



UC San Diego Health

**Surgical Critical Care Fellowship  
Handbook  
2025-2026**

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## I. INTRODUCTION - MISSION STATEMENT

The goal of the Surgical Critical Care Fellowship Program at UC San Diego Health, Department of Surgery, is to provide an outstanding exposure to complex surgical critical care and develop administrative skills compatible with enabling fellows capable of taking on future leadership roles. A specific educational agenda and set of core didactic experiences have been developed to assure that fellows develop the skills and understanding of critical care essential achieving these goals.

## II. PROGRAM PHILOSOPHY AND GOALS AND OBJECTIVES

### Philosophy

The care of the most severely ill or injured patients requires the cooperation of multiple specialties, but we believe that surgeons with advanced knowledge and training are the vital central element. The goal of this fellowship is to provide an intensive one-year experience in surgical critical care (followed by an optional second AAST or burn year) which will train surgeons to both assume a leadership role in the care of critically ill patients and be prepared to assume administrative roles in managing a busy surgical intensive care unit. Our specific aims are to obtain experience in the multidisciplinary care of sick surgical patients and have exposure to all elements of critical care and related procedures. This will form a core of clinical material upon which to overlay the basics of administering a busy SICU and integrating multiple practitioners in this complex environment. Our educational philosophy is to teach not only the clinical skills required to care for sick surgical patients, but also the integration of interdisciplinary care. Philosophically we maintain an open unit, teaching fellows to manage patients in an integrated fashion along with the primary surgeon

The initial year of the fellowship is ACGME accredited and leads to Certification in Surgical Critical Care after successful examination by the American Board of Surgery. Candidates desiring to pursue a career in academic surgery or to obtain further clinical exposure may participate in an optional second year of training. Options include completing the American Association for Surgery of Trauma (AAST) Acute Care Surgery (ACS) Fellowship, a Burn Surgery fellowship, or non-accredited Research + Clinical Fellowship which will offer the opportunity to focus on a specific area of scholarly pursuit while continuing to participate in patient management. More information on these second-year programs is available separately.

The surgical critical care fellow will be directly involved in all phases of care of critically ill surgical patients. The focus of the clinical experience will center around the 20-bed Surgical Intensive Care Unit at Hillcrest, with additional rotations to include the 8 bed burn unit, the Jacobs 3G ICU with 12 beds, the Sulpizio Cardiovascular Center CVICU with 12 beds, and the Rady Children's Hospital Pediatric Intensive Care Unit with 24 beds. Please refer to rotation schedule below. The case mix on the intensive care units includes approximately 50% trauma patients, 30% general or subspecialty surgery patients including transplant patients, 10% burn patients, and 10% cardiothoracic surgery. The trauma resuscitation area is a physical part of the surgical intensive care unit. Initial resuscitation management of trauma patients is a unique and integral part of the training in surgical critical care offered in this fellowship. Trauma resuscitation may involve emergency surgical procedures required for stabilization but will not involve surgical procedures done on an elective basis.

The fellow will take in-house call on average one night per week during which they will be responsible for the care of all SICU patients, incoming injured patients, and emergency general surgery consults under the supervision of an attending faculty member. One of the attending faculty will make daily rounds in the SICU. The daily SICU rounds consist of clinical decision making integrated with didactic teaching. Topics of daily discussion are based on current clinical problems to allow for practical application of newly acquired knowledge. A sit down educational conference is part of each day's rounding Monday through Friday and is based on collected readings and current patient problems.

Didactic teaching is accomplished through a number of specific conferences. These include:

1) daily bedside rounds and conferences covering topics from a teaching syllabus prepared specifically for the surgical intensive care unit at UCSD; 2) Thursday morning critical care lecture series; 3) weekly research committee where clinical projects and the basics of clinical research are reviewed; 4) Thursday noon journal club which covers core critical care topics throughout the year; 5) alternating Friday combined orthopedics-trauma conference; 6) every other Wednesday morning Department of Surgery M&M where complications are discussed; 7) monthly trauma-ED and trauma-radiology combined educational conferences 8) monthly trauma resuscitation video review; and 9) fellows are invited to attend the monthly Medical Audit Committee for the care of injured and sick patients within San Diego County to see how this process is administrated.

### Goals and Objectives

1. Become proficient in surgical critical care knowledge in the following areas:
  - a. Cardiothoracic-respiratory resuscitation
  - b. Physiology, pathophysiology, diagnosis, and therapy of disorders of the cardiovascular, respiratory, gastrointestinal, genitourinary, neurologic, endocrine, musculoskeletal, and immune systems as well as of infectious diseases
  - c. Metabolic, nutritional, and endocrine effects of critical illness
  - d. Hematologic and coagulation disorders
  - e. Critical obstetric and gynecologic disorders
  - f. Trauma, thermal, electrical, radiation, inhalation and immersion injuries
  - g. Monitoring and medical instrumentation
  - h. Critical pediatric surgical conditions
  - i. Pharmacokinetics and dynamics of drug metabolism and excretion in critical illness
  - j. Ethical and legal aspects of surgical critical care
  - k. Principles and techniques of administration and management
  - l. Biostatistics and experimental design
  
2. Become proficient in surgical critical care skills in the following areas:
  - a. Respiratory: ventilatory management including endoscopy, ventilator management, and management of respiratory systems.
  - b. Circulatory: invasive and noninvasive monitoring techniques, including precordial cardiac ultrasound, sonographic volume status assessment,; computations of cardiac output and systemic and pulmonary vascular resistance; monitoring electrocardiograms, and management of cardiac assist devices.
  - c. Neurological: the performance of complete neurological examinations; use of intracranial pressure monitoring techniques and the electroencephalogram to evaluate cerebral function; critical care management of traumatic brain injury and intracranial hypertension.
  - d. Renal: evaluation of renal function, utilization of continuous and intermittent hemodialysis and hemofiltration, knowledge of the indications and complications of hemodialysis.
  - e. Gastrointestinal: utilization of gastrointestinal intubation and endoscopic techniques in the management of the critically ill patient; application of enteral feeds, management of stomas, fistulas, and percutaneous catheter devices.
  - f. Hematologic: application of auto transfusion, assessment of coagulation status,

- appropriate use of component therapy and massive transfusion, and advanced knowledge of venous thromboembolism prophylaxis.
- g. Infectious Disease: classification of infections and application of isolation techniques, pharmacokinetics, drug interactions, and management of antibiotic therapy during organ failure, nosocomial infections, indications for applications of hyperbaric oxygen therapy.
  - h. Nutritional: application of parenteral and enteral nutrition, monitoring and assessing metabolism and nutrition.
  - i. Monitoring/bioengineering: use and calibration of transducers, amplifiers, and recorders.
  - j. Miscellaneous: use of special beds for specific injuries; employment of skeletal traction and fixation devices.

### Details of Goals and Objectives

#### 1. Core Knowledge

- a. Cardiothoracic-respiratory resuscitation.

Exposure: Daily SICU rounds; SICU resident conference, Thursday fellow educational conference, journal club. Fellows are exposed to cardiothoracic-respiratory resuscitation on a daily basis. In addition, fellows will maintain ACLS and BLS skills. The fellows interact on a daily basis with SICU faculty and on CVICU rotations with the cardiothoracic surgery service, as well as the cardiology consult service in day-to-day clinical work.

Specific objectives are: SCORE Curriculum; Critical Care Journal Club: weekly; Critical Care/Trauma Case Conference: weekly.

- b. Physiology, pathophysiology, diagnosis, and therapy of disorders of the cardiovascular, respiratory, gastrointestinal, genitourinary, neurologic, endocrine, musculoskeletal, and immune systems as well as of infectious diseases.

Exposure: Daily SICU rounds; SICU resident conference, Thursday fellow educational conference, journal club. All topics are covered when faced in the SICU and discussed extensively on daily teaching rounds. The SICU faculty is experienced and well qualified, and additional specialty support is obtained through interaction with consultants and attendings from other services, including general surgery subspecialties, infectious disease, nephrology, neurology, gastroenterology, orthopedics, and neurosurgery. In addition, specific conferences with neurosurgery and orthopedics occur.

Specific objectives are: SCORE Curriculum; Critical Care Journal Club: weekly; Critical Care/Trauma Conference: weekly; Combined Conference (Orthopedics): twice monthly; Neurosurgical lectures: biannually.

- c. Metabolic, nutritional, and endocrine effects of critical illness.

Exposure: Daily SICU rounds; SICU resident conference, Thursday fellow educational conference, journal club, biweekly interdisciplinary SICU rounds. This aspect of surgical critical care will be acquired through daily interaction with critical care faculty,

supplementary reading, and formal lecture material. The metabolic and nutritional care of surgical patients is a fundamental component of treatment. The discussion of metabolism, appropriate feeding of patients, and the use of enteral feeding to prevent complications is part of routine daily care.

