Course: Acute Trauma Care Course Number SUR 1905

Department:	**Surgery**
Faculty Coordinator:	**Dr. Joseph P. Minei**
Hospital:	**Parkland Health & Hospital System**
Periods Offered:	**All year**
Length:	**4 weeks**
Max # of Students:	**2**
First Day Contact:	**Trauma Chief Resident**
First Contact Time:	**7:00 a.m.**
First Day Location:	**ER Trauma Hall, Parkland Mem. Hospital**
Prerequisites:	**Must successfully complete MED 1801 & SUR 1808 prior to enrollment**

I. Course Description

The course is intended to present a comprehensive exposure of acute trauma care to the fourth year medical students. The multi-disciplinary nature of the clerkship with exposure to Neurosurgery and Surgical Sub- specialties allows application of knowledge and skills across multiple disciplines. This is further ensured through the delivery of trauma care to a large volume of patients.

Selective expectations include:

- *The student is required to provide patient care at the level of an intern under the direct supervision of attending faculty members or clinical fellows.*
- *The student will assess patients, develop and implement patient care plans. They will be specifically graded on their ability to manage patients.*
- *The student will assist with and/or perform procedures as appropriate.*
- *Attendance at divisional and departmental meetings, and or patient care conferences will be required as appropriate.*
- *The student is required to demonstrate critical thinking and medical knowledge via a formal assessment method which may include an oral "Grand Rounds type "presentation, exam,* ***dissemination of critically reviewed literature****, or equivalent product.*
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II. Course Goals and Objectives: (based on ACGME competencies for resident education and modified for medical student education. See appendix for specific goals and skills.)

Goals	Objectives	Assessment methods *(examples)*
Patient Care: *Assessment and Management* *1. Students, together with supervising faculty, must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.*	Students are expected to: 1) Gather essential and accurate information about their patients. *Examples:* Complete history and physical examination supported by appropriately ordered diagnostic studies for acute SICU patients. 2) Make informed recommendations about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment. *Examples:* Patients with acute lung injury, sepsis and multiple organ dysfunction. 3) Counsel and educate patients and their families. *Example:* Discussion of various treatment modalities that are being utilized to treat acute lung injuries, sepsis, and various other organ dysfunctions. 4) Provide health care services aimed at preventing health problems or maintaining health. *Example:* Utilize lung protective ventilation strategies in the treatment of acute lung injury. 5) Work with health care professionals, including those from other disciplines, to provide patient-focused care, develop and carry out patient management plans. *Examples:* Respiratory therapy necessary for management of acute lung injury. Thoughtful utilization of pharmacy, dietary, and nursing to provide a coordinated plan of patient care. 6) Use information technology to support patient care decisions and patient education. *Example:* Provide patients and their families with discharge planning pamphlets and information regarding care related to physical and occupational therapy and reconstructive surgery	• *Quality of Medical Records entries* • *Skills evaluation from direct observation.*

Medical knowledge: 1. *Students must demonstrate knowledge about established biomedical and clinical sciences and the application of this knowledge to patient care.*	Students are expected to: 1) Demonstrate an analytic thinking approach to clinical situations. *Example:* Use cardio vascular monitoring with a Swan-Ganz catheter to identify various types of shock. 2) Know and apply the basic and clinically supportive sciences that are appropriate to their discipline. *Examples:* The use of radiology, infectious disease and pharmacy to treat infectious complications of traumatic injuries.	• *10 minute oral presentation* • *Appropriate exam/quiz*
Interpersonal and communication skills: 1. *Students must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients and their families.*	Students are expected to: 1) Create an ethically sound relationship with patients. 2) Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills. *Example:* Education of patients and their families regarding physical and occupational therapy after discharge from the trauma service. 3) Work effectively with others as a member of a health care team.	• *Observations of faculty and staff*
Practice Based learning and Improvement: 1. *Students must be able to assimilate scientific evidence and improve their patient care practices.*	Students are expected to: 1) Locate and assimilate evidence from scientific studies related to their patients' health problems. *Example:* Clinical trials specific to patient injuries to determine the best mode of care. 2) Use information technology to manage information, access on-line medical information; and support their own education. *Example:* Use of the trauma registry to provide information regarding disease state, reason for admission and underlying physiology to predict length of stay.	• *10 minute oral presentation* • *Critical review of a relevant article*
Professionalism: *Students must demonstrate a*	Students are expected to: 1) Demonstrate respect, compassion, and integrity; a responsiveness to the	

commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population	needs of patients that supersedes self-interest; accountability to patients and the profession; and a commitment to excellence and on-going professional development. 2) Example: Willingness to seek additional patients for evaluation when any given patient's management is completed, regardless of the patient's demographics and specific disease. 3) Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, and confidentiality of patient information. 4) Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.	*Observations of faculty and staff*
Systems based practice: 1. *Know how surgery fits into the larger system of health care.* 2. *Work with the team and patients to optimize use of system resources*	1) The student will participate in caring for patients in the operating room, outpatient clinic, the emergency room and the floor including patients in the ICU.	*Observations of faculty and staff* *Reflection essay* *Group discussion*

III. Methods of Instruction:

A) Didactic (schedule, topic, faculty):
Tuesday and Friday— E5.514 conference room UTSW.

