

Orientation Handbook

**Penn State Hershey Medical Center
Division of Trauma, Acute Care and Critical Care Surgery
Emergency General Surgery**

July, 2010

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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 acute care surgery with a focus on the unique characteristics of practice in a rural environment.**

To provide the best possible patient care, the division is committed to the education of practicing physicians and physicians in training, nurses, allied health professionals, pre-hospital personnel and the lay public.

To advance our care to the highest level, we are committed to research and the discovery of new treatments and methods of providing acute care surgery.

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. The acute care surgery practice meets the needs of those patients requiring emergency general surgery and provides surgery and follow-up to those patients as well as referral back to their home community physicians. Penn State Milton S. Hershey Medical center is also a state designated Level I Trauma Center as well as a Level I Pediatric Trauma Center 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. This includes emergency general surgery and surgical critical care. The 30-bed SICU admits primarily acute care surgery patients from our service but also cares for critically ill renal transplant, orthopedic, plastic surgery, OB/GYN, and Urology patients. The service also maintains a busy elective general surgery practice as well. Our acute care surgeons performed collectively over 700 inpatient operative cases and approximately 300 outpatient procedures last year.

Emergency General Surgery Goals and Objectives

Curriculum

The Section Chief for the Emergency General Surgery section within the Division of Trauma, Acute Care & Critical Care Surgery is currently an open position.

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

Overall Goals and Objectives for the Service

Goals

The resident will learn the scope and practice of emergency general surgery. The resident will learn the anatomy, physiology, and pathophysiology of the diseases in emergency general surgery, including the ability to manage those problems that are amenable to surgical intervention.

Knowledge:

- Complete ACLS verification
- Demonstrate knowledge of the anatomy, physiology, and pathophysiology of the following diseases in emergency general surgery, including the ability to manage those problems that are amenable to surgical interventions
 - Bleeding and perforated gastric and duodenal ulcers
 - Acute cholecystitis
 - Choledocholithiasis
 - Perforated viscous
 - Small and large bowel obstruction
 - Gastrointestinal bleeding (esophageal, upper, lower)
 - Peritonitis
 - Appendicitis
 - Soft tissue infections
 - Incarcerated and strangulated hernias
 - Ischemic gut
 - Compartment syndrome (abdominal and extremity)
- Describe the etiology and pathophysiology of common general surgical emergencies
- Select and interpret appropriate laboratory and radiological evaluations in the work-up of these diseases
- Assist in the perioperative management of selected patients
- Perform uncomplicated surgical procedures under the supervision of an attending or ACS Fellow
- Describe the common complications associated with the surgical management of these diseases

Patient Care:

- Participate in the evaluation, resuscitation, operative management of emergency general surgery patients
- Perform the following procedures:
 - Appendectomy
 - Cholecystectomy
 - Therapeutic/diagnostic laparoscopy
- Demonstrate proficiency in fundamental surgical techniques including, but not limited to, knot tying and suturing, I&D, camera navigation, basic and advanced laparoscopy skills
- Assess nutritional needs and plan for support
- 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 Trauma Team members in an effective, professional manner to facilitate the rapid throughput
- Provide adequate counseling and informed consent to the EGS patient and their families

System Based Practice

- Understand the principles of operating room set-up for emergency general surgery
- Participate in the coordination of the rehabilitation of the EGS patient
- Demonstrate knowledge of cost-effective EGS care
- Advocate for EGS patients within the health care system
- Refer EGS patients to appropriate practitioners and agencies
- Facilitate the timely discharge of EGS patients

Professionalism

- Develop a sensitivity of the unique stresses placed on families under care for emergency general surgery
- Demonstrate an unselfish regard for the welfare of EGS 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

PGY 1

A. Medical Knowledge

1. The resident should learn in-depth the fundamentals of basic science as they apply to patients with acute surgical problems. *Examples include the pathophysiology of peritonitis, etiology of abscess formation, management of fluid and electrolyte balance in the emergency patient, and surgical anatomy and surgical pathology of the intra-abdominal organs and anal canal.*
2. The resident should be able to demonstrate preoperative assessment of patients with acute surgical diseases. *Examples include rapid assessment of comorbid conditions, assessment of operative risk, knowledge of anesthetic options for emergency procedures, and principles of stabilization.*
3. The resident should understand the appropriate use of antibiotics. *Examples include appropriate agents, timing, and duration of perioperative antibiotics.*
4. The resident should understand the pathophysiology of sepsis.
5. The resident should understand the pathophysiology of appendicitis.

