

EDUCATIONAL OBJECTIVES FOR FELLOWS
Hepatology Service – Memorial Hermann Hospital

The Hepatology Service at Memorial Hermann Hospital provides a unique opportunity for fellows in training to develop excellent skills in hepatology, with participation in the management of patients with liver and hepatobiliary disorders and training in the care of pre- and post-liver transplant patients. Fellows rotate through the Hepatology Service eight weeks during the first and second years of the fellowship.

The Hepatology service at The University of Texas Medical School is an integrated service, caring for adult patients with all types of liver diseases. The participating hospital in the training program is the Memorial Hermann Hospital. A wide selection of patients with liver disease is seen at this hospital including pre- and post-transplantation patients. The Fellows will learn consultative hepatology, transplant hepatology and gain expertise in the management of patients with liver diseases in the setting of a tertiary/quaternary center. Competency is expected in, but not limited to, the following disorders: GI bleeds, jaundice, abnormal liver function tests, cirrhosis, immune basis, ETOH liver, hepatitis, cholestasis, drug-induced, hepatobiliary CA, chronic liver disease. The Fellows will become proficient in both basic endoscopic procedures, including upper endoscopy, colonoscopy, endoscopic hemostasis and liver biopsies. The inpatient experience on the Liver Service includes the evaluation and management of acute liver disease and pre- and post-transplant problems. Fellows gain extensive expertise in performance of abdominal paracentesis. Patients with complex liver diseases present major diagnostic challenges. The clinical hepatology team consisting of the gastroenterology fellow, medical residents, medical students, and a faculty attending, performs inpatient consultations on the various medical and clinical services and runs a primary liver service.

Fellows have an opportunity and are expected to closely interact with physicians and support staff of the Texas Liver Center. The rotation also provides an opportunity for fellows to relate to family members who often accompany patients to the Texas Liver Center. Fellows have an opportunity to receive feedback on dictated reports they submit so that effective communication will also be a learning encounter.

EDUCATIONAL GOALS AND OBJECTIVES BY COMPETENCY:

I. Clinical Science/Medical Knowledge

Goal: Fellows must demonstrate knowledge about established and evolving medicine that would be critical to the practice of gastroenterology with the focus on hepatology.

Knowledge – A comprehensive well-grounded knowledge base in hepatology will include:

- a) GI bleeds
- b) jaundice
- c) abnormal liver function tests
- d) cirrhosis
- e) immune basis

- f) ETOH liver
- g) hepatitis
- h) cholestasis
- i) hepatobiliary carcinoma
- j) chronic liver disease

With emphasis on the following:

- a) the epidemiology of the disorder
- b) the etiology of the disorder, including contributing medical, genetic, and social factors
- c) pathophysiology of the disorder
- d) diagnostic criteria
- e) appropriate evaluation
- f) interpretation of histology
- g) course and prognosis
- h) effective treatment strategies
- i) theoretical basis for clinical intervention

Skills: Fellows will demonstrate the ability to:

1. Perform a complete history and physical exam.
2. Interpret specialized liver tests, histology and radiology.
3. Understand the system of transplant evaluation and organ allocation.
4. Manage the complications of chronic liver disease including spontaneous bacterial peritonitis and encephalopathy.

Technical competency, including knowledge of appropriate use in the following procedures will take place during training:

1. diagnostic and large volume paracentesis
2. liver biopsy
3. upper endoscopy, variceal bleeding control with sclerotherapy or band ligation
4. placement of Blakemore tube
5. thoracentesis, central line placement/Swan Ganz

Attitudes:

Fellows must maintain and apply an investigatory and analytic thinking approach to clinical situations.

Demonstrated by:

Clinical care of patients; formal presentations at conferences; self-initiated independent thinking

Evaluation:

Fellow evaluation

Formal and informal observations
Nursing support evaluations

Remediation:

The Program Director will semi-annually review the fellow's performance and will:

1. Identify any specific deficits.
2. Document all areas requiring remediation or additional concentration.
3. Provide additional recommendations for remediation of specific deficiencies.

OTHER ACTIVITIES ON THE HEPATOLOGY – MEMORIAL HERMANN HOSPITAL ROTATION:

1. Fellows will participate in a variety of weekly conferences/educational education events. These include:

Liver Transplant Medical Review Board Conference: This conference is held on Thursday mornings at 7:30 to 8:30 a.m. Patients that are being evaluated or listed for liver transplantation are presented and discussed. The Fellows will present and discuss eligibility of their patients for a liver transplant.

