Orientation Handbook

Penn State Hershey Medical Center
Division of Trauma, Acute Care and Critical Care Surgery
Surgical Intensive Care Unit

July, 2010

TABLE OF CONTENTS

Mission Statement

The mission of the Penn State Hershey Medical Center Department of Surgery is to provide the highest quality in clinical care, education and research incorporating the latest evidence based knowledge and techniques. To that end, the fundamental mission of the Division of Trauma, Acute Care & Critical Care Surgery is to **become a leader in the delivery, teaching and study of state-of-the-art trauma, acute care and critical care surgery with a focus on the unique characteristics of practice in a rural environment.**

Introduction

Penn State Milton S. Hershey Medical Center is a 501 bed tertiary care medical center in a rural setting, serving central Pennsylvania and northern Maryland. The catchment area has a population base of over 1.2 million people. We are a state-designated Level 1 Adult Trauma Center and a Level 1 Pediatric Trauma Center, and is accredited by the Pennsylvania Trauma System Foundation.

Transportation to Penn State Milton S. Hershey Medical Center is facilitated by Life Lion EMS which provides, basic life support (BLS),advanced life support (ALS), mobile intensive care unit (MICU) and air transport (roto-wing/helicopter) from the surrounding area to patients requiring critical care, trauma or acute care surgery.

In addition to caring for trauma patients, the faculty and staff participates in other aspects of acute care surgery as well as the continued care of the critically ill surgery patient in the Surgical Intensive Care Unit. The 30-bed SICU admits primarily acute care surgery patients from trauma and emergency general surgery but also cares for critically ill renal transplant, orthopedic, plastic surgery, OB/GYN, and urology patients as well. Our acute care surgeons performed collectively over 700 inpatient operative cases and approximately 300 outpatient procedures last year.

SICU Rotation

Curriculum

The Section Chief for the Emergency General Surgery section within the Division of Trauma, Acute Care & Critical Care Surgery is Dr. Dan Carney, Assistant Chief, Dr. Scott Armen.

The educational program for all levels includes daily teaching rounds, didactic lectures and psychomotor skills sessions.

Overall goals and objectives for the service

Knowledge:

- Describe the basic critical care management principles for:
    - Airway and ventilator management
    - Cardiovascular support including, but not limited to, invasive monitoring, use of inotropes and vasopressors, dysrhythmias
    - Fluid, electrolyte, renal and nutritional support
    - Gastrointestinal problems
    - Diagnosis and treatment of infections
    - Coagulopathy, DVT prophylaxis and treatment
- Demonstrate knowledge of pharmacological agents used in the treatment of critically ill patients

Patient Care:

- Participate in the evaluation, resuscitation, management of critically ill patients in the SICU
- Perform the following procedures:
    - Diagnostic ultrasound at the bedside
    - Thoracentesis
    - Central line insertion
    - Intra-arterial catheterization
    - UGI endoscopy
    - Endotracheal intubation
    - Bronchoscopy
    - Tracheostomy
    - PEG tube insertion
    - Echocardiogram
    - Chest tube insertion
- Apply and remove all types of dressings
- Demonstrate accuracy and proficiency in documenting patient care

- Evaluate critically ill patients and make supervised decisions regarding patient care

Interpersonal Skills and Communication

- Educate patients and families in post operative and rehabilitative strategies
- Interact and communicate with other Critical Care team members in an effective, professional manner to facilitate the rapid throughput
- Provide adequate counseling and informed consent to the critically ill patient and their families

System Based Practice

- Participate in the coordination of the rehabilitation of the critically ill patient
- Demonstrate knowledge of cost-effective critical care
- Advocate for critically ill patients within the health care system
- Refer critically ill patients to appropriate practitioners and agencies
- Facilitate the timely discharge and/or transfer of critically ill patients

Professionalism

- Develop a sensitivity of the unique stresses placed on families of patients in the SICU
- Demonstrate an unselfish regard for the welfare of SICU patients
- Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population
- Demonstrate firm adherence to a code of moral and ethical values
- Provide appropriately prompt consultations when requested
- Demonstrate sensitivity to the individual patient's profession, life goals and cultural background as they apply to their diagnosis
- Be reliable, punctual and accountable for own actions
- Effectively deal with dissatisfied patients and their families
- Effectively deal with impaired patients and their families
- Understand the benefits and functionality of multidisciplinary health care teams.
- Refer patients to appropriate practitioners and agencies

Specific Goals by PGY

Surgical Intensive Care Unit Service
PGY 1

A. Medical Knowledge

1. The resident should learn in depth the fundamentals of basic science as they apply to patients in the intensive care unit. Examples include anatomy, physiology and pathophysiology of the cardiovascular, respiratory, genitourinary, gastrointestinal, musculoskeletal, hematologic, and endocrine systems.

