

ACTIVE P.T. SOLUTIONS
...BECAUSE LIFE
SHOULD BE ACTIVE

APTS Monthly



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Strength and Conditioning for Children and Adolescents

As the competitive fall sports season approaches, we are fielding an increased number of questions about the safety of "weight-lifting" for the pre-adolescent and adolescent age groups. Most of these questions are from concerned parents whose best recollection of weight-lifting was from their high school football coach, or what they may have picked up in the grocery line from the many unscientific periodicals prior to check out. Fortunately, time has been our friend and science has provided us with sound and verifiable answers to questions regarding safety.

Two notable organizations, The American Academy of Pediatrics (AAP) and the National Strength and Conditioning Association (NSCA) have done a tremendous amount of research to answer the question, "Is strength training safe for children and adolescents?" On the surface the answer is yes, but with a list of qualifiers. This article will attempt to make sense of the "qualifiers" and provide guidance for athletes, parents, coaches, and sports administrators when making decisions involving strength training programs in the pre-adolescent and adolescent age groups. Terminology is very important today when it comes to strength programs. Strength or resistance training programs encompass several different types of training. For instance, weight training is a type of strength training. Strength training programs may include all or some of the following: free weights, weight machines, suspension training, elastic resistance or even the athletes own body weight. So when athletes, parents and coaches communicate they should be very specific as to the type of strength program that is being performed or questioned.

There are many benefits to strength

training in the preadolescent and adolescent populations that have been well documented in the scientific literature. The most common benefits include improved cardiovascular fitness, body composition, bone density, blood lipid profiles, mental health, strength and sports performance. Additionally, children involved in strength programs



have displayed improved motor skills, reduction in sports-related injuries and enhanced weight control. All of these factors make a compelling argument to increase the participation of children and adolescents in organized strength training programs. While strength training is beneficial, "lifting weights" is not always the appropriate strength format. The appropriate type of strength training is dictated by age, goals, sport, and body type.

The majority weight/strength training injuries fall into the muscle strain category. The hands, lower back and upper trunk are the most commonly injured areas of the body. Most of these injuries occur when the child is using a home exercise device, does not possess

the ability to practice safe behavior and the activity is unsupervised. When the activity is appropriately supervised (more on this later) and proper technique is utilized, injury rates are lower than other sports or general recess play during the school day.

The scientific research currently supports the safety and efficacy of strength training for children. However, it is not necessary or even appropriate for every preadolescent or adolescent athlete. Children should have achieved an above average level of skill proficiency in their sport and possess an age appropriate level of balance and posture control in order for a strength program to be of value. Skilled supervision and good technical performance of the strength training exercises has been shown to significantly reduce injury rates during strength training programs. Adequate supervision is defined as an instructor to student ratio of 1:10, the supervising adult possesses a nationally recognized strength training certification and a level of knowledge that approximates a college degree in physical education, exercise science or a related field. To meet the instructor to student ratio less experienced assistants can be utilized under the direct supervision of the certified supervisor.

Between the ages of 12-14 young athletes start to show characteristics of loose, normal or stiff muscles, tendons and joints. What athletes, parents, coaches and strength coordinators need to know is that each of these individuals needs to be trained differently.

Article Cont'd on Pg. 2

Exercise of the Month - Prone "T"



The Prone "T" is part of a series of prone exercises designed to strengthen the muscles of the upper back, shoulders and neck. As with all exercises featured in the APTS monthly publications, this exercise is designed to help improve posture which in turn will prevent injury and ultimately improve your quality of life.

1. The anatomical term "prone" means to lay face down. So, in the

start position you will lay face down on the floor with a towel folded ~4" thick under your forehead .

2. Keep chin slightly tucked toward chest.
3. Arms are in a "T" position with elbows fully extended. Maintain arms at a 90 degree angle to your body, palms down.
4. Squeeze shoulder blades down and together, then raise arms so they are

parallel to the floor. Keep chin tucked throughout the exercise and be sure not to shrug your shoulders.

5. Hold for 5 seconds and lower arms, slowly to the floor.
6. Repeat

Start by doing this exercise 2 sets of 10 reps and progress to 2 sets of 30 reps. Do the Prone "T" exercise 5 days a week for best results .

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Strength and Conditioning Con't

Using standard weight-lifting methods with a loose-jointed individual will either create injuries or actually train the athlete to compete slower, defeating the purpose of the program.

For example, a swimmer that displays tissue characteristics that are excessively loose should not use traditional weight-lifting methods. A program that emphasizes joint control and stability with very controlled movement patterns

concentrating on strengthening the inherent weaknesses found in swimming would be more advantageous. What this illustrates is that programs need to be modified for specific individual characteristics and the supervisors need to possess the background to make these decisions.

Strength training is safe for children and adolescents when the program follows the previously outlined guidelines and is supervised by individuals

possessing a national certification and corresponding experience. If your child is participating in a strength and conditioning program and is complaining of pain, a sports medicine practitioner should assess them. To see the AAP position statement on strength training, please go to:

<http://aappolicy.aappublications.org/cgi/reprint/pediatrics;107/6/1470.pdf>

Dr. Buchberger Volunteers at Owasco Triathlon

The Owascoman is a sprint triathlon that takes place at the Northern foot of Owasco Lake at Emerson Park in Auburn. This year was the second annual Owascoman and it usually takes place on the weekend of July 4th.

