Interpreting the Physical Activity Guidelines for Health and Weight Management

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The aim of this review is to provide a scientific update on the current guidelines for both health and weight management. There has been confusion among health professionals as to which physical activity guidelines should be used to help various specific populations adopt more active lifestyles. We first review the history of the physical activity guidelines. Using the physical activity guidelines in clinical practice is also explored. We also describe common barriers to physical that overweight individuals report and we discuss when it is appropriate for a health care professional to seek a referral from an exercise scientist to help sedentary adults increase their levels of activity. It is important for individuals who care for overweight patients and sedentary adults to understand the current physical guidelines and how these guidelines can be worked into clinical practice.

**Keywords:** exercise recommendations, obesity, overweight, weight maintenance

Overweight (BMI = 25 to 29.9 kg/m²) and obesity (BMI ≥ 30 kg/m²) affect in excess of 65% of the adult population in the United States, and this results in a significant public health concern because of the link with numerous chronic diseases. Despite this concern, a survey conducted in 2000 indicated that approximately 85% of adults reported not receiving weight control advice from their health care provider. However, approximately 60% of adults reported using physical activity for the purpose of weight control. Thus, it is important for health-care providers to understand the benefits of physical activity for overweight and obese individuals, and to be prepared to provide accurate advice to these patients regarding their physical activity behaviors.

There is a growing body of scientific evidence to support the health benefits of a physically active lifestyle. However, recent data suggest that only 19% of obese men and 16% of obese women meet the minimum public health recommendations for physical activity to improve their health. These data are interesting given that 62% of obese men and 57% of adult women also report trying to use physical activity to lose weight. This may indicate that these individuals are not participating in adequate levels of physical activity to improve health or positively impact their body weight.

In addition to the independent health impact of physical activity, adequate levels of physical activity have been shown to be important for weight loss and the prevention of weight regain. For example, during periods of weight loss, exercise may preserve metabolically active lean tissue and bone mass, as well as enhance visceral fat loss. Moreover, physical activity may improve mobility and reduce disability impairments that may be common with obesity and a sedentary lifestyle. Therefore, it is important for overweight and obese individuals to adopt and maintain a physically active lifestyle, with the potential health benefits illustrated in Figure 1.

**The History of the Physical Activity Guidelines**

The current physical activity guidelines have evolved over the past 10 to 15 years. As these guidelines have progressed, it is important for health-care professionals to understand that the specific physical activity recommendation is based on the specific health or fitness outcome that is desired. For example, the recommendation for fitness improvements may be different than the recommendation for health-related outcomes, which may be different than the recommendations for weight loss, prevention of weight regain, and prevention of initial
The evolution of physical activity recommendations is summarized below.

Initially, exercise guidelines were based primarily on the cardiorespiratory fitness benefits that could be derived from various doses, intensities, and modes of exercise. However, as research expanded in the area of physical activity, it became apparent that significant health-related benefits could be achieved at lower levels of physical activity. These health-related benefits of physical activity have been highlighted in the 1995 recommendation by the Centers for Disease Control and Prevention (CDC) and the American College of Sports Medicine (ACSM). The recommendation stated that significant health benefits could be achieved with the accumulation of at least 30 minutes of physical activity that is of at least moderate intensity on most days of the week. This recommendation was similar to the Surgeon General’s Report on Physical Activity and Health, which concluded that a moderate amount of physical activity (eg, 30 minutes of brisk walking) on most days of the week can improve health and quality of life. Thus, there appears to be sufficient scientific evidence to support this recommendation related to general health-related outcomes. Moreover, this provides a minimal level of physical activity that should be promoted by health-care professionals to impact health-related outcomes of their clients and patients.

A unique characteristic of the CDC/ACSM physical activity recommendation is the option for “accumulation” of adequate levels of physical activity across the day, with these sessions being a minimum of 8 to 10 minutes in duration. This was a significant deviation from previous guidelines which had recommended continuous exercise of at least 20 minutes in duration. However, there is evidence that accumulation of multiple periods of moderate intensity physical activity that result in at least 30 minutes per day can significantly increase cardiorespiratory fitness, potentially impact cardiovascular disease risk factors, and most importantly may increase the initial adoption of physical activity behavior in previously sedentary adults. Thus, health-care professionals may consider this strategy when recommending physical activity for sedentary individuals who may be deconditioned, as this may provide a realistic method of gradually increasing physical activity to meet the minimum public health recommendations. Moreover, this may provide a viable alternative to traditional continuous physical activity that may have constraints for some individuals due to perceived lack of time.

