TRANSPLANT SURGERY ROTATION
(PGY1, 2)

A. Medical Knowledge

Goal: The resident will achieve a detailed knowledge of the evaluation and treatment of a variety of disease processes. The resident will be exposed to patients with both medical and surgical emergencies and will become comfortable with the initial evaluation and stabilization of patients.

Objectives: PGY: 1

1. Discuss the basic pathophysiology of end-stage liver and kidney failure.

2. Describe the general medical care of the immunosuppressed transplant patient.

PGY: 1, 2

1. Discuss the diagnosis and treatment of patients undergoing significant transplant surgeries, including:
   a. kidney
   b. liver
   c. pancreas
   d. cardiac
   e. lung
   f. small bowel

2. Discuss the details of the use/dosing of immunosuppressive therapy in transplant surgery, including:
   a. steroids
   b. purine analogs and inhibitors (azathioprine, mycophenolate)
   c. anti-lymphocyte preparations (OKT3, Thymoglobulin)
   d. anti-T helper cell drugs (cyclosporine, tacrolimus)

3. Discuss the alterations in physiology and the pathophysiology of end-stage kidney and liver failure.

PGY: 2

1. Discuss the indications and contraindications for transplant surgery.

2. Recite the details of the management of wound care in the immunocompromised patient.

3. Discuss the diagnosis and treatment of acute and chronic rejection in transplant patients.

4. Recite the details about the process of organ donation.
5. Discuss the effect of immunosuppression on tumor development and skin tumor presentation.

6. Understand the effect of immunosuppression on wound healing.

7. Discuss issues in transplant immunobiology, including:
   a. major histocompatibility complex (MHC)
   b. Human Leucocyte Antigens (HLA)
   c. panel reactive antibody (PRA)
   d. donor specific crossmatches
   e. graft rejection and timing following transplantation (hyperacute, acute cellular, chronic)
   f. differential diagnosis for rejection

B. Patient Care

**Goal:** The resident will provide patient care that is compassionate, appropriate, and effective for the treatment of cardiothoracic problems.

**Objectives**

**PGY: 1**

1. Interprets laboratory and diagnostic tests.

2. Participate in the general medical care of immunosuppressed transplant recipients.

**PGY: 1-2**

1. Preoperatively evaluate and manage patients with end-stage liver and kidney disease.

2. Postoperatively manage and care for transplant patients.


**PGY: 2**

1. Participate in the placement of vascular access for the treatment of end-stage renal failure and plasmapheresis, including:
   a. vascular shunts
   b. peritoneal dialysis catheters
   c. Cimino Fistulas
   d. vascular access procedures

2. Participates with graduated surgical independence in transplant surgery, including:
   a. kidney transplants
   b. liver transplants
c. living related organ donation
d. pancreas transplants
c. cardiac transplants
d. lung transplants
e. small bowel transplants
f. organ harvesting
g. hepatobiliary procedures
h. portosystemic shunts, liver resections

3. Care for patients with post-operative hemodynamic problems.

4. Participate in the diagnosis and care of patients with post-operative complications in transplant surgery, including:
   a. delayed graft function
   b. infectious complications
   c. transplant dysfunction and rejection
   d. immunosuppressive drug toxicity

5. Participate in the treatment of liver failure complications, including:
   a. acute variceal hemorrhage
   b. hepatic encephalopathy
   c. refractory ascites
   d. hepatorenal syndrome
   e. spontaneous bacterial peritonitis
   f. alterations in drug excretion

C. **Practice Based Learning and Improvement**

**Goal:** The resident will investigate and evaluate his or her own patient care practices, appraise and assimilate scientific evidence, and improve patient care practices.

**Objectives**   PGY: 1, 2

Uses information technology to prepare for cases, using in the OR the knowledge of current modalities of care and the scientific evidence for that care.

1. Routinely analyzes the effectiveness of own practices in caring for transplant surgery patients.

2. Improves own practices in the care of patients by integrating appropriately gathered data and feedback.

3. Educates medical students and other healthcare professionals in the practices of transplant surgery.

4. Functions independently with graduated advancement and appropriate faculty supervision.

6. Uses library sources to perform research and perform literature searches.
7. Understands the principles of clinical research and the application of biostatistics.

D. Interpersonal and Communication Skills

Goal: The resident will demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and professional associates.

Objectives  PGY: 1, 2
1. Educates patients and families in follow-up strategies and rehabilitation for transplant surgery patients.
2. Demonstrates compassion for patients and families undergoing transplantation.
3. Provides adequate counseling and informed consent to patients.
4. Listens to patients and their families.
5. Assimilates data and information provided by other members of the transplant team.
6. Charts and records accurate information.
7. Educates patients and families of transplantation of skin damage, cancerous and pre-cancerous lesions caused by immunosuppressant therapy.

E. System Based Practice

Goal: The resident will demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.

Objectives  PGY: 1, 2
1. Coordinates all aspects of the preoperative and postoperative care and rehabilitation of transplant surgery patients.
2. Advocates for transplant patients within the health care system.
3. Refers transplant patients to the appropriate practitioners and agencies.
4. Facilitates the timely discharge of transplant surgery patients.
5. Learn to coordinate the admission of patients and communicate with primary care physicians, inpatient house staff, and consultants.
6. Direct the total care of transplant patients by partnering with the following:
   a. Transplant surgeons
   b. Immunologists
   c. Nutritionalists
   d. Social Workers
   e. Nephrologists
   f. Hepatologists

PGY: 2
1. Create a cost-effective, focused work-up of diagnostic testing.

**F. Professionalism**

**Goal:** The resident will demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.

**Objectives**

PGY: 1, 2
1. Develops a sensitivity of the unique stresses placed on families under care for transplant surgery.

2. Exhibits an unselfish regard for the welfare of transplant surgery patients.

3. Demonstrates firm adherence to a code of moral and ethical values.

4. Is respectful to patients and their families especially in times of stress to the family unit.

5. Respects and appropriately integrates other members of the transplant surgery health care team.

6. Provides appropriately prompt hand consultations when requested.

7. Demonstrates sensitivity to the individual patient’s profession, life goals, and cultural background as they apply to surgery.

8. Is reliable, punctual, and accountable for own actions in the OR and clinic.

9. Understands the concepts of autonomy, beneficence, nonmaleficence, justice, and respect for life.

10. Maintains patient confidentiality.

**VIII: Transplantation/Immunology**
**Goal:** The resident will demonstrate knowledge of the basic principles of immunology and tissue transplantation techniques for treatment of common plastic surgical problems.

**Objectives:** Int: PGY 4; Ind: PGY 1
1. Discuss the physiology of skin graft take and the immunology of allograft rejection.
2. Recite the basic immune response including antibody recognition of foreign antigens, first set rejection, and second set rejection.
3. List the cellular response to foreign tissue or material including the role of lymphocytes, macrophages, and T-cells.
4. Discern the actions of and proper usage of pharmacologic agents to alter the immune response, including cyclosporine, immuran, steroids, and monoclonal antibodies.
5. Discuss the role of immunology in host responses to tumor, including lymphocytic infiltration of melanoma, basal cell carcinoma, and squamous cell carcinoma.
6. Describe the role of immunology in response to foreign materials and regional or systemic reactions, e.g., "silicone synovitis," capsular contractures.
7. Describe the difference between skin transplantation and the transplantation of solid organs.
8. Discuss current information regarding human immunodeficiency virus and diseases.
9. Discuss the immunologic aspects of plastic surgery, including:
   a. autoimmune disease
   b. immunology of skin transplantation
   c. interrelationship of transplantation and microsurgery.