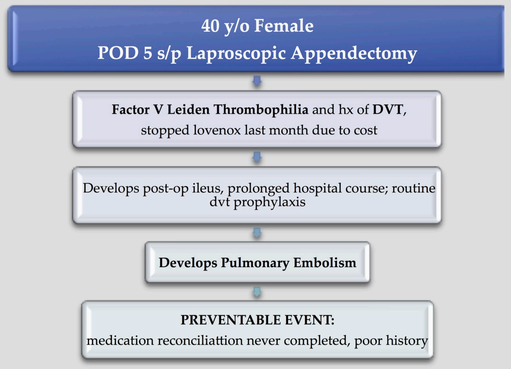
Kathryne Blair, M.D. and Rebecca Klug M.D.

Marshall University, Joan C. Edwards School of Medicine Department of Surgery

Introduction

The task of caring for surgical patients is dynamic, complex, and requires persistence from all members of the team. The hospital course of a patient depends, in part, on how well the team is prepared to take care of the patient. A well-prepared team knows the patients medical history, clearly understands their current surgical condition and is equipped to deal with any untoward events.

Sometimes the patient suffers events during their hospital course that are unpredictable and unmanageable or she may suffer a preventable event.



Though caring for surgical patients has improved over the decades, patients are still suffering from adverse events that increase cost and length of stay, as well as their mortality. One study showed that 14.4% of surgical patients suffered adverse events; these include unintended injuries and health care mismanagement. More than one-third of these events were found to be preventable.

In another study, patients sent to the SICU from the surgical ward or died were found to have preventable events.

T Physiologic Reasons for Failure Events

Reason for failure	n
Respiratory complications	42
Infection complications	31
Cardiovascular complications	26
Bleeding	6
Renal complications	1
No detectable reason	5

Reason for Failure Events—Preventable or Possibly Preventable

Reason for failure event	Possibly preventable, n	Preventable, n
Error in recognition	12	5
Lack of monitoring	2	2
Failure to follow laboratories	2	4
Inappropriate floor admission	3	0
Lack of appropriate medication	2	1
Oversedation	3	1
Inappropriate transfer from SICU	10	4
Inappropriate transfer from PACU	6	2

PACU, postanesthesia care unit; SICU, surgical intensive care unit.

Post-OP Checklist

Strategies to overcome preventable failures as above are as simple as a creating a checklist. Standardizing routine tasks allows for safe and reliable care of patients. During the immediate post-operative period, there are many issues that the surgical team must address to ensure proper care of the patient during their stay.

POST-OPERATIVE CHECKLIST
☐ Patient ID
☐ Diagnosis
☐ Labs / Imaging / Diagnostics
☐ Surgery
☐ Surgeon / Resident
☐ Events
☐ Specific instructions
☐ Co-morbidities
☐ Medication reconciliation
☐ Home medications
☐ New Medications
☐ DVT/GI prophylaxis
☐ Diet
☐ Vitals / Monitoring
☐ Oxygen / Incentive Spirometer
☐ IV access
☐ Labs / diagnostics ordered
☐ Fluids
☐ Drains / Tubes location & care
☐ Wound Care
☐ Urinary Function, (Catheter)
☐ Bowel Function
☐ Activity
☐ Consults
☐ Potential issues
☐ Discharge planning

Just out of the operating room, the patient has suffered a tremendous physical stress from their illness and the operation. Any chronic health conditions can worsen at this time, so it is important to be aware and prepared to deal with them. The use of a post-operative checklist benefits the patient and the team by providing a safety, reliability and completeness in the clinical setting.

Further Research

Ward rounds, checkouts and discussions of patient care occur multiple times per day. During each of these events, at least a few items are discovered had not been during the immediate post-operative period. These items have the potential to cause clinical issues when not addressed early enough. As the surgical personal rotate through the wards, these individuals have variable levels of experience in managing these types of patients. Applying a post-operative checklist during this time can regulate the variations.

On the surgical wards, the use of standardized lists for patient assessment and evaluation post-operatively does enhance the patient care. Applying these types of measures are inexpensive to execute and provide invaluable benefits when preventable events leading to patient morbidity & mortality are avoided.

The next step would be to survey the surgical team concerning the usefulness and applicability of the checklist, making modifications as needed. Once the list is incorporated into the routine of the surgical resident's workflow, data collected from the users may determine the overall satisfaction of using the checklist .

Composing a checklist tailored to the needs of the surgical team implements a standardized approach to patient care. Improvements in patient care include: assuring appropriate orders for the patient, assessing the needs of the patient earlier, identifying concerns that have the potential to cause a decline in the patient's status, and improving documentation and communication.

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Initiation of Protocol at Cabell Huntington Hospital to Manage Postpartum Hemorrhage

Melissa A. Rowe, MD :: Jesse N. Cottrell, MD
Department of Obstetrics and Gynecology, Marshall University, Huntington, WV

Inaugural Joint CHH/Office of GME
Quality and Safety Poster Presentation Day

Introduction:

- Postpartum Hemorrhage (PPH) is the leading cause of maternal mortality
- PPH defined by a loss of 500 mL of blood after vaginal delivery, 1000 mL of blood after a cesarean section
- Observed estimated blood loss is commonly only about half the actual loss
- The diagnosis of PPH is usually reserved for pregnancies that have progressed beyond 20 weeks gestation

Currently there are no standardized guidelines or protocol at Cabell Huntington Hospital to manage postpartum hemorrhage.

Obstetrical Hemorrhage Causes:

- Uterine atony
- Trauma during labor and delivery
- Small maternal blood volume
- Abnormal placentation
- Coagulation defects

Figure 2: What we don't want to see

Admission Hemorrhage Risk Factor Evaluation

Low (Clot only)	Medium (Type and Screen)	High (Type and Cross)
No previous uterine incision	Prior cesarean birth(s) or uterine surgery	Placenta previa, low lying placenta,
Singleton pregnancy	Multiple gestation	Suspected placenta accreta or percreta
≤4 previous vaginal births	>4 previous vaginal births	Hematocrit <30 AND other risk factors
No known bleeding disorder	Chorioamnionitis	Platelets <100,000
No history of PPH	History of previous PPH	Active bleeding (greater than show) on admit
	Large uterine fibroids	Known coagulopathy
	Estimated fetal weight greater than 4 kg	
	Morbid obesity (BMI >35)	

**If admitted patients are started on magnesium sulfate they are at higher risk of postpartum hemorrhage.*

Proposed Medication Kit

Medication	Quantity
Pitocin 20 Units/Liter	1 bag
Pitocin 10 Units	2 vials
Methergine 0.2mg/ml**	2 ampules
Hemabate 250 mcg/ml**	1 ampule
Misoprostol 200 mcg tablets	4 tablets

****Requires refrigeration**

Proposed Hemorrhage Cart

Vaginal Delivery
- Speculum; long weighted
- Long instruments: Needle holder, scissors, Kelly clamps and sponge forceps
- Intrauterine balloon device
- Banjo curette
- Bright task light

Cesarean Delivery
- Hysterectomy tray
- #1 Chromic or Plain gut suture for B-Lynch suturing
- Intrauterine balloon device
- Instruments for balloon device, B-Lynch or uterine artery ligation

Maternal Mortality and Severe Morbidity

Approximate distributions, compiled from multiple studies

Cause	Mortality (1-2 per 10,000)	ICU Admit (1-2 per 1,000)	Severe Morbid (1-2 per 100)
VTE and AFE	15%	5%	2%
Infection	10%	5%	5%
Hemorrhage	15%	30%	45%
Preeclampsia	15%	30%	30%
Cardiac Disease	25%	20%	10%

Epidemiology:

- Overall global rate of PPH is approximately 10.8%
- Rate in North America approximately 13%
- Rate is higher for multiples versus singletons (32.4% compared with 10.6%)
- Rate is higher for primagravidas versus multigravidas (12.9% versus 10.0%)
- 5% of women delivering vaginally lose more than 1000 mL of blood
- PPH risk increases with increasing BMI

We are proposing a protocol to manage postpartum hemorrhage. Our goal is for the rate at Cabell Huntington Hospital to be <10%.