While there appears to be sufficient evidence to support the recommendation of at least 30 minutes of moderate intensity physical activity on most days of the week to impact health-related outcomes, this level of physical activity may not be sufficient to facilitate weight loss and the prevention of weight regain in overweight adults. In 2001, ACSM recommended that approximately 200 to 300 minutes of moderate intensity physical activity per week may be necessary to enhance long-term weight loss. This was similar to the recommendation from the Institute of Medicine (IOM) that suggested 60 minutes of moderate intensity physical activity per day and the International Association for the Study of Obesity (IASO) which recommended 45 to 90 minutes of physical activity per day to control body weight. These recommendations are based on a growing body of scientific literature to support this recommendation. Moreover, this has resulted in the recent US Dietary Guidelines recommending 60 minutes of physical activity per day to prevent weight gain, and 60 to 90 minutes per day of physical activity per day to prevent weight regain. In 2007, the American College of Sports Medicine and the American Heart Association stressed the importance of regular moderate intensity or vigorous intensity activity to help older adults prevent unhealthy weight gain and to promote healthy active living. Recently, the U.S. Department of Health and Human Services Physical Activity Guidelines Advisory Committee noted that obese individuals experience a variety of health benefits from physical activity that are similar to those observed in people who are at a healthy weight. The Committee also noted that the optimal amount of physical activity to achieve weight maintenance remains unclear. However, it is clear that appropriate physical plays an important role helping patients achieve weight stability.

However, it needs to be noted that the impact of physical activity alone on weight control may be modest and result in ≥2.0 kg of weight loss across 12 weeks to years of treatment. It appears that, to achieve significant weight loss and prevent weight regain, adequate levels of physical activity should be combined with a comprehensive weight management program that includes an emphasis on healthy eating behaviors and energy intake. A summary of recent guidelines for physical activity is presented in Table 1.
Using Physical Activity Guidelines in Clinical Practice

Health-care professionals should be aware of the positive health implications that may result from various doses of physical activity. Clearly, physical activity guidelines cannot be thought of as universal across populations. Age, fitness levels and physical activity history still need to be considered with any prescription for physical activity. As indicated above, it appears that at least 30 minutes per day of moderate intensity physical activity may be necessary to promote various health-related outcomes, whereas, 45 to 90 minutes per day may be required to promote optimal body weight control.
While it is critical to understand these recommendations, the greater challenge for health-care providers is to help patients translate these recommendations into changes in their physical activity behavior.

A potential concern related to the current physical activity recommendations is whether individuals perceive these guidelines as too daunting considering the time commitment that may be required (see Barriers to Exercise below). This may be problematic because of the impact that this could have on initial attempts to increase physical activity, if in fact the activity recommendation appears to be unachievable. Therefore, while it is important for individuals to achieve at least these minimal levels of physical activity to improve health or weight control, it is also important for the clinician to provide the client realistic strategies that will permit a progression of physical activity that will culminate in the attainment of these guidelines. For example, rather than initially recommend 60 minutes of physical activity per day, it may be more appropriate to recommend starting with 10 to 15 minutes per day and to increase this initial level by 5 to 10 minutes every few weeks. For example, the recommendations may progress from 10 minutes per day for 4 weeks, to 20 minutes per day for 4 weeks, to 30 minutes per day for 4 weeks, which will allow for the individual to achieve the minimal public health recommendation of 30 minutes per day of moderate intensity physical activity. After achievement of this goal, the progression can continue by progressing by 10 minutes per day at 4 week intervals until 60 minutes per day is achieved. Moreover, it is important for the patient to understand that this amount of activity can be divided into multiple sessions per day of at least 10 minutes per session, and this will potentially facilitate the adoption and progression to adequate levels of physical activity. Most sedentary patients and many clinicians mistakenly believe that the goal of exercising 60 minutes per day can be easily achieved within a short period of time. Sedentary overweight individuals should be informed it may take several months of regular activity to achieve the fitness levels that are necessary to meet physical activity guidelines. Ultimately, appropriate strength exercise and flexibility training should also be included in the comprehensive exercise prescription.

