



Body System: Gastrointestinal		
Session Topic: Gastroesophageal Reflux 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. <u>Please describe your interest and plan for teaching a PBL on your proposal form.</u>
Professional Practice Gap	Learning Objective(s) that will close the gap and meet the need	Outcome Being Measured
<ul style="list-style-type: none"> Knowledge gaps with regard to the management of GERD and dyspepsia. Knowledge and practice gaps with regard to appropriate and necessary use of endoscopy; safe and efficacious use of proton pump inhibitors (PPIs), including step up and step down therapy; monitoring and follow up; effective lifestyle modification coaching; differential diagnosis; appropriate and necessary surgical referral; when to screen for Barrett esophagus and Helicobacter pylori infection; and overall adherence to clinical guidelines. Patients are often non-adherent to prescribed dietary modifications Physicians' directions regarding pharmacologic and lifestyle modification therapies for treatment of 	<ol style="list-style-type: none"> Distinguish between gastroesophageal reflux, dyspepsia, or GERD in patients who present with typical and atypical symptoms. Screen patients with asthma for symptoms of GERD. Educate parents of infants and children with GERD or dyspepsia on effective feeding strategies and safe medication use. Select appropriate imaging studies to confirm the diagnosis of GERD from dyspepsia and appropriately interpret test results for patients. Develop collaborative treatment plans for patients with GERD or dyspepsia to include lifestyle modifications and effective medication use, and ensure patient compliance with treatment. 	Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement presented practice recommendations.



<p>GERD is often inconsistent</p> <ul style="list-style-type: none"> • The lack of a clearly identified pathogenic process in GERD can confound diagnosis and treatment • There exists several areas of unmet need with regard to the therapeutic management of GERD, including: advanced grades of erosive esophagitis, nonerosive reflux disease, maintenance treatment of erosive esophagitis, refractory GERD, postprandial heartburn, atypical and extraesophageal manifestations of GERD, Barrett’s esophagus, chronic proton pump inhibitor treatment, and post-bariatric surgery GERD. • Recent studies show a link between PPI and dementia. 		
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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 recommendations for distinguishing between gastroesophageal reflux, dyspepsia, or GERD in patients who present with typical and atypical symptoms.
- Provide recommendations for screening for Barrett esophagus or *Helicobacter pylori* infection, in accordance to current clinical guidelines.
- Provide recommendations for when to order endoscopy, as indicated, per current clinical guidelines.
- Provide recommendations for coordinating surgical referral for patients with contraindications to PPI therapy or when symptoms remain poorly controlled despite lifestyle changes and maximal PPI doses, including the recognition of red flags that indicate referral.
- Provide strategies and resources for developing collaborative treatment plans for patients with GERD or dyspepsia to include lifestyle modifications and effective medication use, and ensure patient compliance with treatment; including recommendations regarding monitoring, follow up, and stepping up and stepping down therapy.
- Provide recommendations regarding guidelines for Medicare reimbursement.
- Provide recommendations to maximize office efficiency and guideline adherence to the diagnosis and management of GERD &/or dyspepsia.
- 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

Gastroesophageal reflux disease (GERD) has a prevalence of between 18.1% and 27.8% in the United States.¹ A typical full-time family physician can expect to diagnose and treat 40 to 60 patients with GERD each month.²

Data from a recent American Academy of Family Physicians (AAFP) CME Needs Assessment survey suggests that family physicians have a statistically significant gap in the medical knowledge necessary to optimally manage GERD and dyspepsia.³ More specifically, CME outcomes data from 2011-2014 AAFP Assembly *GERD*-related sessions suggest that physicians have knowledge and practice gaps with regard to appropriate and necessary use of endoscopy; safe and efficacious use of proton pump inhibitors (PPIs), including step up and step down therapy; monitoring and follow up; effective lifestyle modification coaching; differential diagnosis; appropriate and necessary surgical referral; when to screen for Barrett esophagus and *Helicobacter pylori* infection; and overall adherence to clinical guidelines.⁴⁻⁷

A review of the literature identifies the following practice gaps and barriers:

- Patients are often non-adherent to prescribed dietary modifications⁸
- Physicians' directions regarding pharmacologic and lifestyle modification therapies for treatment of GERD is often inconsistent^{9,10}