Blood Volume Loss	Blood Pressure (systolic)	Symptoms and Signs	Degree of Shock
500-1000 mL (10-15%)	Normal	Palpitations, tachycardia, dizziness	Compensated
1000-1500 mL (15-25%)	Slight fall (80-100 mm Hg)	Weakness, tachycardia, sweating	Mild
1500-2000 mL (25-35%)	Moderate fall (70-80 mm Hg)	Restlessness, pallor, oliguria	Moderate
2000-3000 mL (35-50%)	Marked fall (50-70 mm Hg)	Collapse, air hunger, anuria	Severe

Figure 1: Blood loss and associated clinical findings

Proposed Obstetric Hemorrhage Care Protocol

Stage 0: Risk assessment and management of third stage of labor in all patients

- **Assess every woman in labor for risk of hemorrhage**
  - Low risk-Monitor
  - Medium risk-Type and Screen
  - High risk-Type and Screen with Crossmatch for 2 Units PRBCs
  - Evaluate for additional risk factors and treat/monitor appropriately
    -Prolonged second stage of labor
    -Prolonged Oxytocin use
    -Active bleeding
    -Chorioamnionitis
    -Magnesium sulfate
- **Actively manage third stage of labor**
  - Uterine massage-minimum time 15 seconds
  - Oxytocin 20 Units IV or IM

Stage 1: Blood loss > 500cc for Vaginal Delivery or >1000cc for CS or VS changes (by >15% or HR >110, B/P < 85/45, O2 Sat < 95%)

- Activate Hemorrhage Cart and Medication Kit
- Notify OB resident if not present, charge nurse and anesthesia
- VS with O2 Saturation Q 15min with cumulative assessment of blood loss at that time
- Careful assessment with good exposure of vaginal wall and cervix; Assess uterine cavity and placenta if at delivery
- Assure **IV access** with minimum 18 gauge – give IVFs as appropriate
- Increase **Oxytocin** and repeat **fundal massage**
- Give **Methergine 0.2mg IM** (IF NOT HYPERTENSIVE) – Can repeat x1 but if no response then;
- Move to 2nd level uterotonics; **Hemabate 250mcg IM** (IF NOT ASTHMATIC) or **Misoprostol 800mcg PR**
- Empty bladder
- **Type and crossmatch** for 2 Units of PRBCs if not previously done

Stage 2: Continued bleeding with Blood loss < 1500cc

- OB to bedside if not there already and **call for 2nd OB resident to assist**
- Continue VS and cumulative blood loss assessment Q 10 minutes (weighing bloody materials)
- Send labs: CBC and DIC panel
- If postpartum: Move to LDR or OR
- Consider special cases: Uterine inversion or amniotic fluid emboli
- **Sequentially advance** from **Methergine** to 2nd level Uterotonics; **Hemabate 250mcg IM** (IF NOT ASTHMATIC) or **Misoprostol 800mcg PR**
- **Obtain 2nd IV access** with at least 18 gauge – continue IVFs as appropriate
- **If Vaginal birth** and 2nd level utertonics not helping:
  -Move to OR
  -Repair tears
  -D&C for retained products
  -Place intrauterine balloon
  -Selective embolization (IR)
- **If Cesarean birth** (still intraoperative)
  -Inspect broad ligament, posterior uterus and for retained placenta
  -Consider B-Lynch suture
  -Consider intrauterine balloon device
- Notify **Blood Bank** of postpartum hemorrhage
  -Call for 2 Units of PRBCs at bedside and transfuse per clinical signs→ *DON'T wait on labs*
  -Use blood warmer
  -Consider thawing 2 Units PRBCs
  -Determine availability of additional units PRBCs and coagulation products

Stage 3: Blood loss > 1500 cc, or > 2 Units PRBC given or VS unstable or Suspicion of DIC

- Mobilize team
  -Notify and discuss with advanced GYN surgeon
  -Consider 2nd anesthesiology provider, notify OR staff
- Repeat labs: including CBC and ABG's
- Consider Central line
- Initiate Massive profusion protocol
- Social work for family support

A reduction in the incidence of postpartum hemorrhage will immediately and meaningfully impact the quality and cost of patient care.

Quality Improvement and Learning

- Establish post-event debriefs to identify positive outcomes and areas for improvement
- Data collection by retrospective chart review to assess maternal and fetal outcomes and progress towards goal
- Further improvement will focus on identification of risk factors unique to patients presenting to Cabell Huntington Hospital

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Decreasing length of hospital stay for infants after surgery for pyloric stenosis on general pediatrics floor.

Bakri Alzarka, MD., Susan Flesher, MD.

Department of Pediatrics, Marshall University - Joan C. Edwards School of Medicine

Background

Hypertrophic pyloric stenosis is a common disease occurring in 2 per 1,000 live births. Pyloric stenosis is a hypertrophy of the pyloric muscle which prevents emptying of the stomach leading to gastric outlet obstruction. The vomiting that ensues becomes projectile and can result in severe dehydration with hypokalemic, hypochloremic metabolic alkalosis.
Our protocol post op is to feed the patient 3 hours after surgery, then advance feeds every 2 hours giving 2 rounds of 30 ml clear liquid, then 2 rounds of half strength formula/breast milk 30 mls each, then 6 rounds of full strength starting at 30 mls and ending at 90 mls. Goal is 90 mls every 3 hours before discharge. If infants vomits times two, will hold next feed and go a step back.

Purpose

To decrease the length of hospital stay in infants on the general pediatrics floor after pyloric stenosis surgery by reducing time to reach their feeding goal.

Methods

Qualifying Conditions

- Diagnosis of pyloric stenosis - status post surgery.
- Formula fed or breast fed infants.
- No other diagnosis which may interfer with feeding.

Postoperative management: Ad lib feeding.

- NPO X 4 hours.
- IV + PO fluids: D10 1/2 NS with 20 mEq KCl/L at 100ml/kg/day
- Initiate ad lib bottle feeds of full-strength breast milk or formula 4 hours following pyloromyotomy for pyloric stenosis,
- If clinically significant emesis, wait 2 hours followed by ad lib bottle feeds of full-strength breast milk or formula.
- If ad lib feeding fails twice, due to repeat emesis, follow pyloric feeding regimen.

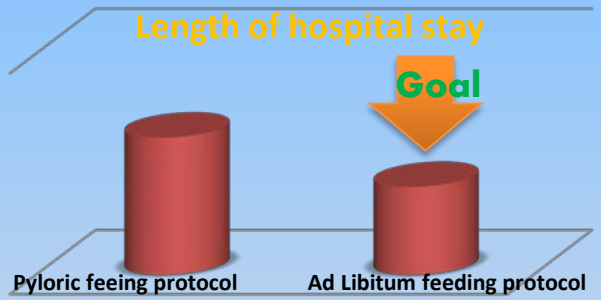
Failed Ad libitum feeds

Postoperative Management: Pyloric feeding regimen

- Start with clears (glucose water or Pedialyte) 30 ml q2h X 2
- Full strength formula or breast milk 30 ml q2h X 2
- Full strength formula 45 ml q2h X 2, may start breast feeding
- Full strength formula ad lib, breast milk, or breast feeding. Advance as tolerated to ad lib feeds.
- If clinically significant emesis, withhold feeds one cycle and restart at previously successful level.

Measures

The key measures used to evaluate the effectiveness of interventions Included the length of hospital stay after surgery. Data was collected and abstracted from the hospital electronic medical record for six months prior to the intervention and will be followed for six months following the intervention.



Conclusions

Our study demonstrates that using Ad Libitum feeds after pyloric stenosis surgery allows patients to reach their feeding goal faster, and decreases length of hospitalization without adverse effects after surgery.
Ad libitum feeding protocol should become the standard of care for all post surgical pyloric stenosis patients.
The next step will be to evaluate if using ad lib feeding protocol will decrease hospital costs.

MARSHALL UNIVERSITY
Joan C. Edwards School of Medicine

Physician/Nurse Rounding– A Team Approach to Patient Care

Dr. Eva Patton Tackett MD, FACP
TJ Ritchie RN, BSN

Introduction or Background

Communication in the hospital is often a source of poor patient outcomes. It is also the cause of increased frustration among physicians and nurses. Patient status, orders, and plans of care are often not communicated effectively and hence appropriate care is delayed. There is also deficiency in communication with the patient and patient's family about the plan of care.

Statement of Problem or Question

Currently at Cabell Huntington Hospital the physician conducts rounds on the patients without the nurses present at the bedside.

Findings to Date

There has been more direct communication about issues such as input and output specifically need for things such as Foley Catheters. Subjectively we believe this has improved physician and nursing satisfaction. Orders are carried out more promptly. Plans of care are communicated more uniformly to the patient and the patient's family.

