

Conditioning For Sports

It is important to understand that to effectively “get in shape” for your upcoming season means more than just going for distance runs. You need to prepare your body for the demands that your sport calls for. Below are some keys to proper conditioning for sports.

1. Analyze the demands of your sport and train accordingly.

- A basketball or lacrosse player would not maximally benefit from running distance like a marathon or cross-country runner. More specifically, if you train for intermittent sports such as soccer, hockey or lacrosse in the off season with long distance runs only, you are training your body to use an oxidative energy system (with oxygen) that is typically not called upon in those sports so when you participate in drills come pre-season you might feel out of shape.

Biological Energy Systems

1. Phosphagen – anaerobic, without oxygen, short intense bouts of activity.
2. Glycolysis – fast and slow, medium intensity, tolerance for the “burn”.
3. Oxidative – aerobic, with oxygen, long bouts of low intensity activity.

Some sports might demand a mix of the energy systems but it would be very beneficial to consistently train the system called upon the most in your sport.

Below is an abstract from a study that appeared in the Journal of Strength and Conditioning Research in August 2007.

Do Hockey Players Need Aerobic Fitness?

Relation Between Aerobic Capacity and Fatigue During High-Intensity Intermittent Ice Skating.

Carey, D.G., M.M. Drake, G.J. Pliego, and R.L. Raymond.

The primary objective of this study was to assess the relationship between aerobic capacity, as measured by the $\text{Vo}(2)\text{max}$ test, and recovery from high-intensity intermittent exercise. Eleven female collegiate hockey players agreed to participate. Subjects skated 5 1-lap intervals around the hockey rink at maximal intensity with a 30-second recovery period between skates. The $\text{Vo}(2)\text{max}$ test was performed on a treadmill after a modified Bruce protocol. A fatigue index was calculated by measuring the total increase in skate time from trial 1 to trial 5. This fatigue index was then correlated to $\text{Vo}(2)\text{max}$. This correlation coefficient (-0.422) was not significant ($p > 0.05$) and indicated that only 17.8% of the variance in $\text{Vo}(2)\text{max}$ could be explained by the fatigue index. It was concluded that ability to recover from high-intensity intermittent exercise is not related to aerobic capacity. Coaches and trainers probably do not need to include aerobic training in their practices, because the high-intensity interval training commonly seen in hockey training also improves aerobic capacity, as reflected in the high $\text{Vo}(2)\text{max}$ values of these subjects.

2. Consider Change of Directions.

- Most team sports require you to move back and forth and side to side so training the muscles in this manner will improve your performance and reduce the risk of injury.

3. Include start and stop drills.

- You need to train the muscles to produce movement fast and to stop movement fast. The following drills will help you prepare for the season.

Sample Conditioning Drills

Tempo Runs (For the first few weeks to build a base)

- Run at about 60% effort for 15 – 20 seconds.
- Walk for 40 seconds.
- Repeat 10 times.

Turns and burns

- Set up two cones about 15 yards apart.
- Shuffle down to one cone and sprint back to the other.
- Continue pattern for 15 – 20 seconds.
- Rest for 45 seconds to 1 minute.
- Repeat sequence 6 – 12 times remembering to switch directions you shuffle each time.
- You could also mix in a crossover run or carioca pattern.

150 yd Shuttle Intervals

- Mark out a 25-yard course in 5-yard intervals.
- Sprint to each yard marker and back to the start until you cover 150 yards.
- Example: Sprint to 5 yds and back then 10-yds. and back and so on until you finish with 25 yds. and back. (150 yds. total)
- Rest 1 minute.
- Repeat 5 – 10 times.