2. The resident should understand the rationale for admission and discharge criteria in the ICU.

3. The resident should understand factors associated with assessment of preoperative surgical risk. *Examples include evaluation of the high risk cardiac patient undergoing non-cardiac surgery.*

4. The resident should understand fluid compositions and the effect of the losses of such fluids as gastric, pancreatic and biliary from fistulas at various levels.

5. The resident should understand the indications for, and complications of blood component therapy.

6. The resident should be able to discuss the pathophysiology of respiratory failure.

7. The resident should be able to demonstrate an understanding of acid-base disorders, including diagnosis, etiology, and instituting appropriate treatment.

8. The resident should be able to discuss the pathophysiology, indications, and complications associated with various modes of mechanical ventilation. *Examples include ventilator management of ALI, ARDS and thoracic trauma, as well as weaning from ventilatory support.*

9. The resident should understand the role of hormones and cytokines in the graded metabolic response to injury, surgery and infection.

10. The resident should understand the indications, routes and complications of administration of parenteral and enteral forms of nutrition.

11. The resident should understand the risk factors and common pathogens that are associated with nosocomial infections.

12. The resident should understand the factors associated with altered mental status. *Examples include traumatic, septic, metabolic and pharmacologic causes.*
13. The resident should understand the risk factors associated with stress gastritis.

14. The resident should understand the causes and treatment regimens for gastrointestinal bleeding. *Examples include bleeding from upper and lower GI sources*.

15. The resident should be able to discuss end of life ethical issues. *Examples include organ donation and withdrawal of support.*

B. Patient Care. Under appropriate supervision, the resident should be able to:

1. Perform endotracheal intubation.

2. Perform the following aspects of ventilatory management:

(Set up initial and advanced ventilator settings. Wean patients from ventilatory support. Treat common complications of mechanical ventilation including tube thoracostomy.)

3. Correctly utilize prophylaxis for stress gastritis in high risk ICU patients.

4. Initiate appropriate nutritional support through the most optimal route.

5. Manage complications of nutritional support. *Examples include hyperglycemia.*

6. Assist in managing patients with intracranial hypertension and neurovascular disease.

C. Interpersonal and Communications Skills

See general goals and objectives

D. Practice-Based Learning and Improvement

1. The resident should use books, journal articles, internet access, anatomy videotapes, and other tools available to learn about topics related to critical care.

2. The resident must complete the pre and post test and view the RICU Curriculum (Resident Intensive Care Unit). This is a series of several powerpoint presentations that accompany the 1100-1200 M-F RICU seminar.

3. The resident must prepare for and attend daily ICU attending rounds.

4. The resident must attend and participate in the RICU curriculum lectures daily while maintaining the 80 hour duty week restriction compliance.

E. Systems-Based Practice

1. The resident should be able to communicate with patients, families, nurses, and allied health care personnel.

2. The resident should be able to use appropriate consult services to improve care of patients in the intensive care unit.

F. Professionalism

See general goals and objectives

PGY 2

A. Medical Knowledge.

1. The resident should have an in depth understanding of the basic science related to problems commonly seen in the intensive care unit setting. *Examples include sepsis, respiratory failure, coronary ischemia, shock, malnutrition, stress ulceration, non-occlusive intestinal ischemia, antibiotic-associated colitis, antibiotic resistance, jaundice, and renal insufficiency.*

2. The resident should understand the pathophysiology of hemodynamic instability. *Examples include types of shock, cardiac arrest.*

3. The resident should know and apply treatments for arrhythmias, congestive heart failure, acute ischemia and pulmonary edema.

4. The resident should understand adjuncts to the analysis of respiratory mechanics and gas exchange. *Examples include work of breathing, rapid shallow breathing index, single breath CO_2 analysis and dead space measurements.*

5. The resident should understand fluid and electrolyte as well as acid/base abnormalities associated with complex surgical procedures and complications. *Examples include massive fluid shifts associated with trauma, shock and resuscitation, high output fistulas and renal failure.*

6. The resident should understand the pathophysiology associated with endocrine emergencies in the ICU. *Examples include thyroid storm, hyper, hypoparathyroid states and adrenal insufficiency.*

7. The resident should be able to discuss the mechanism of action as well as the spectrum of antimicrobial activity of the different antibiotic classes. *Examples include carbapenems, extended spectrum penicillins and fluoroquinolones.*

8. The resident should understand the risk factors that result in multiply resistant organisms. *Examples include antibiotic dosing, antibiotic synergy and transmission patterns.*

9. The resident should be able to discuss the factors that result in an immunocompromised state. *Examples include malignancy, major trauma and steroids*.