Specific objectives are: SCORE Curriculum; Critical Care Journal Club: weekly; Critical Care/Trauma Conference: weekly.

d. Hematologic and coagulation disorders.

Exposure: Daily SICU rounds; SICU resident conference, Thursday fellow educational conference, journal club. The majority of hematologic and coagulation disorders will be covered by critical care faculty with participation with hematology consultant attendings in unusual cases. The format includes daily clinical interactions over patients who have developed specific coagulation disorders as well as didactic material. Division faculty are active leaders in venous thromboembolism prophylaxis research.

Specific objectives are: –SCORE Curriculum; Critical Care Journal Club: weekly; Critical Care/Trauma Conference: weekly.

e. Critical obstetric and gynecologic disorders.

Exposure: Daily SICU rounds; SICU resident conference, journal club. The fellow will be involved in the care of critically ill OBGYN patients admitted to the SICU. The OB/GYN staff rely heavily on input from the SICU service in the management of their patients and the attending staff provides specialty-specific input. Clinical material will be supplemented with reading and lecture topics.

Specific objectives are: SCORE Curriculum, Critical Care Journal Club: weekly.

f. Trauma, thermal, electrical, radiation, inhalation and immersion injuries.

Exposure: Daily SICU rounds; SICU resident conference, overnight call, Thursday fellow educational conference, journal club. The fellows will participate extensively in the management of patients admitted to our Level I Trauma Center. The trauma system in San Diego and the trauma center at UCSD have a nationwide reputation for excellence. All of the critical care faculty have a strong dedication to the care of the trauma patient and contribute actively to the trauma literature. The burn unit is also quite busy serving a large region of Southern California and trauma and burn experience is central to our training.

Specific objectives are: In addition to the high volume experience, specific didactic exercises include: SCORE Curriculum; Critical Care Journal Club: weekly; Critical Care/Trauma Conference: weekly; Combined Trauma-ED Conference: monthly; Combined Conference (Orthopedics): twice monthly; Combined Trauma-Radiology Conference: monthly; Trauma Video Review: monthly.

g. Monitoring and medical instrumentation.

Exposure: Daily SICU rounds; SICU resident conference. There is a vast clinical

experience in the use of clinical monitoring devices including all components of hemodynamic, intracranial pressure, and respiratory monitoring. The majority of SICU patients are monitored invasively and provide a rich basis for this experience.

Specific objectives are: SCORE Curriculum; Critical Care Journal Club: weekly; Critical Care/Trauma Conference: weekly.

h. Critical pediatric surgical conditions.

Exposure: Daily SICU rounds when pediatric patients are admitted to the trauma or burn services; SICU daily resident conference when pediatric critical care issues are discussed as part of the main topic for the day; pediatric intensive care unit rotation at Rady Children's Hospital. The fellow will be involved in the care of pediatric patients who are injured. Attending faculty will educate on pediatric surgery topics along with consultant pediatric surgeons and pediatric critical care intensivists.

Specific objectives are: SCORE Curriculum; Critical Care Journal Club: Pediatric components of all topics are discussed weekly; Critical Care/Trauma Conference: weekly.

i. Pharmacokinetics and pharmacodynamics of drug metabolism and excretion in critical illness.

Exposure: Daily SICU rounds; SICU resident conference, journal club. The SICU has an active clinical pharmacy service that participates in daily rounds as well as combined research projects. Fellows will interact on a daily basis with pharmacy staff as well as in a lecture setting. Pharmacokinetics are measured directly in the surgical ICU pharmacy, a unique aspect of our SICU, and fellows are exposed to the techniques and mathematics of drug monitoring and drug calculations.

Specific objectives are: SCORE Curriculum; Critical Care Journal Club: weekly; Critical Care/Trauma Conferences: weekly.

j. Ethical and legal aspects of surgical critical care.

Exposure: Daily SICU rounds; SICU resident conference, journal club. Attendings on the surgical critical care service are deeply involved in both the ethical and legal issues surrounding critical care. Interactions with faculty will be supplemented by reading material and teaching conferences. The fellow is expected to participate in all case referrals to the ethics committee and participate in this important process. An educational case conference with a member of our hospital Ethics committee is held monthly.

Specific objectives are: SCORE Curriculum; Critical Care Journal Club: weekly; Critical Care/Trauma Conferences: weekly; UCSD Ethics Case Conference: monthly.

k. Principles and techniques of administration and management.

Exposure: Daily SICU rounds; SICU resident conference, journal club, biweekly interdisciplinary ICU rounds, monthly MAC meetings. Active effort is made to involve the fellows in the skills necessary for efficient administration and management with an



eye toward a leadership role during their career. The fellows will work closely with the SICU nursing team, interdisciplinary services such as case management, social work, nutrition, and therapy, and the medical director of the intensive care unit to learn the principles of administration. The fellows lead biweekly interdisciplinary SICU rounds to help develop administrative and leadership skills. Fellows also participate in the evaluation of outcomes and the process of continuing quality improvement within the SICU, including active involvement in the development of guidelines, guideline derived outcome measures, and quality improvement projects. The fellows are actively involved in the ongoing structure and content of the educational program as well, actively changing this to suit their individual needs.

Specific objectives are: SCORE Curriculum; San Diego Medical Audit Committee; Critical Care Journal Club: weekly; Critical Care/Trauma Conference: weekly; interdisciplinary SICU rounds: biweekly.

#### 1. Biostatistics and experimental design.

Exposure: All faculty in our division are engaged in ongoing clinical or translational research, including both local and multicenter trials. Fellows attend weekly research conferences with faculty, and are involved with active ongoing clinical research projects. We also employ a full-time epidemiologist in our division who provides a core biostatistics course specifically for the surgical critical care fellows. Statistical analysis and research design are also specifically discussed when analyzing journal club articles, and during debrief sessions after national conferences.

Specific objectives are: SCORE Curriculum; Critical Care Journal Club: weekly; Biostatistics videos – video series at <http://trauma.ucsd.edu>.

#### 2. Critical Care Skills

##### a. Respiratory: ventilatory management including endoscopy, ventilator management, and management of respiratory systems.

Exposure: Daily SICU rounds; SICU resident conference. Fellows will participate in the airway management of all patients in the ICU and the initial management of trauma patients. There is an active bronchoscopy service and fellows will participate and log SICU bronchoscopies. Specific protocols for airway management are followed and use of bronchoscopy and endoscopy to assess complex airways is practiced on a daily basis.

Specific objectives are: SCORE Curriculum; Critical Care Journal Club: weekly; Critical Care/Trauma Conference: weekly.

##### b. Circulatory: invasive and noninvasive monitoring techniques, including precordial cardiac ultrasound, sonographic volume status assessment,; computations of cardiac output and systemic and pulmonary vascular resistance; monitoring electrocardiograms, and management of cardiac assist devices.

Exposure: Daily SICU rounds; SICU resident conference. The supervised use of invasive and noninvasive techniques in the SICU occurs on a daily basis. All modalities used during the average year include arterial lines, pulmonary artery catheters, central lines, pulse pressure variation, precordial echo, ultrasonographic measurement of volume status, interpretation of ECGs, treatment of acute arrhythmias, the use of transvenous pacemakers, the use of external pacemakers, the use of ECMO and intra-aortic balloon pumps. The fellows are actively involved in any patients needing this kind of care and are exposed to the principles and pitfalls.

Specific objectives are: SCORE Curriculum; Critical Care Journal Club: weekly; Critical Care/Trauma Conference: weekly.

- c. Neurological: the performance of complete neurological examinations; use of intracranial pressure monitoring techniques and the electroencephalogram to evaluate cerebral function; critical care management of traumatic brain injury and intracranial hypertension.

Exposure: Daily SICU rounds; SICU resident conference. The fellows are directly involved in the care of traumatic brain injury and post neurosurgical patients through supervised clinical activity and a close relationship with the department of neurosurgery. All care of traumatic brain injury patients is led by the SICU team in collaboration with the neurosurgery service and neurosurgery attendings. Treatment modalities include intracranial pressure monitoring, management of external ventricular drains, management of intracranial hypertension, treatment of vasospasm, and optimization of cerebral perfusion pressure.

Specific objectives are: SCORE Curriculum; Critical Care Journal Club; Critical Care/Trauma Conferences; neurosurgery-trauma lectures.

- d. Renal: evaluation of renal function, utilization of continuous and intermittent hemodialysis and hemofiltration, knowledge of the indications and complications of hemodialysis.

Exposure: Daily SICU rounds; SICU resident conference. Fellows will manage patients requiring intermittent or continuous hemodialysis while in the ICU in close collaboration with consulting nephrologists, which is a near daily occurrence. In addition, core knowledge is supplemented by readings and conferences.

Specific objectives are: SCORE Curriculum; Critical Care Journal Club: weekly; Critical Care/Trauma Conferences: weekly.

