Body System: Gastrointestinal		
Session Topic: Cirrhosis and Nonalcoholic Fatty Liver Disease		
Educational Format		**Faculty Expertise Required**
REQUIRED	Interactive Lecture	Expertise in the field of study. Experience teaching in the field of study is desired. Preferred experience with audience response systems (ARS). Utilizing polling questions and engaging the learners in Q&A during the final 15 minutes of the session are required.
OPTIONAL	Problem-Based Learning (PBL)	Expertise teaching highly interactive, small group learning environments. Case-based, with experience developing and teaching case scenarios for simulation labs preferred. Other workshop-oriented designs may be accommodated. A typical PBL room is set for 50-100 participants, with 7-8 each per round table. Please describe your interest and plan for teaching a PBL on your proposal form.

Professional Practice Gap	Learning Objective(s) that will close the gap and meet the need	Outcome Being Measured
• Nonalcoholic fatty liver disease (NAFLD) is frequently under recognized in primary care. • Primary care physicians do not adequately screen for and treat hepatocellular carcinoma (HCC). • Patients are often non-adherent to lifestyle modification prevention and treatment strategies for cirrhosis and NAFLD. • Quality indicators for use in the management of cirrhosis are frequently not met.	1. Establish protocols to identify patients who are at risk for cirrhosis or NAFLD, with an emphasis on prevention. 2. Incorporate current guidelines for the diagnosis and evaluation of cirrhosis and NAFLD, emphasizing hepatocellular carcinoma screening. 3. Develop collaborative care plans for patients with cirrhosis or NAFLD, emphasizing adherence to prescribed therapies and lifestyle modifications. 4. Coordinate referral and follow-up care for patients with cirrhosis or NAFLD.	Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement presented practice recommendations.

ACGME Core Competencies Addressed (select all that apply)

X	Medical Knowledge		Patient Care
X	Interpersonal and Communication Skills		Practice-Based Learning and Improvement
	Professionalism		Systems-Based Practice

Faculty Instructional Goals

Faculty play a vital role in assisting the AAFP to achieve its mission by providing high-quality, innovative education for physicians, residents and medical students that will encompass the art, science, evidence and socio-economics of family medicine and to support the pursuit of lifelong learning. By achieving the instructional goals provided, faculty will facilitate the application of new knowledge and skills gained by learners to practice, so that they may optimize care provided to their patients.

- Provide up to 3 evidence-based recommended practice changes that can be immediately

implemented, at the conclusion of the session; including SORT taxonomy & reference citations
- Facilitate learner engagement during the session
- Address related practice barriers to foster optimal patient management
- Provide recommended journal resources and tools, during the session, from the American Family Physician (AFP), Family Practice Management (FPM), and Familydoctor.org patient resources; those listed in the References section below are a good place to start
    - Visit http://www.aafp.org/journals for additional resources
    - Visit http://familydoctor.org for patient education and resources
- Provide strategies and recommendations for establishing protocols to identify patients who are at risk for cirrhosis or NAFLD, with an emphasis on prevention.
- Provide recommendations for incorporating current guidelines for the diagnosis and evaluation (especially in the selection and use of diagnostic imaging) of cirrhosis and NAFLD, emphasizing hepatocellular carcinoma screening.
- Provide recommendations for developing collaborative care plans for patients with cirrhosis or NAFLD, emphasizing adherence to prescribed therapies and lifestyle modifications.
- Provide an overview of current and new treatment therapies for cirrhosis or NAFLD, including recommendations for their appropriate use.
- Provide strategies and resources for coordinating referral and follow-up care for patients with cirrhosis or NAFLD.
- Provide recommendations regarding guidelines for Medicare reimbursement.
- Provide recommendations to maximize office efficiency and guideline adherence to the diagnosis and management of cirrhosis/NAFLD.
- Provide an overview of newly available treatments, including efficacy, safety, contraindications, and cost/benefit relative to existing treatments.
- Provide instructions regarding the incorporation and use of the PCMH/ACO/Primary Care Core Measure Set into practice.

