

## **Lifelong Physical Health and Fitness**

### **How to Measure Lifelong Physical Health**

Many lifelong skills that individuals possess in adulthood, such as playing guitar or painting, are first learned in their youth. As youth grow into adulthood, they are more likely to continue to practice the habits and skills they regularly practiced in their youth than others they did not. The development of habits that directly influence an individual's physical health is vital for youth to practice prior to adulthood. The World Health Organization defines health as, "a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity" (WHO, 2006). Individuals tend to reap many emotional, mental and physical benefits from physical activity (Warburton, Nicol & Bredin, 2006; Li, Sham, Owen & He, 2006; Raley, 2008; Griffin, Mullally, Foley, Warmington, O'Mara & Kelly, 2011). Additionally, youth who are involved in physical education (PE) classes are more likely to participate in physical activity in adulthood. Youth who played racquet sports in PE were four times more likely to play them in adulthood, and those who participated in team, outdoor sports, winter sports and golf were three times more likely to play them in adulthood than those who did not participate in PE (SGMA, 2012). In this article one important segment of physical health will be discussed, which is physical activity.

In the United States approximately 17% of children and teens are currently obese and almost 36% of adults are obese (Ogden, Carroll, Curtin, Lamb & Flegal, 2010). Obesity can lead to a multitude of chronic medical conditions including cardiovascular

diseases, diabetes, hypertension, as well as premature death, and it outranks smoking and drinking as the leading cause for the poor health, as well as healthcare costs (Strum, 2002; Atlantis, Baker, 2008). Obesity can have negative mental and emotional effects as well. Obese youth may have a lower self-esteem, an impaired quality of life, and negative self-evaluations (Griffiths, Parsons & Hill, 2010). Making choices and building habits that encourage a healthy lifestyle, thereby decreasing the chances of harmful physical and emotional outcomes, may lead to several positive physical and emotional benefits for youth throughout their lives.

There are many short term and long term benefits to physical activity and exercise. Physical activity has been linked to many emotional and mental benefits including an increase in cognitive functioning, academic improvements, better memory function, decreases of depression, reduction of the symptoms of ADD/ADHD, and a decrease of stress (Snyder, Glover, Sanzone, Kamhi, & Cameron, 2000; Field, Diego, & Sanders, 2001; Adlard & Cotman, 2004; Li, Sham, Owen & He, 2006; Ratey, 2008; Griffin, Mullally, Foley, Warmington, O'Mara & Kelly, 2011). Additionally there are many physical benefits as well, including the reduction of cardiovascular disease, preventing osteoporosis, and improvements in musculoskeletal fitness (Warburton, Nicol & Bredin, 2006). By participating in regular physical activity, adolescents may help to increase the long term benefits of exercise by creating habits of physical activity.

In considering long-term health and what an adolescent can do to prepare for a lifetime of good health, one important question might be: “what physical activities should

youth participate in”? There is no easy answer to this question. Youth are drawn to different activities and sports for a variety of reasons. When deciding what type of physical activity to get involved with, one of the most important factors is the youths’ interest in the activity. Without intrinsic motivation activities and tasks may seem pointless and boring; enthusiasm and excitement for an activity may help to garner interest and dedication from youth.

Many schools have begun implementing lifelong activities into their physical education classes such as biking, hiking, and cycling (Schachter, 2011). Team sports are an important part of physical education classes, however most participation in team sports peaks during childhood and adolescent years (SGMA, 2012). Participation in individual sports is consistently higher than participation in team sports after 18 years of age, and high rates of participation throughout the entire lifespan are seen in fitness and outdoor activities (SGMA, 2012). This emphasizes the need to teach youth individual sports that they may engage in for the entire lifespan. Not long ago physical education classes were made up of sports that many individuals didn’t play long after they left high school, such as kick ball or dodge ball. By teaching youth sports and activities that they may engage in long after they leave high school, program administrators are helping to encourage a healthy lifestyle for an individuals’ lifespan.