Objectives of Program/Intervention

- ❑Improve physician and nurse communication
- ❑Improve patient communication
- ❑Improve patient outcomes by promoting prompt implementation of orders and direct communication of the patient status

Description of Program/Intervention (Methods)

Several months ago the nurse manager on cardiac step-down proposed that when the Internal Medicine teaching service is making rounds that the nurses be contacted to come to the bedside during rounds. This has been implemented intermittently over the course of 6-12 months. When the attending physician arrives at the floor a member of the team contacts the nurse via their spectra link phone and the nurse joins the team while rounding on each patient. After leaving the patient room there is review of the plan of care and what things need to be ordered from the nurse and physician perspective.

Success factors & Lessons Learned

- ❑Definitely the beginning of an excellent program.
- ❑Need to objectively measure the nursing and physician satisfaction with the new structure
- ❑Need to objectively measure if orders are implemented more promptly
- ❑Need to objectively measure if patient satisfaction has improved.

Future goal: or Conclusion/Implementation

We would like to see all units at Cabell Huntington Hospital adopt Physician/Nurse Rounding

Special Thanks

TJ – Nurse manager on Cardiac Step-down
The nursing staff on Cardiac Step-down
Marshall Internal Medicine

Discharge Patient Education for Bleeding in Pregnancy to Expedite Care in Obstetrics Triage

Stuart May M.D., Heidi Michael M.D., Nitisha Mulpuri M.D., Ally Roy M.D. Dept. of Obstetrics and Gynecology, J. C. E. School of Medicine, Huntington, WV

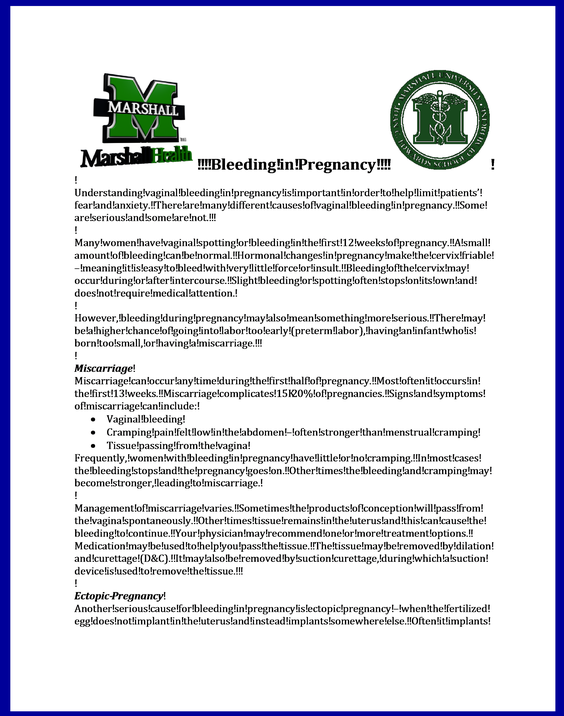
The Problem

Obstetrics Triage is viewed as an extension of the Emergency Department. The staff has a responsibility to determine which patients need to be seen first – hence the name "Triage." Complicating this important function of the unit is the frequently high volume and resultant unavailability of rooms and staff. If there is a way to limit "non-emergent" visits to Triage, one can anticipate better care being delivered. By limiting the number of patients in rooms complaining of vaginal bleeding that can be completely normal for pregnancy, we anticipate the ability to deliver more efficient and effective care to the patients with serious complaints that require immediate attention. Staff and room availability are instrumental in prompt evaluation and treatment. We anticipate that patient education material on vaginal bleeding during pregnancy will be a key factor in limiting multiple visits to Triage for non-emergent bleeding.

The Goal

The measurable goal is a decrease in OB Triage chief complaints of "vaginal bleeding." By providing patient education material about vaginal bleeding in pregnancy on the first visit to Triage for this chief complaint, we hypothesize that the number of return visits for vaginal bleeding will decrease. With fewer return visits for vaginal bleeding, we anticipate better availability to treat emergent cases.

The Quality Improvement



Marshall Health !!!!Bleeding!in!Pregnancy!!!! !

!

Understanding!vaginal!bleeding!in!pregnancy!is!important!in!order!to!help!limit!patients'! fear!and!anxiety.!!There!are!many!different!causes!of!vaginal!bleeding!in!pregnancy.!!Some! are!serious!and!some!are!not.!!!

!

Many!women!have!vaginal!spotting!or!bleeding!in!the!first!12!weeks!of!pregnancy.!!A!small! amount!of!bleeding!can!be!normal.!!!Hormonal!changes!in!pregnancy!make!the!cervix!friable! –!meaning!it!is!easy!to!bleed!with!very!little!force!or!insult.!!!Bleeding!of!the!cervix!may! occur!during!or!after!intercourse.!!Slight!bleeding!or!spotting!often!stops!on!its!own!and! does!not!require!medical!attention.!

!

However,!bleeding!during!pregnancy!may!also!mean!something!more!serious.!!There!may! be!a!higher!chance!of!going!into!labor!too!early!(preterm!labor),!having!an!infant!who!is! born!too!small,!or!having!a!miscarriage.!!!

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Miscarriage!

Miscarriage!can!occur!any!time!during!the!first!half!of!pregnancy.!!Most!often!it!occurs!in! the!first!13!weeks.!!Miscarriage!complicates!15%20%!of!pregnancies.!!Signs!and!symptoms! of!miscarriage!can!include:!

- Vaginal!bleeding!
- Cramping!pain!felt!low!in!the!abdomen!–!often!stronger!than!menstrual!cramping!
- Tissue!passing!from!the!vagina!

Frequently,!women!with!bleeding!in!pregnancy!have!little!or!no!cramping.!!In!most!cases! the!bleeding!stops!and!the!pregnancy!goes!on.!!Other!times!the!bleeding!and!cramping!may! become!stronger,!leading!to!miscarriage.!

!

Management!of!miscarriage!varies.!!Sometimes!the!products!of!conception!will!pass!from! the!vagina!spontaneously.!!Other!times!tissue!remains!in!the!uterus!and!this!can!cause!the! bleeding!to!continue.!!Your!physician!may!recommend!one!or!more!treatment!options.!! Medication!may!be!used!to!help!you!pass!the!tissue.!!The!tissue!may!be!removed!by!dilation! and!curettage!(D&C).!!It!may!also!be!removed!by!suction!curettage,!during!which!a!suction! device!is!used!to!remove!the!tissue.!!!

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Ectopic-Pregnancy!

Another!serious!cause!for!bleeding!in!pregnancy!is!ectopic!pregnancy!–!when!the!fertilized! egg!does!not!implant!in!the!uterus!and!instead!implants!somewhere!else.!!Often!it!implants!

in!one!of!the!fallopian!tubes.!!An!ectopic!pregnancy!causes!pain!and!bleeding!early!in! pregnancy.!

!

A!major!risk!with!this!type!of!pregnancy!is!fallopian!tube!rupture.!!This!complication!needs! prompt!treatment.!!There!can!be!significant!internal!bleeding,!leading!to!weakness,! fainting,!pain,!shock,!or!even!death.!!!

!

Ectopic!pregnancies!are!much!less!common!than!miscarriages,!occurring!in!about!1!in!60! pregnancies.!!Women!are!at!higher!risk!if!they!have!had:!

- An!infection!in!the!fallopian!tubes!(such!as!pelvic!inflammatory!disease)!
- A!previous!ectopic!pregnancy!
- Tubal!surgery!

Prompt!surgical!intervention!can!prevent!poor!outcomes.!

!

Heavy-Bleeding-Late-in-Pregnancy!

Heavy!bleeding!usually!involves!a!problem!with!the!placenta.!!The!two!most!common! causes!at!this!time!are!placental!abruption!and!placenta!previa.!!Preterm!labor!can!also! cause!such!bleeding.!

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Placental!abruption:!!Early!separation!of!the!placenta!from!the!uterine!wall!before!or!during! labor.!!This!may!cause!vaginal!bleeding!and!*often!causes!pain.*!!When!the!placenta!becomes! detached,!the!fetus!may!get!less!oxygen.!!This!requires!prompt!intervention.!

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Placenta!previa:!When!the!placenta!lies!low!in!the!uterus,!either!partly!or!completely! covering!the!cervix.!!This!can!cause!significant!bleeding!in!pregnancy,!but!usually!occurs! *without*!pain.!!!