Another consideration when recommending physical activity for sedentary adults is the importance of emphasizing that the activity needs to be performed at a moderate intensity. This can be accomplished by providing a specific heart rate range that is representative of moderate intensity physical activity (e.g., 55 to 65% of maximal heart rate). However, the measurement of heart rate may be difficult for some individuals, while others simply will not objectively monitor the intensity of their physical activity while in a free-living setting. Thus, providing a reference that clients can relate to that will facilitate their understanding of “moderate intensity” may be helpful. Heart rate monitors and accelerometers may help beginning exercisers monitor the levels of their activity. In addition, recommending a brisk walk that is similar to walking at a pace that most individuals would walk to avoid being late for an important appointment or that their breathing should be somewhat but not overly labored can both be an effective way for individuals to understand the minimal intensity of physical activity that will improve health and cardiorespiratory fitness, and increase energy expenditure to facilitate weight control.

**Barriers to Exercise Among Overweight Adults**

Despite the known health benefits of physical activity, it appears that overweight and obese patients fail to either adopt or maintain adequate levels of physical activity that have been associated with health or weight control. Thus, it is important to understand factors that impact physical activity participation in these individuals. Data from Dr. Andersen’s laboratory indicated that, 12 months following a 16-week weight loss intervention, a perceived lack of time was predictably the greatest barrier that overweight patients faced in maintaining activity levels and feeling tired followed as the second most cited barrier. Additional barriers that were reported are illustrated in Figure 2.

It is important for health professionals to have effective tools to assist patients in overcoming potential barriers to physical activity participation. A brief assessment using the example questionnaire provided in Figure 3 may provide information related to activity behaviors and anticipated barriers to physical activity that requires attention. Once barriers are identified, the use of problem solving to assist patients in identifying potential strategies that will be effective for overcoming these barriers. This should involve the patient actively being involved in this process, with the health-care professional providing guidance and feedback throughout this process to encourage realistic and effective strategies.

![Figure 2](image-url) — Post treatment barriers to regular exercise in obese patients. Scale is from 0 to 8 with 0 = “no barrier at all” and 8 = “tremendous barrier.”
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Summary

The prevalence of overweight and obesity have reached record levels in the U.S. and around the world, and this will have significant health implications due to the link between excessive body weight and the onset of numerous chronic diseases. An additional concern is that few overweight or obese individuals participate in adequate levels of physical activity to improve health and control their body weight. Thus, it is important for health-care professionals to encourage the participation of these individuals in adequate levels of physical activity. An initial target should be the adoption and maintenance of at least 150 min/wk of moderate intensity exercise, which has been shown to improve health-related outcomes. Once this initial level of physical activity is achieved, it may be appropriate to gradually progress the individual to at least 60 minutes of moderate intensity physical activity per day, as this level of physical activity has been recommended for improving long-term weight control. To assist patients in achieving these levels of physical activity, it may be necessary to provide specific strategies to overcome potential barriers or to elicit the expertise of a certified exercise professional.

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When to Refer the Patients for Assistance

The information obtained using the example questionnaire provided in Figure 3 can assist the health-care professional in providing adequate guidance to facilitate behavior change in previously sedentary adults. A potentially effective strategy is to encourage activity that the individual reports enjoying or has participated in this past. This may be sufficient to move some individuals to a more physically active lifestyle. However, many individuals may not be responsive to this level of intervention and require more specific and ongoing guidance from an exercise professional. Considering the potential time commitment that may be required to help a patient begin an exercise program, a health professional should establish a referral network to assist in this process. In this regard, a certified exercise specialist can provide the additional, and many times necessary, ongoing guidance and encouragement to facilitate the adoption and maintenance of adequate levels of physical activity to improve health and weight control outcomes. When establishing this referral network, the health professional should consider those individuals who have credentials from respected and established professional organizations. While not exclusive, examples of these organizations (in no particular order) are The American College of Sports Medicine, The National Strength and Conditioning Association, and The American Council on Exercise. All 3 organizations have web sites that offer free information to the beginning exerciser and also offer a free fitness professional locator service on the web. These links can be found in below:

References