- The lack of a clearly identified pathogenic process in GERD can confound diagnosis and treatment¹¹
- There exists several areas of unmet need with regard to the therapeutic management of GERD, including: *advanced grades of erosive esophagitis, nonerosive reflux disease, maintenance treatment of erosive esophagitis, refractory GERD, postprandial heartburn, atypical and extraesophageal manifestations of GERD, Barrett's esophagus, chronic protein pump inhibitor treatment, and post-bariatric surgery GERD*¹²

Dyspepsia affects up to 40 percent of adults each year, with about 10 percent of those seeking medical care.¹³ Physicians should be aware of the warning signs of serious disease (e.g. cancer), and be prepared to order more extensive laboratory investigation, imaging, and endoscopy as clinically indicated.¹³ Dyspepsia is a common clinical problem seen by both primary care physicians and gastroenterologists, and patients should be considered to have gastroesophageal reflux disease (GERD) until proven otherwise.^{14,15} Primary care physicians can successfully manage uninvestigated dyspepsia, when familiar with evidence-based clinical practice recommendations for the evaluation and management of dyspepsia:^{13,16}

- Physicians should precede directly to endoscopy in patients with dyspepsia who have warning signs (e.g., unintended weight loss, progressive dysphagia, persistent vomiting, evidence of gastrointestinal bleeding, and family history of cancer) or who are older than 55 years.
- In patients with isolated dyspepsia who do not exhibit warning signs, a test-and-treat strategy for *Helicobacter pylori* infection is effective and less expensive than initial endoscopy.
- Histamine H2 blockers and proton pump inhibitors reduce functional dyspepsia symptoms, although the effect is small.
- The prokinetic agent metoclopramide (Reglan) may be effective in treating functional dyspepsia, although the data are limited.
- Eradication of *H. pylori* is somewhat effective in reducing symptoms of endoscopically confirmed functional dyspepsia, although it may not be cost-effective.

Gastroesophageal reflux is a normal physiologic response that occurs when the lower esophageal sphincter (LES) causes gastric juices from the stomach to rise up into the esophagus.

Gastroesophageal reflux disease (GERD) is characterized by excessive amounts of gastric juice that reflux into the esophagus two or more times per week, which can lead to esophageal mucosal injury. It is believed that functional or mechanical problems of the LES (i.e., frequent transient LES relaxation or hypotensive LES) lead to GERD. Although the reason some people develop GERD is still unclear, it can be caused by certain foods (acidic fruits, spicy food and fatty or fried foods), medications (calcium channel blockers, nitrates, beta blockers) or risk factors such as smoking, pregnancy and obesity. Persistent heartburn is the most common symptom of GERD in adults, but other symptoms include:¹⁷⁻¹⁹

- Difficulty or pain when swallowing (one of the more common symptoms in children)
- Sudden excess of saliva
- Chronic sore throat
- Inflammation of the gums
- Sour taste in the mouth and bad breath
- Chest pain



- Asthma
- Chronic Cough
- Laryngitis
- Hoarseness
- Dental Erosions
- Noncardiac chest pain

While some patients with GERD may have no symptoms at all (known as “silent GERD”), others have symptoms that are exacerbated by lying down, exercise or eating. Some patients may also experience asthma-related symptoms such as a dry cough, hoarseness or laryngitis. In fact, studies show that as many as 70% of patients with asthma have GERD, compared to 20-30% of the general population. The interaction between the lungs and acid in the stomach can irritate some patients, leading to severe, chronic and treatment-resistant asthma. The lack of knowledge about the exact relationship between GERD and asthma can make it difficult for physicians to accurately diagnose patients and provide them with appropriate treatment methods, including advice on what over-the-counter medications are effective and safe for use.²⁰

GERD in children – particularly infants – may be difficult for family physicians to diagnose, especially when it is difficult for parents to determine why their child is experiencing discomfort, frequently spits up and/or vomits. According to the National Digestive Diseases Information Clearinghouse, “studies show GERD is common and may be overlooked in infants and children. Infants with GERD may refuse to feed and experience poor growth.”²¹ If GERD is diagnosed, family physicians will likely have to educate parents on effective feeding strategies to avoid acid reflux in infants and children, as well as medications that are safe to use. Some studies suggest that by labeling an infant as “having a disease” may promote overtreatment with ineffective medications when they are neither useful or necessary; therefore, physicians must be particularly vigilant in educating parents of infant children about proper and effective dietary and pharmacologic management of infants diagnosed with GERD.^{22,23}

