**Course Objective**

The student will be exposed to the basic science (physiology/pharmacology) of the specialty as well as to clinical practice. This elective is comprised of a month on the Renal Transplant service. Bedside rounds will be conducted on all new admissions, consultations, and hospital follow-ups daily.

**Material Covered:** Understanding of normal and abnormal fluid and acid based electrolyte physiology. Understanding of pathogenesis, clinical expression, diagnosis, and therapy of acute and chronic renal disease with emphasis on the transplant patient.

**Skills Acquired:** Develop skills in providing meaningful care in acute care subspecialty with emphasis on pathophysiology. Rudimentary skills in acute dialysis will be acquired, including temporary access placement. The student may place vascular access for dialysis or assist in performing renal biopsies under the direct supervision of the attending.

**Overall Objectives:** After successful completion of this rotation, the student will have been exposed to:

- Management of kidney transplant recipients in both the inpatient and outpatient settings
- Inpatient care of patients with kidney and pancreas transplants, as well as patients with end-stage kidney disease listed for the above organs.
- Principles of immunosuppression, as well as long-term management of medical complications of immunosuppression
- The biology of transplantation rejection, as well as the various immunosuppressive medications used to prevent and treat rejection, and their potential side effects.
- Early and late complications of kidney and SKP transplants.
- Psychosocial aspects of organ donation and transplantation.
- (HTN, diabetes, Osteoporosis, hyperlipidemia).
- The pathogenesis and management of infections in transplant recipients.
- The pathogenesis and management of acute renal failure in patients with various types of organ failure and organ transplantation.
- Disorders of fluids, electrolytes and acid-base balance in transplant recipients.
- Disorders of calcium, phosphorus, magnesium and parathyroid function in renal transplant recipients and their management.
- Performance of renal biopsy of the transplanted kidney.
- Identify indications for starting renal replacement therapy (RRT) and know how to write orders for any form of RRT.
- Understand the limitations of RRT in various settings and know when to suggest palliative care.

**Activities Of Elective**

**Number Of New Patients/Student/Week:** 2-3 per week

**Responsibilities Of Student For Assigned Patients:**

| Does history/physical:          | Yes |
| Who critiques:                 | Fellow/Faculty attending/ |
| Follows patients, with appropriate notes as needed: | Yes |
| Who supervises:                | Fellow/Faculty attending/ |
| Does student see ambulatory patients: | Yes |

**Procedures**

<table>
<thead>
<tr>
<th>Procedures</th>
<th>Observe</th>
<th>Perform</th>
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<tbody>
<tr>
<td>Hemodialysis &amp; peritoneal dialysis</td>
<td>X</td>
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<tr>
<td>Renal Biopsies</td>
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<tr>
<td>Placement of hemodialysis &amp; peritoneal dialysis access</td>
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<td>CVVH/CVVD</td>
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**Other Required Activities:**

- Reading/review of current literature | Yes
Required Reading:
Various topics from UpToDate including but not limited to:
   a. Evaluation of the Potential Renal Transplant Recipient
   b. Induction Immunosuppressive therapy in Renal Transplantation
   c. Maintenance Immunosuppressive therapy in Renal Transplantation
   d. Differential diagnosis of infection in renal transplant patients
   e. Hypertension in renal transplant patients
   f. Patient survival following renal transplantation
   g. Renal transplantation in the elderly

How Is Student Evaluated:
Student is evaluated based on presentations, performances on rounds and knowledge from readings.

Who Evaluates Students:
Faculty attending

Unique Features Of This Elective:
This elective is unique in the scope of the curriculum including core material relating to patients with fluid and electrolyte disorders, acute renal failure, and renal transplantation issues, and management of common problems in immunocompromised patients.