

Plastic and Reconstructive Surgery

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General Description

Elective Rotation

This elective rotation in Plastic and Reconstructive Surgery (PRS) is a two (2) week experience in basic surgical technique, wound closure techniques, principles of wound healing, exposure to emergent and elective reconstructive surgery as well as aesthetic surgery. The student may be required to travel to the clinic, outpatient surgery center and/or hospital facility during his/her rotation time. Many students electing this rotation will be in their fourth year of osteopathic medical school; some will be in their third year. A post-rotation examination is not required.

Recommended Textbook:

Beasley, Robert W., Aston, Sherrell J., Bartlett, Scott P., Gurtner, Geoffrey C., Spear, Scott L., **Grabb & Smith Plastic Surgery**, 6th Ed. Lippincott, Williams and Wilkins

Other Suggested Textbooks:

Seiler, John Gray, **Essentials of Hand Surgery, American Society for Surgery of the Hand**, Lippincott Williams & Wilkins, 2001 or latest edition

Weinzweig, Jeffrey, **Plastic Surgery Secrets**, Hanley & Belfus, 1999

Bullocks, Jamal M., Husu, Patrick, **Plastic Surgery Emergencies: Principles & Techniques**, Thieme, 2011

Prerequisites

Basic knowledge and skills lab experience with basic lesion excision and suturing techniques.

Basic knowledge and skills lab experience with local anesthetics and patient resuscitation.

Basic knowledge of external anatomical landmarks, motor and sensory innervations and vascular distribution to extremities, major muscular groups and skin.

Student Responsibility

It is required that the student meet with their preceptor at the beginning of the rotation to discuss the learning objectives outlined in this document. Students should also seek and receive preceptor feedback midway through the rotation.

Because of the short duration of this rotation, students must be professionally assertive, attentive, and well prepared.

These characteristics are imperative for the student to get the most out of this rotation. Student must develop a trusting relationship with the attending before asking to attempt skills on a patient. Due to the sensitive nature of many aesthetic and reconstructive cases, the student must be respectful to the patient and physician mentor and use caution before saying anything that could lead to confusion or contradiction for the patient.

Purpose

The overall goal of this rotation is to provide the student with a basic understanding of the pre- and post-operative evaluation of the emergent and elective reconstructive surgery cases, basic knowledge of surgical decision making, proper wound and limb care management and common embryologic facial deformities. You may or may not be permitted to attempt suturing or excision of a skin lesion; however, basic operating room etiquette and attentive assistance during the procedure will afford exciting learning opportunities. Any post-operative patient care issues must clearly be discussed with the surgeon prior to any autonomous actions.

At the completion of this rotation, the student should have reinforced certain broad goals, including:

- **Basic understanding of reconstructive pre- and post-operative patient management.**
- **Learn the techniques of gentle tissue management in skin closure, trauma (burns), flap rotation and skin grafting.**
- **Basic knowledge of congenital facial and extremity birth defects.**
- **Basic knowledge of reconstruction after oncologic procedures of the breast, melanoma and head and neck cancers.**

Students are expected to assist in the management of preoperative, perioperative and postoperative patient care under supervision. The student should also develop fundamental psychosocial skills by observing physician-patient interactions during this rotation.

We recognize that two weeks is an insufficient amount of time to cover a comprehensive list of objectives in any area of practice. Clearly, subjects addressed in any clinical rotation are dependent on the numbers of patients and kinds of disease entities presenting to a particular service. Nevertheless, certain minimum content **must** be addressed, either by clinical exposure or by didactic materials so that students are prepared for Board examinations and other testing. Broad goals listed above are a minimum; objectives for rotations not specifically listed in these guidelines should include the Affective Objectives listed below. The College depends on the supervising physician to establish more specific objectives dealing with the scope of the particular specialty. Therefore, the following sections contain relatively broad, basic objectives for which students are responsible.

Competencies

Osteopathic Philosophy and Osteopathic Manipulative Medicine

OBJECTIVES: Osteopathic Philosophy and Osteopathic Manipulative Medicine

1. Demonstrate the ability to perform and record an osteopathic structural examination on a surgical patient and document such using acceptable osteopathic terminology.
2. Demonstrate the application of the osteopathic philosophy into the pre- and post-operative care of the surgical patient.
3. Demonstrate an understanding of palpatory findings, which are found in common conditions, encountered in a surgical practice.
4. Demonstrate ability to assess sensory and perfusion of extremities after injury and after reconstruction.
5. Demonstrate ability to assess unique congenital deformities in the head and neck that can affect pre- and postoperative care.

Interpersonal and Communication Skills

OBJECTIVES: Interpersonal and Communication Skills

1. Communicates effectively with attending, resident, team members and other health care professionals.
2. Documentation in medical records is legible.
3. Communicates appropriately and professionally to patient and family members.
4. Demonstrates ability to develop and execute patient care plans appropriate for level of training and follows the SOAP/problem oriented format.

Professionalism

OBJECTIVES: Professionalism

1. Demonstrates a commitment to continuity of patient care.
2. Displays a sense of responsibility and respect to patients, families, staff and peers.
3. Demonstrates cultural sensitivity.
4. Maintains a professional appearance, well groomed, appropriately dressed.
5. Punctual in attendance, prompt and available when called upon.
6. Motivated to learn, shows appropriate assertiveness, flexibility, adaptability toward education.
7. Demonstrates appropriate attitude, cooperative, receptive to feedback.
8. Introduce self to those who you are working with, the patient, attending, resident, other physicians, nurses, staff, etc.

Practice-Based Learning

OBJECTIVES: Practice-Based Learning

1. Demonstrates motivation and a desire to learn.
2. Demonstrates the ability to learn from practice.
3. Critiques personal practice outcomes appropriate to level of training.
4. Demonstrates recognition of the importance of lifelong learning in medical/surgical practice.
5. Seeks and responds to feedback.

