

Behavioral Counseling in Primary Care to Promote Physical Activity: Recommendation and Rationale  
**U.S. Preventive Services Task Force**

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This statement summarizes the U.S. Preventive Services Task Force (USPSTF) recommendations on counseling by primary care physicians to promote physical activity and the supporting scientific evidence, and updates the 1996 recommendations contained in the *Guide to Clinical Preventive Services*, Second Edition<sup>1</sup>. The complete information on which this statement is based, including evidence tables and references, is available in the accompanying article "Counseling by Clinicians: Does It Improve Physical Activity?"<sup>2</sup> which can be obtained through the USPSTF web site (<http://www.ahrq.gov/clinic/uspstfix.htm>) and in print through the AHRQ Clearinghouse (1-800-358-9295).

## **SUMMARY OF RECOMMENDATION**

- The USPSTF concludes that the evidence is insufficient to recommend for or against behavioral counseling in primary care settings to promote physical activity.

### **I recommendation.**

*The USPSTF found insufficient evidence to determine whether counseling patients in primary care settings to promote physical activity leads to sustained increases in physical activity among adult patients. Controlled trials of physical activity counseling adult primary care patients were of variable quality and had mixed results. There were no completed trials with children or adolescents that compared counseling with usual care practices. Data on the feasibility and potential harms of routine physical activity counseling in primary care settings are limited. As a result, the USPSTF could not determine the balance of potential benefits and harms of routine counseling to promote physical activity in adults. The USPSTF reviewed only the literature on the effectiveness of primary care counseling to promote physical activity. It did not review the evidence for the effectiveness of physical activity to reduce chronic disease morbidity and mortality, which has been well documented in other recent reviews.*

## **CLINICAL CONSIDERATIONS**

- Regular physical activity helps prevent cardiovascular disease, hypertension, type 2 diabetes, obesity, and osteoporosis. It may also decrease all-cause morbidity and lengthen life span.<sup>3</sup>
- Benefits of physical activity are seen at even modest levels of activity, such as walking or bicycling 30 minutes per day on most days of the week. Benefits increase with increasing levels of activity.<sup>4</sup>

- Whether routine counseling and follow-up by primary care physicians results in increased physical activity among their adult patients is unclear. Existing studies limit the conclusions that can be drawn about efficacy, effectiveness, and feasibility of primary care physical activity counseling. Most studies have tested brief, minimal, and low-intensity primary care interventions, such as 3 to 5 minute counseling sessions in the context of a routine clinical visit.

Multi-component interventions combining provider advice with behavioral interventions to facilitate and reinforce healthy levels of physical activity appear the most promising. Such multi-component interventions often include individually tailored physical activity regimes, patient goal setting, written exercise prescriptions, and mailed or telephone follow-up assistance provided by specifically trained staff. Linking primary care patients to community-based physical activity and fitness programs may enhance the effectiveness of primary care clinician counseling.<sup>5</sup>

- Potential harms of physical activity counseling have not been well defined or studied. They may include muscle and fall-related injuries or cardiovascular events.<sup>6</sup> It is unclear whether more extensive patient screening, certain types of physical activity (e.g., moderate vs. vigorous exercise), more gradual increases in exercise, or more intensive counseling and follow-up monitoring will decrease the likelihood of injuries related to physical activity. Existing studies provide insufficient evidence regarding the potential harms of various activity protocols such as moderate compared with vigorous exercise.

