Liver Transplant @ EUH Learning Activities:

Preceptor: Sarah Saxer, PharmD
Office: EUH E923
Hours: ~ 7:00-4:00
Desk: 404-712-5325
Pager: 14385

General Description

The Liver Transplant rotation is a four week learning experience at the Emory University Hospital and Emory Clinics. The goal of the rotation with the liver transplant team is to provide an opportunity for the resident to develop the knowledge, skills and appreciation required to provide pharmaceutical care to solid organ transplant patients, with a focus on liver transplantation. The team generally consists of the attending surgeon, attending hepatologist, midlevel practitioners, transplant fellow, transplant coordinator, social worker, dietician, floor nurse, interns, residents, students and a pharmacist. The team is responsible for the care of patients throughout all the transplant phases – end stage organ dysfunction, transplant evaluation, inpatient transplant management, and outpatient follow-up. The majority of inpatients are on 7G and 5EICU. At times, patients may board in other units depending on the level of care necessary and bed availability. On average, there are 10-25 inpatients that are seen on a daily basis. Approximately 10-15 patients are seen in the transplant clinic on Wednesday morning.

The pharmacy resident is responsible for identifying and resolving medication therapy issues for all patients admitted to the service and in clinic on a the given clinic day. In addition, the resident will provide and document therapeutic drug monitoring services for patients receiving vancomycin or aminoglycosides on all liver transplant patients. Documentation must be completed within the electronic medical record on the day service was provided. Medication education post-transplant must be documented within 72 hours of transplantation. Clinic documentation should occur in the electronic medical record.

Good communication and interpersonal skills are vital to success in this experience. The resident must devise efficient strategies for accomplishing the required activities in a limited time frame. In addition to patient care, the resident must provide education to the team, nurses or pharmacists as needed. One educational presentation is required to be presented to the team or nursing unit during the learning experience.
**Disease States**

Common disease states in which the resident will be expected to gain proficiency through literature review, topic discussion, and/or direct patient care experience may include, but are not limited to:

- **Liver disease:** Hepatitis C, Hepatitis B, Hepatitis A, Autoimmune Hepatitis, Laennec’s cirrhosis, Hepatocellular Carcinoma, Primary Sclerosing Cholangitis, Primary Biliary Cirrhosis, Drug Induced-Hepatitis, Wilson’s disease, Budd-Chiari
- **Complications of liver disease:** hepatorenal, hepatopulmonary, ascites, encephalopathy, portal hypertension, variceal bleeding, splenomegaly, malnutrition
- **Cardiovascular disorders:** Hypertension, hypercholesterolemia
- **Endocrine disorders:** New onset diabetes after transplantation, hyperglycemia
- **Hematologic:** Anemia, thrombocytopenia, post transplant lymphoproliferative disorder
- **Infections:** Prophylactic strategies for bacterial, viral and fungal infections; cholangitis, peritonitis, urinary tract infections, bacteremia, opportunistic infections in the immunosuppressed host
- **Immunology:** Pharmacotherapy, hyperacute rejection, acute cellular rejection, chronic rejection

Articles are available from preceptor upon request. Please see resident liver transplant calendar for specific dates and topic decisions.

**Goals Selected**

Goals selected to be taught and evaluated during this learning experience include:

Goal R1.4: Demonstrate ownership of and responsibility for the welfare of the patient by performing all necessary aspects of the medication-use system.

Goal R2.1: As appropriate, establish collaborative professional relationships with members of the health care team.

Goal R2.2: Place practice priority on the delivery of patient-centered care to patients.

Goal R2.3: As appropriate, establish collaborative professional pharmacist-patient relationships.

Goal R2.4: Collect and analyze patient information.

Goal R2.6: Design evidence-based therapeutic regimens.

Goal R2.7: Design evidence-based monitoring plans.

Goal R2.8: Recommend or communicate regimens and monitoring plans.

Goal R2.9: Implement regimens and monitoring plans.

Goal R2.10: Evaluate patients’ progress and redesign regimens and monitoring plans.

Goal R2.12 Document patient care activities appropriately.

Goal R5.1 Provide effective medication and practice-related education, training, or counseling to patients, caregivers, health care professionals, and the public.
### Activities