10. The resident should understand the factors associated with bleeding disorders. *Examples include DIC, ITP, hemophilia, coagulopathy associated with shock and hypothermia.*

11. The resident should understand the pathophysiology of traumatic brain injury and neural disease. *Examples include knowledge of intracranial pressure monitoring and maneuvers to normalize ICP.*

12. The resident should be able to discuss the pathophysiology, presentation, and causes of hepatic failure.

B. Patient Care. Under appropriate supervision, the resident should be able to:

1. Insert pulmonary artery, central venous, and arterial lines, with and without ultrasound guidance.

2. Insert PEG tubes.

3. Insert open and percutaneous tracheostomy tubes.

4. Resuscitate patients from shock and cardiac arrest.

5. Recognize and treat ischemia and arrhythmias on ECG.

6. Utilize correct class of anti-arrhythmic, vasodilators and diuretics as they pertain to cardiac disease.

7. Correctly determine the protein, caloric, electrolyte, fat and vitamin needs of surgical patients, taking into account their underlying disease process.

8. Correctly diagnose and treat gastrointestinal bleeding associated with ulcers, portal hypertension and lower GI sources. Perform rigid sigmoidoscopy to 25 cm when indicated.

9. Diagnose cause and appropriately alter treatment regimens to compensate for hepatic failure. *Examples include altering fluid, protein and drugs regimens.*

C. Interpersonal and Communications Skills

See general goals and objectives.

D. Practice-Based Learning and Improvement

1. The resident should use books, journal articles, internet access, anatomy videotapes, and other tools available to learn about topics related to critical care.

2. The resident must complete the pre and post test and view the RICU Curriculum (Resident Intensive Care Unit). This is a series of several powerpoint presentations that accompany the 1100-1200 M-F RICU seminar.

3. The resident must prepare for and attend daily ICU attending rounds.

4. The resident must attend and participate in the RICU curriculum lectures daily while maintaining the 80 hour duty week restriction compliance.

E. Systems-Based Practice

1. The resident should function as a member of the ICU team and act as a liaison with each patient's home service to communicate patient progress and plans for care by the ICU team.

2. The resident should relate concerns and advice from the patient's home team to the ICU service.

3. The resident should be able to work with family to respect patient's end of life wishes, including withdrawal of care in a dignified manner.

4. The resident should be able to communicate with the organ bank to coordinate care for organ donation.

F. Professionalism

See general goals and objectives

PGY 3

A. Medical Knowledge

See service-specific goals and objectives for PGY 2 and PGY 3 residents above.

B. Patient Care

1. Under appropriate supervision, the resident should assist the junior residents with placement of central venous lines, pulmonary artery catheters, placement of PEG tubes, and other invasive procedures.

2. The resident should be able to identify and minimize factors associated with nosocomial infections and be able to utilize appropriate adjunctive measures to diagnose and treat nosocomial infection. *Examples include bronchoscopy to aid in the diagnosis of ventilator associated pneumonia*.

3. The resident should be able to utilize pharmokinetics and drug levels to adjust antibiotic dosing, utilize appropriate combinations of antibiotics to achieve synergy, and appropriately utilize isolation precautions.

4. The resident should be able to appropriately use intracranial pressure monitoring, including interpretation of hemodynamic and ICP data.

5. The resident should be able to initiate therapy to maintain cerebral perfusion pressure and minimize secondary brain injury.

6. The resident should be able to initiate and maintain salvage modes of ventilation such as airway pressure release, oscillatory and vibratory ventilation.

C. Interpersonal and Communications Skills

See general goals and objectives

D. Practice-Based Learning and Improvement

1. The resident should use books, journal articles, internet access, anatomy videotapes, and other tools available to learn about topics related to critical care.

2. The resident must complete the pre and post test and view the RICU Curriculum (Resident Intensive Care Unit). This is a series of several powerpoint presentations that accompany the 1100-1200 M-F RICU seminar.

3. The resident must prepare for and attend daily ICU attending rounds.

4. The resident must attend and participate in the RICU curriculum lectures daily while maintaining the 80 hour duty week restriction compliance.

E. Systems-Based Practice

1. The resident should function as a member of the ICU team and act as a liaison with each patient's home service to communicate patient progress and plans for care by the ICU team.

2. The resident should relate concerns and advice from the patient's home team to the ICU service.

3. The resident should be able to communicate with referring physicians from outside the medical system about patients in the ICU.