B. Patient Care

1. The resident should perform appropriate resuscitation in patients with acute surgical problems.
2. The resident should perform advanced history and physical examination in the patient with acute surgical problems, including such conditions as the acute surgical abdomen, upper and lower gastrointestinal bleeding, and jaundice.
3. The resident should assume responsibility for care of all patients on the hospital ward, including initial assessment, evaluation of daily progress, and implementing discharge plans.
4. Under appropriate supervision, perform basic surgical procedures such as:
 - Open appendectomy*
 - Drainage of breast abscess*
 - Incision and drainage of perirectal abscess*
 - Lower extremity amputations*
 - Basic wound and drain care*

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, and other tools available to learn about diseases and treatment of patients with acute surgical illness.
2. The residents must attend the Turn Over Report from 0700-0710 daily.
3. The residents must attend and participate in the weekly clinics for their service. Activities will include perioperative and postoperative care of established patients under the supervision of attending surgeons.

E. Systems-Based Practice

The resident should understand the use of appropriate consult services for assisting in the care of their patient.

F. Professionalism

See general goals and objectives

PGY 2

A. Medical Knowledge

1. The resident should be able to efficiently utilize and interpret diagnostic laboratory testing in patients with acute surgical conditions. *Examples of appropriate tests include serum chemistries, liver function tests, arterial blood gas analysis, hematological profiles and coagulation tests.*
2. The resident should be able to efficiently utilize and interpret diagnostic radiological tests. *Examples of the types of studies include mammography, computed tomography, radionuclide scintigraphy, ultrasonography, arteriography and gastrointestinal studies.*
3. The resident should be able to correctly use invasive monitoring and non-surgical invasive procedures to diagnose and treat surgical complication. *Examples include interpretation of data from arterial lines, central lines, pulmonary artery catheters and radiology-directed percutaneous aspirations of fluid collection, abscess cavities and solid lesions. In addition, residents should understand the use and limitations of percutaneous drainage of fluid collections/abscesses.*
4. The resident should be able to recognize diagnose and understand principles of treatment of common surgical problems in patients with surgical emergencies. *Examples include electrolyte imbalance, failure of hemostasis, renal failure, pulmonary insufficiency, cardiac abnormalities, shock, limb ischemia and gastrointestinal hemorrhage.*
5. The resident should understand the pathophysiology of **cholecystitis and bowel obstruction.**

B. Patient Care

1. The resident should perform the initial assessment and formulate a plan on every new consultation to the service, including patients in the hospital and those presenting to the emergency department.
2. The resident should perform a detailed history and physical examination on every new admission or transfer to the service.
3. The resident should assume the overall care of patients in the intensive care unit.
4. Under appropriate supervision, perform basic surgical procedures such as:
Repair of strangulated incisional or inguinal hernia
Laparoscopic appendectomy
Laparoscopic cholecystectomy
Lysis of adhesions Colostomy

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, and other tools available to learn about diseases and treatment of patients with acute surgical illness.
2. The residents must attend Turn Over Report from 0700-0710 daily.
3. The residents must attend and participate in the weekly clinics for their service. Activities will include perioperative and postoperative care of established patients under the supervision of attending surgeons.

E. Systems-Based Practice

1. The resident should be able to communicate with patients, families, nurses, paramedics, and other allied health care personnel.
2. The resident should take responsibility for posting emergency cases in the operating room.

F. Professionalism

See general goals and objectives

PGY 3

A. Medical Knowledge

1. The resident should understand the pathophysiology, presentation, and treatment of acute surgical illness. *Examples include peritonitis, acute bowel ischemia, small and large bowel obstruction, esophageal perforation, gastric ulcers, duodenal ulcers, ascending cholangitis, and pylephlebitis.*
2. The resident should be able to differentiate acute and subacute clinical conditions in the spectrum of disease. *Examples include biliary tract disease, Crohn's disease, ulcerative colitis, duodenal ulcer disease, and diverticulitis.*
3. The resident should be able to recognize and treat comorbid conditions in the patient with acute surgical illness.
4. The resident should be able to discuss management options for patients with acute surgical illness. *Examples include medical management of complications of inflammatory bowel disease, use of percutaneous cholecystostomy, and creation of colostomy vs. primary anastomosis to treat colon perforation.*

B. Patient Care

1. The resident should assume supervisory responsibility for the overall care of patients on the service, including personally examining every new admission, knowing the daily progress and new complications of every patient, and making discharge plans.
2. The resident should demonstrate an understanding of the principles of surgical decision-making, including making therapeutic plans for every patient and determining timing of operative intervention.
3. Under appropriate supervision, perform intermediate surgical procedures such as:

Laparoscopic cholecystectomy for acute cholecystitis

Gastric resections

Truncal vagotomy

Colectomy

Entrectomy/enterolysis

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, and other tools available to learn about diseases and treatment of patients with acute surgical illness.
2. The residents must attend Turn Over report from 0700-0710 daily.
3. The residents must attend and participate in the weekly clinics for their service.

