

Putting Prevention into Practice

An Evidence-Based Approach

Screening for Glaucoma

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► See related U.S. Preventive Services Task Force Recommendation Statement at <http://www.aafp.org/afp/2014/1015/od1.html>.

The case study and answers to the following questions are based on the recommendations of the USPSTF, an independent panel of experts in primary care and prevention that systematically reviews the evidence of effectiveness and develops recommendations for clinical preventive services. More detailed information on this subject is available in the USPSTF Recommendation Statement and the evidence report on the USPSTF website (<http://www.uspreventiveservices.org>). The practice recommendations in this activity are available at <http://www.uspreventiveservices.org/uspstf/uspsglau.htm>.

A collection of Putting Prevention into Practice quizzes published in *AFP* is available at <http://www.aafp.org/afp/ppip>.

CME This clinical content conforms to AAFP criteria for continuing medical education (CME). See CME Quiz Questions on page 538.

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Case Study

A 55-year-old black woman presents to your office for a routine well-woman examination. Her medical history is significant for hypertension, which is well controlled with medication. She mentions that her mother was diagnosed with glaucoma a few years ago and is currently undergoing treatment. She reports no vision symptoms and wonders if she should be checked for glaucoma.

Case Study Questions

1. Based on the recommendations of the U.S. Preventive Services Task Force (USPSTF), which one of the following is the most appropriate response to this patient?

- ☐ A. There is insufficient evidence to assess whether the benefits outweigh the harms of screening for primary open-angle glaucoma (POAG).
- ☐ B. There is no evidence that medical and surgical treatment of early asymptomatic POAG will decrease the number of persons whose visual field defects worsen; therefore, screening is not recommended.
- ☐ C. There is convincing evidence that screening for glaucoma improves health outcomes in adults who do not have vision symptoms; therefore, screening is recommended.
- ☐ D. There is adequate evidence that the benefits of screening for POAG in asymptomatic adults outweigh the harms; therefore, screening is recommended.
- ☐ E. There are no harms associated with treatment for glaucoma; therefore, screening is recommended.

2. According to the USPSTF, which one of the following statements about screening tests for glaucoma is correct?

- ☐ A. The goal of screening is to identify and treat POAG after visual impairment has developed.
- ☐ B. Screening by tonometry alone is adequate to detect all cases of POAG because all persons with untreated POAG have increased intraocular pressure (IOP).
- ☐ C. Most tests for glaucoma available in primary care settings do not have acceptable accuracy to detect glaucoma.
- ☐ D. Measurement of visual fields is simple and can be done effectively in primary care settings to screen for glaucoma.

3. Which of the following risk factors increase this patient's risk of POAG?

- ☐ A. Black race.
- ☐ B. Older age.
- ☐ C. Hypertension.
- ☐ D. Family history of glaucoma.

Answers appear on the following page.

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Answers

1. The correct answer is A. The USPSTF concluded that the current evidence is insufficient to assess the balance of benefits and harms of screening for POAG in asymptomatic adults. The USPSTF found evidence that medical and surgical treatment of early asymptomatic POAG can reduce the number of patients whose visual field defects worsen; however, the USPSTF found inadequate evidence that screening for or treatment of increased IOP or early asymptomatic POAG reduces the number of persons who will develop impaired vision or quality of life. Therefore, the overall certainty of the evidence is low. Although the USPSTF found no direct evidence on the harms of screening, it found convincing evidence that treatment results in numerous harms, including local eye irritation from medications and risk of complications from surgery, such as early formation of cataracts. However, the magnitude of these harms for most persons is small.

2. The correct answer is C. Most tests available in primary care settings do not have acceptable accuracy to detect glaucoma. The goal of screening is to identify and treat POAG before visual impairment develops. Although increased IOP is a risk factor for POAG, many persons with POAG do not have increased IOP, and not all persons with increased IOP have or will develop glaucoma. Therefore, screening with tonometry alone may be inadequate to detect all cases of POAG. Measurement of visual fields can be difficult. The reliability of a single visual field measurement may be low; several consistent measurements are needed to establish the presence of defects.

3. The correct answers are A, B, and D. According to the USPSTF, increased IOP, family history of glaucoma, older age, and black race increase a person's risk of POAG. Recent evidence shows Hispanics may be at increased risk of glaucoma as well. Older blacks have a higher prevalence of glaucoma than whites, and may have more rapid disease progression. If screening reduces vision impairment, then blacks would probably have greater absolute benefit compared with whites.

The views expressed in this work are those of the authors, and do not reflect the official policy or position of the Uniformed Services University of the Health Sciences, the Department of Defense, or the U.S. government.

SOURCES

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