

Burn Surgery Rotation Core Competencies & Objectives

GOALS

Through rotation on the Burn Surgery service, residents shall attain the following goals:

I. Patient Care

- A. Preoperative Care: Residents will evaluate and develop a plan of care for preoperative patients with major, surgical, cutaneous conditions to include burns, necrotizing acute soft tissue infections (NASTI), and toxic epidermal necrolysis (TEN). The plan shall include any interventions that will successfully prepare a patient for surgery.
- 1) Setting
 - (a) Out-patient clinic attendance
 - (b) Hospital consultation/admitting service
 - 2) Evaluation:
 - (a) Obtain and interpret appropriate laboratory tests
 - (b) Obtain and interpret appropriate radiologic tests
 - (c) Assess cardiopulmonary suitability for surgery, obtain appropriate evaluations and testing, and institute appropriate therapies
 - (d) Evaluate the need for preoperative nutritional therapy and institute enteral nutrition as appropriate
 - (e) Participate in the informed consent process for patients being scheduled for both elective and urgent operations
- B. Operative Care: Gain an experience that will build toward being competent in the performance of burn and soft tissue surgical procedures.
- 1) Procedure as assistant or junior surgeon to the attending surgeon
 - (a) Tangential excision of burn eschar, with and without tourniquet
 - (b) Fascial excision of burn eschar

- (c) Fascial excision of NASTI
 - (d) Split-thickness autografting of excised burn wounds
 - (e) Cadaveric allografting of excised burn wounds
 - (f) Porcine xenografting of excised burn wounds
 - (g) Application of Integra to excised burn wounds
 - (h) Epidermal autografting of vascularized Integra
 - (i) Split-thickness autografting of excised NASTI
 - (j) Porcine xenografting of TEN
 - (k) Utilization of VAC wound dressings
 - (l) Placement of central venous catheter
 - (m) Placement of pulmonary artery catheter
 - (n) Placement of arterial catheter
 - (o) Tracheostomy
 - (p) Gastrostomy, PEG and open
 - (q) Exploratory laparotomy
- 2) Dexterity: residents shall learn to display and perform the above operations with manual dexterity appropriate for their level
- (a) PGY-2 residents shall gain facility with techniques as assistants on their initial operative experiences for cases of moderate to high complexity with the expectation that they will be able to be a junior surgeon for moderately complex procedures by the end of their 1st month on the Burn Surgery service

C. Postoperative Care: residents shall develop and follow through with a plan of care for the “burn” patient. This plan will include how to facilitate the recovery of patients undergoing skin & soft tissue operations

- 1) Setting:
 - (a) Out-patient Surgery area

- (b) Burn ICU and Inpatient floor
 - (c) Out-patient clinic
- 2) Through evaluation of the postoperative patient, the resident shall be able to assess and manage:
- (a) Bowel function: distinguish active bowel function from adynamic ileus, bowel obstruction, and/or constipation
 - (b) Pain management: evaluate patients for pain and the adequacy of their postoperative pain management regimen
 - (i) Evaluate the use and effectiveness per oral and intravenous pain medications
 - (c) Wound care and healing
 - (i) Identify and treat infected wounds
 - (ii) Identify and treat wound seromas/hematomas
 - (d) Fluid and electrolyte abnormalities after surgery
 - (e) Identify infection: wound, blood, genitourinary, pulmonary, and catheter-related
 - (f) Identify and treat cardiopulmonary complications: myocardial infarction, pulmonary edema, atelectasis, pulmonary embolism, pneumonia
 - (g) Identify and treat renal impairment/failure: pre-renal azotemia, acute renal failure
 - (h) Identify a patient's readiness for discharge
 - (i) Identify a patient's need for rehabilitation or nursing home placement
- 3) Resident expectation by level
- (a) PGY-2 residents shall be able to recognize and differentiate the above problems and conditions and be able to formulate and institute a strategy of care with the help of staff when necessary

D. Emergent/Urgent Care: Residents will evaluate and manage emergent/urgent general surgical conditions

- 1) Setting
 - (a) Inpatient consult service
 - (b) Emergency Department

- 2) Emergent conditions: residents shall learn to recognize and manage
 - (a) Major burn injury (>20% TBSA)
 - (b) NASTI
 - (c) TEN

- 3) Management
 - (a) Evaluation: residents shall learn to evaluate patients with the above emergent conditions through history & physical examination and decide upon a plan of care including the need for further evaluation by other specialties, laboratory testing, or radiologic testing
 - (i) PGY-2 residents shall be able to recognize and differentiate major and minor burns, NASTI, and TEN and shall learn to formulate a plan of care
 - (b) Resuscitation: residents shall learn to identify the need for resuscitation of a patient with an emergent burn surgical condition including the need for optimization and monitoring of the patient in an ICU or “step-down” setting
 - (i) PGY-2 residents shall be able to recognize and differentiate patients needing differing levels of care with the assistance of staff
 - (c) Operation: residents shall learn to make a judgment, based upon their evaluation, whether a patient’s condition warrants urgent or emergent operative therapy. A judgment of what the appropriate operation to be performed should be made