Liver Service Teaching Rounds: Rounds occur in the mornings following morning report, with the exception of early morning clinic schedules at the Texas Liver Center on Mondays and Fridays. Fellows are required to admit new patients and follow them during the course of their hospital stay. The Attending faculty physician strictly supervises fellows.

Liver Didactic Lectures: Liver didactic lectures are given daily at 8:00 to 8:30 a.m. Important hepatology topics are delivered by the attending hepatologist, ensuring the GI fellows have a basic fund of knowledge in clinical hepatology as well as transplant hepatology.

Hepatology Clinic: The Texas Liver Center hepatology clinics are on Mondays at 9:00 a.m. to 2:00 p.m. and Fridays (usually twice a month) from 9:00 to 2:00 p.m. The Fellow will attend all clinics with the Liver Service team.

Pre-Liver Transplant Clinic: The Texas Liver Center pre-liver transplant clinics are on Wednesday from noon to 4:00 p.m. The Fellow will attend with the Liver Service team.

Post-Liver Transplant Clinic: The Liver Center post-liver transplant clinics are on Wednesday from 8:00 a.m. to noon. Participation is optional; the transplant surgical staff predominantly runs this clinic.

2. Organize GI conferences on a rotational basis.
3. Present GI topic on a rotational basis, with handout and review of literature.
4. Participate in monthly Journal Club.
5. Give one Grand rounds approximately bimonthly.

6. Participate in lectures in gastroenterology.
7. Reading suggestions: Textbooks: Schlessinger and Fordtran's *Gastrointestinal and Liver Disease*; Zakim and Boyer, *Hepatology: A Textbook of Liver Disease*. Journals: Gastroenterology, Hepatology, American Journal of Gastroenterology

II. Patient Care

Goal: Fellows must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of gastrointestinal/hepatologic problems.

Knowledge - Fellows will demonstrate knowledge of:

1. Available treatment methods for the major clinical hepatologic disorders and the evidence which supports their use.
2. Preventive interventions used in hepatology.

Skills: Fellows will demonstrate the ability:

1. To perform and document a comprehensive history and examination to include as appropriate:
 - a) chief complaint
 - b) history of present illness
 - c) developmental history
 - d) past medical history
 - e) family history
 - f) social history
 - g) mental history
2. To create differential diagnoses of liver diseases and their systemic complications.
3. To evaluate, assess, and recommend cost-effective management of patients.
4. To recognize and treat gastrointestinal disorders including:
 - a) GI bleeds
 - b) jaundice
 - c) abnormal liver function tests
 - d) cirrhosis
 - e) immune basis
 - f) ETOH liver
 - g) hepatitis
 - h) cholestasis
 - i) hepatobiliary carcinoma
 - j) chronic liver disease
5. To become proficient in basic endoscopic procedures, including upper endoscopy, colonoscopy, endoscopic hemostasis and liver biopsies.

6. To evaluate and manage acute liver disease and pre- and post-transplant problems.
7. To recognize the impact of disease and therapeutic options on the patient and family's overall well-being

Attitudes - Fellows will:

1. Be strong advocates for the patient's best interest.
2. Strive to provide quality care within available resources.
3. Be sensitive to patient's cultural differences.
4. Be sensitive to confidentiality and consent issues.

Demonstrated by:

Clinical care of patients; focused case discussions with faculty; presentations at conferences; self-initiated independent learning; direct observation by faculty during clinics and on clinic rotations; case conferences; chart review with supervisors

Evaluation:

Supervision and rotation evaluations
Formal and informal observations
Nursing support evaluations

Remediation:

The Program Director will regularly review the fellow's performance and will:

1. Identify any specific deficits.
2. Document all areas requiring remediation or additional concentration.
3. Provide additional recommendations for remediation of specific deficiencies.

III. Interpersonal and Communication Skills:

Goal: Fellows must demonstrate the knowledge, skills, and attitudes necessary to develop and maintain appropriate interpersonal relationships and to communicate effectively with patients, families, colleagues and the public.

