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Distance Running and Ultimate – Friends or Foes?

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So you're an Ultimate player heading into the off-season. You can remember times during the past season when you were too tired to prevent your mark from scoring at the end of a long point; or you tried to jump up for that huge grab in the end zone, only to have your legs fail on you as you watched the disc sail past; or some injury trouble prevented you from finishing a tournament or relegated you to covering the opposing team's slowest player. You vow that you will train this off-season so that next year will be different. So, it's time to hit the treadmill or the pavement, right?

As far as endurance requirements for a sport go, Ultimate certainly ranks near the top. Not too many other sports combine the impact of running, cutting, jumping and laying out, often on hard fields with the seven-plus games in two days. It's been said that an Ultimate player can run 10km in a game. So with all that running to prepare for it's not surprising that people think that distance running would be a logical conditioning choice.

Before I get fully into this, I want to make it clear that these are training principles to improve an athlete's performance. In other words, this is what most people would get the most benefit from. That said, there are athletes that are so talented, skilled, and mentally tough that they could play chess as training and still be phenomenal. It's similar to the idea that some people can smoke all their lives and still live to be 90 but that doesn't mean that everyone should smoke. That said, even a prodigy stands to improve with proper training.

The problem with distance running as training for Ultimate is that there are some key differences between them. The first is stride pattern. Good sprint form involves driving the balls of the feet into the ground in a pattern similar to marching with high knees. Very important to effective sprinting is not having your foot hit the ground in front of your centre of mass (navel). Think Michael Johnson. Distance running tends to involve more of a heel-toe stride where your foot lands well in front of your body. Switching from one style to the other – as one would by using distance running as training for Ultimate - can have negative carryover effects ranging from overuse injuries such as shin splints and hamstring strains to diminished performance.

Shin splints happen because effective sprinting requires a stiff ankle joint while distance running requires a lot of movement through the ankle. Hamstring injuries occur when trying to sprint with overly forward stride puts the hamstring at excessive stretch when it needs to contract forcefully.

The second problem is something called the Specific Adaptation to Imposed Demands (SAID) principle. The SAID principle states that your body will adapt to the type of training you put it through. Simply put, if you train your body to run slowly – as one

does in distance running; your body will learn to run slowly. If you train your body to run fast; your body will learn to run fast. As such you want your training to mimic game requirements and conditions as closely as possible.

Now consider the SAID principle and your energy systems. Ultimate is a mix of anaerobic alactic, lactic, and aerobic work. Lactic acid tolerance becomes very important for performance, particularly during long points. Also, Ultimate has fairly brief, intense efforts with recovery in between. For example, you run hard off the pull, match up with your defender, cover a few in and out cuts, get the D, score, and head off. This is very different from distance running where a steady heart rate is reached and a rhythm is attained. As such it is best to train for Ultimate with short to medium, intense bursts with recovery in between.

Not convinced by the SAID principle? Then consider your muscle fibers. Ultimate is a sport of speed-endurance. This means you have to repeatedly come up with bursts of speed and powerful movements: Sprints, cuts, jumps, and layouts. This type of movement relies on fast twitch muscle fibers. Distance running, on the other hand, uses slow twitch muscle fibers. Building up your slow-twitch muscle fibers through distance running wouldn't be such a big deal if there weren't a third, transitional type of muscle fiber. This third type will adapt to become more like fast or slow twitch fibers depending on what kind of training they get. The more you train them as fast twitch fibers, the faster, more agile, and better able to sky people you become; the more they are exposed to continuous, slow running, the more they will be recruited as slow-twitch muscle fibers. Through distance training, your newly-recruited slow twitch fibers will limit the quantity of fast-twitch muscle fibers you can have; effectively making you slower.

Here are five suggested workout alternatives to distance running to maximize your Ultimate performance:

Resistance Training

Resistance for sport has requirements that are much different than training for general health and fitness or body building. The two fitness elements that will help Ultimate the most are strength and power.

What this results in is a program of high resistance lifted explosively and six reps per set or fewer. The benefits of this program will be greater resistance to injury, better sprinting, cutting, and jumping. Also, programs based on six reps or fewer tend to result in less unhelpful mass building than and program based around 8-12 reps.