- (i) PGY-2 residents shall be able to recognize and differentiate patients needing urgent or emergent operative therapy with the assistance of staff
- (d) Postoperative: residents shall learn to make a judgment of the appropriate postoperative disposition for patients with urgent/emergent burn surgical conditions
 - (i) Critically ill – Burn ICU
 - (ii) Stable in need of further monitoring – Burn ICU with “step-down” designation
 - (iii) Stable – floor
 - (iv) PGY-2 residents shall be able to recognize and differentiate the level of care necessary for patients after an urgent or emergent operation with the assistance of staff

II. Medical Knowledge

- A. Didactics: residents are expected to attend and participate in the weekly didactic sessions including the basic science course, M&M, Grand Rounds, and the Junior & Senior resident discussion sessions, as appropriate for the R2 level.
- B. Residents are expected to take part in the weekly Multidisciplinary Burn Team Patient Care Coordination Conference.
- C. It is expected that residents will educate themselves upon the scientific information relating to burn surgery.
 - 1) System function: residents shall gain an understanding of the anatomy, physiology, and function of organs, and organ systems, affected by burns and their operative procedures
 - (a) PGY-2 residents shall be able to display an understanding of anatomy, physiology, and function of organs and organ systems affected by burns and their operative procedures

- 2) Disease process: residents shall become familiar with the various disease processes affecting the organ systems commonly seen in burn patients
 - (a) PGY-2 residents shall be able to display an understanding of anatomy, physiology, and function of organs and organ systems affected by burns and their operative procedures
- 3) Surgery
 - (a) Techniques: residents shall learn and become familiar with the various surgical techniques employed for the treatment of the burns, NASTI, and TEN as listed in I.B.1(a-q)
 - (b) Residents shall learn the appropriateness of the application of the various surgical techniques employed for the treatment of the burns, NASTI, and TEN as listed in I.B.1(a-q)
 - (c) Complications and management: residents shall gain an experience in recognizing and managing medical and surgical complications of procedures and therapies for, and related to, the procedures listed in I.B.1(a-q)
 - (i) PGY-2 residents shall be able to recognize and differentiate potential complications of a procedure or operation with the assistance of staff
- 4) Follow-up therapy: residents shall gain an understanding of the follow-up needed and recommended for various burn surgical procedures
 - (a) Setting:
 - (i) Out-patient Surgery area
 - (ii) Inpatient floor
 - (iii) Out-patient clinic
- 5) Gain an understanding of the utility, appropriateness, and use of diagnostic modalities used in both the inpatient and outpatient settings for the evaluation of:
 - (a) Organ or organ system

- (i) Skin and soft tissue
- (b) Evaluation Modality
 - (i) Ultrasound
 - (ii) CT scan
 - (iii) MRI
- (c) PGY-2 residents shall be able to recognize and differentiate the available options for an evaluation and be able to decide on the appropriate test for simple problems without assistance and the evaluation of more complex problems with the assistance of staff

III. Practice-based Learning

- A. Residents are expected to critique their performance and their personal practice outcomes
 - 1) Morbidity & Mortality Conference – Discussion should center on an evidence-based discussion of complications and their avoidance.
 - 2) Residents shall keep logs of their cases and track their operative proficiency as gauged by whether they assisted or were the surgeon junior

IV. Interpersonal and Communication Skills

- A. Residents shall learn to work effectively as part of the multidisciplinary burn team.
- B. Residents shall foster an atmosphere that promotes the effectiveness of each member of the burn team.
- C. Residents shall interact with colleagues and members of the ancillary services in a professional and respectful manner.
- D. Residents shall learn to document their practice activities in such a manner that is clear and concise.
- E. Residents shall participate in the informed consent process for patients being scheduled for elective and emergent/urgent procedures or surgery.

- F. Residents shall gain an experience in educating and counseling patients and families about risks and expected outcomes of elective or emergent/urgent procedures or surgeries.

V. **Professionalism**

- A. Residents shall maintain high ethical standards in dealing with patients, family members, patient data, and other members of the healthcare team.
- B. Residents shall demonstrate a commitment to the continuity of care of a patient within the confines of the 80-hour duty restrictions.
- C. Residents shall demonstrate a sensitivity to age, gender, and culture of patients and other members of the healthcare team.

VI. **Systems-based practice**

- A. Residents shall learn to practice high-quality, cost-effective patient care. This knowledge should be gained through discussions of patient care.
 - 1) Conferences
 - (a) Multidisciplinary Burn Team Patient Care Coordination Conference
 - (b) M&M
 - (c) Burn Center QI/PI Conference
 - 2) Other
 - (a) Burn Team Rounds
 - (b) Outpatient clinic