Knowledge: Fellows will demonstrate knowledge of:

1. Interviewing techniques
2. Communication techniques

Skills: Fellows will be able to:

1. Demonstrate the ability to obtain, interpret, and evaluate consultations from other medical specialties. This shall include:
 - a) Knowing when to solicit consultation and having sensitivity to assess need for consultation
 - b) Discussing consultation findings with patients and their families
 - c) Evaluating the consultation findings
 - d) Recognize the impact of disease and treatment on patient and family
2. Serve as an effective consultant to other medical specialists and community agencies. This shall include:
 - a) Communicating effectively with the requesting party to refine the consultation question
 - b) Maintain the role of consultant
 - c) Communicate clear and specific recommendations
 - d) Respect the knowledge and expertise of the requesting party
3. Demonstrate the ability to communicate effectively with patients and their families by:
 - a) Gearing all communication to the educational/intellectual levels of patients and their families
 - b) Providing explanations of gastrointestinal disorders and treatment (both verbally and in written form) that are jargon-free and geared to the educational/intellectual level of patients and their families
 - c) Providing preventive education that is understandable and practical as applicable
 - d) Respecting the patients' cultural, ethnic, and economic backgrounds
 - e) Developing and enhancing rapport and a working alliance with patients and families
4. Demonstrate the ability to assess/discuss end-of-life issues.
5. Maintain medical records and written prescriptions that are legible and up-to-date. These records must capture essential information while simultaneously respecting patient privacy and be useful to health professionals outside gastroenterology.
6. Recognize the need for and effectively use interpreters when necessary.

Attitudes: Fellows will:

1. Maintain an attitude of respect for others, even those with differing points of view.
2. Exhibit culturally sensitive, professional, ethically sound behavior in all patient and professional interactions.
3. Maintain an attitude of interdisciplinary collaboration.
4. Maintain a polite and courteous attitude at all times.

Demonstrated by:

Chart documentation; direct observation; teaching others; professional relationships; formal presentations; independent learning; seeking feedback on communication and performance

Evaluation:

Direct observation, rotation evaluation

Remediation:

The Program Director will regularly review the fellow's performance and will:

1. Identify any specific deficits.
2. Document all areas requiring remediation or additional concentration.
3. Provide additional recommendations for remediation of specific deficiencies.

IV. Practice Based Learning and Improvement

Goal: Fellows must demonstrate the knowledge, skills, and attitudes necessary to initiate self-directed and independent learning. Fellows must keep abreast of current information and practices relevant to gastroenterology.

Knowledge: Fellows will demonstrate knowledge of:

1. Research methodology, including critical assessment of professional journal articles.
2. Principles of evidenced-based medicine.
3. Awareness of available information technologies and the ability to access them.

Skills: Fellows will be able to:

1. Demonstrate the ability to obtain, interpret, and evaluate up-to-date information from the scientific and practice literature to assist in the quality care of patients. This shall include, but not be limited to:
 - a) Use of medical libraries
 - b) Use of information technology, including Internet-based searches and literature databases (e.g., Medline)
 - c) Use of drug information databases.
 - d) Active participation, as appropriate, in educational courses, conferences, and other organized educational activities both at the local and national levels.
 - e) Conducting and presenting reviews of current research in such formats as journal clubs, grand rounds, and/or original publications
2. Assess the generalizability or applicability of research findings to patients in relation to their sociodemographic and clinical characteristics. The physician shall demonstrate an ability to critically evaluate the relevant medical literature.
3. Evaluate caseload and practice experience in a systematic manner. This may include:
 - a) Case-based learning
 - b) The review of patient records and outcomes
 - c) Obtaining appropriate supervision and consultation

Attitudes: Fellows will:

1. Maintain an attitude of inquiry and scholarship, recognizing the need for life long learning.
2. Maintain openness and flexibility in treatment approaches with patients, assimilating new knowledge in patient care practices.

Demonstrated by:

Self-directed inquiry guiding clinical care of patients; formal presentations which include literature review, and teaching others; case based focused discussion with attendings.

Evaluation:

The Program Director will regularly review the fellow's performance and will:

1. Identify specific deficits.
2. Document all areas requiring remediation or additional concentration.

Remediation:

The Program Director will regularly review the fellow's performance and will:

1. Identify any specific deficits.
2. Document all areas requiring remediation or additional concentration.
3. Provide additional recommendations for remediation of specific deficiencies.

