

Aerobic and Conditioning II

Plyometric Training Review

by Coach Lorie Campbell

Plyometrics – explosive jumping type drills designed to connect strength with speed and power or simply “jump training”.

The technique of Plyometrics emerged in Eastern Europe in the early 1970's. The term plyometrics was first coined by, an American, Fred Wilt a progenitor in the track and field arena. “Plyo” plus “metrics” derives from Latin meaning “measurable increases”. This usually relates to any drill or activity that requires linking strength with speed of movement in order to produce increased power. Plyometrics offers evidence of the measurable ability to jump higher, run faster, and move around in several directions more efficiently. So, it can greatly improve your overall physical fitness and help raise your level of sport fitness, too.

Safe Practices for Plyometric Training

- Wear tennis shoes with good arch support and cushion
- Practice in a flat (open) area with lots of space, in order to move about safely and to allow for set up of any equipment needed
- Warm up using dynamic stretching drills, which incorporates controlled ballistic stretching principles, cool down using static stretching
- Allow for complete recovery between reps and sets to allow for quality of movements compatible with single repetition and maximal effort (anaerobic in nature)

Review Terms and Information to Know For Plyometric Training

Although, each stretching method has its benefits, in order to elicit the stretch reflex and the elastic components of the muscle used for jumping, it will be best to do controlled ballistic stretching/ (dynamic stretching).

Ballistic stretching- involves elongating a muscle to its normal length, by bouncing gently against the end of the range several times.

Static stretching- uses passive (immobile) techniques to change the structures of ligaments, tendons, and muscles. The muscle is put into a stretched position and held for 15 to 30 seconds (sometimes longer); this is often repeated two or three times.

Creatine Phosphate Energy System- This is the body's main energy system used in plyometric training, it allows maximum energy to be stored in the muscle before a single explosive act is performed.

Aerobic Training – the body's ability to use oxygen for energy processes. Aerobic conditioning is a major component of most fitness programs; however, plyometric training due to the nature of the energy systems being utilized is not intended as an aerobic conditioning mechanism.

Anaerobic Training- the body uses lactic acid for energy and lacks enough oxygen to remain aerobic. Plyometrics is strictly anaerobic training activity.

Repetition - quality of a (single) movement in plyometrics

Recovery Time- time between each (single) repetition and each (set) of repetitions of movement

One Rep Max- one repetition maximum or max of weight a person can lift in one try. Research has shown the method of using training loads of 30 to 60 percent of their “1RM” in weight lifting can be an effective means of developing maximal power, especially if combined with plyometrics.