Needs Assessment

Cirrhosis is the 12th leading cause of death in the United States; accounting for 31,903 deaths in 2010, with a mortality rate of 10.3 per 100,000.[1,2] Studies also indicate that of persons with chronic hepatitis C infection (HCV), 20% will develop cirrhosis, end-stage liver disease, and/or hepatocellular carcinoma.[3] Additionally, non-alcoholic fatty liver disease (NAFLD), associated with obesity, is the most prevalent liver disease in Western countries.[4] Current research indicates that there may be an element of heritability of NAFLD, which may lead to individualized therapy that improve clinical outcomes; however, while lifestyle intervention does positively affect NAFLD, it has limitations.

Patients adherence to dietary intervention is 50%, while those who do adhere, find it difficult to maintain after 12 months.[5-7] As recently as 2006, it was difficult to differentiate the various types of non-alcoholic fatty liver disease, without performing a liver biopsy.[8] In fact, NAFLD is frequently under recognized in the primary care setting, and providers may be using an incorrect heuristic in delivering NAFLD care by concentrating on those with high ALT levels.[9]

Additionally, some studies suggest that primary care physicians do not adequately screen for and treat hepatocellular carcinoma (HCC) in patients with cirrhosis.[10,11]

Data from a recent American Academy of Family Physicians (AAFP) CME Needs Assessment survey indicate that family physicians have knowledge gaps with regard to managing cirrhosis, and with appropriate use of diagnostic imaging in particular.[12] More specifically, CME outcomes data from 2011 and 2015 AAFP FMX (formerly Assembly): *Cirrhosis* sessions suggest that physicians have knowledge and practice gaps with regard to appropriate medication dosing; selection of laboratory and diagnostic testing; counseling patients regarding lifestyle modifications; and evidence-based selection of pharmacologic treatment options, with appropriate monitoring.[13,14]

Family physicians play a pivotal role in early identification of risk factors, in the management of patients for improving quality and length of life, in preventing complications, and in managing an integrated approach with specialists to improve patient outcomes.[15]

Physicians may improve their care of patients with cirrhosis and fatty liver disease by engaging in continuing medical education that provides practical integration of current evidence-based guidelines and recommendations into their standards of care, including, but not limited to the following:[1,3,16-18]

- The American Association for the Study of Liver Diseases (AASLD) Choosing Wisely recommends against performing surveillance esophagogastroduodenoscopy (EGD) in patients with compensated cirrhosis and small varices without red signs treated with non-selective beta blockers for preventing a first variceal bleed.
- All patients should be screened for alcohol abuse.
- All patients with chronic HCV infection should be assessed for the degree of liver fibrosis and cirrhosis.
- All pregnant women should be screened for hepatitis B virus.
- Patients who have cirrhosis associated with a Model for End-stage Liver Disease score of 15 or greater or with complications of cirrhosis should be referred to a transplant center.
- Patients with cirrhosis should be screened for hepatocellular carcinoma every six to 12 months.
- Ascites should be treated with salt restriction and diuretics.
- Patients with new-onset ascites should receive diagnostic paracentesis consisting of cell count, total protein test, albumin level, and bacterial culture and sensitivity.
- If ascitic fluid polymorphonuclear cell count is greater than 250 cells per mm3, the patient should receive antibiotics within six hours if hospitalized and within 24 hours if ambulatory.
- Patients with hepatic encephalopathy should have paracentesis performed during the hospitalization in which the encephalopathy is diagnosed.
- Persistent hepatic encephalopathy should be treated with disaccharides or rifaximin (Xifaxan).
- Patients with hepatic encephalopathy should be counseled about not driving.

- Screening endoscopy for esophageal varices should be performed within 12 months in patients with compensated cirrhosis, and within three months in patients with complicated cirrhosis.
- Patients with cirrhosis and medium or large varices should receive beta blockers and/or have endoscopic variceal ligation performed.
- Patients with acute episodes of gastrointestinal bleeding should be treated with somatostatin or somatostatin analogue within the first 12 hours.
- Patients with acute episodes of gastrointestinal bleeding should receive prophylactic antibiotics and have endoscopy performed within 24 hours.
- Patients with nonalcoholic fatty liver disease should be evaluated for metabolic syndrome and insulin resistance.
- Ultrasonography is the first-line imaging technique for patients with suspected nonalcoholic fatty liver disease.
- Liver biopsy is the criterion standard for diagnosis and prognosis of nonalcoholic fatty liver disease.
- In patients with nonalcoholic fatty liver disease, a healthy diet, weight loss, and exercise should be recommended as first-line therapeutic measures to reduce insulin resistance.
- There is insufficient evidence to support bariatric surgery, bile acids, antioxidant supplements, metformin (Glucophage), or thiazolidinediones for the treatment of nonalcoholic fatty liver disease or nonalcoholic steatohepatitis.
- A stepwise diagnostic approach should be initiated in patients with elevated liver transaminase levels if the history and physical examination do not suggest a cause.
- If the history and physical examination do not suggest a cause of elevated liver transaminase levels, testing should be repeated in two to four weeks.
- A fasting lipid profile and glucose level should be ordered if the metabolic syndrome or nonalcoholic fatty liver disease is suspected.
- Observation with lifestyle modification is appropriate if the initial history, physical examination, and workup do not suggest a cause of elevated liver transaminase levels.
- Referral to a gastroenterologist for potential liver biopsy is reasonable in patients with persistent unexplained elevation of liver transaminase levels for six months or more.