B) Clinical (schedule, faculty teaching, housestaff teaching):
Students are expected to work up new patients and continue following established patients on the wards. They are expected to be an integral part of the care team presenting their patients on work rounds. They are expected to attend Thursday 7:30 – 9:30 am Trauma/ICU Conference in the anesthesia conference room of PMH.

Time	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
7 – 7:30 am	Attend sign out rounds 2N Conference room				
7:30 – 9:30 am				Attend Trauma/ ICU Conference	
8 – 9 am		Didactic Conference			Didactic Conference
6:30 am - 12 pm	Work rounds	Work rounds	Work rounds	Work rounds	Work rounds
7 - 10 am	Procedures and see patients	Procedures and see patients	Attend General Surgery M&M, Chiefs Conf, Surgical Grand Rounds		Procedures and see patients
7:15 am - 4 pm	See patients in ED	See patients in ED	See patients in ED	See patients in ED	See patients in ED
7:30 am - 4 pm	OR (Emergency ± Elective)	OR (Emergency ± Elective)	OR (Emergency ± Elective)	OR (Emergency ± Elective)	OR (Emergency ± Elective)
Noon -1 pm		Didactic Conference			
4 pm	Sign out	Sign out	Sign out	Sign out	Sign out

Note: In-house call is approximately every 3rd night.

IV. Overview of student responsibilities

Evaluate new in-patients, present to attending and follow until discharge.

V. Method of evaluation of students and requirements:

Honors-pass-fail grades; there are no examinations. Completion of an on-line evaluation by the student is required for a passing grade. Evaluations of the student by the faculty will be based on achievement of the stated objectives of the course. Similarly, evaluations of the elective (by the student) will include whether the student considers that the stated objectives of the course were achieved.

VI. Appendix: EDUCATIONAL GOALS: ACUTE TRAUMA CARE CLERKSHIP

A. Knowledge

1. Understand the principles of ATLS.
2. Understand and identify different forms of shock associated with the injured patient. *Examples include: hemorrhagic,*

neurogenic, cardiogenic and septic shock.

3. Understand the principles of injury triage based on number of patients, severity of injury and available resources.
4. Outline the signs and symptoms as well as the etiology of respiratory failure in the injured patient.
5. Understand the basic principles in the diagnostic evaluation of single organ system injury.
6. Know role in trauma resuscitation team, and be able to perform the appropriate tasks of that role. Be familiar with trauma protocols.
7. Understand the costs, risks and expected information obtained from non-invasive diagnostic tests to evaluate the injured patient. *Examples include: plain films, ultrasonography and CT scanning.*
8. Understand the costs, risks and expected information obtained from invasive diagnostic tests to evaluate the injured patient. *Examples include: wound exploration, DPL and arteriography.*
9. Understand rationale and indications for the operative as well as non-operative management of the injured patient.
10. Understand the rationale and indications for the use of adjuncts to both operative and non-operative management of injured patients. *Examples include: utilization of therapeutic interventional radiological techniques.*
11. Understand the indications for, and the complications of blood component therapy.
12. Understand the factors associated with non-surgical bleeding in the injured patient. *Examples include: hypothermia, dilutional and consumptive coagulopathy.*
13. Understand the pathophysiology of traumatic brain injury, altered mental status and spinal cord injury.
14. Understand the indications for, and different types of agents used in prophylactic and therapeutic antibiotic use.
15. Understand appropriate fluid and electrolyte resuscitation.
16. Understand the costs, risks and expected information obtained from routine laboratory testing.

B. Skills

1. Correctly identify different forms of shock and institute appropriate therapy. Examples include: institution of IV access through percutaneous and surgical routes.
2. Assist in correctly triaging patients by severity of injury, treating life threatening injuries first.
3. Identify patients in respiratory failure and understand appropriate therapy. Examples include: proficiency with assisting endotracheal and surgical airway management, tube thoracostomy and respiratory monitoring including pulse oximetry and end-tidal CO2 monitoring.
4. Correctly identify, appropriately evaluate and assist with managing patients with single organ system injuries.

5. Correctly follow trauma protocols for the diagnosis and management of injured patients.

6. Correctly order and interpret basic radiologic studies. Assist with performance and interpret trauma ultrasonography with supervision.

7. Correctly utilize and interpret invasive diagnostic procedures. Assist with performance of DPL.

8. Correctly utilize non-operative management techniques in single system injuries.

9. Appropriately utilize blood component therapy. Examples include: PRBC's, FFP, platelets and cryoprecipitate.

10. Initiate management of the patient with traumatic brain injury in concert with Neurosurgery. Assist with managing spinal cord injury including appropriate use of specialized beds and pharmacotherapeutics.

11. Use antibiotics correctly for prophylaxis and therapy.

12. Use laboratory analysis in a cost-effective manner.