

## The Evolution of Physical Activity Promotion

*Nurses can encourage patients to get more active, especially in small, incremental ways.*

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**Overview:** A physically active lifestyle has numerous physical and mental health benefits for patients of all ages. Despite these significant benefits, a majority of Americans do not meet current physical activity guidelines. Health care providers, especially nurses, play a vital role in physical activity promotion. Over the past several decades, exercise and physical activity guidelines have evolved from a focus on structured, vigorous exercise to a focus on moderate intensity lifestyle physical activity. The author updates nurses on physical activity guidelines and provides tips on promoting physical activity, focusing on lifestyle activities such as walking to work. This article also addresses new research findings on the importance of decreasing sedentary and sitting time, even in physically active people.

**Key words:** physical activity; walking; health promotion; sedentary time

It is no surprise to most of us to hear—yet again—that physical activity is good for us. Still, for most Americans, incorporating physical activity into a daily routine is quite challenging. Often when I ask patients about their lifestyle, they are quick to admit they need more exercise. As a nurse, I view such conversations as opportunities to discuss and encourage physical activity with my patients.

But it's rarely easy, even though promotion of physical activity has been a public health priority for decades.<sup>1</sup> Key U.S. public health agencies, such as the Centers for Disease Control and Prevention (CDC), routinely collect data indicating that most Americans are not meeting physical activity guidelines.<sup>2</sup> Physical inactivity and increased caloric intake are directly related to the prevalence of adult and childhood obesity, and obesity is a major underlying factor in the development of many chronic diseases.<sup>3</sup> In addition, we know that participation in regular physical activity decreases the risk of coronary heart disease, hypertension, type 2 diabetes, osteoporosis, depression, obesity, breast and colon cancers, and falls in older adults.<sup>4</sup> Being physically active can reduce symptoms of anxiety and depression and improve cognitive function in older adults.<sup>4</sup> There is also strong evidence that active adults have a 30% lower risk of dying from any cause than inactive adults.<sup>4</sup>

Despite the numerous and substantial health benefits of being physically active, only about half of U.S. adults and less than one-third of younger people are sufficiently active.<sup>5,6</sup>

Nurses can be influential in increasing the level of physical activity among populations across the lifespan. I have a broad background in nursing and health promotion, with specific training and expertise in physical activity promotion. My research includes examinations of physical activity determinants using a social ecological framework,<sup>7,8</sup> a model that takes into account not only individual factors but also relationships and societal factors.

In this article I provide an overview of current physical activity guidelines and discuss the role of the nurse in physical activity promotion.

### **U.S. PHYSICAL ACTIVITY GUIDELINES**

Given the numerous health benefits of physical activity, several public health guidelines have been established on the recommended amount and intensity of physical activity. Over the past several decades, such guidelines have evolved from a focus on structured, vigorous exercise to a focus on promoting more moderate-intensity and “lifestyle” physical activity. Lifestyle physical activities are those that can be incorporated into everyday life and don’t require equipment. Examples include bicycling to run errands, walking with a family pet or friends, gardening, taking the stairs, or cleaning.

**Physical Activity Guidelines for Americans.** In 2008 the U.S. Department of Health and Human Services issued the first-ever national physical activity guidelines, available online at [www.health.gov/paguidelines](http://www.health.gov/paguidelines).<sup>4</sup> These recommendations were intended to complement and clarify the Dietary Guidelines for Americans, as well as other national health-promotion and disease-prevention efforts. The guidelines stress the following:

- Physical inactivity should be avoided at all costs.
- To gain the significant health benefits associated with being physically active, adults and older adults should participate in at least 150 minutes (2 hours and 30 minutes) of moderate-intensity physical activity (MPA) or 75 minutes (1 hour and 15 minutes) of vigorous-intensity activity (VPA) a week or a combination of both.
- Older adults unable to achieve 150 minutes of MPA should be as physically active as their abilities allow, including balance exercises to reduce the risk of falling.
- Children and adolescents should participate in at least 60 minutes of MPA or VPA daily.
- Pregnant women, people with disabilities, and other special populations unable to achieve these targets should be encouraged to be as physically active as their abilities allow.
- Everyone should engage in bouts of some kind of physical activity in 10-minute increments spread throughout the week.

The report emphasizes a “dose–response relationship,” the dose being the amount of activity performed and the response being the expected health benefits of that activity. For instance, one sees greater health benefits with greater participation in physical activity. See Table 1 for examples of VPA and MPA.<sup>4</sup>

These 2008 physical activity guidelines were created to be less prescriptive than previous agency-specific guidelines, which recommended 30 minutes of physical activity daily for five days a week or 20 minutes of vigorous activity daily for three days a week.<sup>9</sup> The 2008 guidelines allow a person to accumulate 150 minutes of physical activity a week in various ways. Also worth noting, the 2008 guidelines recognize that the purpose of a physical activity does not affect whether it counts toward meeting the recommendation. For instance, physically active occupations and active transportation, including walking or bicycling, can count. Furthermore, a review by the Physical Activity Guidelines Committee stressed that for children an increased focus on physical activity promotion in childcare and school settings is an important intervention point.<sup>10</sup>

**National Physical Activity Plan.** In a further attempt to increase physical activity, the National Physical Activity Plan (NPAP) was issued in 2010 (available online at [www.physicalactivityplan.org](http://www.physicalactivityplan.org)).<sup>11</sup> The NPAP was devised by a not-for-profit coalition of national organizations collaborating “to insure that efforts to promote physical activity in the American

population will be guided by a comprehensive, evidence-based strategic plan” and to support the 2008 U.S. Physical Activity Guidelines. The vision of the NPAP is that “[o]ne day, all Americans will be physically active and they will live, work, and play in environments that facilitate regular physical activity.”

