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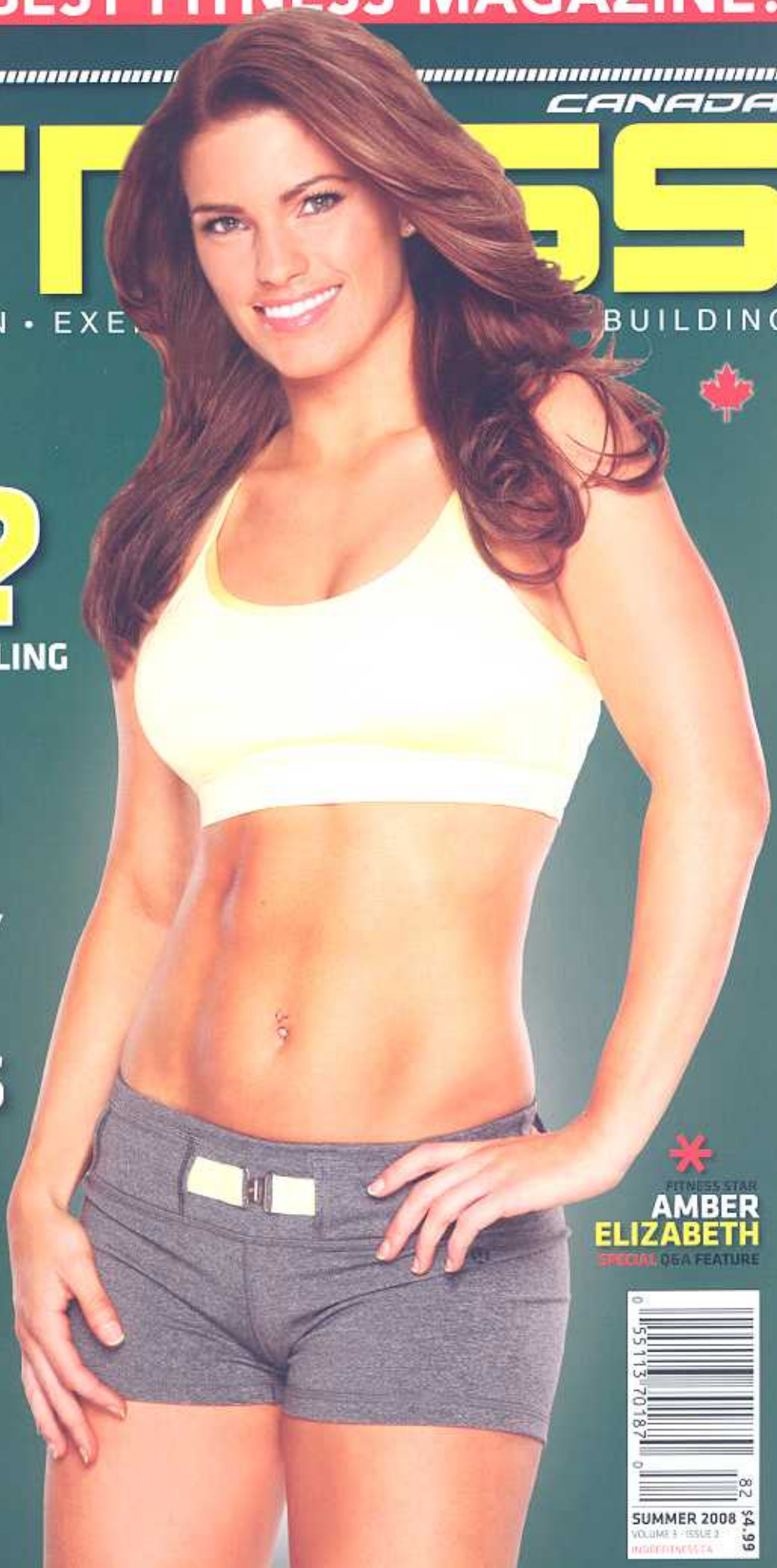

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HUGE Bang for Your Buck

The Use of PLYOMETRICS for improved power, speed and fat loss

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Looking for a workout that will get you over a plateau? Want to challenge yourself, both physically and mentally? Ready to shed some body fat and show off those hard-earned muscles you have worked so hard for over the winter months?