4. The resident should be able to discuss the role of surgeons in the ICU as well as the role of consultants.

5. The resident should be able to discuss the mechanism and need for performance improvement in the ICU.

Division of Trauma, Acute Care and Critical Care Surgery

Physicians, Physician Extenders and Staff

Faculty	Pager #	Office #	Email address
Heidi Frankel, MD Professor of Surgery Division Chair –Division of Trauma, Acute Care and Critical Care Surgery Medical Direct-Penn State Shock Trauma Center	4446	6066	hfrankel@hmc.psu.edu
Steven R. Allen, MD Assistant Professor of Surgery	5087	6066	Sallen4@hmc.psu.edu
Scott B. Armen, MD Assistant Professor of Surgery Assistant Chief, Division of Acute Care Surgery	5086	3563	sarmen@hmc.psu.edu
Eric Bradburn, DO Assistant Professor of Surgery Associate Director of Trauma	2955	6066	ebradburn@hmc.psu.edu
Daniel E. Carney, MD Assistant Professor of Surgery Section Chief-Surgical Critical Care ACS Fellowship Director	0434	6241	dcarney@hmc.psu.edu
Robert Cherry, MD Associate Professor of Surgery and Public Health Sciences Associate Chief Quality Officer	1119	6241	rcherry@hmc.psu.edu
Adam Fox, DO Assistant Professor of Surgery	4797	6241	
Dan Galvan, MD Assistant Professor of Surgery Assistant Director Surgical Clerkship	4371	6241	dgalvan@hmc.psu.edu

Physicians, Physician Extenders & Staff

Physician Extenders	Pager #	Office #	Email address
Timothy Baker, PA-C	4751	7161	tbaker1@hmc.psu.edu
Leonard Dobson, PA-C	3467	7161	ldobson@hmc.psu.edu
Cynthia Frost, CRNP	1723	8624	cfrost@hmc.psu.edu
Lynn Motz, CRNP	4392	8624	lmotz@hmc.psu.edu
Tracy Polly, CRNP	2255	8624	tpolly@hmc.psu.edu
Daniel Watkins, PA-C	2719	7161	dwatkins@hmc.psu.edu
Bonnie Wilson, CRNP	0570	7159	bdwilson@hmc.psu.edu
Trauma Program Manager	**Pager #**	**Office #**	**Email address**
Theresa Snavely, RN, BSN	1538	6066	tsnavely1@hmc.psu.edu
Division Acute Care, Critical Care Surgery, Education Coordinator	**Pager #**	**Office #**	**Email address**
Lisa Hollett, RN, BSN, MA, MICN		280345	lhollett@hmc.psu.edu
Trauma Coordinators	**Pager #**	**Office #**	**Email address**
Patricia Palubinsky RN, BSN	4581	7159	ppalubinsky@hmc.psu.edu
Amy Morgan, RN		7159	Amorgan3@hmc.psu.edu
Administrative Assistants	**Room #**	**Office #**	**Email address**
Charity Pavlesich	C5520	6066	cpavlesich@hmc.psu.edu
Cheryl Meanor	C5523	6241	cmeanor@hmc.psu.edu
Theresa Yantz	C6527	3563	tyantz@hmc.psu.edu

Secretary	Room #	Office #	Email address
Beverly Dunkle	C5520	7161	bdunkle@hmc.psu.edu
Trauma Registrars	**Room #**	**Office #**	**Email address**
Sharon Marcantino	C5515	5242	smarcantino@hmc.psu.edu
Jeannie Schiavo	C5515	5242	jschiavo@hmc.psu.edu
Pamela Nichols (trauma analyst)	Off site	Off site	pnichols1@hmc.psu.edu
Julia Crum	C5515	5242	jcrum@hmc.psu.edu
Deborah Davis (pediatrics)	C5523	281132	Ddavis2@hmc.psu.edu
Administrators	**Room #**	**Office #**	**Email address**
Linda Duncan Hospital Administrator	H1246	8802	lduncan2@hmc.psu.edu
Greg Swope Operations Manager	C4622	5529	gswope@hmc.psu.edu
Trauma Hotline			
800-485-1041 or ext 7474			
MD Network			
800-233-4082 ext 5880			

SERVICE OPERATIONS, STRUCTURE, AND FUNCTION

Surgical Intensive Care

Resident inpatient coverage

- All residents must be current in ACLS to care for SICU patients
- There is an in-house attending 24/7/365. The SCC fellow is on call as an additional resource.
- Call means you are physically present in house for the entirety of the call period. There is no "home call"

Physician Extenders

- CRNP's and PA's function as an integral part of the team.
- CRNP's and PA's assist in Daily rounds and collaborate with Attending physicians regarding the plan of care.
- CRNP's and PA's have privileges to write orders.
- CRNP's and PA's assist with surgical procedures under direct or general supervision by the attending, depending on level of medical staff privileges. Such procedures include, but are not limited by, a-line insertion, thoracentesis, CT placement, central line placement, intubations, PET's and PEG's.
- CRNP's and PA's report ***directly*** to the attending and collaborate with the resident staff.
- CRNP's and PA's are an important resource in providing consistency in patient care.