The NPAP has organized initiatives, policies, and recommendations for physical activity into eight “societal sectors,” including health care; a ninth, faith-based organizations, will be added when the plan is revised later this year.

The NPAP recognizes that health care providers have a unique opportunity to encourage individuals, families, and communities to increase their daily physical activity and created six specific strategies to facilitate this. The NPAP includes the following strategies for health care<sup>11</sup>:

1. Make physical activity a patient “vital sign” that all health care providers assess and discuss with their patients.
2. Establish physical inactivity as a treatable and preventable condition with profound health implications.
3. Use a health care systems approach to promote physical activity and to prevent and treat physical inactivity.
4. Reduce disparities in access to physical activity services in health care.
5. Include physical activity education in the training of all health care professionals.
6. Advocate at the local, state, and institutional levels for policies and programs that promote physical activity.

The NPAP discusses how health care providers can meet these strategies. For example, providers are encouraged to be role models for active lifestyles for patients. By leading an active lifestyle, for example, a nurse could encourage patients to do the same. The NPAP also recommends that providers become familiar with community-based physical activity programs and resources and include culturally relevant counseling materials for patients. By knowing what is available in the community, the nurse can give patients specific programs and locations where to be physically active. Higher-level tactics include promoting physical activity more broadly in the communities in which providers work and live. For example, a nurse would be a great asset on a community health council or board.

### **PHYSICAL ACTIVITY PROMOTION: THE ROLE OF NURSES**

Nurses, because of their frequent contact with patients and ability to develop trusting, therapeutic relationships, can help motivate patients to make health behavior changes such as increasing physical activity. An important role for nurses is to assess and counsel patients on the benefits of physical activity. Assessment of the current level of activity should be done at every routine patient encounter. A document called *Nurses’ Action Guide* has been prepared by the Preventive Cardiovascular Nurses Association in collaboration with Exercise Is Medicine. The document guides nurses in assessing a patient’s readiness for a physical activity program. Go to <http://bit.ly/NursesAction>.

Following assessment, nurses should try to discover what types of physical activities the patient enjoys and is able to do. Counseling and education strategies are essential in the initiation and continuation of any physical activity program. When providing physical activity counseling, nurses should consider using a variety of proven strategies with patients. It is important to note that there is no one-size-fits-all strategy. Rather, research shows that individually tailored behavioral strategies, such as creating a plan for physical activity, are more effective than using

cognitive strategies.<sup>12,13</sup> Cognitive strategies typically try to improve knowledge or change attitudes about physical activity.<sup>12,13</sup> The fact is we know physical activity is good for us, but knowledge does not correspond to behavior change.

Behavior-change strategies that include short- and long-term goal setting, combined with self-monitoring of goal progress, has been shown to be effective in increasing physical activity.<sup>12,14</sup> Studies show that real-time self-monitoring of physical activity with the use of digital activity trackers is an effective strategy in promoting physical activity.<sup>15</sup> These devices have been shown to be effective for people with higher risk factors, especially older, less physically active people.<sup>16</sup> One way to create goals is to use the SMART goal format (see *SMART Goals*). Establishing goals that address these specific attributes allows patients and nurses to create achievable plans that allow for consistent evaluation of progress.

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For instance, the thought of starting an exercise routine might be overwhelming for many patients, especially if they presume it means going to a gym. Instead, you might suggest to a patient that she or he slowly increase physical activity by adding 10 minutes of brisk walking each day. Daily 10-minute increments add up, and the total activity in a week can provide significant health benefits. It is also important to help patients identify social support to further facilitate behavior change. This support could be provided by a neighbor, friend, family member, or even a walkable pet. For example, studies support that people who walk with a dog tend to be more physically active than non-dog owners and dog owners who are not active with their pets.<sup>17</sup>

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And nurses need to be aware of the tools and resources available to help patients reach their physical fitness goals. The Web site of the 2008 guidelines includes a list of age-based resources and tools for helping Americans get more physical activity and keep track of it: [www.health.gov/paguidelines/resources](http://www.health.gov/paguidelines/resources). Also, see *Resources* for additional links.

### GETTING ACTIVE ISN'T ALWAYS ENOUGH

Unfortunately, meeting physical activity guidelines may not be enough to promote health and prevent disease.

