

Conditioning and Strength Training for Taekwon-Do

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Over the years many people have practised the art of TAEKWON-DO for many different reasons, whether it is to better one's self, for the sport, for competition, or just to keep fit. In order to do any of the above in the art of TAEKWON-DO there is a certain amount of physical and mental training to do in order to reach the students goal. In this article I hope to explain some of the training programs that can be used to benefit Taekwon-do students in any aspects of there training, to do this I will break it down into three sections. Strength Training, Cardiovascular Conditioning, Flexibility.

STRENGTH TRAINING

The power in Taekwon-do techniques comes primarily from the hips, legs and muscles of the mid section and the upper back. Exercises such as squats, leg press, lunges, rowing, lat pulldowns, incline presses and bench presses will work the major muscle groups. The benefits of strength training will increase muscular strength and endurance, reduce the chances of injury, increases the motor performance (e.g., the ability to preform harder and faster techniques) and changes the body (e.g.; an increase in leaner muscle mass). When the body is put under stress as it is during a Taekwon-do training or resistance training it react in three ways;

- (1) Shock-soreness occurs and performance decreases;
- (2) Adaptation- the body adapts and performance increases; and
- (3) Staleness- adaptation no longer occurs and performance may decrease. By varying the exercisers and changing the training routines the staleness cannot set in, and hopefully performance will only increase.

CARDIOVASCULAR CONDITIONING

A hard Taekwon-do work out uses all three energy systems: ATP-PC (phosphagen) system, Anaerobic glycolysis or lactic acid system and aerobic glycolysis. The ATP-PC system, which uses adenosine triphosphate (ATP) and phosphocreatine (PC) as a basic source of energy (1) is used during short, explosive bursts of energy that last about 20 seconds or less, such as during a free sparring match or board breaking. The half life for this system is about 20 seconds, so it will take approximately two minutes to recover 98 percent of the ATP-PC stores.

Anaerobic glycolysis or lactic acid system involves an incomplete breakdown of carbohydrates to lactic acid, a by product of anaerobic glycolysis. When lactic acid accumulates to high levels in the blood and muscle, it causes muscle fatigue (2). This energy system supplies most of the energy for 30 seconds to three minutes of intense activity, such as free sparring, floor drills or patterns. The half life for lactic acid is about 25 minutes; an 87.5 percent recovery will occur within one hour and fifteen minutes. Aerobic glycolysis supplies energy for bouts longer than two

or three minutes. It is important to point out that all three systems operate together. However, depending on the intensity and duration of the activity, the body will choose one system over the other as its main source of energy. (2). It is an important concept for Taekwon-Do students in training the different energy systems. For example if the student is interested in explosive short bursts of energy during sparring then all three systems should be trained. However the ATP-PC system should be emphasised. On the other hand, if the student is interested in pattern competition or longer bouts of free sparring, then the lactic acid and aerobic systems should be emphasised. Since most students practise both patterns and free sparring during tournaments it is wise to change the training routine so as all three energy systems are used. The benefits of cardiovascular conditioning include a decrease in body fat, an increase in oxygen intake, a decrease in the likelihood of coronary artery disease and an increase in physical performance.

FLEXIBILITY

flexibility is one area that Taekwon-Do students concentrate on heavily in training. A lack of flexibility could decrease performance and lead to injury. Since flexibility is joint specific it is recommended that concentration is put on specific muscles, including the shoulders, back, hips, knees and ankles. Flexibility training should be practiced daily, preferably at the end of a training when the body temperature is high so as there is less chance of injury. Three stretching techniques improve flexibility.

(1) Static -allows the student to move the joint to the end of the range of motion (ROM) and hold the position for 10*60 seconds.

(2) PNF (Proprioceptive Neuromuscular Facilitation) stretching allows the student to move to the end of the motion (ROM), isometrically contract the agonist muscle group for about 6-10 seconds, relax, hold and then repeat.

(3) Ballistic - utilises sudden, jerky, bouncing motions to move past the normal ROM. Although ballistic stretching may increase flexibility, it is not recommended due to the increased risk of injury. Because a Taekwon-Do student needs to be fairly flexible in most muscle groups it is a good idea to use all three stretching techniques during a training session. After a quick aerobic warm up static stretching can be done for 10-15 minutes, then while doing basic exercises ballistic stretching could be done, at this time in the session the body should be warm to lessen the chances of injury. At the end of a session is a good time to do PNF stretching as the muscles relax after a hard work out. The beauty with stretching is that it can be done at any time of the day/night and just about anywhere you are at any given time. One could be at home watching television and decide to do some PNF stretching or at work and do some static stretching.

SUMMARY

The ideal exercise program for any active sport would be to combine all the above training systems together to obtain peak fitness and health. In order to achieve this one must take a bit from each system and incorporate it into their Taekwon-do program, unless one has 24 hours to train each day. Remembering that Taekwon-do is the art that we are training in, it is important not to over train in other areas neglect our TAEKWON-DO-do training.

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