- e. Gastrointestinal: utilization of gastrointestinal intubation and endoscopic techniques in the management of the critically ill patient; application of enteral feeds, management of stomas, fistulas, and percutaneous catheter devices.

Exposure: Daily SICU rounds; SICU resident conference. The postoperative care of general surgery, surgical subspecialty, and trauma patients provides the basis for exposure to gastrointestinal skills. This includes the placement of feeding tubes, the use of endoscopy, and the use of percutaneous endoscopy to place long term feeding tubes. This is all provided under the supervision of critical care and general surgery attending staff

and, in addition, the management of stomas, fistulas, and percutaneous catheter devices is done with the enteral stoma nurse and the interventional radiology service.

Specific objectives are: SCORE Curriculum; Critical Care Journal Club: weekly; Critical Care/Trauma Conferences: weekly.

- f. Hematologic: application of auto transfusion, assessment of coagulation status, appropriate use of component therapy and massive transfusion, and advanced knowledge of venous thromboembolism prophylaxis.

Exposure: Daily SICU rounds; SICU resident conference. The use of autotransfusion, component therapy, massive transfusion, the assessment of coagulation status and thromboelastography, and the appropriate stewardship of blood products is a daily occurrence in the SICU. Venous thromboembolism prophylaxis is also a consistent area of research and quality improvement within our division, in which the fellows are involved.

Specific courses include: SCORE Curriculum; Critical Care Journal Club: weekly; Critical Care/Trauma Conferences: weekly.

- g. Infectious Disease: classification of infections and application of isolation techniques, pharmacokinetics, drug interactions, and management of antibiotic therapy during organ failure, nosocomial infections, indications for applications of hyperbaric oxygen therapy.

Exposure: Daily SICU rounds; SICU resident conference. The classification of infections and use of appropriate isolation techniques, the discussion of pharmacokinetics, drug interactions and the management of antibiotic therapy is part of daily work in combination with the pharmacy service and the infectious disease service. Evaluation of unit microbial flora and antibiotic sensitivity is accomplished on a monthly basis and guidelines using this information for use of antibiotics are developed and used for the care of all patients. The fellow will also perform part of the supervisory function in maintaining these protocols throughout the hospital environment.

Specific objectives are: SCORE Curriculum; Critical Care Journal Club: weekly; Critical Care/Trauma Conferences: weekly.

- h. Nutritional: Application of parenteral and enteral nutrition; monitoring and assessing metabolism and nutrition.

Exposure: Daily SICU rounds; SICU resident conference, biweekly interdisciplinary rounds. Fellows lead biweekly interdisciplinary rounds and have daily interaction with the nutrition service to formulate feeding plans for ICU patients. The fellows have hands-on experience with calorimetry measurements and nutritional supplementation.

Specific objectives are: SCORE Curriculum; Critical Care Journal Club: weekly; Critical Care/Trauma Conferences: weekly.

- i. Monitoring/bioengineering: use and calibration of transducers, amplifiers, and recorders.

Exposure: Daily SICU rounds; SICU resident conference. All fellows are supervised and instructed in the calibration and troubleshooting of all equipment in the SICU on an

ongoing basis. This is done through interaction with the attendings, the nursing staff, the anesthesia technical support staff, and employees from the bioengineering department. In addition, this is supplemented by readings and specific prepared materials in the SICU handbook.

Specific objectives are: SCORE Curriculum; Critical Care Journal Club: weekly; Critical Care/Trauma Conferences: weekly.

- j. Miscellaneous: use of special beds for specific injuries; employment of skeletal traction and fixation devices.

Exposure: Daily SICU rounds; SICU resident conference; The use of special beds and traction and fixation devices is part of the exposure of fellows during the care of trauma patients with orthopedic injuries. The use of special beds for pulmonary problems including rotobeds and prone ventilation devices are incorporated as needed for critically ill patients.

Specific objectives are: SCORE Curriculum Critical Care Journal Club: weekly; Critical Care/Trauma Conferences: weekly; Combined conference (Orthopedics): twice monthly.

### III. CORE COMPETENCIES

Fellows are expected to demonstrate the skills, knowledge, and attitudes to meet the requirements of the following core competencies listed below. Fellows are educated on the core competencies through exposure at daily SICU rounds and weekly conferences. Fellows are also encouraged to attend core lectures presented by the UCSD Graduate Medical Education Committee and AAST to complement their daily experience.

1. Patient Care
  2. Medical Knowledge
  3. Practice-Based Learning and Improvement
  4. Interpersonal and Communication Skills
  5. Professionalism
  6. Systems-Based Practice
- 
1. Patient Care:
    - a. Effectively lead patient care issues with clear communication to team, patients, family, and attendings.
    - b. Accurately synthesize size complex clinical data and propose clear treatment plans
    - c. Actively lead team decision making
    - d. Follow up with residents and students to ensure daily tasks are completed
    - e. Capably perform procedures suitable to trauma and surgical critical care with attending supervision
  2. Medical Knowledge:
    - a. Demonstrate effective decision making based on adequate knowledge
    - b. Effectively correlate basic science knowledge with clinical scenarios
    - c. Exhibit a desire for additional knowledge
    - d. Appropriately use learning resources
    - E. Demonstrate fluency with pharmacology and physiology as it pertains to surgical critical care
      - 1) Read the current literature
      - 2) Demonstrate investigatory and analytical thinking approaches to clinical situations
  3. Practice-Based Learning & Improvement:
    - a. Participate in conferences, M&M, etc.
    - b. Demonstrate knowledge of evidence-based medicine as applied to critical care
    - c. Adequately use scientific data to help solve clinical problems
    - d. Actively contribute to team's education by providing recent and current data during rounds and conferences
  4. Interpersonal & Communication Skills:
    - a. Maintain professional and cordial relationships with patients, staff, co-

- workers, and faculty
  - b. Demonstrate the ability to listen and to accept constructive criticism
  - c. Demonstrate the ability to communicate efficiently with the team members, attendings, referring and consulting physicians
  - d. Demonstrate the ability to provide constructive criticism to trainees
5. Professionalism:
- a. Demonstrate compassion, respect, and integrity in the work environment
  - b. Flawlessly uphold the professional standards of the surgical critical care/trauma services
  - c. Respect differences in gender, age, culture, disability, religion, socioeconomic status, sexual orientation, and/or educational levels
  - d. Contribute to all educational activities of the surgical critical care/trauma services
  - e. Demonstrate commitment to ethics of confidentiality and informed consent
6. Systems-Based Practice:
- a. Understand one's position within the team, specialty, profession, and society
  - b. Demonstrate sensitivity and awareness of the cost of health care delivery
  - c. Advocate for cost-conscious and effective patient care
  - d. Develop skills as a team leader in the ICU and trauma bay
  - e. Develop skills (administrative and otherwise) to organize and lead a busy clinical service

#### IV. ORGANIZATIONAL STRUCTURE AND INSTITUTIONS

The UCSD Surgical Critical Care Program is developed with the surgical intensive care unit as the primary area of focus. The rotation schedule will include alternating two to four week blocks with rotations on the following services: the Surgical ICU at Hillcrest, Trauma, Burns, the Surgical ICU at Jacobs, the Cardiovascular ICU at Jacobs, and the Pediatric Intensive Care Unit at Rady Children's. The fellow will have primary responsibility for all patients admitted to the surgical intensive care unit as well as those that are part of the trauma service and resuscitation room. It is expected that the fellow on each service will round daily with the resident and student team in the morning, and use this opportunity to create the plans of care for each patient. In addition, the fellow on the trauma service will lead resuscitations and any necessary operations for trauma patients, supervising the residents and students. When on night or weekend call each fellow will be responsible for all admitted patients to the Hillcrest SICU, trauma, burn, and emergency general surgery (EGS) services as well as all new traumas and trauma, EGS, or ICU consults. The surgical critical care fellows are specifically not to become involved in elective surgical procedures except with great exception.

The rotation schedule for the year will alternate back and forth between the covered services and each of these services will be the focus from which the fellow interacts directly with all other components of the educational program. Rounds on each of these services will be conducted by a faculty member and both group and one-on-one interaction will occur on a daily basis. The fellow's responsibility will be to become knowledgeable about every patient on that service, be prepared to have a plan of care for each of these patients, and lead the resident team in accomplishing daily patient care goals.