It is recommended that youth and adults participate in three different types of activities for optimal physical health: aerobic activities, muscle strengthening activities, and bone strengthening activities (U.S. Department of Health and Human Services, 2008). Aerobic exercise “involves large muscle groups in dynamic activities that result in

substantial increases in heart rate and energy expenditure. Regular participation results in improvements in the function of the cardiovascular system and the skeletal muscles, leading to an increase in endurance performance” (Howley, 2001, p.364). Some activities that encourage aerobic exercise include hiking, walking, jump rope, martial arts, soccer, ice hockey, cross country skiing, and basketball (U.S. Department of Health and Human Services, 2008). Muscle strengthening activities “make muscles do more work than usual during activities of daily life. This is called “overload,” and it strengthens the muscles (U.S. Department of Health and Human Services, 2008). Examples of muscle strengthening activities include rock climbing, rope climbing, tree climbing, games such as tug-o-war, and playing on playgrounds (U.S. Department of Health and Human Services, 2008). Bone strengthening activities “produce a force on the bones that promotes bone growth and strength. This force is commonly produced by impact with the ground” (U.S. Department of Health and Human Services, 2008). Examples of bone strengthening activities including jump rope, running, gymnastics, basketball, tennis and volleyball (U.S. Department of Health and Human Services, 2008). There are many ways in which program coordinators and organizers can help youth to increase their physical health by incorporating activities that promote these three types of benefits. Examples of these activities and how to implement them into youth organizations are described below.

Rock Climbing is an excellent muscle strengthening activity that may be done outdoors in natural areas or indoors on a man made rock wall. Rock Climbing combines strength, balance and focus together in one sport. Contrary to popular belief, being muscular is not a necessity in order to be a good climber. There are two main ways for beginners to enjoy rock climbing: bouldering and top rope climbing. Bouldering is less

gear intensive and can therefore be more cost effective to implement into programs. In bouldering, individuals climb shorter routes, up to 15 feet tall, without the use ropes or harnesses. Spotters and crash pads are used in order to keep individuals safe. View this link for appropriate spotting techniques (Spotting & Crash Pad Technique - [http://www.ehow.com/video\\_5774006\\_indoor-rock-climbing-spotters-important\\_.html](http://www.ehow.com/video_5774006_indoor-rock-climbing-spotters-important_.html) ).

Top rope climbing is done on taller rock faces where there are greater risks and consequences for falling. Multiple leadership roles are needed in top rope climbing including an experienced climber who can create anchors at the top of a climb and a belayer, who uses equipment and technique in order to keep the climber safe. Anyone who is leading a rock climbing program should be trained in building anchors, belaying, knot tying, and other climbing specific skills. As climbing can be a dangerous sport if not managed appropriately, program administrators should complete a course on the appropriate management of a climbing site. Some highly recommended classes include the American Mountain Guides Association Single Pitch Instructor course and the Climbing Wall Instructor course (Single Pitch Instructor - <http://amga.com/programs/SPI.php>, Climbing Wall Instructor - [http://amga.com/programs/climbing\\_wall\\_instructor.php](http://amga.com/programs/climbing_wall_instructor.php)). Technique is also important in rock climbing in order to combat fatigue and to maximize output. Some great descriptions on technique are available on this website (Technique - [http://en.wikibooks.org/wiki/Rock\\_Climbing/Technique](http://en.wikibooks.org/wiki/Rock_Climbing/Technique)). There are many other reputable companies and organizations that offer similar classes, call your local climbing gym to get a recommendation.

Rock climbing has been seen to have many health related benefits. In an 8-week climbing program for 10 – 17 year olds, individuals who climbed at least 40 meters a week had better increases of grip strength, better increases of upper body muscular endurance, and decreases in extra cellular mass and body cellular mass than those who climbed less than 40 meters per week. (Balas, Barbora, Tomaas, Lucia & Martin, 2009). Rock climbing has also been linked to increases in cardiorespiratory fitness and muscular endurance (Mermier, Robergs, McMinn, & Heyward, 1997). In all, rock climbing is a very popular sport in adolescence that individuals can be involved with throughout their lifespan, and would be a great addition to many youth programs.

Biking is an excellent lifelong aerobic activity that may be incorporated into programs with youth. Road biking may be effective on low-traffic roads and mountain biking can take place on trails in local parks, city trails and other public spaces. Biking is an excellent way to explore different areas while also working on building skills and a good health. Cycling may be an expensive sport to start in a program, however, many youth have a bike or a family friend who may let them borrow one, and there are many grant programs that support cycling as a programmatic activity, such as Bikes Belong (<http://www.bikesbelong.org/grants/>).

