



Is The TD1 program Safe? Dr. Chad, PhD

TD1 Background and Safety Elements

Participating in a strength and conditioning program which physically challenges and stresses your body comes with risk. While some risk will always be present, the TD1 program is intended to provide a comprehensive strength and conditioning that will challenge all aspects of performance, and provide a number of things which will help improve the safety of all participants. In addition to these safeguards, a significant component of the TD1 program is devoted to educating all participants, parents and coaches about a wide variety of topics which are commonly discussed as part of such a program. For example, the workout program was developed by highly experienced individuals who have utilized similar programs to train and maximize the performance of thousands of athletes. A major section of the TD1 website is devoted to science and will attempt to address any question or arise which may arise. These topics will focus a good deal on training and nutrition, but other topics will discuss injuries, recovery and other important topics. As a whole, the TD1 program and associated materials have been developed by individuals with distinct expertise in an attempt to provide the most impactful, knowledgeable and safest training experience possible.

Pre-Participation Screening

Consider this, in November 2011, an 18-year old football player at the University of Arkansas died of a previously unknown heart complication. The individual was a trained athlete and had been participating in all aspects of the football training program and practices since August. On one Sunday morning, he was seen by his roommates playing video games, an hour later he was unresponsive and sadly was not able to be revived. His passing is a sobering reminder of the importance of diligent health and medical screening. In December 2011, NBA forward Jeff Green of the Boston Celtics in preparation for the beginning of the NBA season completed a routine stress test where abnormalities were found that doctors and medical staff felt was serious enough to keep him out of practice for several days. As of December 16th, 2011 his condition was still being investigated by physicians and members of the medical staff and he was not medically cleared to practice.

Prior to participation in the TD1 program, it is recommended that all athletes first see a physician and have a physical completed. A physical examination is an important step to help rule out any health or medical related concerns which could keep you from training effectively and more importantly to help prevent serious medical problems. While a relatively small number of athletes experience some form of medical related problem, getting an annual physical is extremely important and something all TD1 athletes are recommended to do prior to their participation

Resistance Training and Safety

A similar article discussing the potential dangers and safety of resistance training in adolescent athletes is available and is titled, "Is My Son Or Daughter Ready For a Strength And Conditioning Program Like TD1?" This article focuses a great deal on much of the scientific research which has been completed involving resistance training and adolescent athletes. For example, the actual number of injuries which have been shown to occur with resistance training in comparison to other

popular sports such as football, basketball and soccer is much lower ((Zaricznyj 1980). An additional training component is the utilization of plyometric exercises which require highly explosive and dynamic movements. Concerns have been expressed regarding young athletes performing this type of exercise too soon for fear of damaging bone, muscles, etc. Several scientific studies, however, indicate the exact opposite to occur whereby plyometrics have been shown to enhance biomechanics, improve functional abilities and decrease sports-related injuries (Hewett 1999; Heidt 2000; Lephart 2005; Mandelbaum 2005; Myer 2005).

The most effective conclusion regarding the safety of resistance training and younger athletes lies with the conclusions outlined throughout the published position statement of the National Strength and Conditioning Association (<http://www.nscs-lift.org>). This review document published in 2009 outlined 258 scientific references and concluded that properly designed and supervised resistance training in youth should be viewed as safe, can aid in development of strength, power and performance, improve various aspects of health and aspects of psychological health, prevent injuries and can also promote more healthful habits later in adult life.

Progression, Overload and Supervision

To help maximize safety, appropriate amounts of overload and progression of the amount of resistance used are topics which are important considerations. Research has indicated that a major reason by which injuries occur are because an athlete tries to initially use too much weight or they try to progress too quickly to use resistance levels their body is not yet equipped to handle. For these reasons, the topics of overload and progression are emphasized to a great deal to not only make the athlete aware of their importance, but to also help prevent injuries from occurring. As Mr. Kurt Hester, Director of Training for D1 Sports, highlighted in the training manual, it is never appropriate to sacrifice technique and an explosive, high quality movement to use more weight and appease your ego (or your peers). With strict technique, discipline and an outstanding work ethic, effective and useful gains will be made which will ultimately lead to sustainable improvements in performance. Another key aspect for safety is supervision. Particularly for lesser experienced athletes, it is never appropriate to train alone where you could unexpectedly drop or mishandle the resistance being used resulting in any number of injuries. Keep this in mind as you or your athlete goes through the program and always make sure they have one or two athletes (or a coach) to join them. Plus this makes work outs more fun and more competitive; two key ingredients for success.

Nutritional Needs of Young Athletes

Another primary educational component of the TD1 program will be that information provided in regards to nutrition, nutritional supplements and recovery. The popularity of nutrition has grown substantially every year and this interest has started to spread into high school aged athletes. For example, a number of scientific reports indicate that the interest of high school athletes in various aspects of nutrition and in particular different forms of nutritional supplements has increased in recent years (Mcguine 2001; Metzl 2001; Ray 2001). Key educational aspects regarding TD1 and nutrition will focus on improving general nutrition education and continually emphasize how participants can improve the overall quality of their diet. It is the perspective of the entire TD1 program that the best utilization of any form of nutritional supplement for athletes of any kind is in conjunction with a healthy diet and a regular comprehensive strength and conditioning program.

In addition to helping athletes improve their overall diet, nutritional supplements which have been supported with published university research are provided as part of the program. These supplements are provided to help ensure all participants can take full advantage of nutrient timing concepts which research continues to show to be effective at sustaining health, improving performance and promoting optimal recovery (Kerksick 2008; Rodriguez 2009). Athletes involved

in the TD1 program are not required to use the supplements, but it is worth noting that recent research has indicated that improvements in running performance and body composition have been published in peer-reviewed scientific publications using a placebo-controlled, single-blind crossover study design (Fukuda 2010; Smith 2010).

Summary/Conclusions

Any exercise or activity for children, adolescent and adults has inherent risks and benefits. A necessary and critical first step for any athlete of any age is to have a physician perform a general examination to ensure no outward or underlying medical complications is present which could unknowingly present health or medical problems. Recent and more extensive research involving resistance training reveals that with diligent education, progression and supervision, young athletes are well equipped to handle the rigors of a challenging strength and conditioning program like TD1 (Faigenbaum 2009). Moreover, it is well documented that the nutrient needs of developing exercising adolescent athletes are greater than their non-active peers whereby diligent nutritional efforts must be made in an attempt to provide necessary fuels to allow the body to effectively adapt to the stress of exercise. Collectively, the TD1 program represents a comprehensive effort to safely put forth a comprehensive strength, conditioning and nutrition program that will not only properly educate the participant's involved, but will also challenge them physically and mentally which ideally will result in an improvement in their exercise performance.

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