##### Typical Trauma/Surgical Critical Care Rotation Schedule

4 Week Block	Fellow #1 Rotation	Fellow #2 Rotation	Fellow #3 Rotation
1	Trauma	Surgical ICU	Burn ICU
2	Burn ICU	Trauma	Surgical ICU
3	Surgical ICU	Burn ICU	Trauma
4	Trauma	Surgical ICU	Rady's PICU/ 1wk Vacation
5	La Jolla ICU/ 1wk Vacation	Trauma	Surgical ICU
6	Surgical ICU	CVICU/ 1wk Vacation	Trauma
7	Trauma	Surgical ICU	CVICU/ 1wk Vacation
8	CVICU/ 1wk Vacation	Trauma	Surgical ICU
9	Surgical ICU	Rady's PICU/ 1wk Vacation	Trauma
10	Trauma	Surgical ICU	CVICU/ 1wk Vacation
11	Rady's PICU/ 1wk Vacation	Trauma	Surgical ICU
12	Surgical ICU	La Jolla ICU/ 1wk Vacation	Trauma
13	CVICU/ 1wk Vacation	Surgical ICU	La Jolla ICU/ 1wk Vacation

## V. CONFERENCES AND RESPONSIBILITIES

The conferences the fellow is expected to attend include:

Name of Conference	Frequency	Location	Responsible for Organization of Sessions	Presenters (*may vary with vacations)
Hillcrest Trauma, EGS & SICU Handover Rounds	Daily 0645	UCSD Hillcrest Main Hospital ACS Room	Surgical Critical Care Faculty and Fellows	Surgery and ED Residents
SICU Teaching Rounds	Daily ~0830 a.m.	UCSD Hillcrest Main Hospital SICU	Surgical Critical Care Attending and Surgical ICU Fellow	Surgery and ED Residents
SICU Daily Sit-Down Conference	M, T, Th ~11 a.m.	UCSD Hillcrest Main Hospital	Surgical Critical Care Attending and SICU Fellow	Rotating Surgery and Pharmacy Students
General Surgery M&M	Every other Wednesday 7:00 a.m.	MPF Bloom Conference Room, Rm 2-256	General Surgery	Surgery Residents
General Surgery Grand Rounds	Every other Wednesday 7:00 a.m.	MPF Bloom Conference Room, Rm 2-256	General Surgery Faculty	General Surgery and Invited Faculty
Surgical Critical Care Journal Club	Thursday 12:00 p.m.	MPF Bloom Conference Room, Rm 2-256	Program Director	<b>Surgical ICU Fellow*</b>
Trauma Conference, Select Case Review, Video Review	Thursday 7:00 a.m.	UCSD Hillcrest Main Hospital ACS Room	Surgical Critical Care Faculty	<b>Trauma Fellow*</b> , Trauma-SCC Faculty, or Invited Faculty
Trauma-Surgical Critical Care Research Conference	Thursday 1:00pm	MPF Bloom Conference Room, Rm 2-256	Surgical Critical Care Faculty and Fellows	Trauma-SCC Faculty and <b>Fellows</b>
Division Business Meeting	Every other Tuesday 7:00 a.m.	MPF Bloom Conference Room, Rm 2-256	Trauma/Burn/ Surgical Critical Care Faculty	Trauma/Burn/Critical Care Faculty <b>and Fellows</b>
Trauma and EGS Process Improvement Meetings	Every other Tuesday 7:00am	MPF Bloom Conference Room, Rm 2-256	Trauma/Burn/ Surgical Critical Care Faculty	Trauma/Burn/Critical Care Faculty <b>and Fellows</b>
San Diego County Medical Audit Committee	Monthly, 3 <sup>rd</sup> Monday 3:00 pm	Zoom	County of San Diego Emergency Medical Services	Trauma Medical Director
Combined Trauma/ Radiology Conference	Monthly, 4 <sup>th</sup> Tuesday 3:00 p.m.	UCSD Hillcrest Main Hospital ACS Room	Surgical Critical Care/ Radiology Faculty	<b>Assigned Fellow*</b> and Radiology Fellow or Faculty
Combined Trauma/ ED Conference	Monthly, 4 <sup>th</sup> Tuesday 4:00 p.m.	UCSD Hillcrest Main Hospital ACS Room	Surgical Critical Care/ ED Faculty	Emergency Medicine Residents
Combined Trauma/Ortho Conference	2 <sup>nd</sup> and 4 <sup>th</sup> Fridays	UCSD Hillcrest Main Hospital ACS Room	Surgical Critical Care/Orthopedics Faculty	Alternately <b>Assigned Fellow*</b> & Orthopedics residents
Trauma Multidisciplinary Meeting	3 <sup>rd</sup> Tuesday every other month, 4pm	Zoom	Trauma Medical Director, liaisons	TMD, liaisons



## PRESENTATION DESCRIPTION/EXPECTATIONS:

Each of these conferences has a unique perspective and is specifically designed to provide an administrative experience, a quality assurance component, or a specific didactic goal and objective. The integration of these into the overall goals and objectives of the program are outlined in detail below. They are designed to be scattered throughout the week so as to not encumber any one particular day and should allow plenty of time for patient care in addition to personal study. The educational aims of the critical care conferences and the critical care journal club are in Section II Goals and Objectives.

**FOR ALL CONFERENCES:** Your audience will be a mixture of faculty, other fellows, residents in several disciplines, and medical students and should encompass teaching points for all levels of learners. All conferences should include citations of both foundational and current literature – focus on WHY we do things the way we do, in addition to what we do and/or how to do it.

### **TRAUMA CONFERENCE FELLOW LECTURE (average once/month, total length: ~1hr)**

45-50-minute high-quality lecture on the assigned trauma-SCC topic, with 10-15 minutes for questions/discussion at the end. The lecture must include relevant background information, basic evaluation/management of the injury/condition, and **review of the historical and recent literature** and \ or guidelines. You may also choose to focus on a particular injury within the assigned topic, as some of the topics are rather broad. *It is perfectly acceptable to use presentations from prior years and modify \ update them with current literature or guidelines.* \*See the suggested rules for PowerPoint presentations.

### **VIDEO TAPE REVIEW (average once/month, total length: 1hr)**

Each month, the trauma program manager (Angela Kilty) or an assistant will give you a portable hard drive with recordings of various trauma resuscitations. You will usually pick 3-4 of the videos to review during conference where you will highlight various aspects of the resuscitations (i.e. What went well? What could have been better?) and make teaching points. It is suggested you choose one resuscitation with good teamwork, one with not-so-good teamwork, and any others that were interesting or problematical. The reviews are protected under the California Evidence Act as peer review activities, the focus is not blame but improved performance by the team. No additional materials besides the videos are needed.

### **SELECT CASE REVIEW (average once/month, total length: 1hr)**

Similar to M&M, but with the goal of presenting interesting or educational cases rather than discussing causality. The trauma program manager or an assistant will email you a list of selected cases to review (usually 3-5 cases). These could be just interesting cases or cases where a complication or death occurred. You will provide a short case presentation of the trauma/hospital course followed by a teaching point and review of associated literature. If you are unclear why a particular case was chosen, ask Angela or Drs. Berndtson or Haines for clarification – some patients have very long hospital courses and review can be summarized to focus on the intended educational point.

### **TRAUMA/RADIOLOGY CONFERENCE (once/month, length: 1hr)**

The assigned fellow will pick 4-6 cases from the preceding month/weeks that involve interesting radiology findings. These can be both trauma and emergency general surgery cases. Cases should be emailed to **the assigned radiology faculty (see annual conference schedule)** no later than the Friday before this Tuesday conference (4<sup>th</sup> Tuesday of the month at 3:00pm). Cases should involve **body** imaging (thorax, abdomen, extremity) when possible; head/spine trauma is discouraged. For each case the assigned fellow will provide a short vignette regarding the presentation of the patient and hospital course followed by review of relevant imaging by the radiology fellow or faculty. Additional slides can be used for the case vignette but are not required.

### **TRAUMA/ED CONFERENCE (once/month, length: 1hr)**

Held on the 4<sup>th</sup> Tuesday of each month at 4:00pm. Presented by the ED resident recently on trauma.  
**ORTHO/TRAUMA CONFERENCE (twice/month, presented by our fellow once/month, length: 20-30 minutes)**

A joint conference held with our colleagues in Ortho trauma on the 2<sup>nd</sup> and 4<sup>th</sup> Fridays of the month. **See annual conference schedule for assigned team to present each week.** On our weeks, the assigned fellow is expected to provide a 20-minute presentation followed by 10 minutes for questions/discussion. The presentation should be **case based** (highlighting a recent collaborative case between trauma/ortho if possible) with a teaching point and **appropriate review of associated literature**

**JOURNAL CLUB (weekly, length: 1hr)**

See detailed description and schedule below under Conferences (Appendix I). In general, the SICU fellow will present two assigned articles weekly (the AAST fellow on EGS will present a third article if their clinical schedule permits). Articles are to be distributed by the presenting fellow no later than by Sunday Evening weekly. Each attendee should review the articles prior to Journal Club. Beyond a description of the question, methods, results and conclusions, the fellow should attempt to discuss any biases or methodological issues that may be present in the studies, how this study applies to our patient population, and if this study does or does not change their practice. Group discussion about our protocols and personal approaches is welcome. PowerPoint may be used to organize the presenter's thoughts and present tables/figures, but is not required. If a PowerPoint is not made, projecting the article PDF for figures is helpful.