A recent study by Dunlop and colleagues of 2,286 older adults showed a strong relationship between sedentary time and activity-of-daily-living (ADL) disability, independent of whether subjects engaged in MPA or VPA.<sup>18</sup> In fact, the study found, the odds of ADL disability increased by 50% for each additional hour spent sedentary per day. In other words, if you had two patients with similar age and level of moderate-to-vigorous physical activity levels but one spent an additional hour each day being sedentary, the relative risk of ADL disability would significantly increase by 50% in the more sedentary patient.

Plus, a recent meta-analysis by Schmid and Leitzmann that included 43 observational studies with 68,936 cancer cases concluded that prolonged television viewing and other sedentary activities, including occupational sitting, were associated with significant increased relative risks of colon, lung, and endometrial cancers but not of other cancers.<sup>19</sup>

These findings highlight previous research that showed that we need to move beyond focusing solely on reaching physical activity goals. Excessive sedentary time, independent of physical activity, may increase the risk of adverse health outcomes, including overall death rates.<sup>20</sup>

In 2008 Healy and colleagues reported that prolonged sitting during the day was detrimental to health.<sup>21</sup> They conducted a cross-sectional study of more than 4,000 Australian adults, finding a significant dose-response relationship between television viewing time and waist circumference, systolic blood pressure, triglycerides, and high-density lipoprotein (HDL)

cholesterol levels. More women than men showed the relationship. It is important to note that these clinical findings persisted even after adjusting for moderate-intensity leisure-time physical activity.

A population-based, prospective study of roughly 17,000 Canadian adults followed for more than 12 years found that even if participants met minimum physical activity guidelines, there was a strong relationship between time spent sitting and the risk of dying from any cause and from cardiovascular disease.<sup>22</sup>

These findings stress that engaging in regular physical activity does not cancel out the harmful effects of too much sitting during the day. So why is sitting shown to be bad for overall health? Authors of a 2008 literature review (which included human and animal studies) hypothesized that excessive sitting results in increased blood triglyceride levels, and disuse of muscles impairs metabolism of circulating fats, increasing the risk of cardiovascular disease.<sup>23</sup>

These findings add up to a sobering reality: the benefits of 150 minutes per week of moderate activity may be undone if a person spends much of the rest of the time sitting.

Therefore, health care providers must assess not only the activities patients participate in but also what they are doing in their down time. This is especially important when discussing physical activity with patients who are active in their occupations. Patients may say that they are on their feet eight to 10 hours a day and that leisure-time physical activity is therefore not a priority. But for enhancing health and reducing risk, it's important to break up long periods of sitting with standing and short breaks, regardless of how active a person is.

What approaches might reduce sedentary behavior? A statement from the President's Council on Fitness, Sports and Nutrition (2012) sums it up well: "Stand up, sit less, move more, more often."<sup>10</sup> In addition to physical activity counseling, you can advise patients to find ways to limit their sitting time while at work, at home, and during transportation and to break up sitting time through frequent transitions from sitting to standing and walking.<sup>24</sup> A balance of sedentary and active times throughout the day, including transportation, work, home, and leisure settings, is the goal.

To help combat sedentary time, here are some tips you can share with your patients—and make sure you practice, as well.

- Take a five-minute break during every hour of sitting.
- Walk during your lunch break.
- Whenever you take a drink of water, stand up and move around for a few seconds.
- Instead of having coffee with friends, take a walk with them.
- When watching television, stand up and move during every commercial break.
- While at work, instead of emailing colleagues, walk to their desks.
- Whenever you are on your cell phone, stand up and walk around.
- Limit leisure screen time (whether on a TV, computer, or tablet) to no more than two or three hours a day, and stand up and move at least every 30 minutes.
- When waiting for someone in your car, get out and walk around the parking lot.

#### **Table 1. Examples of Moderate- and Vigorous-Intensity Physical Activities<sup>4</sup>**

##### **Moderate Intensity**

- brisk walking
- doubles tennis

- gardening
- water aerobics
- yoga
- bicycling (under 10 miles per hour)

### **Vigorous Intensity**

- jogging or running
- singles tennis
- jumping rope
- hiking uphill
- swimming laps
- bicycling (over 10 miles per hour)

### **[BOX]**

#### **SMART goal formation**

- Specific
- Measurable
- Achievable
- Realistic
- Time-specific

### **[BOX]**

#### **RESOURCES**

- U.S. Physical Activity Guidelines Resources:  
[www.health.gov/PAGuidelines/resources/#consumer](http://www.health.gov/PAGuidelines/resources/#consumer)
- National Heart, Lung, and Blood Institute:  
<http://www.nhlbi.nih.gov/health/educational/wecan/tools-resources/physical-activity.htm>
- USDA Choose MyPlate Physical Activity: [www.choosemyplate.gov/physical-activity.html](http://www.choosemyplate.gov/physical-activity.html)
- American Heart Association:  
[http://www.heart.org/HEARTORG/GettingHealthy/PhysicalActivity/Physical-Activity\\_UCM\\_001080\\_SubHomePage.jsp](http://www.heart.org/HEARTORG/GettingHealthy/PhysicalActivity/Physical-Activity_UCM_001080_SubHomePage.jsp)

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