Systems-Based Practice

OBJECTIVES: Systems-Based Practice

1. Know where to go for help—personal and professional.
2. Attends all required orientations presented by the facility and completes needed paperwork for rotation.
3. Follows policy and procedures set forth by the health care facility and departments within that facility.
4. Follows the policies for a medical student at the surgery rotation facility.
5. Report to appropriate institutional authority when absent following Clinical Affairs guidelines.

Patient Care

1. Communicates effectively with attending, resident, team members and other health care professionals.
2. Documentation in medical records is legible.
3. Communicates appropriately and professionally to patient and family members with the attending knowledge of the discussion.
4. Demonstrates ability to develop and execute patient care plans appropriate for level of training and follows the SOAP/problem oriented format.
5. Describe different suture materials and how selection for use is based.
6. Describe alternative methods of wound closures dependent on anatomical location.
7. Demonstrate aseptic technique in the OR and in ER when asked to manage a wound.
8. Demonstrate patient safety concerns regarding body alignment, padding bony prominence and environmental safety preoperatively when preparing the patient for surgery.
9. Demonstrate proper bandaging methods, drain care, surgical site assessment postoperatively and basic burn management including fluid resuscitation.
10. Describe prophylactic antibiotic selection and anti-thromboembolic prophylaxis and their implications

Medical Knowledge

WOUND HEALING- Students should be able to define, describe and discuss:

1. SKIN STRUCTURE:
 - Embryologic layers
 - Functions
 - Glandular elements
2. WOUND HEALING
 - Phases
 - Duration
 - Primary
 - Secondary
 - Tertiary
3. TYPES OF WOUNDS:
 - Lacerations
 - Abrasions
 - Contusions
 - Avulsions
4. BITES
5. CLEAN/CONTAMINATED
6. ACUTE/CHRONIC
7. WOUND MANAGEMENT:

Initial
Hemostasis
Evaluation
Cleaning
Storing and transportation of amputated parts

WOUND CLOSURE TECHNIQUES- Students should be able to define, describe and discuss:

1. SIMPLE CLOSURE- PRIMARY CLOSURE
Simple suture or vertical mattress suture
Equipment
Monofilament suture
2. SKIN GRAFTS
Allograft
Xenograft
Split-thickness
Full-thickness
3. LOCAL FLAPS
Random flaps
Z-plasty
Axial or Arterialized
Tissue Expansion
4. MYOCUTANEOUS FLAPS
TRAM
Latissimus
5. FREE TISSUE TRANSFER
DIEP flap in breast reconstruction

MANAGEMENT OF BENIGN SKIN LESIONS- Students should be able to define, describe and discuss:

1. TYPES
Nevus
Verruca
Fibroma
Hemangioma
Keratosis
2. SUBCUTANEOUS
Lipoma
Sebaceous cyst
3. TECHNIQUES FOR EXCISION
Along relaxation skin lines
Long axis 2-3 times diameter of the lesion
Tension
Layered closure

MANAGEMENT OF MALIGNANT SKIN LESIONS- Students should be able to define, describe and discuss:

1. MELANOMA
2. BASAL CELL
3. SQUAMOUS CELL

MANAGEMENT OF FACIAL FRACTURES AND CONGENITAL DEFECTS- Students should be able to define, describe and discuss:

1. MANDIBULAR
2. ORBITAL
3. MAXILLARY- Le-Fort
4. CLEFT PALATE& LIP
5. CONGENITAL EAR DEFORMITIES
6. HEMANGIOMA

MANAGEMENT OF HAND INJURIES- Students should be able to define, describe and discuss:

1. ANATOMY
2. FRACTURES
3. TENDON AND VASCULAR INJURY
4. NERVE INJURY
5. GANGLION CYSTS
6. CONGENITAL- SYNDACTYLY

AESTHETIC SURGERY- Students should be able to define, describe, and discuss:

1. MAMMOPLASTY
 - a. Reduction
 - b. Augmentation
2. ABDOMINOPLASTY
3. LIPOSUCTION
4. FACELIFT
5. RHINOPLASTY

PRESSURE SORE RECONSTRUCTION - Students should be able to discuss etiology of pressure sores, grade, and treatment.

BURNS- Students should be able to discuss rule of nines, escharotomy and wound contractures.

Implementation

Course objectives are to be accomplished in a College affiliated hospital or clinical facility, under supervision. Basic objectives **must** be covered during the rotation to assure adequate student preparation for Board examinations and other evaluations such as post-rotation examinations. The use of diverse methods appropriate to the individual and the clinical site are encouraged, but patient-centered teaching is optimal.

Didactic methods to achieve required objectives include:

- reading assignments
- lectures
- computer-assisted programs (if available)
- student attendance at/participation in formal clinical presentations by medical faculty

Clinically oriented teaching methods may include:

- assignment of limited co-management responsibilities under supervision
- participation in clinic visits, daily patient rounds and conferences
- supervised and critiqued clinical work-ups of patients admitted to the service
- assigned, case-oriented reading case presentations

Three levels of achievement are identified:

- familiarity with a variety of medical procedures through observation and assisting
- proficiency in clinical procedures through actual supervised performance
- awareness of the availability of various medical procedures and their use

At the beginning of the rotation, the physician/mentor should review expectations/guidelines of performance with the student. On the last day of service, the supervising physician should review the student's performance with the student and have the student sign the evaluation form before submission. A student's signature simply indicates that the student has received a grade directly from the attending; it does not indicate agreement with the grade. Evaluations of students must be completed within two weeks of completion of the rotation.

Assignments

The preceptor may direct specific and general reading assignments from texts and current literature. Supplemental readings from current periodical literature are recommended.