**\*NOTES ON PRESENTATIONS**

**Good presentations help educate the team and your partner fellows. There is no better way to master a topic than to teach it in a masterly way.**

**1. Presentations are expected to be of HIGH QUALITY.**

These should be *created from the current literature*. All key facts and figures should be referenced on the bottom of the slide. Important trials, meta-analyses, or guidelines should be presented on their own slide. Again, while it is more than appropriate to explain to junior trainees how to manage an injury or do a procedure, also include **WHY** we do things this way (with citations)!

Last minute, wordy, "cut and paste" jobs from textbooks, Up-To-Date, etc., are obvious and unacceptable. Try to create a presentation worthy of an expert at a scholarly meeting, because that is what you are going to be. Spelling and grammatical errors annoy the audience and make the faculty grumpy.

**2. Be on time – make sure everything works.**

It's your show! It is the fellow's responsibility to ensure the show starts on time and everything works. Ask for help if there are issues beforehand.

**3. Presentations should be case-based.**

It's more interesting, relevant, and educational for all if you start with a case presentation, ideally one that you saw, ideally at UC San Diego. If you don't know of such a case, ask. You can close the show with the case's resolution so that all present can apply the knowledge they gained.

**4. Reference the UC San Diego Protocol.**

In most cases, we have a protocol for the injury or condition, ensure you show and explain this. Also, someone in your faculty have probably written on the topic, include those articles as they are based on the same population you're treating.

**5. Remember that you are the presenter, not PowerPoint.**

Use your slides to emphasize a point, keep yourself on track, and illustrate a point with a graphic or photo. Don't read the slides. Some of the best presentations are almost entirely pictures and/or short lists.

**6. Slides should be uncluttered.**

Don't make your audience read the slides. Keep text to a minimum (6-8 words per line, no more than 6 lines, and not more than 30 words per slide). The bullet points should be headlines, not news articles. Write in sentence fragments using key words; keep your font size 24 or bigger. Good pictures are better than a slide full of text.

**7. KISS – Keep it simple, seriously: Black, Dark Blue or White themes.**

No weird colors or cute themes, make it easy on the eyes and all about the message. Use easy to read fonts like Arial, Calibri or Times New Roman. Avoid animations or sound effects unless they are relevant.

**8. Never include anything that makes you announce, I don't know if everyone can read this, but...."** Make sure they can read it before you begin. If unsure, try out your presentation on the wall screen prior to your session.

**9. Embed videos and CT Scans into the slide.**

Avoid switching from PowerPoint to PACS etc. (other than for radiology conference). Learn how to embed these into your slides.

**10. Use high quality pictures and media.**

There are excellent sources for pictures in SCORE, ATLS, ATOM and ASSET courses, and on our website and manuals. Use them.

**If you have questions, issues, problems – please ask!**

## VI. DECISION MAKING AUTHORITY/SUPERVISION POLICY

The fellow will initially be given responsibility commensurate with experience and aptitude, with appropriate faculty oversight as we get to know you. As the year progresses, clinical responsibility will increase. The fellow will be responsible for daily rounds on their assigned service, and will oversee the care of patients and supervise the residents and medical students in this setting. The fellow will participate in management decisions with the aid and supervision from critical care attending staff. The fellow will also interact with attending staff from other primary surgical services in reaching clinical strategies and management decisions as part of a collaborative process. The fellow is responsible for leading rounds, assessing patients, performing procedures, integrating the care of patients, and following up with the team to ensure all necessary patient care activities are completed.

While our SICU is a closed unit in terms of writing orders, it functions in an open and collaborative fashion with the admitting surgical teams. The fellow will be expected to fill the role as the situation dictates ranging from senior consultant to primary decision maker under the supervision and guidance of the attending SICU staff.

### A. Relation to Faculty:

Each service will have an assigned faculty member for the week who is there to teach, support the team, and supervise as appropriate. Faculty will be kept informed at all times of any major changes, and as such, will assume responsibility along with the fellow for any problems. Faculty and fellows will work together as a team to ensure appropriate patient care.

### B. Relation to Residents:

The critical care fellow will function as a junior faculty member, with supervisory responsibility over general surgery, subspecialty, and ED residents assigned to our services. The fellow is to work directly with the residents in a supervisory capacity as well as teach and educate.

### C. Relation to Medical Students:

The critical care fellow has a responsibility to the medical students to not only supervise them and make sure that anything they are involved in with patients is supervised, but also to teach the medical students rotating on our services. The critical care fellow may also be asked to provide informal evaluation of medical students rotating in the SICU under their supervision, so a final evaluation done by the Critical Care attending is consistent with the overall evaluation of the team.

## VII. FELLOW DUTY HOURS AND WORKING ENVIRONMENT POLICY

### A. Work Standards

The standard work schedule for the fellow shall be 6:45 a.m. – 5:00 p.m weekdays. Weekend days the fellow will work if on call or post-call; if neither the fellow will be off (on average 1 day in every seven – special schedule over the holidays; see annual schedule). On any post-call day the fellow is expected to round with the team, sign out active issues to the covering fellow, then leave for the day.

The fellow shall accrue vacation at the official rate of 13.33 hours per month. This provides a total of 20 vacation “work days” per year.

Vacation leave will be scheduled in advance at the beginning of the academic year and shall be:

- 4 one-week blocks

**Changes in leave must be requested by the fellow in writing in advance and scheduled with the agreement of the Program Director and \ or Division Chief as appropriate.**

### B. Duty Hours

Duty hours are limited to 80-hours per week averaged over a 4-week period.

The duty hours will be in accordance with the UCSD and ACGME House Staff Duty Hours and Working Environment Policies/Procedures.

### C. Monitoring of Duty Hours

Fellows and faculty have been provided copies of the rules pertaining to ACGME requirements for limited fellow duty hours.

Each month, fellows will be required to enter their duty hours online through the MedHub online logging module. The results will be evaluated by the Program Director on a regular basis to assure compliance with ACGME resident duty hour requirements.

In addition, the program director meets on a frequent basis with the fellow one-on-one to specifically address working hours, fatigue, any particular problems, and the goals and expectations of the fellowship.

### D. On-Call Activities

Call is “in-house” call. Fellows will be on call on average one night per week and will go home on the following day by 10:45am. Weeknights call starts at 5pm and continues until 6:45am signout the next day. Weekend and holiday call is 24 hours.

Fellows will keep track of hours on call on a monthly basis and log hours online via MedHub. They will follow their progress and when they are nearing the hour limit they must report it to

the program director who can adapt the schedule as needed to avoid hours violations.

Through the scheduling process, fellows will be guaranteed at least one weekend per month off and at least one complete day out of seven relieved of all clinical responsibilities. Should this for some reason not occur, fellows should notify the program director as soon as the monthly schedule is released. Fellows will have a hand in making their own call schedules to help ensure duty hours are met and requests for specific days off are honored.

**Sample hours schedule, 1 in 7 call, 4 days off per 28 days:**

Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Total Wk
10.25	10.25	10.25	10.25	10.25	<b>OFF</b>	17.25	68.5
10.25	10.25	10.25	10.25	10.25	<b>17.25</b>	<b>10.75</b>	79.25
10.25	10.25	10.25	<b>17.25</b>	<b>10.75</b>	<b>OFF</b>	<b>OFF</b>	58.75
10.25	10.25	10.25	10.25	10.25	<b>OFF</b>	17.25	68.5

E. Moonlighting

Fellows in the Surgical Critical Care training program are not allowed to moonlight.

F. Support Services

Sleeping quarters and scrubs are provided. Also, online access to a great number of scientific journals is available to each fellow in their offices through the UCSD digital library. A full function cafeteria is open during the day and available to house staff during this time; each fellow is given an annual meal stipend. Vending machines are available in the cafeteria during on- call hours. There is a house staff lounge by the Hillcrest cafeteria.

G. Pay

Salary will be updated annually per contract and negotiation between the health system and the house staff union. In addition, office supplies and equipment needs will be paid for by the division. The division will also sponsor fellows to participate in national conferences at which they are presenting; prior approval from the Program Director and Division Chief must be secured.

H. Vacation

Each fellow will get 4, 1-week vacations throughout the year. All fellows will be solicited for vacation time requests prior to making the annual schedule. All efforts will be made to accommodate requests. Any change to the scheduled vacations must be approved by the program director. Except for extraordinary circumstances only one fellow will be scheduled away at any time.

I. Duty Hours Exception

Fellows will be allowed to exceed the 80-hour limit only for educational purposes and if they document why they stayed (i.e. special case, conference, or need to provide patient continuity).

This will not exceed 10% or 8 hours per week, on average. In the event of being over, they will make it up subsequently to stay in compliance with the average overall. If called back in, they will count the hours they are in the hospital toward the 80-hour week.

For further information on the Working Environment Policy please refer to the UCSD House Staff Working Conditions Policy (Appendix V).