Biking has been seen to have many great health benefits and is an excellent lifetime activity to participate in due to the low impact it has on joints. Youth who ride their bikes to school are significantly more fit, have higher aerobic power, muscular endurance, cardiovascular fitness, abdominal muscle endurance, flexibility and are more likely to be in the top quartile of fitness as compared to those who walk or are transported

to school by vehicles (Cooper, Wedderkopp, Wang, Andersen, Froberg, & Page, 2006; Cooper, Wedderkopp, Jago, Kristensen, Moller, Froberg, Page, & Andersen, 2008; Anderson, Lawlor, Cooper, Froberg, & Anderssen, 2009). Positive results are seen in adulthood as well. Cycling is negatively associated with health risk factors, being overweight or obese (Wen, & Rissel, 2008; Huy, Becker, Gomolinsky, Klein, & Thiel, 2008). It is clear that biking is an excellent lifelong sport that increases physical fitness and aerobic activity.

Any youth leader wanting to develop a cycling program should become familiar with the trails or roads that they will be riding as well as bike maintenance. Many cities have bike maps that outline low to high traffic areas that are suggested routes for road biking, such as one map for the city of Austin (<http://www.campotexas.org/pdfs/RegionalBikeMaptop.pdf>). Leaders should take time to ride a few of the routes they are wanting to plan to make sure they are suitable for a group of youth and are safe. Mountain biking may happen through city, park and other regional trails. Start rides out with youth on trails that are smooth, wide and with small elevation changes and as youth are ready, work up to single track trails with obstacles (rocks, roots, etc) or that have greater elevation changes. The city of Steamboat Springs has a list of different bike routes, along with descriptions, length and rating (easy, moderate, hard) of each ride (<http://www.steamboat-chamber.com/info/biking.asp>).

Leaders who are taking youth on biking trips should take classes on bike maintenance in case of flat tires, broken chains, or other problems while riding, including first aid. REI stores typically host several bike maintenance clinics in late spring and throughout the summer. These clinics cover everything from fixing a flat to lubricating

different parts of a bike for optimal performance. The National Outdoor Leadership School offers Wilderness First Aid, a course teaching individuals how to care for injured persons who are in a backcountry setting, away from a city ([www.nols.edu](http://www.nols.edu)). Other places to look for bike maintenance clinics and first aid classes include local recreation centers, colleges, and outdoor-based clubs and organizations. The Rockland, New York bike club hosts several clinics a year including bike maintenance and first aid clinics, among others (<http://www.rocklandbike.org/>). Check with your local bike association or bike shop for more information about appropriate biking routes for youth, suggestions on places to go, and clinics that are offered for mountain biking skills and maintenance. The International Mountain Biking Association is another great resource for trails, advocacy, and other related information (<http://www.imba.com/>).

Parkour is a relatively new activity that is catching on quickly with youth, and is an excellent activity to help strengthen bones. This growing sport has evolved from obstacle course military training used in the early twentieth century and combines dance, martial arts and military training (Higgins, 2009). Parkour combines flexibility, balancing, gymnastics, and skill in a sport that uses natural and man made obstacles for jumping, leaping, and vaulting to get from point A to point B. To watch a video on parkour go to this video (<http://www.howcast.com/videos/474713-What-Is-Parkour>). One of the benefits of parkour is that it can be practiced almost anywhere. It could be used as an activity to participate in during a break in a longer program, it could be practiced as a group of individuals are walking to another location, and it doesn't cost any money

While there isn't much research on the specific outcomes of parkour, some of the benefits of the sport may be similar to those of gymnastics including increases in

musculoskeletal health, especially in the upper limbs, including bone geometry, strength and muscle (Burt, Naughton, Grene, Coutiex & Ducher, 2012). Research on parkour participants have identified increases of strength and movement of the upper limbs (Leite, Junior, Cieslak, Ishiyama, Milano, & Stefanello, 2011).

Parkour, as with other adventure-based activities, can be very dangerous if individuals do not have the proper training or go beyond their limits. Youth as well as professionals should take classes on parkour before attempting the activity on their own. There are several parkour facilities and centers that focus specifically on training individuals on the movements and tricks associated with parkour. APEX Movement in Englewood, Colorado offers beginner, intermediate and advanced classes in parkour, along with other more focused classes such as tricking, freerunning and breakdancing (<http://www.apexmovement.com/movementclasses.html>).

Physical fitness is a vital component of a lifelong healthy lifestyle. If individuals in adolescence begin to create healthy habits for physical fitness, they are more likely to have healthy habits as adults, which can lead to a reduction in health risks later in life. As physical activity is vital for lifetime wellness, youth development professionals should find ways to incorporate physical activities into their programming. Additionally, understanding the importance of the three different types of activities might help to create programs that are well-rounded and meet the long-term needs of individuals. By offering activities that youth are interested in, engaged in, and excited about, programs can effectively help to start creating healthy physical habits early in life.

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