E. Systems-Based Practice

1. The resident should be able to communicate with referring physicians from other hospitals and emergency departments.
2. The resident should communicate with his or her peer from the trauma service to determine the optimal use of resources for the hospital, including timing of procedures in the operating room and recommendation for placing the hospital on divert status.

F. Professionalism

See general goals and objectives.

CHIEF RESIDENT

A. Medical Knowledge

1. The chief resident should be able to correctly explain the operative approaches for acute surgical conditions of the abdominal cavity and retroperitoneal organs.
2. The chief resident should be able to accurately explain the physiologic rationale for vagotomy, pyloroplasty, gastric resection and reconstructive techniques for ulcer disease, and stoma formation.
3. The chief resident should be able to correctly explain the indications and contraindications for diagnostic and therapeutic endoscopy in the acute setting.
4. The chief resident should be able to discuss the management alternatives for common bile duct stones.
5. The chief resident should learn the pathophysiology, presentation, and specific treatment options for hepatic cirrhosis and portal hypertension
6. The chief resident should be able to describe in detail the diagnosis and management of variceal hemorrhage. *Examples include correct use of the Sengstaken-Blakemore tube, selective portacaval shunts, nonselective portacaval shunts, and TIPS.*
7. The chief resident should be able to describe the operative details of portacaval shunts.

B. Patient Care

1. The chief resident should assume the overall responsibility for all patients on the service, including supervision of the residents assuming direct care responsibilities.
2. The chief resident should serve as teaching assistant for PGY 1-3 residents as they perform operations appropriate to their level.
3. The chief resident must attend weekly outpatient clinics.
4. Under appropriate supervision, the chief resident should perform advanced operative procedures such as

Subtotal gastrectomy

Highly selective vagotomy

Total gastrectomy

Pancreatectomy

Austin-Jones sphincteroplasty

Hepaticojejunostomy

Peustow procedure

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, and other tools available to learn about diseases and treatment of patients with acute surgical illness.
2. The residents must attend Turn Over Report from 0700-0710 daily.
3. The residents must attend and participate in the weekly clinics for their service.

E. Systems-Based Practice

1. The resident should have an understanding about the resources of the county medical system, including the satellite outpatient clinics, hospital based outpatient clinics, and the number of available hospital beds for inpatients.
2. The resident should be able to discuss the impact of the Health Insurance Portability and Accountability Act (HIPAA) on the resources of the county medical system.
3. The resident should understand the rules for transfer of patients to the hospital under the HIPAA regulations.

F. Professionalism

See general goals and objectives

General Conference Schedule/Format for all residents

- M&M 5 pm, Wednesday
- Didactic Lecture 7am, Thursday
- Interactive case Presentation 8 am, Thursday Week 1,3,4
- Skills Lab. 8 am, Thursday Week 2
- ABSITE MCQ test alternating with Oral Examination 8 am, Thursday Week 5
- Grand Rounds 5 p.m., Thursday
- Journal Club 5 p.m., Thursday approx every 5th week

Additional Conferences

- Radiology Conference
- General Surgery Educational Conference every Wednesday at 1600
- AM Trauma Conference 0730

Division of Trauma, Acute Care and Critical Care Surgery

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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

THE ACUTE CARE SURGERY SERVICE

Resident inpatient coverage

- All residents must be current in ACLS to care for EGS patients
- OR cases will be assigned for coverage by the EGS Attending of the week. The EGS attending of the week is also known as the OR Quarterback.
- All OR cases (including add-ons) go through the EGS Attending/OR Quarterback for scheduling
- All residents will staff clinic on M-T-Th-F at 1300 however duty hour restrictions must be observed
- Turnover report occurs at 0700 daily in the SICU conference room. Attendance is expected by all residents on EGS and Trauma.

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 assist in all trauma resuscitations.
- 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

EGS Conference is held Wednesday afternoons at 1600.

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

CLINIC SCHEDULE

- Resident are expected to attend clinic and dress appropriately
- Clinic is M-T-Th-F starting at 1300.

Each Physician Extender is assigned to a specific service (Trauma, EGS, SICU) on a rotating basis each month. The PE must show up for clinic unless engaged in a urgent/emergent patient care problem.

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

ER Surgical Abdominal Pain Guidelines

UNIVERSAL PROTOCOL VERIFICATION OF CORRECT PATIENT, PROCEDURE, AND SIDE/SITE FOR INVASIVE OR SURGICAL PROCEDURE(S)

Hershey Medical Center – Hospital Administrative Manual
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Replaces: March, 2006

Authorized:

Alan Brechbill Executive Director

Approved:

Michael Weitekamp, MD Chief Medical Officer
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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.

RESPONSIBILITIES

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 except 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

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 devices (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 while catheter is in place.
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). NOT BID or Q12 hours.
 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.