Below is a suggested program for the competitive season:

1. Power cleans – 4 sets x 5 reps
2. Squats – 4 sets x 6 reps
3. Stiff-legged dead lifts – 4 sets x 6 reps

- Program should be done once per week
- Rest 3 minutes between sets
- Reps should be done explosively with good form
- Increase weight if you can complete 2 extra reps on the final set
- Do light sets as a warm-up, stretch for a cool-down
- Seek out knowledgeable help if you are unsure of how to perform any of the above exercises

Tempo Workout

Set up an Ultimate field or some close approximation to it, and sprint the length between the end zones at 75% intensity and walk the width. Do this in 3-5 sets of 4-6 reps. If you're not sure what 75% intensity feels like, a more subjective description would be sprinting without digging for that extra speed or a relaxed sprint. In the middle of walking the width, have a weight or a medicine ball to throw around to add an upper body component to your training. Try chest passes, forward rugby tosses, etc. Also, this will help to keep your heart rate up while you give your legs a break between sprints.

Tempo workouts have the following advantages:

- Simulates work/rest demands of Ultimate
- Good time to work on sprint form
- Excellent opportunity to learn to sprint while relaxed
- Effective way to improve body composition
- Low impact as there as it is sub maximal with no hard deceleration

Victory Agility Circuit (VAC) Workout

Tempo workouts, though very effective at what they do, leave out a major component of Ultimate – agility. Agility is mainly about deceleration and acceleration or fast direction change. Thus, the Victory Agility Circuit (VAC) was born.

For this workout you will require an agility ladder, cones, medicine ball, and suitable surface such as grass or a gym floor. Start with an agility ladder drill such as 2 in, 2 out, Icky Shuffle, Killer Crossovers, Knees Up, etc. From there, try a medicine ball exercise such as a chest pass. Person A does 5 passes each with Person B, and then moves on. Person B does 5 passes with Person C, etc. Next have an agility drill. This can be a t-sprint, triangle sprint, z-pattern run, etc. Ideally this will be head-to-head, as the competitive juices will draw more effort out of the participants. Person A does the sprint against Person B. Person B then does it again against Person C, etc. Next is another medicine ball drill to let the legs recover a bit. Finally, I like to end with a head-to-head pro sprint with double cones on the outsides and a single cone in the middle to act as a finish line. If need be you can also sneak a plyo or two in there was well. I would suggest doing this right at the start before fatigue starts to really set in. Make the most of this drill by lunging for the cones and pushing hard off of your outside leg.

Killer Ho' Stack Workout

This one is nothing short of cruel. It definitely passed the puke test (i.e., made someone puke) the first time I ran it. You start with three cones 5-10 yards apart in a row. About 5-10 yards in front of the row is a thrower with a disc. The cutter starts at the middle of the three cones and then 'fakes' out to the far cone and then comes in hard to the closest cone to the thrower where he receives a pass. He then returns the pass, jogs back to the middle cones, and then starts over. This time he 'fakes' in to the close cone and cuts hard to the far cone to receive the over-the-shoulder pass. He then returns this pass and jogs back to the middle. Initially the cutter does 2 in cuts and 2 out cuts. As endurance improves more cuts can be added. If more intensity is desired, add in a defender as well. This drill can be done with multiple stations. I would recommend 4-6 people at each station for a good work/rest ratio.

Disc Waving Workout

This is a fun drill for the person waving the disc and no one else. You have one person who likes yelling more than running up at the front of the group – the director. Your cutters are in 4 columns with ample space between rows. To begin, explain that when the director waves the disc forward everyone runs away. A disc waved to the side means everyone runs in that direction. A disc waved backward means everyone runs forward. Give the cutters 5-10 directions. Allow 30 seconds to 1-minute rest between efforts. For the next set, have everyone face forward the whole time meaning that they run forward, backward, or shuffle based on where the disc is waved.

Conclusion

Like any athlete, a competitive Ultimate player has limited time and energy to commit to training. It only makes sense to use what time you do have to the training that is most likely to make you a better player. As Ultimate becomes more and more competitive by attracting top athletes, it is the teams that embrace the science and wisdom of sport-specific training that will be successful.