We have all reached a plateau in our training programs, when we aren't getting any stronger or we get bored of the same routines day in and day out. Unfortunately, the most common reaction to any decrease in training gains is to increase training volume. This approach is flawed because it will often lead you down the path of overuse injuries, loss of hard-earned muscle mass or chronic fatigue. Several factors produce training plateaus but do you want to know how to generate huge returns on your training investment?

The solution: Plyometrics

If we examine an athlete's physical abilities, what separates the elite from the non-elite is a concept called rate of force development (RFD). RFD is an expression of how fast force can be generated. It is crucial to success in sport performance. Athletic skills such as jumping, sprinting and throwing are all related to an athlete's ability to generate force, quickly. Going to the gym and lifting heavy weights is only one level of strength and power development. And translating a slow, controlled, 225 pound back squat into a smooth, yet explosive vertical jump on the basketball court can only be accomplished with a carefully prescribed plyometric training program.

Aside from athletic performance, have you ever seen a long distance runner with well-defined "gravity-defying" glutes? Take a peek at the sprinters and jumpers during the summer Olympics. Although they are as lean as the endurance specialist, they have superior muscular development. The difference in the sprinters' training programs is the use of plyometrics.

Now, what is plyometric training exactly? Plyometric essentially means to increase or augment. Russian and European coaches developed the technique in the late 1960's, yet North American trainers are still relatively unfamiliar with how and when to apply this methodology. Plyometrics capitalize on the muscle's stretch-reflex. Central to plyometrics effectiveness is the fact that this reflex can generate much greater force than any consciously motivated muscle contraction. The stretch-reflex is actually a protective mechanism that provides an extra burst of strength to resist sudden forces. This is the scientific premise of plyometric training. A powerful eccentric muscle contraction is what we are after. And plyometric training produces exactly the type of overload necessary to increase muscle contraction speed.

Power training using plyometrics is the final stage of Human Motion's Developmental Model (Diagram A). Any missing part of this model will compromise an athlete's development and physical potential. Attempting to become an explosive athlete requires a base level of general conditioning. You must also possess the cardiovascular capacity to recover from set to set and from workout to workout. This is termed work capacity and is noted as Stage 1.

Exercise I.Q. is also part of the foundation of plyometric training. This means you must have excellent technique on all of the major lifts, have memorized their cues and can execute great form under some fatigue. Once you reach Stage 2, you must focus on developing a base level of full-range strength and joint stability. If your feet and knees are collapsing inwards on one another while you squat your bodyweight to parallel, you are simply not ready for high-amplitude plyometric training.

Stage 3 employs the ability to apply strength quickly, such as moving a loaded barbell with a fast tempo. This type of training will prepare your connective tissue for the loads associated with plyometric training. As the great mathematicians have discovered, the formula used to calculate power is the product of force and velocity, or in layman's terms: strength times speed. Plyometric training is based on this formula: P = F x V (Power = Force x Velocity).

The issue with plyometrics is not the tool, but its application into your training program. Plyometrics is an advanced training technique, intended for the serious athlete. It should never be taken lightly. In particular, plyometric training is not for overweight athletes or those with joint injuries. But for those with the appropriate level of conditioning, it provides a fantastic stimulus for mass and power development and increases the body's ability to oxidize fat in resting states, which means a leaner physique. Once you have mastered the first three stages of the developmental model, you are ready to incorporate plyometrics into your training program.

Diagram A: Human Motion's Developmental Model behind Plyometric Training
SHAPE * MERGEFORMAT

Plyometric training will give you huge bang for your buck! It requires no equipment, except well-cushioned footwear and a sprung surface. And because it is so high-intensity in nature, a full workout can be completed in as little as 20 minutes (not including proper warm-up and recovery).

Here are some key technique considerations:

- Land toe-to-heel, sitting back into a partial squat
- Land and take off with your knees tracking over your toes
- Land softly – do not make a sound
- Land with both feet hitting the ground at the same time
- Maintain good trunk carriage – do not allow your trunk to sway sideways or to flop back and forth
- Use your arms to generate more power
- Fully extend all of your joints in the air -- extend your knees fully, point your toes and straighten your trunk to maximize power
- Breathe out as you initiate the movement; this will give you power
- Do NOT train to failure or go for the "pump" – this defeats the purpose of plyometric training
- Sloppy, high volume workouts will not improve your power
- Avoid concrete surfaces
- Do not use ankle or hand weights – this will stress your joints
- Do not jump onto unstable surfaces until you have mastered stable surfaces
- Seek instruction from a qualified Strength Coach. TFM