## VIII. SCHOLARLY ENVIRONMENT

The faculty is committed to maintenance of a scholarly environment including multiple specific activities.

### A. Simulation Curriculum:

The Division has several opportunities for fellows to become proficient in education via simulation:

1. Human Patient Simulators: The Division owns two human patient simulators, a METI® iStan and a METIman, located in the CFS building behind the Hillcrest hospital. These are computer-controlled, realistic, full-size mannequins that can exhibit a wide range of physiology and pathology.
2. Partial Task Trainers: The division faculty hosts airway and central line training annually for incoming interns; fellows are welcome to participate.
3. ATLS – all fellows are expected to be up to date in ATLS, or to renew as soon as possible after starting fellowship if their credentials have lapsed. All fellows will become ATLS Instructors during fellowship if they are not already Instructors. Fellows are expected to help teach division ATLS classes once they are certified Instructors.
4. The Advanced Trauma Operative Management (ATOM) Course is an effective method of increasing surgical competence and confidence in the operative management of penetrating injuries to the chest and abdomen. The course consists of six 30-minute lectures followed by a three-hour lab session during which the student will manage 14 different injuries. The Division teaches several ATOM courses per year, and Fellows will be trained in and become instructors for ATOM.
5. The Advanced Surgical Skills for Exposure in Trauma (ASSET) Course uses human cadavers to teach surgical exposure of anatomic structures that when injured may pose a threat to life or limb. It is excellent continuation of the ATOM course. The course is about six hours and taught about 3 times per year. Fellows will be trained in and become instructors for ASSET.

### B. Ultrasound Curriculum

The Division has opportunities for fellows to become proficient using bedside ultrasound:

1. Equipment: The Division operates multiple ultrasound machines located in the SICU, BICU and Trauma Bays.
2. The Fellows are also given access to two Butterfly® iQ handheld ultrasound devices with iPads – these are kept in the SICU and in the Fellow's office in Hillcrest. Fellows are expected to **upload 25** ultrasound studies to the Cloud Server to allow proctoring for future credentialing in ultrasound.
3. On-Line Training: There are online courses on the [trauma.ucsd.edu](http://trauma.ucsd.edu) website on Central line insertion and Critical Care ultrasound. These are also useful for training rotating residents and medical students.
4. Hands-on Course: There is a practical course held early each academic year to allow practice and assessment of bedside ultrasound skills. Fellows will be notified of the timing of this course annually.

### C. GME Competency Education Program



UC San Diego Health participates in the AMA's GME Competency Education Program which is a series of online educational modules designed to complement teachings in patient settings and didactic curriculums in residency and fellowship programs. It helps fellows develop ACGME milestones to meet core competency requirements. The fellow is required to complete all assigned modules by the end of the academic year. Please refer to Appendix II for a sample curriculum. Details and assignments will be sent by the GME office.

#### D. Evidence-Based Guideline Development, Quality Improvement, Research

Continuous quality improvement is a core tenet of trauma and surgical critical care, and a required component of trauma center verification. Clinical guidelines are often the result of quality improvement projects and serve to standardize and optimize patient care efforts. Fellows will be involved in the processes of quality improvement and evidence-based guideline development for the SICU and/or trauma center. This will be done through division meetings and clinical research activities to maintain and create exposure to this important process. Faculty are involved in active research in several areas and fellows will have the opportunity to become involved per their level of interest. The division maintains a large registry with data on over 30,000 injured patients which provide strong opportunities for retrospective research. We also have access to nationwide patient databases such as NIS, NRD, NTDB and TQIP. In addition, advanced statistical and analytical expertise is available in-house.

#### E. Additional Program Information

Online access to UC and national libraries is available to each fellow through their computer.

The program uses the SCORE Weekly Curriculum to provide the basis for background reading and weekly journal clubs.

The final component of scholarly environment includes a full-time epidemiologist and statistician who are part of the department and available to help the fellows with any research needs. Biostatistician support is also available with the UC Altman Clinical Translational Research Institute.

## IX. EVALUATION METHODOLOGY

### A. Evaluation of the Fellow by Faculty

The fellow will be required to maintain a case log of all operative procedures. In addition, the fellow must maintain case logs of their critical care experience in the surgical intensive care unit, their resuscitation experience in the trauma bay, and of all procedures (including but not limited to bronchoscopies, ultrasounds, central and arterial lines, tube thoracostomies, and moderate sedation). This will allow the fellow to review and maintain an active understanding of their experience and adjust during the year for any inadequacies. In addition, this will allow the program director to assure that experiences meet the standards of the RRC.

Due to the close ratio of faculty to fellows, evaluation of each fellow occurs on a contemporaneous ongoing daily basis through feedback and personal interaction between the fellows and the faculty. In addition, a formal performance evaluation of the fellow by the faculty is completed twice per year by the Program Milestones committee using the ACGME Milestones developed specifically for Surgical Critical Care. Milestones are competency-based developmental outcomes (e.g., knowledge, skills, attitudes, and performance) that can be demonstrated progressively by the fellow from the beginning of their education through graduation to the unsupervised practice of their specialties. (see Appendix IV). Lastly, a final (summative) evaluation is completed by the Faculty during the final period of the fellowship verifying that the fellow has demonstrated sufficient competence to enter practice without direct supervision.

### B. Evaluation of the Faculty and Program by Fellow

The fellows will be expected to evaluate the faculty using standardized forms on a semiannual basis. The fellows will also be expected to evaluate the program annually again using a standardized form.

Fellows are encouraged to discuss any issues or concerns regarding the fellowship program, their progress in the fellowship, and the correction of any identified problems with the Program Director at any time, ideally as soon as possible after an issue arises.

Twice annually, the fellows will participate in SCC Program Evaluation Committee meetings. The Program Evaluation Committee comprises all fellows and core faculty. The twice annual meetings will discuss the program in a structured format to identify both areas of strength and areas for improvement of the fellowship. Minutes will be kept, and points for improvement will be reviewed at the next PEC meeting to ensure progress is made. Fellows will also participate in a year-end Exit Interview with the Program Director and Associate Program Director to provide overall feedback on the program in a more private setting. Finally, fellows will receive an anonymous post-graduation survey in delayed fashion on which feedback can be provided. This feedback will be reviewed in aggregate to prevent fellow identification. This will be used primarily to determine our effectiveness in preparing graduates for practice.

The feedback received by fellows is used to improve the educational program and the curriculum is updated in the handbook as needed.

## X. QUALITY IMPROVEMENT

The division has a number of programs for quality improvement and members of the division have been national leaders in the development of programs in critical care and trauma. Maintenance of quality improvement will occur through daily rounds, multidisciplinary conferences, data collected by each of the paramedical services, and data collected on all patients through each surgical service.

Complications and deaths are presented at Wednesday morning Department of Surgery Morbidity and Mortality conference and patient group specific complication trends are reviewed on a regular basis. Trauma and EGS complications and deaths are also presented at every other week PI meetings after Tuesday morning division meeting. Specific trends relative to ventilator use, nutritional use, compliance with the pharmacy guidelines (antibiotics and paralysis drugs) drug reactions, blood use, and a number of other disease specific complications that are reviewed as needed. The critical care fellow will be exposed to all these techniques and participate specifically in the presentation of cases, the review of problems as they occur, and the development of quality improvement solutions. Video tape review and select case review conferences are also used for continuous quality improvement of team dynamics, trauma resuscitation, and deeper analysis of specific complications.

Patients who undergo autopsy will have findings correlated through the quality improvement process. An expedited medical record system and abstracted information on a computerized registry along with reports designed specifically to support the quality improvement process are formatted to assist the fellow in learning this process.

Fellows are expected to participate in at least one quality improvement project over the course of the training year, in conjunction with a faculty member.

## XI. ELIGIBILITY, RECRUITMENT, SELECTION NONDISCRIMINATION, PROMOTION, EVALUATION AND DISMISSAL PROCESS

Our policies and practices are contained in the institutionally developed document called the UCSD Policy on Eligibility, Selection, Nondiscrimination, Promotion, Evaluation and Dismissal of House Staff in ACGME Accredited Graduate Medical Education Training Programs. Please refer to Appendix V.

- A. Fellow Eligibility. Applicants with one of the following qualifications are eligible for appointment to the UCSD Surgical Critical Care Fellowship:
1. Graduates of medical schools in the United States and Canada accredited by the Liaison Committee on Medical Education (LCME.)
  2. Graduates of colleges of osteopathic medicine in the United States accredited by the American Osteopathic Association (AOA).
  3. Graduates of medical schools outside the United States and Canada who meet one of the following qualifications.
    - a) Have received a currently valid certificate from the Educational Commission for Foreign Medical Graduates and are in compliance with the license requirements of the State of California.
    - b) Have a full and unrestricted license to practice medicine in a U.S. licensing jurisdiction.
  4. Graduates of medical schools located outside the United States who have completed a Fifth Pathway program provided by a LCME-accredited medical school will be in compliance with the license requirements of the State of California.
- B. Recruitment Process

Information about the Surgical Critical Care Fellowship is publicly available on both the UCSD Trauma website and the national fellowship repositories. Fellows then apply via online application through the Surgical Critical Care and Acute Care Surgery Fellowship Application Service (SAFAS) website managed by the Surgical Critical Care Program Directors Society.

