

# Physical Activity Can Reduce Secondary Conditions in Youths With Limb Differences

by Blythe Hiss, BS, National Center on Physical Activity and Disability

Obesity has risen at an epidemic rate in the United States during the past 20 years. The Centers for Disease Control and Prevention (CDC) has predicted that, if the trend continues at the current rate, 40 percent of the American population (68 million people) will be diagnosed as obese by 2010. This increase applies to both genders, all racial and ethnic groups, and all ages.



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Since 1980, obesity rates have doubled among children and tripled among adolescents. Of children and adolescents ages 6 to 19, 15 percent — about 9 million young people — are considered overweight. An additional 15 percent of children and adolescents are at risk for being overweight, meaning they have a body mass index (BMI) for their age that falls between the 85th and 95th percentile.

## What Is “Body Mass Index”?

BMI is an estimate of your body fat, based on your height and weight. While it is generally accurate and easy to calculate, BMI can read too high for athletes or others with large, heavy muscles. It can also exaggerate low readings for seniors who have lower muscle mass. Although it is not a perfect diagnostic tool when

used alone, a high BMI indicates risk for heart disease, diabetes, cancer, high blood pressure and osteoarthritis. For all adults aged 20 years or older, BMI falls into one of these categories:

- Underweight – Less than 18.5
- Normal – 18.5 to 24.9
- Overweight – 25.0 to 29.9
- Obese – 30.0 and higher

BMI calculations are slightly more complicated in evaluating youths age 2 to 20. Youth’s body fat levels change as they grow, decreasing during preschool years, then increasing into adulthood. Also, boys and girls differ in their body fat as they mature. This is why BMI for youths, also referred to as BMI-for-age, is gender- and age-specific. Each of the BMI-for-age charts contains a series of curved lines indicating specific percentiles that reflect these growth patterns. For example, a child who has a BMI score at the 60th percentile means that 60 percent of American children of the same gender and age have a lower BMI. The following percentile ranges are used to identify underweight and overweight in children:

- Underweight – Equal to or less than (<) 5th percentile
- At Risk for Overweight – 85th to 94th percentile
- Overweight – Equal to or more than (>) 95th percentile

## What Are Secondary Conditions?

A secondary condition is broadly defined as any medical, social, emotional, mental, family or community problem that a person with a primary disabling condition is likely to experience. Diabetes, hypertension, high cholesterol and cancer are often linked to overweight and obesity.

While it is true that these secondary conditions can occur even in the case of someone of normal weight, research shows that the risk of these conditions is often higher for people who are overweight or obese.

Type 2 (noninsulin-dependent) diabetes, previously considered an adult disease, has increased dramatically in children and adolescents. Overweight adolescents have a 70 percent chance of becoming overweight or obese adults. According to



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the CDC, about 17 million Americans have Type 2 diabetes, accounting for more than 90 percent of diabetes cases. An additional 20 million have pre-diabetes (blood glucose levels that are higher than normal), which is a strong risk factor for developing diabetes later in life. The National Institute of Diabetes and Digestive and Kidney Diseases estimates that 70 percent of diabetes risk can be attributed to excess weight.

As overweight and obesity have increased in the U.S., so have related healthcare costs — both direct and indirect. These

costs are often related to the treatment of secondary conditions that accompany increased weight. Most studies also show an associated increase in mortality rate. Thousands of deaths each year in the U.S. are associated with obesity. Obese people have a 50 to 100 percent increased risk of death compared to normal-weight individuals. Most of the increased risk is due to cardiovascular causes.



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### Amputation and Exercise: A Vicious Circle

Amputees have even more at stake in staying physically active, yet they have an additional hurdle to overcome. The amount of energy required during walking for people with lower-extremity (LE) limb differences is higher than for people with both legs. The higher the energy cost, the more work it takes to walk (or do any activity); therefore, the less activity the person is likely to do. This contributes to a sedentary lifestyle. Studies show that people with LE limb differences have higher rates of cardiovascular disease, hypertension, and Type 2 diabetes. An inactive lifestyle was listed as the major contributing factor for the increase in these secondary conditions. This stresses the importance of starting healthful eating and lifestyle habits in early life, especially for people with LE limb differences.

### The Decline and Fall of Western Physical Activity

The benefits of physical activity for youths with limb differences include the reduction or prevention of secondary conditions, as well as psychosocial benefits such

as learning to work and play in groups, improving motor skills, increased self-esteem, learning to overcome obstacles and becoming more motivated to do well academically and socially.

Yet, despite the obvious benefits of being physically active, most Americans are

sedentary. Our own technology is partly to blame. Why walk around the corner to the store when you can hop in a car and be there and back in 10 minutes? Our children can prepare a snack in microwave ovens far more quickly and easily than we could at their age. Computers, television and video games make great baby sitters, but they don't contribute much to physical fitness other than improving hand/eye coordination through typing, clicking the remote control or blowing up aliens.

Most adults don't set a very good example, either. Less than one-third of adults get regular leisure-time physical activity (light, moderate or vigorous). About 40 percent of adults do no physical activity at all in their leisure time.

In comparison, a U.S. Department of Health and Human Services study found that about 25 percent of young people (ages 12 to 21) participate in light to moderate activity, such as walking or biking, nearly every day. About 50 percent regularly engage in vigorous physical activity. About 25 percent report no vigorous physical activity, and 14 percent report no recent physical activity.

### The Benefits of Physical Activity: Just Do It\*

Forget the old saying, "No pain, no gain." Physical activity doesn't have to be strenuous to be beneficial. Even moderate physical activity, such as household chores or walking 60 minutes a day, has health benefits. Here are some steps and suggestions to keep in mind.

- **Reduce the time your child spends watching TV, playing video games, and sending instant messages on the computer** (OK, this might hurt a little bit).
- **Select activities that you (you knew this was coming, didn't you?) and your child can enjoy.** If it's something that you and your child dread, it will never last.
- **Start out slowly and gradually increase the intensity.** For example, start with a 10-minute walk three times a week and work your way up to 30 to 60 minutes five times a week.
- **Shoot for losing weight gradually (1/2 to 2 pounds per week).** If your child is overweight or obese, losing just 10 percent of his or her body weight can offer significant health benefits.
- **Ensure that your child's school breakfast and lunch programs meet nutrition standards.** Provide food options that are low in fat, calories and added sugars.

### What Else Can Parents Do?

Parks and recreation services, YMCAs and other community organizations offer programs that are beneficial for youths with disabilities, but their programs are often underfunded and don't have the type of publicity necessary to reach the very people they are trying to serve. Parents like you are in a key position to work with these groups to help develop programs that can meet your child's needs. ❖

*\*Consult with your physician before starting any exercise program.*

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