QUICK TIPS FOR MORNING REPORT AND ATTENDING ROUNDS:

- **ALL** residents must show up at **6 am** to help write notes on patients for the day, please call pager 2136 to talk with the overnight resident or PA to see what needs to be done
- Meet in SICU conference room promptly at 0700 for the start of Handoff report.
- ALL pertinent information must be presented
- ALL NEW PATIENTS MUST be added to the list by the person who admits them
- A resident and physician extender are EXPECTED to round with an attending
- Write down plan and see patients with them in order to convey the plan at sign out
- Review **ALL** orders (medications, plan of care, labs)
- Call **all** consults while on rounds
- LOOK up all LABS, CXR, Scans
- There should ***NEVER*** be a patient encounter without a ***NOTE!!***
- EGS Attending must evaluate the patient prior to discharge

PHONE CALL TIPS

- Please handle all calls promptly, courteously, and compassionately
- Please collect all important information when a call is received-patient name, date of recent admission/discharge, attending, pertinent ROS, call back telephone number
- **ALWAYS** ask the surgeon's name, date of surgery, what type of surgery, patients current complaints (i.e. fever, n/v, pain, purulent drainage, redness, appetite, chest pain, SOB, etc)
- If the patient is instructed go to the ED, and the patient lives far away, he/she should go to the closest ED.
- Percocet is a Class II narcotic and **CANNOT** be refilled or reordered by telephone. The patient or a representative may come in to pick up the prescription or it may be faxed to the pharmacist.
- Vicodin/Tylenol 3 are both Class III narcotics and can be written for one refill or are called in by phone
- Please document phone conversation in Power Chart under the "notes" section

PATIENT LIST MAINTENANCE

- Access general surgery list by going to:
  1. Explorer Menu Icon on the Desktop
  2. Enter username and password
  3. Select group proxy list (EGS consults)
  4. Under Med Service, select EGS
  5. Hit "Execute" button in right hand corner
  6. New screen with list appears
  7. Select the printer icon in the top left hand corner
  8. Print to the appropriate printer

- Acceptable abbreviations:
  1. # is heparin gtt
  2. $ is tpn
  3. * coumadin
  4. P/O is pt/ot consulted

- List must be updated as often as possible
- Sticky Notes must include pertinent information for each patient

Discharge Summary Template

State your name, that you are dictating a discharge summary, and who the discharge attending is.

Patient Name
Medical record number
Date of Birth
Date of Admission
Date of Discharge

Principal Diagnosis
Complete listing of all other Acute Diagnoses pertinent to the stay
Co-Morbid Diagnoses

Complete Listing of Procedures and Dates
History
Age
Gender
ED Significant Physical Exam Findings
Diagnostic Studies
Hospital Course
Admitted to floor or IMC or SICU
Indicate if mechanical ventilation was required (include days on ventilator)
SICU length of stay, if applicable
"The patient underwent evaluation, observation, and /or treatment of the above mentioned diagnosis that were established during the hospital stay"
"A complete listing of the relevant procedures is mentioned above"
"The patient's hospital course was significant for the following complications:"
Disposition (Home, LTACH, Rehab, Prison)
Condition at Discharge (stable)
Discharge Treatment Plan
Discharge Medications
Discharge Instructions to the patient
Follow-up appointments
Signature of Physician of record

UNIVERSAL PROTOCOL VERIFICATION OF CORRECT PATIENT, PROCEDURE, AND SIDE/SITE FOR INVASIVE OR SURGICAL PROCEDURE(S)
Hershey Medical Center – Hospital Administrative Manual
Replaces: March, 2006
Authorized: Alan Brechbill Executive Director
Approved: Michael Weitekamp, MD Chief Medical Officer
Approved: Donna L. Reck, MSN, RN, CNA, BC Chief Nursing Officer

POLICY

All patients, inpatient and outpatient in all clinical locations, having an invasive procedure/surgical procedure will have patient identification, side and site of planned procedure, correct procedure, and correct implant and special equipment verified and a "time out" conducted prior to beginning a procedure according to this Universal Protocol.