V. Professionalism and Ethical Behavior

Goal: Fellows must demonstrate the knowledge, skills, and attitudes necessary to practice professionally responsible, ethical and compassionate care in gastroenterology/hepatology.

Knowledge: Fellows will demonstrate knowledge of:

1. The impact of gender, culture, religion, socioeconomic factors, and family structures and systems on issues pertaining to gastroenterology/hepatology
2. The different roles a gastroenterologist/hepatologist might fulfill in different settings.
3. Legal issues relevant to hepatology.
4. Ethical issues in hepatology, primarily transplantation, including pre-transplant requirement, organ allocation and end-of-life issues
5. Ethical issues important in the conducting of research with humans and the role of the Committee for the Protection of Human Subjects.

Skills: Fellows will be able to:

1. Respond to communications from patients and health professionals in a timely manner. If unavailable, the physician shall establish and communicate back-up arrangements.
2. Use medical records for appropriate documentation of the course of illness and its treatment.
3. Provide continuity of care including appropriate consultation, transfer, or termination of patients.
4. Demonstrate ethical behavior, integrity, honesty, professional conduct, compassion and confidentiality in the delivery of patient care, including obtaining informed consent/assent, and declaring conflict of interest.
5. Demonstrate respect for patients and colleagues as individuals, by showing sensitivity to their age, culture, disabilities, ethnicity, gender, socioeconomic background, religious beliefs, political affiliations, and sexual orientation.
6. Demonstrate appreciation of end-of-life care and issues regarding provision or withholding of care.
7. Acknowledge responsibility for his or her decisions and demonstrate commitment to the review and remediation of his or her professional conduct.
8. Promote the highest standards of medical healthcare to the public and participate in the review of the professional conduct of his or her colleagues.

Attitudes: Fellows will:

1. Maintain an attitude of inquiry and scholarship, recognizing the need for life long learning.
2. Maintain openness and flexibility in treatment approaches with patients, assimilating new knowledge in patient care practices.

Demonstrated by:

Self-directed inquiry guiding clinical care of patients; formal presentations which include literature review, and teaching others.

Evaluation:

Rotation evaluation

Regular review by the Program Director

Remediation:

The Program Director will regularly review the fellow's performance and will:

1. Identify any specific deficits.
2. Document all areas requiring remediation or additional concentration.
3. Provide additional recommendations for remediation of specific deficiencies.

VI. Systems Based Practice

Goal: Fellows must demonstrate the knowledge, skills, and attitudes necessary to manage effectively in multiple, diverse, complex systems of care to provide effective treatment, consultation and referrals for patients.

Knowledge: Fellows will demonstrate knowledge of:

1. Ability to identify the unique/specific characteristics of medical setting for this rotation, e.g. Memorial Hermann Hospital and the Texas Liver Center.
2. Basic concepts of systems theory, how the role of the Gastroenterology Fellow on the Hepatology Service relates to the University, the Hospital, and the community, being a small unit of a much larger system, where all entities work together.
3. How fellows and residents' patient care practices and related actions impact component units of health care delivery.
4. Systems-based approaches for controlling health care costs and allocating resources.
5. Maintain a system for examining errors in practice and initiating preventive measures and improvements.

Skills: Fellows will be able to:

1. Advocate for patients within a variety of systems.
2. Navigate the maze of insurance and managed care companies to meet patient needs, specifically understanding governmental regulations and funding for transplantation.
3. Strive to practice cost-effective health care and resource allocation that does not compromise the quality of care.
4. Maintain a system for examining errors in practice and initiating improvements to eliminate or reduce errors

Attitudes: Fellows will:

1. Maintain an attitude of interdisciplinary collaboration, advocacy and cooperation.
2. Maintain flexibility in adapting to the needs and expectations of different settings and systems.
3. Maintain the patient's best interest as the top priority.

Demonstrated by:

Care of patients; interactions with other agencies involved in the care of patients; consultation with other professionals; participation in Quality Assurance, Liver Transplant Medical Review

Board; self-directed independent learning; and teaching others.

Evaluation:

Rotation evaluation

Regular review by the Program Director

Remediation:

The Program Director will regularly review the fellow's performance and will:

1. Identify any specific deficits.
2. Document all areas requiring remediation or additional concentration.
3. Provide additional recommendations for remediation of specific deficiencies.