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From Susan Lemke, BCAA VP Athlete Development

Recently I was to an outdoor shooting event that was usually held in the summer, but this one was in the middle of winter in the time of the training cycle where athletes are only shooting about 30 – 60 arrows in a practice session. The requirements for this event saw an athlete needing to shoot 90 scoring arrows. A situation occurred where many of the shooters who arrived did not have what they considered good marks for the event, but because it was a fun shoot wanted to go out and do it anyway. What ended up happening was that several rounds of practice were made available so that folks could get their marks and then the shoot began.

The result was that by the time the shooting started scoring the athletes had already shot 54 arrows. Now add that to the 90 that they needed to shoot for the score, a total of 144 arrows in February!

Okay so what's the big deal? The big deal is that for the majority of the young and some older athletes that by the 3 round into scoring at the longest distance after 54 arrows of practice they were done already. You could see it, everywhere. Shaking at full draw, taking big breaths between arrows, and losing focus before the end was done. The refreshing note for me came from one of the ladies, who said to me that she felt good and that the working out in the gym that she had been doing over the winter months was probably the biggest reason for feeling strong and satisfied with her shooting for this situation. I was glad to hear that maybe some of what I have been saying about aerobic and weight training exercise is paying off for some of you.

It is important now to bump up the intensity of your cardio and weight training for the next 4 weeks. With just 8 weeks to the BC Indoor Championships, which for a large part of you is a major goal. The form work is pretty much done. It takes roughly 12 weeks of regular work to ingrain a change in form into muscle memory. From this point on to the BC Indoors changes may not be successful until well after the BC Indoors. So from now until roughly the 3rd week in March you need to increase your cardio loads. The best way to do that without to much trouble or extra time is "Interval" training. For those of you who have been walking, or doing the stair master, now is the time to move into a more intense level of work.

Interval training is varying your intensity throughout your exercise session. Alternate high-intensity work bouts and low-intensity rest periods. Intervals are used to improve your performance using effort intervals followed by recovery intervals. For example, working at a level, holding this pace for about a minute. Then slow down to your normal tempo for two minutes. Increase your speed again to seventy percent for another leg exploding, lung expanding, minute. Cool down to a relaxed pace for another five.

Use intervals for walking, running, cycling, or in-line skating. The faster, more intense, velocity may be uncomfortable at first, but your heart rate and breathing will increase dramatically. If you do not enjoy watching the clock, simply speed up between telephone poles. Then slow to your normal rate until you reach the next pole. Interval training burns fat, builds endurance, speed, and recovery. You will complete your workout sooner, and it is a pleasant diversion from your long, slow, distance stroll.

Research has shown that interval training improves both your aerobic and anaerobic capacity. Continuous, long, slow, distance training improves aerobic capacity only.

Interval training also improves your muscle's ability to tolerate lactic acid. You become accustomed to short periods of training, just below your anaerobic threshold. This helps you

learn to delay the onset of fatigue, such as we found at the beginning of my discussion with archers already done before the shoot was over.

An interval training program (aerobic system) is low intensity but continues for longer than three minutes. Both the work and rest intervals occur at an intensity that is within your aerobic system. The interval period is performed at a slightly higher intensity than your steady state. The rest period is slightly lower than your steady state. The time in each interval usually ranges anywhere from 4 to 15 minutes. Climb on your exercise bicycle. Warm up for 3 minutes. Pedal at 70 percent of your maximum for 5 minutes. Take a one-minute easy-pedaling break. Perform another 5 minute interval.

An advanced interval training program is very high intensity, and short in duration (1-15 seconds). Sprint or lift weights at 95 percent intensity for 15 seconds. Then take a 45 second break. Your recovery interval is absolute-rest to allow for replacement of ATP and creatine phosphate. Because your work/rest cycle is relatively short, you can repeat the cycle 10 - 20 times within a single workout.

Another advanced interval training program (lactic acid system) kicks in at a high intensity and short duration (45-90 seconds). The work interval is greater than your anaerobic threshold. After your warm up, run the length of a track at 65 percent of your maximum speed. Jog slowly around the curve. Your rest interval occurs in the aerobic system. Use this program if you are highly fit and athletic. Your rest interval is active recovery. This allows for removal of lactic acid.

Speedplay is a form of interval training that is based on how you feel. It is less systematized than normal intervals. You govern how hard you want to work. You control your intensity based on your tolerance. Speedplay may be more enjoyable than timed intervals. It teaches novices how to progress beyond their anaerobic threshold. They learn to subjectively rate their perceived exertion.

Interval Weight training may be performed on a circuit. Perform 1 set of 10 repetitions at 60 percent of your maximum. Take about 30 seconds to finish each exercise. Your rest interval is the period between exercises. Recovery time is minimal, as it includes only the seconds required to strap into the next machine. Your goal is to complete 10 repetitions on all 12 machines with limited rest between sets.

A variation of circuit weight training is aerobic circuit training. Aerobic circuit training is simply adding a 30 second to 3 minute aerobics station between each weight set.

The benefits of interval training include:

1. You will increase your anaerobic threshold.

2. You can burn more total fat and calories in a shorter workout session thereby maximizing the use of your time.

3. You will be effectively stimulating both fast and slow twitch muscle fibers.

4. You can change your interval routine to avoid overuse injuries.

5. Long, slow, continuous training sometimes becomes boring, intervals will spice up your program.

Reference: Betterbodz.com Tom Seabourne Ph. D