These recommendations are provided only as assistance for physicians making clinical decisions regarding the care of their patients. As such, they cannot substitute for the individual judgment brought to each clinical situation by the patient's family physician. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication, but they should be used with the clear understanding that continued research may result in new knowledge and recommendations. These recommendations are only one element in the complex process of improving the health of America. To be effective, the recommendations must be implemented. As such, physicians require continuing medical education to assist them with making decisions about specific clinical considerations.

Physicians can improve patient satisfaction with the referral process by using readily available strategies and tools such as, improving internal office communication, engaging patients in scheduling, facilitating the appointment, tracking referral results, analyzing data for improvement opportunities, and gathering patient feedback.[19,20]

Physicians should also be kept up to date on new treatment therapies, changes to therapies, or warnings associated with existing therapies. Provide recommendations regarding new FDA approved medications for the treatment of cirrhosis; including safety, efficacy, tolerance, and cost considerations relative to currently available options. The FDA has granted accelerated approval to Ocaliva (obeticholic acid) for the treatment of primary biliary cholangitis, previously known as primary biliary cirrhosis (PBC), in combination with ursodeoxycholic acid (UDCA) in adults with an inadequate response to UDCA or as monotherapy in adults unable to tolerate UDCA.[21] Additionally, physicians may consider whether a patient is a good candidate in a current clinical trial being conducted to test the safety and efficacy of a treatment for patients with Nonalcoholic Steatohepatitis (NASH).[22]

The American Academy of Family Physicians Academy has participated in the Core Measures Collaborative (the Collaborative) convened by America's Health Insurance Plans (AHIP) since August 2014. The Collaborative is a multi-stakeholder effort working to define core measure sets of various specialties promoting alignment and harmonization of measure use and collection across both public and private payers.

Participants in the Collaborative included Centers for Medicare and Medicaid Services (CMS), the National Quality Forum (NQF), private payers, provider organizations, employers, and patient and consumer groups. This effort exists to decrease physician burden by reducing variability in measure selection, specifications and implementation– making quality measurement more useful and meaningful for consumers, employers, as well as public and private clinicians.

With significant AAFP input, a PCMH/ACO/Primary Care Core Measure Set has been developed for primary care. The goal of this set is to decrease burden and allow for more congruence between payer reporting programs.[23]

Resources: Evidence-Based Practice Recommendations/Guidelines/Performance Measures

- Cirrhosis: diagnosis, management, and prevention[1]
- Nonalcoholic fatty liver disease: diagnosis and management[16]
- Diagnosis and Management of Hepatitis C[3]
- Causes and evaluation of mildly elevated liver transaminase levels[17]
- (AASLD) Practice Guidelines[24]
- Adding health education specialists to your practice[25]
- Envisioning new roles for medical assistants: strategies from patient-centered medical homes[26]
- The benefits of using care coordinators in primary care: a case study[27]
- Engaging Patients in Collaborative Care Plans[28]
- The Use of Symptom Diaries in Outpatient Care[29]
- Health Coaching: Teaching Patients to Fish[30]
- Medication adherence: we didn't ask and they didn't tell[31]
- Encouraging patients to change unhealthy behaviors with motivational interviewing[32]
- Integrating a behavioral health specialist into your practice[33]
- Simple tools to increase patient satisfaction with the referral process[19]

- FamilyDoctor.org. Cirrhosis and Portal Hypertension | Overview (patient education)[34]
- FamilyDoctor.org. Nonalcoholic Fatty Liver Disease | Overview (patient education)[35]

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