## **SCIENTIFIC EVIDENCE**

### **Epidemiology and Clinical Consequences**

Observational studies show that sedentary lifestyles (little or no leisure time, household, or occupational physical activity) are associated with increased risks for many chronic diseases and conditions, including cardiovascular disease, hypertension, diabetes, obesity, and osteoporosis and that increased levels of physical activity can reduce these risks.<sup>3</sup> Despite the well-established benefits of exercise, 20 to 30% of adult Americans reported being sedentary in 1996.<sup>4</sup> Only about 20% of adults achieved the recommended *Healthy People 2010* level of moderate physical activity: 30 minutes of moderate physical activity, preferably daily. Only 15% of adults achieved a vigorous level of physical activity for 20-minutes on three days of the week.<sup>2</sup>

Physical activity counseling practices of clinicians are highly variable. In a 1992 survey, 40% of internists reported assessing the activity status of patients, but only 25% of all the internists reported writing physical activity plans for patients.<sup>7,8</sup> Similarly, 30% of nurse practitioners reportedly assessed the physical activity levels of patients, but only 14% of all the nurse practitioners provided written exercise plans.<sup>7,8</sup> Patient surveys suggest that 30% to 50% of patients have received advice (verbal or written) about exercise from their primary care providers. However, the validity of such patient estimates are limited because the studies from which they were derived used varied and unclear definitions of “clinician counseling” and/or relied on patient recall of physical activity counseling previously received in the primary care setting.

### **Effectiveness of Counseling**

The ideal evidence in support of counseling would directly link counseling to improved health outcomes in a controlled trial. In the absence of such evidence, the clinical logic behind counseling is based on a series of critical assumptions: the clinician must be able to assess

whether a patient is sedentary or physically active; the clinician uses critical components of counseling that must be routinely replicable among patients; counseling must increase and maintain physical activity among sedentary patients; and the benefits of this increase in physical activity must be greater than the adverse effects of assessment and counseling.

Several theories are available on which to build counseling interventions; many of the studies examined by the USPSTF reported using more than one theory<sup>9</sup>. Most behavioral counseling strategies developed and tested for routine use by primary care providers seek to condense a more intensive clinic-based cognitive-behavioral intervention into a brief intervention that fits readily into routine primary care. Physical activity counseling interventions often include a single 3-5 minute encounter with the clinician, followed for some by a follow-up session with either the clinician or another member of the health care team. Such counseling may occur alone or in the context of preventive clinical screenings and other lifestyle behavior change interventions. In most reports, the details of the counseling intervention were incomplete. It was thus difficult to determine whether a specific counseling component was significant or essential to changing behavior. There were too few studies available or of acceptable quality to determine whether a particular counseling technique outperformed others in producing behavior change.

The USPSTF found 9 fair to good quality controlled trials (7 randomized<sup>6,9-15</sup>, 1 not randomized<sup>16</sup>) and 5 poor quality trials that addressed whether counseling involving a primary care clinician improved physical activity. Most trials involved sedentary adults. Most studies directly tested whether physical activity counseling in the primary care setting was beneficial although some<sup>(10,12,14)</sup> were designed to test whether educating clinicians to provide physical activity counseling was beneficial directly tested whether physical activity counseling in the

primary care setting was beneficial. Some interventions addressed multiple behaviors (smoking, alcohol use, and sedentary behaviors). Reports often provided limited detail regarding counseling interventions, and in several studies, delivery or receipt of the intervention was not confirmed. Some trials studied selected patient and/or provider populations. Most fair to good quality trials followed participants for at least 6 to 12 months and had follow-up rates of > 85%. Few studies included efforts to verify or validate self-reported behavioral outcomes.

The six trials of fair to good quality that compared physical activity counseling protocols to usual care provided mixed results<sup>10-14,16</sup>. Of the three trials reporting short-term (< 6 months) behavioral outcomes one found significantly higher physical activity levels in the intervention group, and two found no differences between intervention and control groups inactivity levels. Of the six trials that reported long-term ( $\geq$  6 months) behavioral outcomes,, two found significantly higher physical activity levels in the intervention group, and four found no differences between intervention and control group levels of physical activity.