!

Preterm!labor(

A!small!amount!of!mucus!and!blood!is!passed!from!the!cervix!just!before!or!at!the!start!of! labor.!!This!is!called!"bloody!show."!!!This!common!and!is!not!a!problem!if!it!happens!within! 3!weeks!of!your!due!date.!!!If!it!happens!earlier,!you!may!be!going!into!preterm!labor.!!Other! signs!of!preterm!labor!include:!

- Vaginal!discharge!
- Change!in!type!of!discharge!–!watery,!mucus,!or!bloody!
- Increase!in!amount!of!discharge!
- Pressure!in!the!pelvis!or!lower!abdomen!
- Low,!dull!backache!
- Stomach!cramps,!with!or!without!diarrhea!
- Regular!contractions!or!uterine!tightening!

If!you!have!any!of!these!symptoms,!contact!your!physician!right!away.!!!

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References:!

ACOG.HFAQ0381-!"Bleeding!During!Pregnancy."!August!2011.!!Accessed!November!2014.!<http://www.acog.org/K /media/For!Patients/faq038.pdf?dmc=1&ts=20141110T0747169996>!!

The Discussion

Obstetrics is a field that demands prompt assessment and management of the myriad of conditions that can complicate pregnancy. Many of these complications can be life threatening for the fetus and/or the mother. Having staff and rooms available to manage these patients is imperative. By reducing the number of visits for non-emergent complaints, we anticipate better management of emergencies. It is standard for discharge paperwork to include patient education materials related to the visit to Triage. As of now, there is no patient education material regarding bleeding in pregnancy. Since this is a common Triage complaint, we should have education materials available.

Secondarily, patient safety will be improved with this project for those patients coming to Triage complaining of vaginal bleeding. With this education material, fear and anxiety should be reduced. The emotional stress that can be relieved by educating patients about expecting some normal vaginal bleeding in pregnancy is immeasurable. In addition to lowering anxiety, we can limit the number of visits to the hospital for obstetrics patients. This should reduce the known risk for nosocomial infections.

The Plan

Data collection can easily be completed by tallying the number of chief complaints of "vaginal bleeding." Over time, we anticipate this number to trend downwards.

Future improvements will focus on continuing to update the patient education materials. Educating patients about their complaints is important for providing adequate care and for reducing logistical stress on the healthcare system as a whole.

IMPLEMENTATION OF RESPIRATORY THERAPIST DRIVEN MECHANICAL VENTILATOR MANAGEMENT PROTOCOL DECREASES VENTILATOR DAYS IN MEIDCAL INTESTIVE CARE UNIT

JAI KUMAR KHATRI1 MD, RONNIE NIDA2 RRT, LISA REYNOLDS BSN3, AVIRAL ROY3 MD, AHMAD R. NUSAIR1 MD

DEPARTMENT OF INTERNAL MEDICINE

MARSHALL UNIVERSITY JOAN C. EDWARDS SCHOOL OF MEDICINE HUNTINGTON, WV

BACKGROUND:

Invasive mechanical ventilation is widely used in ICUs and only expected to be used more. The implementation of protocols enables institutions to provide consistent care to the growing patient population within the confinement of limited staff. Protocol can be more reliable than skillful healthcare worker in implementation of evidence based practices such as the low tidal volume (LTV) in patient receiving IMV. LTV has several benefits: reduces acute lung injury (ALI), pulmonary infections, and mortality. Our institution had relied on physicians to initiate and manage IMV. As expected there was inter and intra-variability in selection of mode and setting of IMV among teams and team members.

METHODS:

In March 2014 we implemented a respiratory therapist (RT) driven MV management protocol. The preparation phase in the three months preceding the go live day included series of lectures and workshops for nurses, RTs & physicians. The protocol guides RTs to choose the appropriate initial settings, including low tidal volume and to make necessary adjustments based on measured ventilator parameters and blood gase.

RESPIRATORY CARE MECHANICAL VENTILATION INITIATION AND MANAGEMENT PROTOCOL CHH ICU

PART I: VENTILATOR SETUP AND ADJUSTMENT

1. Calculate predicted body weight (PBW)
   Males = 50 + 2.3 [height (inches) - 60]
   Females = 45.5 + 2.3 [height (inches) -60]
2. Select any ventilator mode
3. Set ventilator settings to achieve initial V_T = 8 ml/kg PBW
4. Reduce V_T by 1 ml/kg at intervals ≤ 2 hours until V_T = 6ml/kg PBW.
5. Set initial rate to approximate baseline minute ventilation (not > 35 bpm).
6. Adjust V_T and RR to achieve pH and plateau pressure goals below.

OXYGENATION GOAL: PaO_2 55-80 mmHg or SpO_2 88-95%

Use a minimum PEEP of 5 cm H_2O. Consider use of incremental FiO_2/PEEP combinations such as shown below (not required) to achieve goal.

Lower PEEP/ higherFio_2

Fio_2	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.7
PEEP	5	5	8	8	10	10	10	12

Fio_2	0.7	0.8	0.9	0.9	0.9	1.0
PEEP	14	14	14	16	18	18-24

Higher PEEP/lower Fio_2

Fio_2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5
PEEP	5	8	10	12	14	14	16	16

Fio_2	0.5	0.5-0.8	0.8	0.9	1.0	1.0
PEEP	18	20	22	22	22	24

pH GOAL: 7.30-7.45

Acidosis Management: (pH < 7.30)

If pH 7.15-7.30: Increase RR until pH > 7.30 or $PaCO_2$ < 25 (Maximum set RR = 35).

If pH < 7.15: Increase RR to 35.
If pH remains < 7.15, V_T may be increased in 1 ml/kg steps until pH > 7.15 (Pplat target of 30 may be exceeded).
May give $NaHCO_3$

Alkalosis Management: (pH > 7.45) Decrease vent rate if possible.

I: E RATIO GOAL: Recommend that duration of inspiration be ≤ duration of expiration.

PLATEAU PRESSURE GOAL: ≤ 30 cm H_2O

Check Pplat (0.5 second inspiratory pause), at least q 4h and after each change in PEEP or V_T.

If Pplat > 30 cm H_2O: decrease V_T by 1ml/kg steps (minimum = 4 ml/kg).

If Pplat < 25 cm H_2O and V_T < 6 ml/kg, increase V_T by 1 ml/kg until Pplat > 25 cm H_2O or V_T = 6 ml/kg.

If Pplat < 30 and breath stacking or dys-synchrony occurs: may increase V_T in 1ml/kg increments to 7 or 8 ml/kg if Pplat remains ≤ 30 cm H_2O.

ABG's: ABG's should be drawn 1 hour after any changes in ventilator settings (excluding Fio_2 changes, for which SpO_2 should be monitored). R.T. should order all ABG's under standing/ protocol orders in Cerner.

PART II: WEANING

A. Conduct a SPONTANEOUS BREATHING TRIAL daily when:

1. FiO_2 ≤ 0.40 and PEEP ≤ 8.
2. PEEP and FiO_2 ≤ values of previous day.
3. Patient has acceptable spontaneous breathing efforts. (May decrease vent rate by 50% for 5 minutes to detect effort.)
4. Systolic BP ≥ 90 mmHg without vasopressor support.
5. No neuromuscular blocking agents or blockade.

B. SPONTANEOUS BREATHING TRIAL (SBT):

If all above criteria are met and subject has been on the ventilator for at least 12 hours, initiate a trial of UP TO 120 minutes of spontaneous breathing with FiO2 ≤ 0.5 and PEEP ≤ 5:

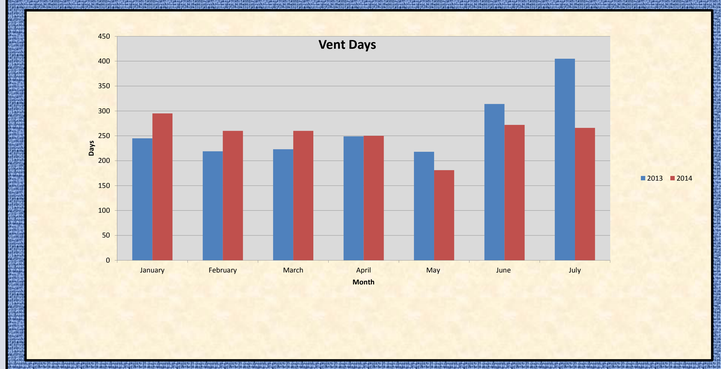
1. Place on T-piece, trach collar, or CPAP ≤ 5 cm H_2O with PS ≤ 5
2. Assess for tolerance as below for up to two hours.
   a. SpO_2 ≥ 90: and/or PaO_2 ≥ 60 mmHg
   b. Spontaneous V_T ≥ 4 ml/kg PBW
   c. RR ≤ 35/min
   d. pH ≥ 7.3
   e. No respiratory distress (distress= 2 or more)
      - HR > 120% of baseline
      - Marked accessory muscle use
      - Abdominal paradox
      - Diaphoresis
      - Marked dyspnea
3. If tolerated for at least 30 minutes, consider extubation.
4. If not tolerated resume pre-weaning settings.