Operative and other invasive procedures that expose patients to more than minimal risk include procedures done in the OR and settings other than the operating room such as a special procedures unit, endoscopy unit, or interventional radiology suite. Routine procedures such as venipuncture/blood draw, peripheral IV line placement, insertion of NG tube, or foley catheter insertion are not within the scope of the protocol. However, most other procedures that involve puncture or incision of the skin, or insertion of an instrument or foreign material into the body, including but not limited to, percutaneous aspirations, biopsies, cardiac and vascular catheterizations, and endoscopies are within the scope of this protocol.

PURPOSE

To promote patient safety by providing guidelines for verification of correct patient, correct procedure, correct side/site and correct implants and any special equipment or special requirements for the invasive/surgical procedure prior to the start of a procedure.

RESPONSIBLITIES

It is the responsibility of all staff and physicians interacting with patients to follow this Universal Protocol.

PROCEDURE

1. Scheduling--The verification process for correct patient, correct procedure/surgery, correct site, and correct implants and any special equipment or requirements begins with scheduling.
    - The following information is required when scheduling an invasive/surgical procedure: the correct spelling of the patient's full name, date of birth, procedure to be performed, physician(s) name(s), and implants or special equipment required if applicable and facility required booking data.

- Scheduled procedures that involve anatomical sites that have laterality, the word(s) right, left, or bilateral will be written out fully on the procedure/operating room schedule and on all relevant documentation (e.g., consent).
- Any discrepancies in data should be clarified with the physician's office.

2. Pre-procedure / Preoperative Verification in admitting units, or holding areas before the patient enters the procedure/surgical room:
   - The registered nurse, radiographer, technician, or procedure assistant will verify the following: patient's identity by asking the patient to state his or her full name, date of birth, procedure/surgery that will be performed, and side/site.
     a. If the patient is a minor, incompetent, or sedated, has a language barrier, or is a trauma/emergency victim, accurate communication may be impeded. In such cases, the patient's family, health care proxy agent, legal guardian, or interpreter should complete the identifiers and verify side/site mark.
     b. The patient will be involved in the process to the extent possible with verbal and visual responses (e.g., stating name and pointing to correct site location).
   - The patient responses will be verified with patient identification (ID) band, posted OR/procedure schedule, consent, site mark, if applicable, and information in the medical record including history and physical.
   - A team member needing to perform treatment (e.g., anesthesia block) or medication administration (e.g., eye drops) prior to the site being marked in the holding area must follow patient verification process as outlined above. When confirmation of the procedure/surgical site by anesthesiologist or registered nurse is completed, the team member may perform the treatment before the surgical site is marked.

3. SITE MARK – Completed Before Patient Enters Procedure/Operating Room

   a) All patients having an invasive procedure/surgical procedure that involves laterality, multiple structures, (e.g., fingers and toes) or multiple levels (e.g., spinal surgery), must have their site marked. **Marking the site(s) is required for all procedures <u>except</u> those performed on:**
   - Single organ cases (e.g., Cesarean section, cardiac surgery).
   - Premature infants, for whom the mark may cause permanent tattoo
   - Gastroenterology endoscopic cases.
   - Where marking is not possible (e.g., tonsillectomy, hemorrhoidectomy)
   - Teeth; in the case of teeth, the operative tooth name and description will be documented in the patient record and identified on the radiograph.
   - Marking of invasive cases for which catheter (e.g. cardiac catheterization) and instrument site is not predetermined is an exception to skin marking.
   - In the case of a surgical emergency, a site mark may be omitted, but a surgical "time out" should be performed unless the risk outweighs the benefit.
   - Site marking will not be required for starting intravenous therapy or Foley catheter insertion.
   - Image guided procedures
   - **In non-OR settings, including bedside procedures, when the practitioner is in continuous attendance from the time of the decision to do the procedure(s) and patients consent to the initiation of the procedure(s). Requirement of a final "timeout" verification still applies.**

   b) If a patient refuses to have the site marked, the patient's physician will review with the patient the rationale for site marking. If patient continues to refuse, documentation of patient refusal and alternative method is documented.

c) Placement of the mark (initials) in conjunction with patient or legal representative may occur on the day of procedure/surgery or prior to procedure/surgery as long as the mark(s) is visible at the time of procedure/surgery.

d) Prior to marking the site, the operating physician verifies the patient's identity (patient's name and date of birth), and the procedure and side/site against consent, medical record data including history and physical, and radiographs (as applicable) to confirm accuracy.

e) The operating physician asks the patient or designee (legal representative) to state the procedure and site/side of surgery, with the patient providing visual clues, if appropriate, such as pointing.

f) The site will be marked by the physician or designee (e.g. Resident, Physician Assistant, or Certified Nurse Practitioner) with his/her initials only using a permanent marker prior to the patient being transferred to the procedure/operating room unless the anatomical site is exempted per policy guidelines.

g) Site mark will be made at or adjacent to the incision site, and must be visible after the patient is prepped and draped.

h) Non-operative site(s) will not be marked unless medically indicated (e.g., pedal pulse markings or no B/P cuff).

i) Multiple sides or sites--If the procedure involves multiple sides/sites during the same operation, each side and site must be marked.

