

SPORTS PROMOTE PHYSICAL STRENGTH AND HEALTH

Sports participation provides many health benefits for youth and contributes to the development of healthy bones and muscles, increases the efficiency of heart and lung function, and reduces the risk of metabolic syndrome.

MUSCLE AND BONE STRENGTH

The development of strong bones and muscles is important during youth and can impact bone health later in life. In comparison to youth who do not participate in sports or physical activity, research has shown that:

- Elementary school students who participate in year-round sports programs performed better in tests of upper body muscle strength, upper body power, and lower body power compared to nonparticipants and youth participating in only one sport during the year.
- Adolescent gymnasts have **60%** greater leg bone strength and adolescent track and field participants have **34%** greater leg bone strength. Water polo participants have **32%** greater arm bone strength and **15%** larger forearm muscles.
- Adolescent males participating in high-impact sports (e.g. basketball, soccer) have greater bone mineral density, bone mineral content, and bone area in the lumbar spine and upper and lower limbs.
- Athletes have increased bone mineral density that is **5–30%** greater than nonathletes. If bone mineral density is maintained, risk of fracture later in life is reduced by **50–80%**.

ADDITIONAL RESOURCES:

What is Metabolic Syndrome?

<http://www.nhlbi.nih.gov/health/health-topics/topics/ms/>

How Does Physical Activity Build Bone Health?

http://www.nichd.nih.gov/publications/pubs/Documents/boneup_boneup1rev.pdf



CARDIORESPIRATORY FITNESS

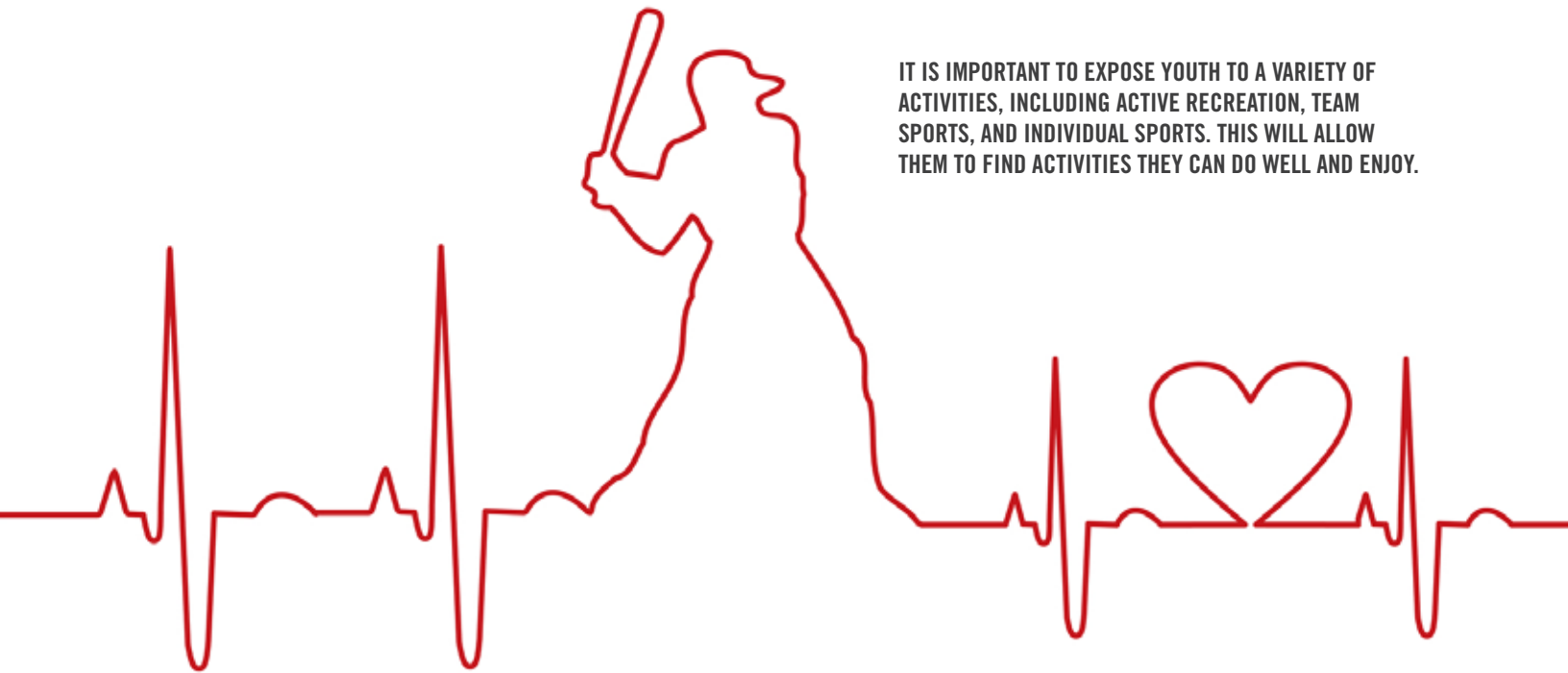
Cardiorespiratory fitness refers to the ability of the heart and lungs to supply oxygen to muscles during physical activity. Regular participation in moderate and vigorous physical activity and exercise can increase fitness levels. In comparison to youth who do not participate in sports or physical activity, research has shown that:

- Overweight and obese girls with good health are 5-10% more likely to have low levels of cardiorespiratory fitness than healthy girls who are normal weight.
- Sport participation in elementary school children is associated with better cardiorespiratory fitness scores and improved endurance, speed, strength, and coordination.
- Among high school girls, participation in at least one organized sport in the previous year is associated with increased fitness levels.

METABOLIC SYNDROME/ CARDIOVASCULAR HEALTH

Metabolic syndrome is a cluster of conditions that increase the risk of heart disease, stroke and diabetes. The conditions associated with metabolic syndrome include high blood pressure, high blood sugar level, excess body fat around the waist, high triglyceride level, and low levels of high density lipoprotein (HDL) cholesterol. In comparison to youth who do not participate in sports or physical activity, research has shown that:

- Higher levels of fitness in overweight youth can have a protective effect against the development of metabolic syndrome.
- Youth who are consistently physically active have better fasting blood sugar levels compared with their consistently inactive peers.
- Obese youth who complete exercise training programs and increase their physical activity have significant improvements in many of the risk factors associated with metabolic syndrome including decreases in: blood pressure, resting heart rate, abdominal fat, and triglycerides, and better levels of HDL cholesterol and fasting blood sugar.



IT IS IMPORTANT TO EXPOSE YOUTH TO A VARIETY OF ACTIVITIES, INCLUDING ACTIVE RECREATION, TEAM SPORTS, AND INDIVIDUAL SPORTS. THIS WILL ALLOW THEM TO FIND ACTIVITIES THEY CAN DO WELL AND ENJOY.