

# Putting Prevention into Practice

*An Evidence-Based Approach*

## Behavioral Counseling to Promote a Healthful Diet and Physical Activity for Cardiovascular Disease Prevention in Adults with Cardiovascular Risk Factors

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See related U.S. Preventive Services Task Force Recommendation Statement at <http://www.aafp.org/afp/2015/0501/od1.html>.

This PPIP quiz is based on the recommendations of the USPSTF. More information is available in the USPSTF Recommendation Statement and the supporting evidence on the USPSTF website (<http://www.uspreventiveservicestaskforce.org>). The practice recommendations in this activity are available at <http://www.uspreventiveservicestaskforce.org/Page/Topic/recommendation-summary/healthy-diet-and-physical-activity-counseling-adults-with-high-risk-of-cvd>.

This series is coordinated by Sumi Sexton, MD, Associate Medical Editor.

A collection of Putting Prevention into Practice 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 441.

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### Case Study

J.W., a 34-year-old man who smokes, presents for his annual checkup for hypertension. His blood pressure is elevated (142/95 mm Hg), and he has gained 10 lb (4.5 kg) since his last visit. J.W. is now considered overweight, with a body mass index (BMI) of 27 kg per m<sup>2</sup>. He reports no other symptoms or problems.

### Case Study Questions

1. Based on the U.S. Preventive Services Task Force (USPSTF) recommendation, which one of the following types of behavioral interventions is most appropriate for this patient?

- A. Brief counseling and advice about nutrition and physical activity during his appointment.
- B. One or two nutritional counseling sessions over the next 12 months.
- C. An intensive weight-loss program.
- D. A single group therapy session.
- E. Intensive counseling, including a didactic education component.

2. Behavioral counseling interventions are beneficial for persons who are overweight or obese, and who also have which of the following additional cardiovascular risk factors?

- A. Hypertension.
- B. Hyperlipidemia.
- C. Elevated C-reactive protein level.
- D. Impaired fasting glucose.

3. Which one of the following statements about the benefits and harms of behavioral counseling interventions is correct?

- A. There is strong direct evidence that interventions decrease the risk of death or stroke.
- B. There is inadequate evidence that interventions improve intermediate outcomes, such as blood pressure, lipid levels, fasting glucose level, BMI, or levels of physical activity.
- C. There is adequate evidence that interventions improve behavioral and intermediate outcomes.
- D. Dietary interventions are associated with adverse events.

Answers appear on the following page.

### Answers

**1. The correct answer is E.** Trials of behavioral interventions for persons who are overweight or obese were generally intensive and combined counseling on a healthful diet and physical activity. The interventions involved an average of five to 16 contacts over nine to 12 months. Many types of counseling interventions were effective. However, it is not clear how the magnitude of the effect is related to the format of the intervention. Interventions generally focused on behavioral change, and all included didactic education plus additional support. Most included audit and feedback, problem-solving skills, and individualized care plans.

**2. The correct answers are A, B, and D.** This recommendation applies to persons who are obese or overweight with one or more well-established risk factors for cardiovascular disease (hypertension, hyperlipidemia, and impaired fasting glucose levels). Intensive behavioral counseling interventions are associated with small but important changes in cardiovascular disease risk factors. In the studies reviewed by the USPSTF, systolic and diastolic blood pressure was reduced by 1 to 3 mm Hg and 1 to 2 mm Hg, respectively; total cholesterol level was reduced by 3 to 6 mg per dL (0.08 to 0.16 mmol per L) and low-density lipoprotein level by 1.5 to 5 mg per dL (0.04 to 0.13 mmol per L); fasting glucose level was reduced by 1 to 3 mg per dL (0.1 to 0.2 mmol

per L); and the incidence of diabetes mellitus decreased by as much as 42%.

**3. The correct answer is C.** The USPSTF found adequate evidence that intensive behavioral counseling interventions to promote a healthful diet and physical activity lead to improvements in behavioral and intermediate outcomes in adults who are overweight or obese and at increased risk of cardiovascular disease. There is inadequate direct evidence that intensive behavioral counseling interventions lead to reductions in mortality or cardiovascular disease rates. There is adequate evidence of moderate benefits on intermediate outcomes, such as reductions in blood pressure, lipid and fasting glucose levels, and BMI, and increases in levels of physical activity. None of the dietary intervention studies explicitly reported adverse events.

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.

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### SOURCES

U.S. Preventive Services Task Force. Behavioral counseling to promote a healthful diet and physical activity for cardiovascular disease prevention in adults with cardiovascular risk factors: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med.* 2014;161(8):587-593.

Lin JS, O'Connor E, Evans CV, Senger CA, Rowland MG, Groom HC. Behavioral counseling to promote a healthy lifestyle in persons with cardiovascular risk factors: a systematic review for the U.S. Preventive Services Task Force. *Ann Intern Med.* 2014;161(8):568-578. ■