A differential diagnosis, including infectious esophagitis, pill esophagitis, eosinophilic esophagitis, peptic ulcer disease, non-ulcer dyspepsia, biliary tract disease, coronary artery disease, and esophageal motor disorder, is often necessary to rule out other causes of acid reflux or heartburn, or to determine whether GERD has progressed to a more serious, damaging condition. Some atypical symptoms, such as coughing, wheezing and chest pain may actually cause damage to the lungs, vocal cords, ears and teeth, leading to such conditions as pneumonia, laryngitis, otitis media and tooth decay, respectively. Additionally, it is estimated that approximately 50% of patients with gastric reflux develop esophagitis, which can lead to Barrett’s esophagus and possibly progress to adenocarcinoma.^{24,25} Imaging modalities may be required in some cases to aid in the diagnosis of GERD and/or identify potential damage to mucosal structures. Such modalities typically include an upper GI x-ray, endoscopy (with or without biopsy), 24-hour pH monitoring (with esophageal pH probe) or esophagogastroduodenoscopy (EGD), any of which may be ordered or performed by a family physician. Manometry is sometimes indicated in patients who do not respond to empirical treatment – typically a trial of twice-daily proton pump inhibitors.^{17,26} If the patient requires referral to sub-specialists for enhanced testing, family physicians should still be prepared to help orchestrate patient care, interpret test results and oversee treatment protocols and compliance.



Standard treatment for GERD includes lifestyle modifications and pharmacologic therapy. According to the American College of Gastroenterology (AGA), lifestyle modifications recommended for GERD include avoidance of foods that may precipitate reflux (e.g., coffee, alcohol, chocolate, fatty foods), avoidance of acidic foods that may precipitate heartburn (e.g., citric or spicy foods, carbonated beverages), and adoption of behaviors that may reduce esophageal acid exposure (e.g., weight loss, smoking cessation, regular post dinner walks, avoiding supine positions for two to three hours after meals, and raising the head of beds).^{26,27} Upon making such modifications, many patients find relief with over-the-counter medications such as antacids or histamine H₂-receptor antagonists (H₂RAs) to neutralize stomach acid and provide maintenance therapy for mild symptoms.¹⁷ However, proton pump inhibitors (PPIs) are considered the most powerful medication for treating GERD and thus are used as first-line treatments for the condition. The AGA recommends the following:²⁶

- For initial management: “Acute or maintenance therapy with once- or twice-daily PPIs or H₂RAs for patients with extraesophageal GERD syndrome (i.e., laryngitis or asthma) with a concomitant esophageal GERD syndrome.”
- For maintenance therapy: “Long-term use of PPIs for the treatment of patients with esophagitis once they have proven clinically effective. Long-term therapy should be titrated down to the lowest effective dose based on symptom control.”

It is imperative that family physicians encourage patients to follow treatment protocol and ensure compliance whenever possible because it is estimated that about 80% of patients with GERD have recurrent symptoms if they stop treatment, and many develop severe esophagitis or Barrett’s esophagus.²⁸ Barrett’s esophagus is defined by the AGA as “a change in the distal esophageal epithelium of any length that can be recognized as columnar type mucosa at endoscopy and is confirmed to have intestinal metaplasia by biopsy of the tubular esophagus.”²⁹ It is typically diagnosed by performing an upper endoscopy or EGD, although screening recommendations remain controversial because of the lack of consistency in symptomatology among the general population. Nonetheless, once a diagnosis is confirmed, it should be treated (at least initially) in the same way as GERD to control symptoms and heal esophageal mucosa. Photodynamic therapy or endoscopic mucosal resection are indicated in some cases if PPI and H₂RAs prove ineffective.^{30,31} Patients who develop Barrett’s esophagus and require advanced treatment or surgical intervention are typically referred to sub-specialists, but can and should have their care coordinated and managed by a family physician. To remain up to date on current best practices, family physicians require additional training and education on evidence-based guidelines in the management of patients with GERD.