Spine surgery is a two stage marking process.

Preoperatively

- The skin is to be marked at the level of the procedure (e.g., cervical, thoracic, or lumbar).
- The skin mark indicates anterior vs. posterior and right vs. left.

Intraoperatively

- Intraoperative x-rays with immovable marker(s) will be used to determine exact location and level of surgery.
- X-ray(s) will be reviewed by operating physician for confirmation.

Laparoscopic surgery

The surgical site will be marked for laparoscopic cases that involve operating on organs that have laterality. Initials must be done near the proposed site or near the proposed incision/insertion site. The mark must be visible after draping, if used.

Ophthalmology surgery

The correct eye for surgery will be indicated with initials on the forehead directly above the operative eye

Dental Surgery

- Teeth do not need to be marked
- The tooth number(s) or tooth/surgical site will be identified on the diagram or radiograph to be included as part of the medical record and site confirmation.
- Radiographs will be checked for proper orientation and visual confirmation of correct teeth or tissue.

Skin integrity that is not intact

- The site mark will not be placed on an open wound or lesion.
- In the case of multiple lesions and when only some lesions are to be treated, the sites should be identified prior to the procedure itself.

Emergency procedure

Site marking may be waved in critical emergencies at the discretion of the operating physician, but a "time out" or pause should be conducted unless there is more risk than benefit to the patient.

GYN/GU procedures

Site marking will occur on sites involving laterality (e.g., testicular/ovarian procedure/surgery).

Bedside procedures (e.g., chest tube insertion)

Site marking is required. Exception: As long as the person performing the procedure identifies the patient and confirms all data, including consent, history and physical, and radiographs; and is in continuous attendance, he/she may perform the procedure without marking the site. A "time out" still must occur prior to the start of the procedure.

4. "TIME OUT" – In the Operating Room, Procedure Room or Bedside
   a) A "time out" must be done in the location where the procedure is to be performed, immediately before the start of the case after the patient is draped and before the first instrument is passed, by all staff involved with the procedure. The patient does not have to be awake for the "time out."
   b) When the patient enters the procedure/operating room or at the bedside the registered nurse will confirm identity of the patient, correct procedure, and side/site.
   c) If radiographic films are used, the physician is responsible for reading and interpreting the radiographic films to be used during the procedure and confirming that the films have been placed correctly for the correct patient.
   d) The physician, anesthesiologist, RN, or radiographer will initiate the "time out." Confirmation of the following will be made: correct patient, correct side/site, correct procedure, correct patient position, correct radiographs, correct implants and equipment.
   e) Site marking must be visible at the "time out".
   f) "Time out" will be documented on the MR-12 form (Attachment 1) in the medical record for Operating Room procedures and the MR1062 (Attachment 2) for all other locations..
   g) At the end of the case, the site mark should be attempted to be removed in the event that the patient has subsequent surgical procedures (e.g., trauma).

5. A discrepancy at any point in time must stop the case from proceeding until resolved. The patient will return to their previous location until the correct site is marked and primary service is to be notified immediately. All team members and patient (if possible) must agree on the resolution(s) to the identified discrepancy. The discrepancy and resolution must be documented in the medical record by the physician and/or registered nurse.
6. Preoperative verification and "time out" will be performed for all cases, including those not involving a site mark, except in an emergency if the risks outweigh the benefits.

REFERENCES

AORN Position Statement on Correct Site Surgery
Joint Commission National Patient Safety Goal
The Pennsylvania Department of Health Rules and Regulation for Hospitals – Chapter 135: Surgical Services Polices – 135.13
MR-12 Operative Procedure Checklist
MR-1062 Documentation of Time Out
PSHMC Policy, PC 36-HAM, "Patient Identification for Clinical Care and Treatment."