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<tr>
<th>Activity</th>
<th>Goal</th>
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| Accurately gather, organize, and analyze patient specific information on patient’s prior to pre-rounds alone or with preceptor. | R 1.4  
| R 2.2  
| R 2.4  
| R 2.6  
| R 2.10 |
| Review pertinent patient information (including data in OTTR and Powerchart such as, but not limited to: microbiology, reason for transplant, date of transplant, immunosuppressive levels, CMV status and assure that all medication orders are appropriate. | R 1.4  
| R 2.1 |
| Review patient findings with care provider (MD, PA, NP) and implement plan. Provide a minimum of 5 recommendations per day. Communicate patient concerns with the care provider. Provide concise, accurate drug information to providers. Develop and adjust medication regimen in accordance with transplant team. | R 2.2  
| R 2.4  
| R 2.7  
| R 2.10 |
| Meet with preceptor for pre-rounds. | R 2.2  
| R 2.4  
| R 2.7  
| R 2.10 |
| Actively participate in transplant team rounds and clinic. | R 1.4  
| R 2.1  
| R 2.4  
| R 2.6  
| R 2.8  
| R 2.9  
| R 2.10 |
| Provide an in-service reviewing primary literature review – topic requested by team | R5.1 |
| Provide and document education to all patients and caregivers post-liver transplantation. Utilize various methods of patient education to promote adherence. Formulate and provide | R 2.2  
| R 2.3 |
a medication list to patients from MedActionPlan®. Documentation should occur in the electronic medical record under pharmacotherapy notes. Documentation should be in SOAP format and include brief history, problem, pertinent lab data, vitals, medication history, medication reconciliation, current medication list, willingness for pt to adhere to regimen, your assessment and pharmacotherapy plan.

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<tr>
<th>Ensure patients on the team have their medications reconciled. Perform medication and allergy reconciliation at each patient’s clinic visit. Obtain and verify medication histories for patients on the team and review the patients’ discharge medication regimen.</th>
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<tbody>
<tr>
<td>Complete a minimum of 2 topic discussions per week as related to patients encountered on the rotation. Resident should lead some of the discussions. Read at least 2 primary literature articles per week relating to the care of solid organ transplant recipients and apply to patient care.</td>
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<td>Provide pharmacokinetic monitoring services for patients receiving drugs requiring monitoring including, but not limited to, aminoglycosides and vancomycin.</td>
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<td>Initiate monitoring plans or medication therapy changes as per protocol or verbal orders</td>
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<td>Weekend and day off sign-out for PK patients and documentation complete.</td>
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<td>Document a minimum of 2 ADRs and 20 interventions in Pharmacy One Source by the end of the rotation.</td>
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<td>Document medication variances in STARS Event Reporting System</td>
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<td>Present patients to preceptor in the mornings – employing evidence based medicine knowledge gained via independent reading and learning</td>
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<td>Provide educational in-services to nurses or pharmacists as requested by preceptor</td>
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<td>Serve as co-preceptor for pharmacy students when applicable</td>
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**Preceptor Interaction**

**Daily:**  
- Preceptor available from 0800 to 0900 for pre-rounds and patient questions with resident  
  - Team huddle 0900 – 0930 in 7G conference room  
- Daily rounds 0930 – finish (approximately 1200) starting in 5EICU if patients residing there, otherwise begin in 7G  
- Preceptor available for patient presentations, reviewing progress notes, and/or topic discussions in am 1300-1500 or as needed

**Non-Daily Activities/Expectations:**  
- Attend Pathology conference with preceptor held at 1530 on Thursdays in pathology at least once during rotation  
- Attend Liver Transplant Listing meeting with preceptor held on Thursdays 1600-1730 at least once during rotation  
- Attend Liver Leadership Meeting with preceptor held third Friday of the month from 1300-1400  
- Preparation for topic and literature discussion and/or journal club at least 2 x per week  
- Provide one inservice to transplant team and/or nursing unit during the rotation  
- Provide pre-transplant patients education session one time during rotation

**Expected progression of resident responsibility on this learning experience:**

Day 1 @ 0730: Preceptor to review liver transplant learning activities and expectations with resident.

Week 1: Resident to work up patients and present to preceptor prior to team rounds. Preceptor may attend and participate in team rounds (modeling pharmacist’s role on the health care team).

Week 2: Resident to work up team patients and present select patients to preceptor prior to team rounds. Preceptor may attend and participate in team rounds (coaching the resident to take on more responsibilities as the pharmacist on the health care team).

Week 3-4: Resident to work up team patients and present select patients to preceptor prior to team rounds. Preceptor may attend and observe the resident’s participation on, and/or may expect a summary report from the resident regarding rounding activities and use of recommendations made by the resident. Preceptor will always be available for questions and will follow patients independently to monitor resident skill development in all aspects of the learning experience (facilitating the resident as the pharmacist on the health care team).

Note: the length of time the preceptor spends in each of the phases of learning will depend both on the resident’s progression in the current rotation and when the rotation occurs in the residency program
**Evaluation Strategy**

ResiTrak will be used for documentation of formal evaluations. Evaluations should be completed prior to meeting to discuss. All evaluations will be discussed in person between the resident and preceptor. This discussion will provide feedback both on their performance and the accuracy of the self-assessment. Formative evaluation will also occur as verbal or written feedback on a daily basis.

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<tr>
<th>What</th>
<th>Snapshot</th>
<th>Who</th>
<th>When</th>
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<tr>
<td>Midpoint Summative Self-Evaluation</td>
<td></td>
<td>Resident</td>
<td>End of week 2</td>
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<td></td>
<td>Resident</td>
<td>End of learning experience – deadline to be signed and submitted by 1300 the day following rotation completion.</td>
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<td>Summative Evaluation</td>
<td></td>
<td>Preceptor</td>
<td>End of learning experience – deadline 7 days post final day of rotation to meet with resident to discuss.</td>
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