Physicians may improve their care of patients with GERD 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:^{2,18}

- There are no significant differences among equivalent doses of PPIs for the treatment of nonerosive GERD.
- Anti-reflux surgery should generally be reserved for patients with contraindications to PPI therapy or when PPI therapy alone is insufficient to control symptoms.



- Screening for Barrett esophagus is not routinely recommended in patients with GERD, but it may be considered in white men 50 years or older who have had GERD symptoms for at least five years.
- Endoscopy should be limited to patients who have alarm symptoms or persistent GERD symptoms after an adequate trial of PPI therapy.
- Long-term acid suppression therapy for gastroesophageal reflux disease should be titrated to the lowest effective dose.
- Aggressive acid reduction using PPIs twice daily before meals for three to four months is the standard treatment for atypical GERD and may be the best way to demonstrate a causal relationship between GERD and extraesophageal symptoms.
- Randomized trials have not shown significant benefit for twice daily treatment with a PPI for laryngeal symptoms.
- In adult patients with moderate to severe persistent asthma and symptoms of GERD, twice daily PPI therapy for 24 weeks reduces asthma exacerbations and improves quality of life, but does not reduce symptoms, albuterol (Ventolin) use, or pulmonary function.
- Patients with chronic cough have a high likelihood of having GERD and should be prescribed a trial of antisecretory therapy, even when they have no reportable gastrointestinal symptoms.
- PPI therapy reduces symptoms of noncardiac chest pain and may be useful as a diagnostic test in identifying abnormal esophageal reflux.

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.

Recent studies indicate that PPI's may increase the risk of dementia in older adults.^{32,33} Physicians should be familiar with the research, and receive evidence-based recommendations for effective use of PPI's.

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.³⁴

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

- Common questions about the management of gastroesophageal reflux disease²
- ACG Guidelines for the diagnosis and management of gastroesophageal reflux disease³⁵
- Update on the Evaluation and Management of Functional Dyspepsia¹³
- Point-of-Care-Guides: Diagnosis of Gastroesophageal Reflux Disease³⁶
- Cochrane Briefs: Medical Management vs. Surgery for Gastroesophageal Reflux Disease³⁷
- Atypical Presentations of Gastroesophageal Reflux Disease¹⁸
- Gastroesophageal reflux disease (GERD)³⁸
- American Gastroenterological Association medical position statement on the management of gastroesophageal reflux disease²⁶
- Guidelines for surgical treatment of gastroesophageal reflux disease³⁹
- How to reduce your malpractice risk⁴⁰
- Thinking on paper: documenting decision making⁴¹
- Simple tools to increase patient satisfaction with the referral⁴²
- Exam documentation: charting within the guidelines⁴³
- Engaging Patients in Collaborative Care Plans⁴⁴
- Encouraging patients to change unhealthy behaviors with motivational interviewing⁴⁵
- Simple tools to increase patient satisfaction with the referral process⁴²
- Health Coaching: Teaching Patients to Fish⁴⁶
- FamilyDoctor.org. Heartburn | Overview (patient resource)⁴⁷
- FamilyDoctor.org. Dyspepsia | Overview (patient resource)⁴⁸
- FamilyDoctor.org. Barrett's Esophagus | Overview (patient resource)⁴⁹

References

1. El-Serag HB, Sweet S, Winchester CC, Dent J. Update on the epidemiology of gastro-oesophageal reflux disease: a systematic review. *Gut*. Jun 2014;63(6):871-880.
2. Anderson WD, 3rd, Strayer SM, Mull SR. Common questions about the management of gastroesophageal reflux disease. *American family physician*. May 15 2015;91(10):692-697.