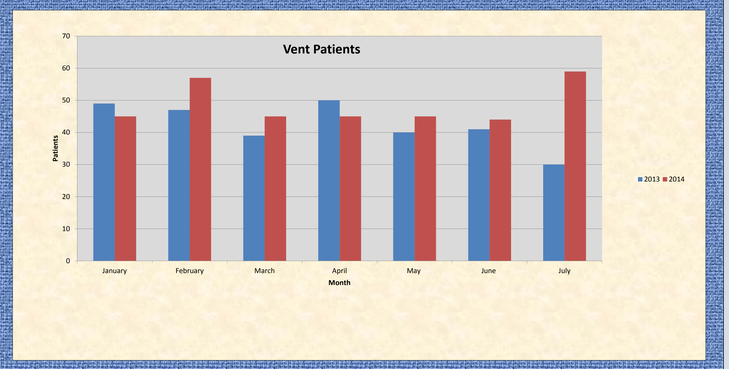
Definition of UNASSISTED BREATHING
(Different from the spontaneous breathing criteria as PS is not allowed)

1. Extubated with face mask, nasal prong oxygen, or room air, OR
2. T-tube breathing, OR
3. Tracheostomy mask breathing, OR
4. CPAP less than or equal to 5 cm H_2O **without pressure support or IMV assistance**

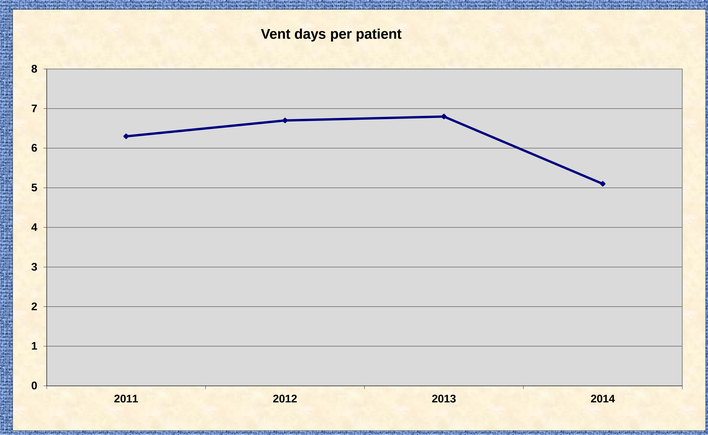
If the ventilated patient's condition continues to worsen despite using the guidelines provided within this protocol, the Respiratory Therapist should contact the attending physician for additional guidance.

Reference: ARDSnet mechanical ventilator protocol





		March	April	May	June	July	Total
vent days	2014	260	250	181	272	235	1198
vent Patients	2014	45	45	45	44	55	234
Vent days / Patient							5.11
vent days	2013	223	249	218	486	405	1581
vent patients	2013	39	50	40	41	30	200
Vent days / Patient							7.96
vent days	2012	281	196	242	258	239	1216
Vent patients	2012	36	36	31	34	35	172
Vent days / Patient							7.06
vent days	2011	268	274	213	193	175	1123
vent patients	2011	43	56	25	25	24	173
Vent days / Patient							6.49



CONCLUSION:

When compared to year 2011, 2012, 2013 during same time period, in year 2014 we found 20.5%, 27%, 35% reduction in mechanical ventilation days per patient respectively.

REFRENCES:

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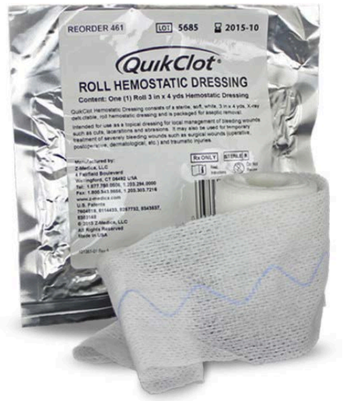
Product Overview and Case Review:
Quick Clot Hemostatic Bandage in the Trauma Setting

Matthew Snyder, MSIII, Sean McManus, Clinton Burley, and Bonnie Beaver, MD

Marshall University School of Medicine- Department of Surgery

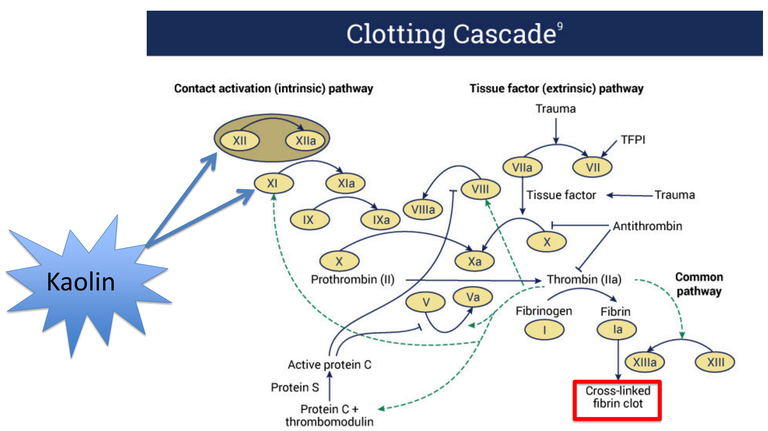


Quick Clot: Overview

Quick Clot Interventional Hemostatic Bandage is embedded with Kaolin, an aluminum silicate. Kaolin is biologically inert and serves as a potent activator of the coagulation cascade. When the Quick Clot Bandage is applied with manual pressure to an actively bleeding wound, the Kaolin within the bandage makes contact with blood and increases the rate that both Factor XII and Factor XI are converted to their active forms. It also promotes the conversion of prekallikrein to its activated form, kallikrein. All three of these products go on to promote the formation of cross-linked fibrin clots through the intrinsic clotting cascade (see figure 1). Quick Clot Interventional Hemostatic Bandage also possesses the added advantage of fostering platelet adhesion at the wound site.

The inert nature of kaolin eliminates the possibility of allergies at the site of application. This allows the use of Quick Clot Interventional Hemostatic Bandage to be ubiquitous, without any contraindications.

Fig. 1



Arm Laceration

HealthNet Aeromedical Services responded to reports of a 29year old male involved in a physical altercation involving a large knife. When they arrived on scene, they found that the patient had sustained a 10cm laceration to his right wrist and forearm with substantial bleeding that was not controlled. There was large a large amount of adipose tissue, muscle, and bone exposed. There was no motor or sensation present in the affected hand. A tourniquet was applied, however, bleeding continued to remain uncontrolled. The patient admitted to consuming 7 beers before the altercation. Quick Clot hemostatic agent was applied directly to the wound and held with direct pressure for approximately 5 minutes. Quick Clot was then secured with trauma pads and cling before the patient was put into the helicopter for transfer.

Hand Laceration

Patient is an elderly female presenting to the Adena Pike ED after accidentally stabbing herself in the hand with a knife while trying to open a can of biscuits. Bleeding was noted to be difficult to control and transfer was requested to Riverside Methodist Hospital for evaluation by a hand surgeon. At the time HealthNet Aeromedical Services made contact with the patient, the wound was being managed with direct pressure; a blood saturated dressing was noted. The HealthNet team initiated care by applying Quick Clot bandage to the wound with direct pressure and occlusive dressing. For the duration of the flight, the bandage remained dry and the patient reported no distress or changes at the time of transfer of care to Riverside Methodist Hospital.