Based on an initial screening, candidates are invited for a one day interview to meet faculty and other key personnel.

The program participates in the NRMP Surgical Critical Care Match. The program director reserves the right to define the number of spots that will be made available to the match up to the defined quota accredited by the ACGME.

- C. Fellow Selection

UCSD selects from among eligible applicants on the basis of their preparedness, ability, aptitude, academic credentials, communication skills, and personal qualities such as motivation and integrity. The UCSD Surgical Critical Care Program does not discriminate with regard to sex or gender, race, age, religion, color, sexual orientation, national origin, disability, or veteran status.

D. Enrollment of Non-eligibles

UCSD will not appoint non-eligible individuals.

## XII. GRIEVANCE PROCEDURES

Should a fellow have a specific grievance that cannot be resolved by the Program Director, he/she is encouraged to use the Office of Graduate Medical Education to assist with this process and follow appropriate procedure. At our institution, our policy is the institutionally developed policy for corrective action/discipline hearing and appeal which is contained in our House Officer Policy and Procedure Document (HOPPD). Please refer to Appendix V.

### XIII. MONITORING STRESS, BURNOUT AND FATIGUE

Given the stressfulness and complexity of working with critically ill and/or highly injured patients, the monitoring of stress and fatigue and the attention to its signs and symptoms is an important priority for the Division of Trauma. Division faculty will be on the lookout for any indication that fellows are physically, psychologically, or personally stressed, burnt out and/or fatigued. If this occurs the fellow will be relieved of clinical duties, and the faculty will assume all responsibilities of the fellow until appropriate support can be provided. During the evaluation process, the program director will ask the fellows about stress and fatigue. In addition, as part of the Core Curriculum Lecture Series, there is a lecture on Physician Well Being and Impairment. Any fellow seeing a colleague or feeling personally fatigued and/or in a stressful situation is asked to identify this immediately to the program director or to other faculty members so that this can be identified.

The UCSD GME office provides several online Wellbeing resources available here: <https://medschool.ucsd.edu/education/residency-fellowship/wellness/index.html>

This includes access to a peer support program, GME Wellness grants, the Headspace app for mental health support coaching, and more. Fellows Will also be connected to the UCSD HEAR (Healer Education Assessment and Referral) Program during orientation.

The UCSD GME Director of Wellbeing is Dr. Julie Celebi, [gmewellness@health.ucsd.edu](mailto:gmewellness@health.ucsd.edu)

#### XIV. ADDITIONAL PROGRAM INFORMATION AND STATISTICS

##### A. SCCM In-Training Examination (MCCCKAP)

Fellows will participate in the SCCM In-Training Examination process annually. The cost of this will be covered by the program.

##### B. Board Certification Rates

For greater than 15 years, all critical care fellows have passed the American Board of Surgery Certifying Exam for Surgical Critical Care.

Surgical Critical Care Program training requirements for the ABS are here:

<https://www.absurgery.org/get-certified/surgical-critical-care/training-requirements/>

The UCSD program meets all the listed training requirements.

Defined category minimums for ABS caseloads can be found here:

[https://www.acgme.org/globalassets/Defined\\_Category\\_Minimum\\_Numbers\\_Surgical\\_Critical\\_Care.pdf](https://www.acgme.org/globalassets/Defined_Category_Minimum_Numbers_Surgical_Critical_Care.pdf)

##### C. Career Paths of Graduates

Approximately 75 percent of all graduates are currently employed at academic institutions.



## XV. APPENDICES

### Appendix I

Conference Schedules

### Appendix II

GME Competency Education Program

### Appendix III

Required Readings  
Suggested Readings

### Appendix IV

ACGME Milestones

### Appendix V

UCSD House Officer Policy and Procedure Document

## Appendix I - Conferences

### SURGICAL CRITICAL CARE JOURNAL CLUB WEEKLY TOPICS

**Thursdays at Noon,  
Bloom Conference Room 2-256, MPF, 402 Dickinson St.**

**August 1, 2025 – July 31, 2026**

- Articles are to be distributed to the faculty and other fellows by the presenting fellow no later than Sunday Evening weekly.
- The SICU Fellow will present the articles listed for that week. The second year AAST fellow will also present an EGS article as clinical duties permit.
- Beyond a description of the question, methods, results and conclusions, the SICU Fellow should attempt to discuss any biases or methodological issues that may be present in the studies, how this study applies to our patient population, and if this study does or does not change their practice.
  - PowerPoint may be used to organize the presenter's thoughts and present tables/figures, but is not required. If a PowerPoint is not made, projecting the article PDF for figures is helpful.
- All Club Members should review the articles prior to the Journal Club.

Date	Fellow Presenting	Topic/Article
August 7, 2025	Cancelled	Cancelled – First Week
August 14, 2025	Hatch	<b>ARDS</b> Early Neuromuscular Blockade in the Acute Respiratory Distress Syndrome May 23, 2019, N Engl J Med 2019; 380:1997-2008  Prone Positioning in Severe Acute Respiratory Distress Syndrome June 6, 2013, N Engl J Med 2013; 368:2159-2168
August 21, 2025	Hatch	<b>Sepsis</b> Adjunctive Glucocorticoid Therapy in Patients with Septic Shock March 1, 2018, N Engl J Med 2018; 378:797-808 <b>Fluids</b> Early Restrictive or Liberal Fluid Management for Sepsis-Induced Hypotension February 9, 2023, N Engl J Med 2023; 388:499-510
August 28, 2025	DiGiore	<b>Delirium</b> Haloperidol for the Treatment of Delirium in ICU Patients December 29, 2022, N Engl J Med 2022; 387:2425-2435 <b>Sedation</b> Dexmedetomidine or Propofol for Sedation in Mechanically Ventilated Adults with Sepsis April 15, 2021, N Engl J Med 2021; 384:1424-1436
September 4, 2025	DiGiore	<b>TXA</b> Prehospital Tranexamic Acid for Severe Trauma July 13, 2023, N Engl J Med 2023; 389:127-136  <b>Rehab</b> Early Active Mobilization during Mechanical Ventilation in the ICU November 10, 2022, N Engl J Med 2022; 387:1747-1758
September 11, 2025	Cancelled	
September 18, 2025	DiGiore	TBD

September 25, 2025	Astarabadi	
October 2, 2025	Astarabadi	
October 9, 2025	Astarabadi	
October 16, 2025	Astarabadi	
October 23, 2025	Astarabadi	
October 30, 2025	Salimi Jazi	
November 6, 2025	Hatch	
November 13, 2025	Hatch	
November 20, 2025	DiGiore	
November 27, 2024	Cancelled	
December 4, 2025	DiGiore	
December 11, 2025	DiGiore	
December 18, 2025	Astarabadi	
December 25, 2025	Cancelled	
January 1, 2026	Cancelled	
January 8, 2026	DiGiore	
January 15, 2026	Hatch	
January 22, 2026	Hatch	
January 29, 2026	Hatch	
February 5, 2026	Hatch	
February 12, 2026	Astarabadi	
February 19, 2026	Astarabadi	
February 26, 2026	Astarabadi	
March 5, 2026	Cancelled	
March 12, 2026	DiGiore	
March 19, 2026	DiGiore	
March 26, 2026	DiGiore	
April 2, 2026	DiGiore	
April 9, 2026	DiGiore	
April 16, 2026	Hatch	
April 23, 2026	Hatch	
April 30, 2026	Hatch	
May 7, 2026	Astarabadi	
May 14, 2026	Astarabadi	
May 21, 2026	Salimi Jazi	
May 28, 2026	DiGiore	
June 4, 2026	DiGiore	
June 11, 2026	DiGiore	
June 18, 2026	Astarabadi	
June 25, 2026	Astarabadi	
July 2, 2026	Astarabadi	
July 9, 2026	Astarabadi	
July 16, 2026	Hatch	
July 23, 2026	Hatch	
July 30, 2026	All	