3. AAFP. 2012 CME Needs Assessment: Clinical Topics. American Academy of Family Physicians; 2012.
4. American Academy of Family Physicians (AAFP). 2011 AAFP Scientific Assembly: CME Outcomes Report. Leawood KS: AAFP; 2011.
5. American Academy of Family Physicians (AAFP). 2012 AAFP Scientific Assembly: CME Outcomes Report. Leawood KS: AAFP; 2012.
6. American Academy of Family Physicians (AAFP). 2013 AAFP Scientific Assembly: CME Outcomes Report. Leawood KS: AAFP; 2013.
7. American Academy of Family Physicians (AAFP). AAFP Assembly CME Outcomes Report. Leawood KS: AAFP; 2014.
8. Kubo A, Block G, Quesenberry CP, Jr., Buffler P, Corley DA. Dietary guideline adherence for gastroesophageal reflux disease. *BMC gastroenterology*. 2014;14:144.
9. Solem C, Mody R, Stephens J, Macahilig C, Gao X. Mealtime-related dosing directions for proton-pump inhibitors in gastroesophageal reflux disease: physician knowledge, patient adherence. *Journal of the American Pharmacists Association : JAPhA*. Mar-Apr 2014;54(2):144-153.
10. Khan N, Bukhari S, Lakha A, et al. Gastroesophageal reflux disease: the case for improving patient education in primary care. *The Journal of family practice*. Dec 2013;62(12):719-725.
11. Tytgat GN, McColl K, Tack J, et al. New algorithm for the treatment of gastro-oesophageal reflux disease. *Alimentary pharmacology & therapeutics*. 2008;27(3):249-256.
12. Dickman R, Maradey-Romero C, Gingold-Belfer R, Fass R. Unmet Needs in the Treatment of Gastroesophageal Reflux Disease. *Journal of Neurogastroenterology and Motility*. 2015;21(3):309-319.
13. Loyd RA, McClellan DA. Update on the evaluation and management of functional dyspepsia. *American family physician*. Mar 1 2011;83(5):547-552.
14. Talley NJ, Vakil N. Guidelines for the Management of Dyspepsia. *The American journal of gastroenterology*. 2005;100(10):2324-2337.
15. Harmon RC, Peura DA. Evaluation and management of dyspepsia. *Therapeutic advances in gastroenterology*. Mar 2010;3(2):87-98.
16. Salihefendic N, Zildzic M, Cabric E. A New Approach to the Management of Uninvestigated Dyspepsia in Primary Care. *Medical Archives*. 2015;69(2):133-134.
17. National Digestive Diseases Information Clearinghouse (NDDIC). Heartburn, Gastroesophageal Reflux (GER), and Gastroesophageal Reflux Disease (GERD). 2007; <http://digestive.niddk.nih.gov/ddiseases/pubs/gerd/index.aspx>. Accessed May, 2013.
18. Heidelbaugh JJ, Gill AS, Van Harrison R, Nostrant TT. Atypical presentations of gastroesophageal reflux disease. *American family physician*. Aug 15 2008;78(4):483-488.
19. Chi AC, Neville BW, Krayner JW, Gonsalves WC. Oral manifestations of systemic disease. *American family physician*. Dec 1 2010;82(11):1381-1388.
20. American Academy of Allergy Asthma & Immunology. Gastroesophageal Reflux Disease (GERD). 2013; <http://www.aaaai.org/conditions-and-treatments/related-conditions/gastroesophageal-reflux-disease.aspx>. Accessed May, 2013.
21. National Digestive Diseases Information Clearinghouse (NDDIC). Gastroesophageal Reflux in Children and Adolescents. 2006;