ATV Accident

HealthNet Aeromedical Services responded to reports of a 24 year old male operator of an ATV injured in an ATV accident. Patient was estimated to be traveling at approximately 25mph and was not wearing a helmet. The ATV was found in a ditch with a large area of blood on the adjacent roadway. Patient was found unconscious with a large laceration (6”x2”) in the left inguinal area with major arterial bleeding and no palpable distal pulses. Due to the amount of bleeding, wound care was required prior to loading into the aircraft. Four packages of z-fold and rolled Quick Clot were stuffed into the wound in an attempt to halt the arterial bleeding. In addition, larger Quick Clot bandages, trauma dressing, and ace wraps were used to form a pressure dressing. External bleeding was controlled at this time and the patient was loaded for transport to St. Mary’s Medical Center.

Head Laceration

Cabell County EMS responded to reports of a 77year old female who stated she was walking down the stairs and when she made it to the ground she fell from the standing position. Patient landed on the right side of her head and sustained three one-inch lacerations. Patient had attempted to control the bleeding with a towel, but was unsuccessful. Upon arrival at the scene, EMS placed 4x4s directly to the patient’s wounds and attempted to secure with cling-wrap. Ten minutes later, the patient was noted to continue to bleed through the bandaging. Quick Clot hemostatic agent was then applied directly to the wound and bandaged with cling-wrap. Bleeding was noted to be controlled ten minutes following the application of Quick Clot. Patient was then transferred to Cabell Huntington Hospital.

Future Research

In our continued collaboration with HealthNet Aeromedical Services, we will tract their use of Quick Clot while in the field. Our goal will be to qualify measurable outcomes in patients with the use of Quick Clot for hemostasis.

We would like to give a special thanks to CEO Clinton Burley and Dir. Of Ed. Sean McManus of HealthNet Aeromedical Services for their assistance with these projects.

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One more thing…Foley Catheter Removal in the OR
Can this simple practice decrease Catheter Associated UTIs?

Ryan Landis, MD, Igor Wanko Mboumi, MD, David Denning, MD FACS
Department of Surgery, Marshall University School of Medicine

MARSHALL UNIVERSITY
Joan C. Edwards School of Medicine

Introduction

Urinary Tract infections (UTI) are significant source of morbidity and mortality in hospitalized patients. More that 70-80% of UTIs can be attributed to indwelling urinary catheters. Acute care hospitals are attributing 15% of reported infections to Catheter Associated Urinary Tract infections (CAUTI). With the rise of the number of infections comes worsening patient outcomes such as longer length of stay, increased financial burden (400-500 million dollars a year), secondary infections, decreased mobility, and unnecessary antimicrobial use. Catheter associated urinary tract infections (CAUTI) can cause such complications such as cystitis, pyleonephritis, gram negative bacteremia, prostatis, orchitis, and rarely endocarditis, and osteomyelitis. While CAUTIs seem like a minor issues there approximately 13,000 deaths attributed to indwelling urinary catheters. Multiple studies have shown that the incidence of CAUTI is directly proportional to the duration of catheterization. The risk of bacteruria can be as high as 3-7% each subsequent day of catheterization.

Surgery patients provide an interesting quandary. Indwelling catheters are routinely place in surgical patients for laparoscopic cases, long surgical cases, after epidural anesthesia, or repair of genitourinary structures. Post operative urinary retention (POUR) is a common issue both surgeons and anesthesiologists face each day. This issue is usually managed by utilization of ultrasound bladder scanning and then either straight catheterization or replacement of a Foley catheter. While it is common for the surgeon to remove the catheter postoperative day one, is this really necessary?

Methods

Study Design

The proposed study will plan to address the necessity of remove indwelling urinary catheters post operative day 1 versus removal of the catheter in the OR at the conclusion of the case.

Post Operative Urinary Retention Risk Factors			
Preoperative			
Male	Age >50	Inguinal Hernia Repair	Anorectal Surgery
BPH	Previous Pelvic Surgery	Neurological Disease	Alpha or Beta blocker use
Intraoperative			
Excess IV Fluid administration	Long case	Spinal Anesthesia	Epidural Anesthesia
Postoperative			
Bladder volume at arrival in PACU >270cc	Sedative Medications	Post Operative Analgesia	

Inclusion Criteria

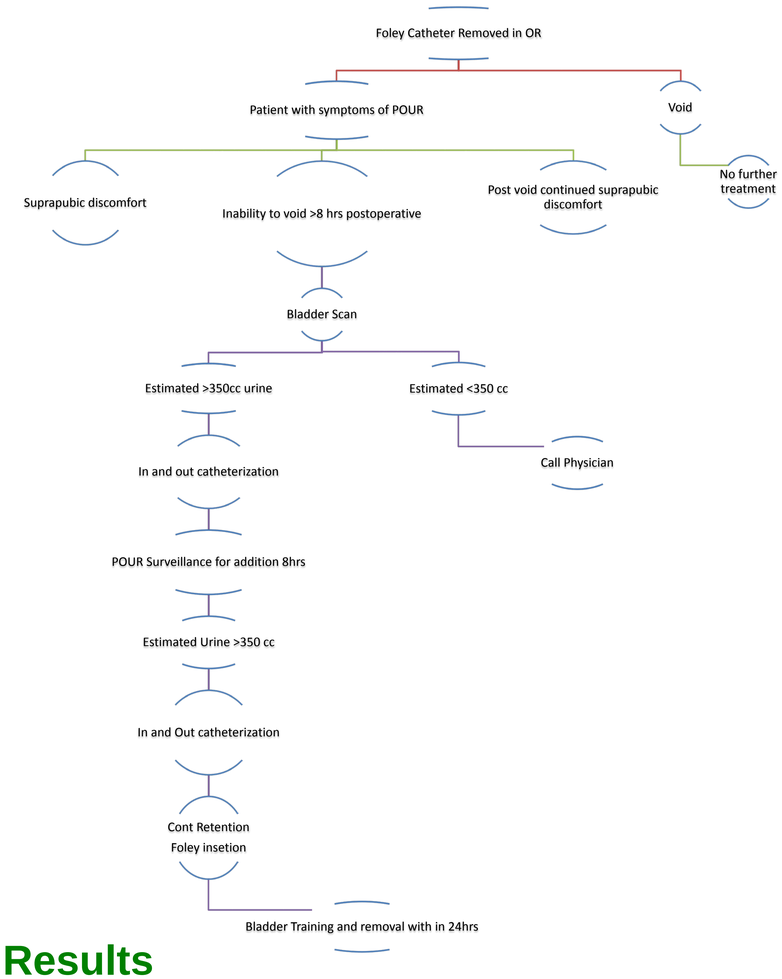
All elective abdominal general surgical cases with patients ranging from 18-99 who have had a Foley catheter placed in the operating room will be included.

Exclusion Criteria

Patients will be excluded from the study if the case is emergent, trauma related, critically ill patients requiring intensive care, Low anterior resections, Abdominoperineal resections, the bladder was violated and repaired, patients requiring self catheterization, or the patient has a pre-existing medical condition such as benign prostate hypertrophy requiring medical therapy.

Experimental Design

All patients meeting the inclusion/exclusion criteria will be enrolled in the study. All eligible patients after the completion of their surgical case will have their foley catheter removed by the nurse while still on the operating table. The proposed alogorithm is illustrated below.



Results

Patients age, gender, type of surgical case open versus laparoscopic, POUR risk factors, day at CAUTI diagnosis, Number of In and Out catheterization, bacterium isolated, length of stay, and time to ambulation will be analyzed.

Conclusions

CAUTIs are a significant source of morbidity and mortality for all surgical patients. With early removal of indwelling urinary catheters, we hope to decrease length of stay, unnecessary antibiotics, decrease cost of stay, promote early ambulation, and increase patient comfort.

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Designing a Patient Safety/Quality Improvement Curriculum for Graduate Medical Education

Graduate Medical Education

Teaching for Quality (Te4Q)

Franklin D. Shuler, MD, Ph.D., Eva Patton-Tackett, MD, Ellen Thompson, MD, Rodhan Khthir, MD, Nancy Munn, MD, Farid Mozaffari, MD, Maria Tirona, MD and Jo Ann Raines, M.A.

Introduction

The Accreditation Council for Graduate Medical Education (ACGME) has recently required all Residents and Fellows to be engaged in patient safety (PS) and quality improvement (QI). Trainees are now required to demonstrate specific PS/QI competencies prior to completing their postgraduate medical education training.