## 2025-2026 TRAUMA CONFERENCE

WHEN: 7:00-8:00AM

LOCATION: ACS conference room/Zoom

Date	Presenter	Topic
August 7, 2025	Haines	Faculty Lecture - Trauma Systems
August 14, 2025	Astarabadi	Video Tape Review
August 21, 2025	Astarabadi	Fellow Lecture
August 28, 2025	Hatch	Select Case Review
September 4, 2025	LaBuzetta	Faculty Lecture - Brain Death
September 11, 2025	Cancelled	~~~~
September 18, 2025	Hatch	Fellow Lecture
September 25, 2025	DiGiore	Select Case Review
October 2, 2025	Rodriguez-Gyamfi	Faculty Lecture – Community Resiliency Model
October 9, 2025	DiGiore	Video Tape Review
October 16, 2025	DiGiore	Fellow Lecture
October 23, 2025	Hatch	Select Case Review
October 30, 2025	Hirshman	Faculty Lecture - Neurosurgery
November 6, 2025	Astarabadi	Video Tape Review
November 13, 2025	Astarabadi	Fellow Lecture
November 20, 2025	Hatch	Select Case Review
November 27, 2025	Cancelled	~~~~
December 4, 2025	Hatch	Video Tape Review
December 11, 2025		Faculty Lecture - TBA
December 18, 2025	DiGiore	Select Case Review
December 25, 2025	Cancelled	~~~~
January 1, 2026	Cancelled	~~~~
January 8, 2026	Hatch	Fellow Lecture
January 15, 2026	Astarabadi	Video Tape Review
January 22, 2026		Faculty Lecture - TBA
January 29, 2026	Astarabadi	Select Case Review
February 5, 2026		Faculty Lecture - TBA
February 12, 2026	DiGiore	Video Tape Review

February 19, 2026	DiGiore	Fellow Lecture
February 26, 2026	DiGiore	Select Case Review
March 5, 2026	Cancelled - WTA	
March 12, 2026	Hatch	Video Tape Review
March 19, 2026		Faculty Lecture - TBA
March 26, 2026	Hatch	Select Case Review
April 2, 2026	Salimi Jazi	Pediatric Trauma
April 9, 2026		Faculty Lecture - TBA
April 16, 2026	Astarabadi	Video Tape Review
April 23, 2026	Astarabadi	Fellow Lecture
April 30, 2026	Astarabadi	Select Case Review
May 7, 2026		Faculty Lecture - TBA
May 14, 2026	DiGiore	Video Tape Review
May 21, 2026		Faculty Lecture - TBA
May 28, 2026	Hatch	Select Case Review
June 4, 2026	Hatch	Fellow Lecture
June 11, 2026	Hatch	Video Tape Review
June 18, 2026		Faculty Lecture - TBA
June 25, 2026	DiGiore	Select Case Review
July 2, 2026	DiGiore	Fellow Lecture
July 9, 2026		Faculty Lecture - TBA
July 16, 2026	DiGiore	Video Tape Review
July 23, 2026	Astarabadi	Select Case Review
July 30, 2026	Cancelled	~~~

## TRAUMA/RADIOLOGY CONFERENCE SCHEDULE AY 2024-2025

WHEN: 4<sup>th</sup> Tuesday each month, 3:00pm

LOCATION: ACS conference room/Zoom

Radiology Rounds - 4th Tuesday	
August 26, 2025	Hatch
September 23, 2025	Cancelled
October 28, 2025	Astarabadi
November 25, 2025	DiGiore
December 23, 2025	Cancelled
January 27, 2026	Hatch
February 24, 2026	Astarabadi
March 24, 2026	DiGiore
April 28, 2026	Hatch
May 26, 2026	DiGiore
June 23, 2026	Astarabadi

Please email 3-4 cases no later than the Friday before to:

Dr. Paul Jaffray: [pjaffray@health.ucsd.edu](mailto:pjaffray@health.ucsd.edu)

SCC Fellow Emails:

[mastarabadi@health.ucsd.edu](mailto:mastarabadi@health.ucsd.edu)

[bdigiore@health.ucsd.edu](mailto:bdigiore@health.ucsd.edu)

[m4hatch@health.ucsd.edu](mailto:m4hatch@health.ucsd.edu)

## **TRAUMA/ED CONFERENCE**

### **SCHEDULE AY 2025-2026**

WHEN: 4<sup>th</sup> Tuesday each month, 4:00 PM

LOCATION: ACS conference room/Zoom

- Lectures to be given by the Emergency Medicine Residents

## 2025 – 2026 Ortho-Trauma Conference

Every 2<sup>nd</sup> and 4<sup>th</sup> Friday of the month

6:45-7:15am

Location: ACS Conference Room \ Zoom

Date	Team
August 8, 2025	TRAUMA - Cancelled
August 22, 2025	ORTHO
September 12, 2025	TRAUMA - Cancelled
September 26, 2025	ORTHO
October 10, 2025	TRAUMA - Astarabadi
October 24, 2025	ORTHO
November 14, 2025	TRAUMA - Hatch
November 28, 2025	ORTHO - Cancelled
December 12, 2025	TRAUMA - DiGiore
December 26, 2025	ORTHO - Cancelled
January 9, 2026	TRAUMA - Hatch
January 23, 2026	ORTHO
February 13, 2026	TRAUMA - Astarabadi
February 27, 2026	ORTHO
March 13, 2026	TRAUMA - DiGiore
March 27, 2026	ORTHO
April 10, 2026	TRAUMA - DiGiore
April 24, 2026	ORTHO
May 8, 2026	TRAUMA - Astarabadi
May 22, 2026	ORTHO
June 12, 2026	TRAUMA - Hatch
June 26, 2026	ORTHO
July 10, 2026	TRAUMA - Astarabadi
July 24, 2026	ORTHO

\*Presentations should be case-based.

\*MUST cite supporting literature – WHY we do things the way we do.



## **SUGGESTED ORTHO-TRAUMA CONFERENCE TOPICS FOR TRAUMA FELLOWS**

1. VTE prophylaxis and management
2. Pelvic Fractures and hemodynamic instability – Algorithms
3. Initial Management of Spinal Trauma
4. Compartment Syndrome
5. The Mangled Extremity
6. Management of open fractures – literature and guidelines
7. Necrotizing Soft Tissue infection – workup and management
8. Damage control orthopedics
9. Extremity vascular injury – workup and options for management
10. Antibiotics and Tetanus prophylaxis in extremity trauma
11. Outcomes and long-term disabilities in extremity trauma
12. Screening, workup and management of cervical spine trauma

## Appendix II

### GME Competency Education Program

UC San Diego Health Sciences will provide you with a number of online educational modules as required by the Office of Graduate Medical Education (GME). **You are required to complete these assigned modules in a timely fashion.** This includes modules in both UC Learning and through the AMA. The exact curriculum will vary from year to year. This will be in addition to required online EPIC training.

#### Sample Curriculum:

##### New trainees:

1. Privacy and Confidentiality (16 min)
2. Cultural Competency (15 min)
3. Working Effectively within an Interprofessional team (14 min)
4. End of Life Care (10 min)
5. Resident Intimidation (14 min)
6. Patient Handoffs (14 min)
7. Sleep Deprivation: Your life and your Work (14 mins)

##### Continuing trainees:

1. Patient Safety (14 mins)
2. Basics of Health Equity (15 mins)
3. Sleep Deprivation: Your life and your Work (14 mins) \*Repeated each year due to relevance of content\*
4. Resident as Teachers (12 min)

**If you have difficulty accessing any modules after they are assigned, please contact Azniv Mattos.**

## Appendix III

### Required Readings

- 1) SCORE Curriculum
  - a) TWIS Modules must be done weekly as assigned
- 2) Journal Club Readings
- 3) Selected Assigned Articles

### Suggested Readings

- 1) Deutschman CS et al. Evidence-Based Practice of Critical Care. Elsevier 3<sup>rd</sup> Edition. 2019.
- 2) Marino PL. The ICU Book. 5th Edition. 2024.
- 3) Feliciano DV, et al. Trauma. McGraw Hill 9th Edition. 2020.
- 4) Asensio JA, et al. Current Therapy of Trauma and Surgical Critical Care. Elsevier 3<sup>rd</sup> Edition. 2023.
- 5) Top 100 Contemporary Critical Care Studies:  
<https://static1.squarespace.com/static/55d5e97fe4b0c4913b06a4dd/t/55f20dc7e4b071d1ddf/eaf41/1441926599282/Top+100+Critical+Care+Articles+patel.barounis+%281%29.pdf>

## Appendix IV



# Surgical Critical Care Milestones

The Accreditation Council for Graduate Medical Education



ACGME

Implementation Date: July 1, 2021  
Second Revision: May 2021  
First Revision: February 2014

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All rights reserved except the copyright owners grant third parties the right to use the Surgical Critical Care Milestones on a non-exclusive basis for educational purposes

The UCSD Surgical Critical Care Fellowship follows the ACGME Surgical Critical Care Milestones.

Details of the milestones are sent to incoming fellows along with this handbook, and are also available here:

<https://www.acgme.org/globalassets/pdfs/milestones/surgicalcriticalcaremilestones.pdf>

## **Appendix V**

The UCSD House Officer Policy and Procedure Document is sent to incoming fellows along with this document. It can be found in it's most updated form here:

<https://medschool.ucsd.edu/files/residency-fellowship/2023-house-officer-policy-and-procedure.pdf>

