Body System: Geriatrics		
Session Topic: Dizziness and Balance Disorders		
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**
• Dizziness is a common complaint among patients seen by primary care physicians. • Vestibular disorders, associated with dizziness, are often underdiagnosed. • Physicians are frequently unaware of vestibular rehabilitation as an appropriate treatment for vestibular disorders. • Family physicians indicate a need for training in the Epley maneuver. • Physicians require additional training to perform differential diagnosis of dizziness and/or vertigo. • Physicians require strategies and resources to provide adequate patient education to patient diagnosed with dizziness and/or vertigo. • Family physicians have a medical knowledge gap in	1. Narrow the differential diagnosis of dizziness with physical examination tests and appropriate history taking, including a medication review and anxiety disorder evaluation. 2. Treat vertigo using the Epley maneuver and vestibular rehabilitation for identified vestibular disorders. 3. Use evidence-based guidelines to select appropriate treatment of dizziness as appropriate per the etiology. 4. Develop collaborative care plans, including patient education, to help patients minimize reoccurrences of dizziness.	Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement presented practice recommendations.

diagnosing and managing Parkinson's Disease. • Treatment of Parkinson's Disease is complex. • Physicians are often challenged to provide optimal coordination of care with subspecialists for patients with Parkinson's Disease. • Patients are frequently non-adherent to treatment therapies. • Knowledge and systems are lacking offer adequate support to caregivers.		

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 narrowing the differential diagnosis of dizziness with physical examination tests and appropriate history taking, including a medication review and anxiety disorder evaluation.
- Provide recommendations for treating vertigo using the Epley maneuver and vestibular rehabilitation for identified vestibular disorders.
- Provide practical recommendations for utilizing evidence-based guidelines to select appropriate treatment of dizziness as appropriate per the etiology.

- Provide strategies and resources to develop collaborative care plans, including patient education, to help patients minimize reoccurrences of dizziness.
- Provide recommendations regarding guidelines for Medicare reimbursement.
- Provide recommendations to maximize office efficiency and guideline adherence to the diagnosis and management of dizziness and vertigo.
- Provide an overview of newly available treatments, including efficacy, safety, contraindications, and cost/benefit relative to existing treatments.

Needs Assessment:
*Note – the scope of this topic should include Parkinsonism

In 2010, there were 332,000 visits to the emergency room by women and 333,000 by men for vertigo/dizziness.[1] Dizziness is also a common complaint among patients seen by primary care physicians; and while the most common causes of dizziness are peripheral vestibular disorders, diagnosis can be challenging to because symptoms are often nonspecific and the differential diagnosis is broad.[2,3] Additionally, physicians often underdiagnose vestibular disorders associated with dizziness, and are frequently not aware of vestibular rehabilitation as an appropriate treatment for vestibular disorders.[4] In a recent American Academy of Family Physicians (AAFP) Common Medical Procedures survey, 40.1% of family physicians currently perform the Epley maneuver for vertigo; however, 27.3% indicated a need for training in the maneuver.

Data from a recent American Academy of Family Physicians CME Needs Assessment survey indicates that family physicians gap a knowledge gap with regard to diagnosing and treating dizziness and vertigo.[5] More specifically, CME outcomes data from 2012 and 2015 AAFP FMX (formerly Assembly): *Dizziness & Vertigo* sessions suggest that physicians have knowledge and practice gaps with regard to performing the Hall-Pike or Epley manoeuver; systematic differential diagnosis; selecting appropriate labs or imaging; and providing adequate patient education.[6]

Vertigo is commonly associated with anxiety disorders; however, family physicians often lack the adequate training to provide optimal therapies, and may want to consider integrating a behavioral health specialist into their practice.[7,8]

Physicians may improve their care of patients with dizziness 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:[3,7,9-11]

- The Dix-Hallpike maneuver should be performed to diagnose BPPV.
- Because they generally are not helpful diagnostically, laboratory testing and radiography are not routinely indicated in the work-up of patients with dizziness when no other neurologic abnormalities are present.
- The Epley maneuver and vestibular rehabilitation are effective treatments for BPPV.
- The canalith repositioning procedure (Epley maneuver) is recommended in patients with benign paroxysmal positional vertigo.
- The modified Epley maneuver also is effective in patients with benign paroxysmal positional vertigo.