PERSON RESPONSIBLE FOR REVIEW

Director Clinical Quality and Performance Improvement
Program Manager for Quality and Regulatory Management
Director of Nursing, Perioperative Services
Chairman, OR Committee
Outpatient Operations Director

Insert other policies and Procedures after Review

DVT PROPHYLAXIS CLINICAL PRACTICE GUIDELINE - INPATIENT

1. Injured patients admitted will be assessed for risk of DVT.
2. Assign risk using the Risk Factor Assessment Tool (see below)

Risk Factor Assessment Tool

Factors Assigned - 2 points
Bed confinement >24 hours
History of DVT or PE
Tibia/Femur fracture
Obesity >200 lbs.
Displaced pelvis or acetabulum fracture
Head injury GCS <8
Spinal cord injury
Spinal Fracture
Family history of thrombi before
Penetrating extremity trauma with major venous injury
Multiple Rib Fracture (2 or more)

Factors Assigned - 1 point
Age >40
Obesity but <3x ideal BW
Malignancy
Transfusions >2 units
Pregnancy or post-partum <1 month
Oral contraceptives
OR Procedure
Femoral sheath placed
Age 45

ADD ALL RISK FACTORS
score 2 or > consider prophylaxis
score 0 or 1 no prophylaxis need be considered

3. Patients with scores <2 are not required to receive prophylaxis. All other patients will be considered for prophylaxis at the discretion of the attending physician.
4. Order of preference for prophylaxis:
   a. Sequential compression devises (SCD) if dalteparin contraindicated (see below)
   b Daltaparin (Fragmin) 2500 units SQ q 12 h
   c. Pneumatic foot pumps if dalteparin and SCD's are contraindicated (see below)
   d. If all methods are contraindicated, then proceed only with weekly duplex scans
5. Clinical Guidelines regarding the use of chemoprophylaxis:
   a. Non-operative Splenic Injury- Grade III or IV- Stable Hct and hemodynamics; consider Daltaparin in 72 hours.
   b. Non-operative Splenic Injury- Unstable on admission; after 48 hrs. repeat abdominal CT Scan
      · CT better or unchanged- consider Daltaparin
      · CT worse- consider operative treatment of splenic injury
      · Post Splenectomy- consider Daltaparin

- Post Splenorrhaphy - consider Daltaparin in 72 hrs.

6. Liver injury- Grade I, II, or III
7. Liver Injury- Grade IV or V
   - CT better or unchanged- consider Daltaparin
   - CT worse- non-operative treatment- weekly duplex scan
   - CT worse- consider operative management
   - Post hepatorrhaphy - consider Daltaparin at 72 hrs.
8. Head Injury- If intracranial bleeding is present, or ICP monitor in place, use secondary method. Daltaparin may be used in trauma patients with intracranial hemorrhage when cleared by the Neurosurgical team.
9. Spinal Cord Injury- Consider Daltaparin after 24 hours as long as neurologic exam is stable and cleared by the Spine Team.
10. Spine/ Epidural- Anesthesia placement of a spinal or epidural catheter or epidural removal within 10 hours of a Daltaparin dose is contraindicated. Daltaparin may be used <u>while catheter is in place.</u>
11. Relative Contraindications:
    - Platelet Count <50,000
    - INR >2.0
    - Hyphema- consult ophthalmologist
    - Hemorrhage, including risk for compartment syndrome
12. Contraindications to Sequential Compression Devices and Foot Pumps:
    - External fixator on lower extremity (SCD) or foot (foot pump)
    - Unstable femur or tibia fracture (SCD) or forefoot (foot pump)
    - Elevated compartment pressures or acute DVT
    - Lower extremity infection or skin breakdown
    - Patient intolerance
13. Pre-op/ Post-op LMW Heparin Dosing
    - Daltaparin should not be instituted earlier than 12 hours after trauma or surgery. 24 hours delay for spine surgery, neurosurgery, or pelvis surgery
    - Daltaparin should be discontinued the night before planned surgery beginning with the 8pm dose. Daltaparin 5000u sq q 24h may be used as DVT prophylaxis for injured patients awaiting reconstructive surgery as an outpatient (pilon, tibial plateau, calcaneus fractures)
14. Standard by the clock dosing should be used in all trauma patients (Q8am/8pm). <u>NOT BID or Q12 hours.</u>
15. Review contraindications during hospital course *as they may change* and Daltaparin may become appropriate as certain conditions improve.
16. All patients should be examined daily for the development of leg edema and calf tenderness. If this occurs, duplex scans should be ordered through the vascular lab during normal working hours (8am to 5pm Monday-Friday). Indications for the study (leg edema, calf tenderness) must be documented on the chart and written on the request form.
17. If a below knee DVT is noted, that does not require chemoprophylaxis, the patient will receive repeat duplex scans at one week intervals while hospitalized.
18. If a patient is ambulatory at discharge then prophylaxis will be discontinued at the discretion of the attending physician.
19. Patients ambulating <150 feet per day may be converted to or started on Coumadin (1NR-2.0) prior to discharge. Coumadin therapy should be monitored initially biweekly (Q Monday and Thursday) by prothrombin time and continued until patient is ambulatory, >150 feet. Low molecular weight heparin may be considered an alternative to Coumadin.