A sprint triathlon consists of a 1000 yard swim, 14 mile bike and finishes with a 5K run. Those who have ever competed in a sprint triathlon know the exhilaration that accompanies the completion

of one. Those who haven't should know that it's not as complicated as it seems. It's a great way to get motivated and excited about exercise and the end result is very gratifying.

The Finger-Lakes region offers many opportunities throughout the warm weather season to compete in a sprint triathlon starting with the Owascoman in early July, then Musselman on Seneca Lake in mid July and finishing up with Skinny-

man on Skanateles Lake Labor Day weekend.

This year Dr. Buchberger volunteered his medical expertise at the medical tent along with Dr. Ackerman from Summit Pediatrics, Linda Lupo, RN, FNP from Internal Medicine Associates of Auburn and other local Dr.'s.

For more information and to get signed up for next year's Owascoman tri visit www.skanraces.com



Tom Zirilli Completes ART® recertification

Congratulations to Tom Zirilli, PT for completing his ART® Full Body recertification on June 25-26th. The recertification course was held at Active Physical Therapy Solutions, in Auburn, NY and was instructed by Dr. Dale J. Buchberger.

ART® certified providers are required to complete their recertification each year once they've completed the ART® series which includes Upper Extremity, Lower Extremity and Spine certifications.

Active Release Technique (ART®) is a breakthrough, soft tissue assessment/treatment system, which allows the physical therapist to treat problems with muscles, tendons, ligaments, fascia and nerves in a concise efficient manner.



What is



Meet Your Feet

Feet have been evolving for millions of years and are wonders of biomechanical engineering. Your feet support your weight, absorb shock when you jump, walk or run, act as a lever to propel your legs forward, and balance your body as it moves. Each individual foot is a complex machine made up of 26 bones and 33 joints linked by a series of muscles, ligaments and tendons. They are incredibly well suited for moving over the types of terrain humans encountered for 99.9% of their evolution. The last couple hundred years the conditions feet face have changed the way we move in a tremendously unnatural way. Pavement and other hard surfaces combined with poor footwear designs now make the foot poorly suited for this new world. Modern athletic footwear is designed to cushion the foot and protect the sole from abrasions and wounds. It is NOT designed to optimize the foot's natural performance. These types of footwear which changed our natural stride have resulted in an astronomical increase in leg and lower back injuries.

You Don't Have to Suffer for Your Sport

According to the American Podiatric Medical Association, "forty percent of men and women think their feet should hurt", and "at least two-thirds of foot troubles, affecting 175 million Americans, can be attributed to shoes." The effects of "squishy" footwear forcing improper foot alignment are occasionally felt immediately (blisters, cramping and pain) but are more likely to reveal themselves over time in decreasing performance and increasing aches and pains throughout the feet, legs and back. ALINE can reverse this trend, and get back to doing what you love at a high level!

The Foundation of Youth™

ALINE strives to bring that natural evolutionary movement back into our new environment. Through the use of ALINE's patented Bilateral Foot Alignment System Technology, your foot will regain its natural motion on all surfaces leading to

increased performance and health. BFAST unleashes essential BARE-FOOT functions needed to continually provide leg alignment. Unlike other orthotics, ALINE is a progressive solution that doesn't simply mask the issues that rob us of health and performance. ALINE fixes the root of these problems, unnatural movement and poor alignment. ALINE's BFAST aligns and supports your foot through its NATURAL range of motion, increasing your performance by allowing you to find your optimum power position, saving undue wear on the rest of your body, and allowing you to stay in the game with less pain and for more years of your life. To inquire more about ALINE orthotics call Active Physical Therapy Solutions or visit our website at www.activeptsolutions.com



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Physical Therapy
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E-mail: cara@activeptsolutions.com
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Get Well...Get Active...Be Active!

**At Active Physical Therapy Solutions, we
utilize the most cutting edge treatment
and management techniques available.
Our goal is to deliver the best possible
healthcare in a friendly, caring and well-
organized environment. Our staff is here
to provide active solutions to achieving
your functional goals!**

...Because Life Should Be

ACTIVE!

Ergonomics-101 Backpack Safety

As we head toward the last few months of summer, it's time to start thinking about getting the kids ready to return to school. Most of the supplies kids will use at school will most likely end up in the backpack. As a result, the bag becomes overloaded and can be a source of back pain. A recent study in the journal of *Spine* linked increased backpack loads to back pain in children, which also involved changes to the lumbar disc height or curvature. When used properly, many of the negative effects of improper backpack use can be avoided.

Backpack safety should be considered from the time of purchase. Remember that not all backpacks are made the same. Look for a backpack that has two wide shoulder

straps which are padded at the shoulder. The bag should be lightweight and have padding on the back. A waist strap is also helpful to help properly distribute loads. Some bags include wheels, allowing the user to roll the bag instead of carry it.

Proper use of a backpack is also essential to limit injury. Although it may seem "cool" to wear the backpack on one shoulder, the bag should be worn on both shoulders to evenly distribute the weight. Shoulder straps should be kept tight to keep the load close to the body. Pack the heaviest objects first and take only what is needed for the day.

The total weight of the bag should be no more than 15-20% of the child's body weight. Encourage your child to take frequent trips to and from their locker to unload the backpack

throughout the day. Following the tips listed above can help to limit repetitive strain on the spine and decrease the chance of injury. Proper use can also promote good posture which can carry through into adulthood.