Two fair to good quality randomized trials compared two or more different interventions aimed at increasing physical activity<sup>6,15</sup>. In one, patients receiving advice and an exercise prescription were significantly active at both 6 weeks and 11 months than those receiving only advice only. In a large, good quality, trial that compared increasingly intensive interventions delivered over a 2 year period: (physician advice alone totaling about 18 minutes physician advice plus moderate intensity health educator behavioral counseling totaling about 3 hours, and physician advice plus more intensive health educator behavioral counseling totaling about 9 hours), there were no significant overall group differences in self-reported physical activity or cardiorespiratory fitness at 6, 12 and 24 months. However, women in the most intensively counseled group reported significantly higher energy expenditure at 6 months than women in the

moderate intensity group and women in the moderate and intensive counseling groups were documented to have (measured by  $\text{VO}_2$  max) significantly higher fitness levels and than women in the advice only group.

The USPSTF found no completed studies examining the effectiveness of physical activity counseling for children or adolescents which compared treatment to a usual care control. Several such studies are in progress.

### **Potential Adverse Effects of Counseling**

Only one of the trials reviewed, monitored and reported potential harms related to physical activity counseling.<sup>6</sup> This trial, in which initially sedentary program participants between 35 and 75 years of age chose either moderate or vigorous activity, found an approximate 60% rate of musculoskeletal injuries and 30% rate of potential cardiovascular events (chest pain, difficulty breathing, dizziness or loss of consciousness) over two years, with no significant differences between groups randomized to physician advice, physician advice plus behavioral counseling, or physician advice plus more intensive counseling. As this trial had a control group that received currently recommended care, it is difficult to ascertain whether any of the reported harms were directly due to physical activity counseling.

Health care systems also could be adversely affected by widespread implementation of counseling. Through increased demand on clinical staff. However, available evidence suggests that clinicians may view counseling instead as a benefit to their practices. In large randomized controlled trial, 63% of participating clinicians felt that counseling caused little to no increase in the length of the routine visit, 33% percent felt there was some increase, and only 4% complained of a substantial increase in the patient visit; 83% felt that offering physical activity counseling was a benefit to the clinic.<sup>17</sup>

## DISCUSSION

Many benefits of physical activity have been identified in epidemiologic and laboratory studies. The challenge to clinicians and communities is to determine how to promote appropriate regular physical activity levels among large segments of the population. The USPSTF as well as the Task Force on Community Preventive Services addressed these issues. Whereas the USPSTF addressed the effectiveness of clinician counseling in primary care to increase physical activity, the Task Force on Community Preventive Services has addressed the effectiveness of community-based programs, such as building sidewalks or biking/jogging paths, changing school-based physical education programs, using media to promote increased physical activity, and creating accessible cities by transport other than motor vehicles.<sup>5</sup>

Although some intervention trials suggest that primary care counseling can promote increases in physical activity, the sum of studies conducted and reported to-date are inadequate to determine the overall efficacy, effectiveness and feasibility of physical activity counseling by clinicians in primary care settings. Reasons for mixed results among existing studies are not clear but involved variability in the rigor with which the interventions were delivered or evaluated and may have included, failure to distinguish patients who were ready to begin an exercise program from those who were not, and a lack of the most effective mix of intervention strategies. Further studies are needed of the effects of clinician counseling on the level of physical activity among children, adolescents and adults. The balance of benefits and harms, as well as approaches to preventing adverse effects, particularly among older adults and those less fit, need further exploration.

## RECOMMENDATIONS OF OTHERS

The Canadian Task Force on Preventive Health Care concluded that the evidence for or against a recommendation to include physical activity counseling in the periodic health examination was lacking (Recommendation category C, “Inconclusive”)<sup>18</sup> Many organizations and agencies recommend that healthcare providers counsel individuals about physical activity; these recommendations are based on the health benefits of physical activity rather than the effectiveness of counseling by clinicians for promoting changes in physical activity. Such organizations include the Department of Health and Human Services (*Healthy People 2010*), Centers for Disease Control and Prevention, , National Center for Education in Maternal and Child Health (*Bright Futures*),<sup>19</sup> American Academy of Family Physicians,<sup>20</sup> American Academy of Pediatrics,<sup>21</sup> The American Heart Association,<sup>22</sup> and The American College of Obstetricians and Gynecologists.<sup>23</sup>

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