To address this requirement, the JCESOM Office of Graduate Medical Education (GME) has implemented a Teaching for Quality (TeQ4) development program. This program provided training on how to integrate PS/QI across the continuum of medical education. The development, implementation and evaluation of a PS/QI Curriculum is currently in progress for all of MUSOM's Graduate Medical Programs.

Why TeQ4? Te4Q was created in response to an identified gap in the education of students, residents, and practicing clinicians in quality improvement and patient safety. Te4Q also supports multiple national academic and clinical priorities for improved patient and health care outcomes, with an emphasis on progressive accreditation requirements.

Objective

1. To identify how prepared our current residents and fellows are in meeting the new patient safety and quality improvement competency requirement;
2. To collaboratively devise curriculum implementation strategies, tools and techniques needed to assist our trainees meet this requirement.

Methods

As part of (Te4Q) Improvement and Patient Safety initiative, Marshall University Joan C. Edwards School of Medicine offered an AAMC designed certificate program for medical school clinical faculty and invited other health profession educators. The aim of the Te4Q program was to disseminate the knowledge and tools necessary to successfully implement QI and safety education in undergraduate medical education (UME), graduate medical education (GME), continuing medical education (CME), and health profession schools. This Poster however focuses on the GME aspect of the curriculum. The seven of the 13 Residency and Fellowship Program Directors who participated in this day and one-half program identified a quality improvement and patient safety curriculum gap and structured a required independent learning rotation structure. This PS/ QI Curriculum proposal is complete with goals, objectives and evaluation and is designed to supplement and enhance current program offerings and requirements.

PS/QI GME Curriculum Development

Goals:

Each trainee will complete the following by the end of their JCESOM training:

- Require participation in online modules in PS/QI (see AMA Introduction to Practice Management above right);
  - Certificates of completion of online modules;
- Participation in a PS/QI Project;

Further requirements and time-lines will be set by each specific Department.

Objectives:

Knowledge -- Define the processes of PS/QI;

Comprehension -- Recognize the benefits of QI and identify the key PS/QI concepts and principles;

Application -- Perform a simulated root cause analysis as a demonstration of PS/QI principles and knowledge;

Analysis -- Inventory current PS/QI projects and continually analyze opportunities for PS/QI;

Synthesis -- Participate in a QI project and present a QI project in an Annual QI Poster Presentation Day.

AMA Introduction to Practice of Medicine

(IPM)

The AMA Introduction to Practice of Medicine is a web-based educational series that will complement and reinforce what is being taught in patient settings and didactic curriculum in resident and fellowship training programs.

Required Modules:

1. **Patient Safety: Further Steps to Prevent Patient Harm**
2. **Patient Safety: Identifying Medical Errors**
3. **Patient Safety: National Patient Safety Goals**
4. **Quality Improvement Panel**
5. **Quality Improvement: Q & A**

Conclusion

The initial online assessment of the PS/QI culture will be completed in early 2015.

Trainees are now required to demonstrate specific PS/QI competencies prior to completing their postgraduate medical education training.

Smoking Cessation Project

James Perry III, DO, Nancy Munn MD
Pulmonary Section

Introduction or Background

Smoking has been shown to have a number of harmful effects in patients including pulmonary and cardiovascular problems. In patients who already have pulmonary disease, it is particularly important that they quit smoking.

Statement of Problem or Question

It is important that patients in the Pulmonary clinic be asked about their smoking history. If they are active smokers, it is very important that they be advised of the risks of smoking and counselled about the need to stop. They should also be offered available aides for cessation of smoking .

Description of Program/Intervention (Methods)

All Fellows and Faculty in the Pulmonary clinic did a review of charts of recent clinic patients to determine if the patients had been asked about tobacco use, staged for motivation to quit, advised of risks of tobacco use and offered cessation aides. A faculty member then gave an educational session to review staging of patients, risks, and various cessation techniques. After the educational session, all fellows and faculty again reviewed their patients to see if there was improvement in tobacco cessation counseling.

Objectives of Program/Intervention

To determine if patients in the pulmonary clinic were:
-Asked about tobacco use and had this documented in chart
-Active tobacco users were advised to quit
-Active users were assessed for motivation to quit using tobacco
-Active users were advised of risks of tobacco use
-Active users were offered cessation aides and what type of aides

Findings to Date

Smoking History

History	Pre	Post
Asked about tobacco use	99%	100%
Actively using tobacco	86%	90%
Advised to quit	85%	89%
Asked about passive smoke exposure	55%	43%

Cessation Aids Discussed

Cessation Aide	Pre	Post
Access to State Hotline	28%	50%
Nicotine replacement	72%	59%
Bupropion	44%	52%
Varenicline	31%	44%

Lessons Leaned

Pulmonologists and Pulmonary Fellows very frequently assessed patients for tobacco use and advised quitting although performance improved after the educational session. However, pulmonary physicians are still not evaluating patients for passive smoke exposure on a regular basis. Practitioners assessed patients as to their stage of motivation for quitting the majority of the time. There was a significant improvement in informing patients about the risks of smoking after the educational session. Practitioners were much more likely to advise patients on the risks of cardiac disease (61% compared to 36%) and cerebrovascular disease (65% compared to 21%) after the educational session. Practitioners informed the patient about risk for lung disease a similar percentage of the time (66% compared to 65%). As per graph, Pulmonary physicians were more likely to review the various smoking cessation aides with their patients after attending the educational session on Smoking Cessation.

Future goal: or Conclusion/Implementation

We are considering repeating the study to see if practitioners are still consistently advising patients of the risks of smoking and reviewing cessation aides with them. We would also emphasize the need to evaluate for passive smoking exposure and use of smokeless tobacco or non-smoking nicotine use (electronic cigarette).

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Smoking History

History	Pre	Post
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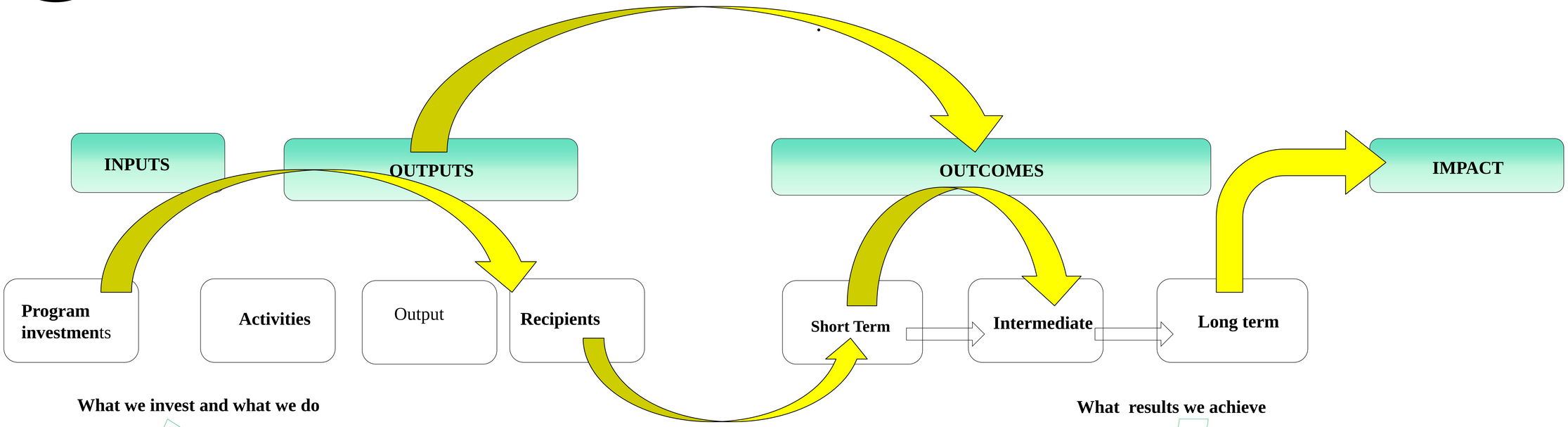
Measuring the Impact of the Teaching for Quality (Te4Q) Improvement and Patient Safety initiative at Marshall University JCESOM and its Affiliates

Darshana Shah, PhD., Paulette Wehner, MD. And Jim Becker, MD., Marshall University, Joan C. Edward School of Medicine.