- <http://digestive.niddk.nih.gov/ddiseases/pubs/gerinchildren/index.aspx>. Accessed May, 2013.
22. Fogleman CD. GERD treatment for chronic nonspecific cough in children and adults. *American family physician*. Sep 1 2011;84(5):502-504.
 23. Scherer LD, Zikmund-Fisher BJ, Fagerlin A, Tarini BA. Influence of "GERD" Label on Parents' Decision to Medicate Infants. *Pediatrics*. May 2013;131(5):839-845.
 24. Scholten T. Long-term management of gastroesophageal reflux disease with pantoprazole. *Therapeutics and clinical risk management*. Jun 2007;3(2):231-243.
 25. Shalauta MD, Saad R. Barrett's esophagus. *American family physician*. May 1 2004;69(9):2113-2118.
 26. Kahrilas PJ, Shaheen NJ, Vaezi MF. American Gastroenterological Association Medical Position Statement on the Management of Gastroesophageal Reflux Disease. *Gastroenterology*. 2008;135(4):1383-1391.e1385.
 27. Karim S, Jafri W, Faryal A, et al. Regular post dinner walk; can be a useful lifestyle modification for gastroesophageal reflux. *JPMA. The Journal of the Pakistan Medical Association*. Jun 2011;61(6):526-530.
 28. Delaney B, Moayyedi P. GERD in Adults. Clinical Evidence Handbook. *American family physician*. 2009;79(2):149-150.
 29. Wang KK, Sampliner RE, Practice Parameters Committee of the American College of G. Updated guidelines 2008 for the diagnosis, surveillance and therapy of Barrett's esophagus. *The American journal of gastroenterology*. Mar 2008;103(3):788-797.
 30. National digestive Diseases Information Clearinghouse (NDDIC). Barrett's Esophagus. 2013; <http://digestive.niddk.nih.gov/ddiseases/pubs/barretts/index.aspx>. Accessed May, 2013.
 31. Johnston M, Eastone J. Barrett Esophagus and Barrett Ulcer: Treatment & Medication. *eMedicine Gastroenterology* 2011; <http://emedicine.medscape.com/article/171002-treatment>. Accessed May, 2013.
 32. Gomm W, von Holt K, Thome F, et al. Association of Proton Pump Inhibitors With Risk of Dementia: A Pharmacoepidemiological Claims Data Analysis. *JAMA neurology*. Apr 1 2016;73(4):410-416.
 33. Kuller LH. Do Proton Pump Inhibitors Increase the Risk of Dementia? *JAMA neurology*. 2016.
 34. American Academy of Family Physicians (AAFP). PCMH/ACO/Primary Care Core Measure Set. 2016; <http://www.aafp.org/practice-management/improvement/measure.html>. Accessed May, 2016.
 35. Katz PO, Gerson LB, Vela MF. Guidelines for the diagnosis and management of gastroesophageal reflux disease. *The American journal of gastroenterology*. Mar 2013;108(3):308-328; quiz 329.
 36. Ebell MH. Diagnosis of gastroesophageal reflux disease. *American family physician*. May 15 2010;81(10):1278.
 37. Kripke C. Medical management vs. surgery for gastroesophageal reflux disease. *American family physician*. Aug 1 2010;82(3):244.
 38. University of Michigan Health System. Gastroesophageal reflux disease (GERD). 2012; <http://www.guideline.gov/content.aspx?id=37564&search=gerd>. Accessed 5/28/2013.



39. Society of American Gastrointestinal and Endoscopic Surgeons (SAGES). Guidelines for surgical treatment of gastroesophageal reflux disease. 2010; <http://www.guideline.gov/content.aspx?id=16257&search=gerd>. Accessed 5/28/2013.
40. Achar S, Wu W. How to reduce your malpractice risk. *Family practice management*. Jul-Aug 2012;19(4):21-26.
41. Edsall RL, Moore KJ. Thinking on paper: documenting decision making. *Family practice management*. Jul-Aug 2010;17(4):10-15.
42. Jarve RK, Dool DW. Simple tools to increase patient satisfaction with the referral process. *Family practice management*. Nov-Dec 2011;18(6):9-14.
43. Moore KJ. Exam documentation: charting within the guidelines. *Family practice management*. May-Jun 2010;17(3):24-29.
44. Mauksch L, Safford B. Engaging Patients in Collaborative Care Plans. *Family practice management*. 2013;20(3):35-39.
45. Stewart EE, Fox CH. Encouraging patients to change unhealthy behaviors with motivational interviewing. *Family practice management*. May-Jun 2011;18(3):21-25.
46. Ghorob A. Health Coaching: Teaching Patients to Fish. *Family practice management*. 2013;20(3):40-42.
47. FamilyDoctor.org. Heartburn | Overview. 1996; <http://familydoctor.org/familydoctor/en/diseases-conditions/heartburn.html>. Accessed August, 2013.
48. FamilyDoctor.org. Dyspepsia | Overview. 1999; <http://familydoctor.org/familydoctor/en/diseases-conditions/dyspepsia.html>. Accessed August, 2013.
49. FamilyDoctor.org. Barrett's Esophagus | Overview. 2005; <http://familydoctor.org/familydoctor/en/diseases-conditions/barretts-esophagus.html>. Accessed August, 2013.