- Vestibular suppressant medication is recommended for symptom relief in patients with acute vestibular neuronitis.
- Vestibular exercises are recommended for more rapid and complete vestibular compensation in patients with acute vestibular neuronitis.
- Treatment with a low-salt diet and diuretics is recommended for patients with Ménière's disease and vertigo.
- Effective treatments for vertiginous migraine include migraine prophylaxis (e.g., tricyclic antidepressants, beta blockers, calcium channel blockers), migraine-abortive medications (e.g., sumatriptan), and vestibular rehabilitation exercises.
- Selective serotonin reuptake inhibitors can relieve vertigo in patients with anxiety disorders. Because of side effects, slow titration is recommended.
- Consider radiologic studies in patients with neurologic signs and symptoms, risk factors for cerebrovascular disease, or progressive unilateral hearing loss.

Physicians should also be familiar with the guidelines on Benign Paroxysmal Positional Vertigo was developed by the American Academy of Otolaryngology—Head and Neck Surgery Foundation and endorsed by the AAFP.[12] Key recommendations include:

- Posterior semicircular canal BPPV should be diagnosed when vertigo associated with nystagmus is provoked by the Dix-Hallpike maneuver.
- If the patient has a history compatible with BPPV and the Dix-Hallpike test is negative, a supine roll test should be performed to assess for lateral semicircular canal BPPV.
- BPPV should be differentiated from other causes of imbalance, dizziness, and vertigo.
- Patients with BPPV should be questioned for factors that modify management including impaired mobility or balance, CNS disorders, lack of home support and increased risk for falling.
- Radiographic imaging and/or vestibular testing should not be used in patients diagnosed with BPPV, unless the diagnosis is uncertain or there are additional symptoms or signs unrelated to BPPV that warrant testing.
- Patients with posterior canal BPPV should be treated with particle repositioning maneuver (PRM).
- Initial therapy may include vestibular rehabilitation or observation with the assurance of follow up. Patients should be reassessed within one month to confirm symptom resolution.
- BPPV should not be routinely treated with vestibular suppressant medications such as antihistamines or benzodiazepines.
- Patients with BPPV who are initial treatment failures should be evaluated for persistent BPPV or underlying peripheral vestibular or CNS disorders.
- Patients should be counseled regarding the impact of BPPV on their safety, the potential for recurrence, and the importance of follow-up.

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.

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

- Dizziness: a diagnostic approach[3]
- Initial evaluation of vertigo[9]
- Treatment of vertigo[7]
- Clinical Practice Guideline: Benign Paroxysmal Positional Vertigo[12]
- Integrating a behavioral health specialist into your practice[8]
- Benign Paroxysmal Positional Vertigo | Overview (patient resource)[13]

References

1. Centers for Disease Control and Prevention (CDC). National Ambulatory Medical Care Survey. In: Ambulatory and Hospital Care Statistics Branch, ed2010.
2. Karatas M. Central vertigo and dizziness: epidemiology, differential diagnosis, and common causes. *The neurologist.* 2008;14(6):355-364.
3. Post RE, Dickerson LM. Dizziness: a diagnostic approach. *American family physician.* 2010;82(4):361-368, 369.
4. Polensek SH, Tusa RJ, Sterk CE. The challenges of managing vestibular disorders: a qualitative study of clinicians' experiences associated with low referral rates for vestibular rehabilitation. *International journal of clinical practice.* 2009;63(11):1604-1612.
5. AAFP. 2012 CME Needs Assessment: Clinical Topics. American Academy of Family Physicians; 2012.
6. American Academy of Family Physicians (AAFP). 2012 AAFP Scientific Assembly: CME Outcomes Report. Leawood KS: AAFP; 2012.
7. Swartz R, Longwell P. Treatment of vertigo. *American family physician.* 2005;71(6):1115-1122.
8. Reitz R, Fifield P, Whistler P. Integrating a behavioral health specialist into your practice. *Family practice management.* 2011;18(1):18-21.
9. Labuguen RH. Initial evaluation of vertigo. *American family physician.* 2006;73(2):244-251.
10. Shaughnessy AF. Epley maneuver effective in the long term for positional vertigo. *American family physician.* 2014;90(9):660.
11. Seehusen D. A., Chaffee D. Cochrane for Clinicians:PUTTING EVIDENCE INTO PRACTICE - The Epley Maneuver for Treatment of Benign Paroxysmal Positional Vertigo. *American family physician.* 2015;92(3):184-185.
12. American Academy of Family Physicians (AAFP). Clinical Practice Guideline: Benign Paroxysmal Positional Vertigo. Endorsed, 2010;

13. FamilyDoctor.org. Benign Paroxysmal Positional Vertigo | Overview. 2000;