• Supportive leadership GME/ Marshall Health/Faculty Affairs/ VA/ CHH, School of Pharmacy • Resources: • Logistic support • TIME: For the faculty to attend For faculty &Staff to Develop, support implement program	▪ Identify needs & design approach to meet them ▪ Offer faculty development educational activities under one umbrella of Te4Q ▪ Provide logistic support to Te4Q workshops, ▪ Promote faculty participation and use of resources ▪ Evaluation outcomes	AAMC- Te4Q Educational Workshop with certificate upon completion Scheduled advertisement well designed workshop One stop information (easy Access) Well established Te4Q website Evaluation Data	▪ Faculty : involved in the training of medical students , Residents, ▪ Staff involved in patient safety and satisfaction safety	• Participants are Satisfied with learning experience and improve mastery of learning objectives * • Participants apply learning to their teaching practice and educational activities **	▪ Improvement in Teaching and Learning about Te4Q in Educational system: ▪ UME-GME-CME Development of Te4Q curriculum intervention • Scholarly contribution related to Te4Q education made to the field of QI and PS through publication and presentation	Medical Students, Residents and faculty are better equipped to practice medicine in a professional , societally responsible way	• Improved Patient care Patient advocacy Health of the community • A culture of professional development and continuous improvement in Te4Q education is developed / enhanced
				Te4Q post-evaluations* # TeQ4project proposals)**	# of curricular intervention	**KAS survey**	**Patient safety culture Survey**

Establishing the Roles of the Trauma Response Team

A Quality Improvement Project to Enhance the Efficiency and Accuracy of the Evaluation and Resuscitation of a Trauma Patient

Johnson Walker MD, Chadwick Knight MD, KellyAnn Vandendool MD,
Thomas Alberico MD, Kathryne Blair MD, Farid Mozaffari MD, David Denning MD

DEPARTMENT OF SURGERY

MARSHALL UNIVERSITY - JOAN C. EDWARDS SCHOOL OF MEDICINE

What is the problem?

Major trauma centers across the country have developed detailed protocols for which departments and healthcare providers should respond to an alerted trauma in the Emergency Department.

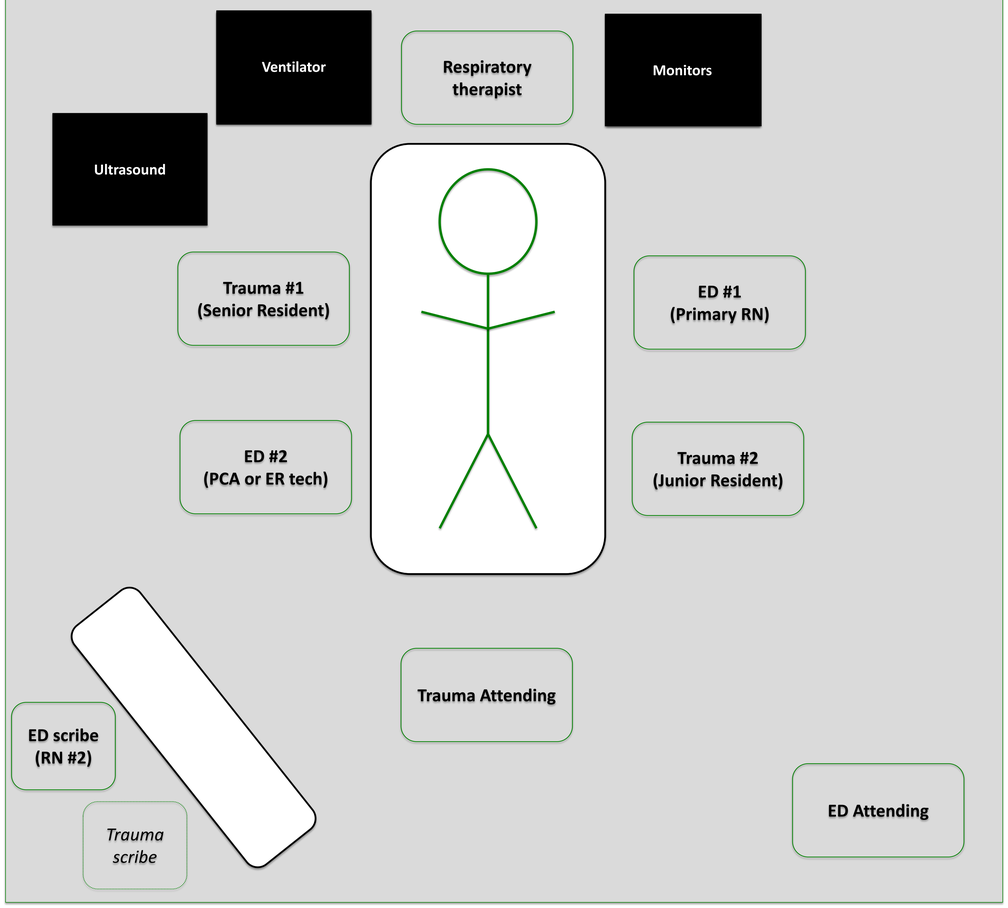
Our facility is not unlike these centers – a trauma team has been well described; however, specific assigned tasks for the respondents have not been detailed at our facility. The lack of prescribed responsibilities for each trauma team member can lead to inefficiencies and/or inaccuracies in the evaluation and resuscitation of the trauma patient on presentation, with the potential for major complications

What are the goals?

Efficient and accurate primary and secondary survey of the trauma patient has been shown to improve outcomes. Likewise, there is improved morbidity and mortality with expeditious evaluation and transit to the CT scanner.; however, before this can happen, a well-synchronized effort from the doctors, nurses, laboratory personnel, support staff and x-ray technicians must take place. Any delay can be very detrimental to the patient's outcome.

Rationale for the Project

Organization and communication are vitally important to success in all healthcare delivery settings. This is never more evident than in the intense environment of a Rapid Response, Code Blue or Trauma Alert. **Our facility would benefit from specific delineation of the roles and responsibilities of the trauma team members to more efficiently and effectively take care of trauma patients. This QI project aims to establish that delineation.**



Who is the trauma team at CHH?

- Trauma Surgery (residents, attending, medical students)
- Emergency Department (attending, medical students)
- Anesthesia (CRNA, attending)
- ED Nurses (primary, secondary)
- ED Patient Care Assistant
- Laboratory personnel (phlebotomy)
- Respiratory therapy
- Pharmacy (PharmD, pharmacy students)
- Radiology / EKG technicians
- Pastoral Care and Social Work
- Director of Trauma and Trauma NP

Identifying Roles and Responsibilities

- Trauma #1: Senior General Surgery resident
  - Oversees trauma resuscitation – **in charge of entire room**
  - **Primary communication** – relays findings, orders to scribe
  - Performs primary survey, FAST exam
  - Obtains airway, if necessary
- Trauma #2: Junior General Surgery resident
  - Performs secondary survey
  - Performs all necessary procedures – central line, chest tube, DPL, hemorrhage control, etc.
- Primary RN:
  - **In charge of nursing team – communicates with Senior Surgery resident**
  - Obtains peripheral IV access; places patient on monitor; provides resuscitation at discretion of the senior Surgery resident
- ED PCA / tech:
  - Helps remove patient's clothing, provide warm blankets
  - Places Foley catheter
  - Obtains labs, if necessary
- Secondary RN:
  - Acts as a scribe, documenting timeline of events and orders
- Trauma Attending:
  - Present for all P1 activations
  - Will communicate with Senior Surgery Resident
- ED Attending:
  - Primary healthcare provider until arrival of Senior Surgery Resident
  - Available for consultation after arrival of trauma team
- Respiratory therapist:
  - Manages patient's airway, if already established
  - Provides ventilator support

Discussion and Future Plans

Without clear roles for each member of the trauma team, trauma activations can be chaotic and inefficient. Our facility needs to delineate these roles – and have strict adherence to the protocol. Every task that is required in the resuscitation of a trauma patient can be accomplished by these four bedside providers, with help from the auxiliary team members, as directed by the Senior Surgery resident. Without extra bodies in the trauma bay, the evaluation of these patients can be without delay.

In the future, we can provide this information to the ED staff, as well as the trauma team, and allow the Senior Surgery resident to command the team's actions as they see fit. **Many facilities post a diagram on the wall in the trauma bay, so healthcare providers are constantly reminded of their role. CHH may benefit from such a posting.**

Undoubtedly, with more efficient trauma resuscitation, we would proceed to the CT scanner more quickly and thus, improve morbidity and mortality. **Future studies will include investigation of the patient's time of resuscitation, time to CT scanning, and outcome to see if strict adherence to roles and responsibilities can improve outcomes.**