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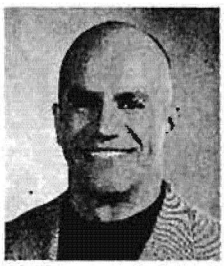

Juan Carlos Santana, MEd, CSCS
Column Editor

Off-Season Conditioning for Women's Lacrosse

Glenn Harris, MS, CSCS
Boston University, Boston, Massachusetts

summary

Lacrosse is a unique sport with specific training demands. In this column, the demands of lacrosse in female collegiate athletes are discussed.

College women's lacrosse is an exciting, fast-paced game. Spectators and fans see players sprinting up and down the field, changing direction quickly, passing and shooting the ball with speed and accuracy. The sport of lacrosse is a highly technical game involving excellent hand-eye coordination; however, it is also a game that involves a tremendous amount of conditioning. Different sports emphasize different energy systems during training and competition. Marathoners are highly aerobic athletes whereas weightlifters are highly anaerobic. Some sports, such as lacrosse, ice hockey, and field hockey use multiple energy systems (1). The intent of this column is to focus on how we prepare women's lacrosse players for the conditioning demands of their sport.

Women's lacrosse at the college level can be divided into 2 seasons: fall and spring. The fall season is a shorter season, usually involving practices and some scrimmages with other teams. This season usually begins in September and lasts until about the middle of October. The spring season is the competitive season. I am not minimizing the importance of the fall season, but the spring season is where championships are won. Games begin in March and can occur until the end of May. Practices for the spring season begin in the middle of January, leaving approximately 12 weeks from the end of the fall season to get the necessary work accomplished.

The areas of focus in our off-season conditioning program include agility and footwork, speed development, and sport-specific conditioning. Every workout during the winter addresses each area of focus. Before focusing on these areas, we begin with a dynamic warm-up.

Agility and Footwork

Agility is the ability to change direction quickly. Verstegen and Marcello (2) write that agility permits an athlete to react to a stimulus, start quickly and efficiently, move in the correct direction, and be ready to change direction or stop quickly to make a play in a fast, smooth, efficient, and repeatable manner. Athletes who have poor agility are slower and are typically not as efficient when playing. During our movement sessions, we focus on agility and footwork before we do the conditioning for the day. The agility ladder is one of our preferred methods of agility training. The agility ladders allow us to bring a large number of athletes through the drills in a minimal amount of time. Also, the number of drills that we can do is limited to the imagination. We use a variety of ladder drills to improve agility (Table 1). Most of the ladder drills can be performed forward and backward as well as laterally. This helps prevent boredom and staleness in the workouts.

Table 1
Examples of Agility Ladder Drills

Quick feet run
In–in/out–out
Cross-over in front
Cross-over behind
Shuffle across
Can-opener
Hop-scotch

There are also videos and manuals on different drills that can be performed using the agility ladder.

Speed Development

Speed is measured by how fast a certain distance can be covered. When observing the game of lacrosse, it is quickly noticed that there are two types of speed: linear and lateral. When we are working to improve speed, whether it is linear or lateral, the distance that we use is less than 15 yd. To optimize neural performance it is important to have athletes fully rested between repetitions. Kraemer (1) writes that speed cannot be developed when athletes are performing skills in a fatigued state. When we are performing speed-enhancement drills, athletes walk back to the start to ensure that they are rested between bouts. The speed-development component of the program is not where conditioning should take place.

Our progression of speed development begins with simple sprints such as "lean–fall–runs" and then progresses to more challenging drills such as ball drops or partner tag drills (Table 2). As mentioned earlier the distance of each drill is no greater than 15 yards. The repetitions will be low in the beginning, usually 2–3, and will increase to 4–5 as the phase advances.

Table 2
Examples of Speed-Development Drills

Lean–fall–run
Ball drops
Ground starts
Reaction ball drops
Partner get-up tags
Kneeling lateral starts
Standing lateral starts

Table 3
Example of Off-Season Conditioning Phase 1

Conditioning	Run (s)	Rest(s)	Wk 1	Wk 2	Wk 3
120-yd run, jog back	:20	:60	× 6	× 8	× 9
60-yd shuttles	:15	:45	× 9	× 10	× 11
60-yd run, jog back	:10	:30	× 8	× 9	× 10

Table 4
Example of Off-Season Conditioning Phase 2

Conditioning	Run (s)	Rest(min)	Wk 4	Wk 5	Wk 6
150-yd shuttles (30 × 5)	:30	1:00	× 5	× 7	× 8
60-yd shuttles	:15	0:45	× 10	× 11	× 12
150-yd shuttles (50 × 3)	:27	1:00	× 5	× 7	× 8

Sport-Specific Conditioning

The primary focus of a sport-specific conditioning program is to train athletes to be better at their sport. When designing our conditioning program for lacrosse, we do not train the same way distant runners train; we train like lacrosse players. Tables 3 and 4 are examples of 2 phases of our off-season conditioning program. The conditioning drills are interval based with a work-to-rest ratio of 1:3 to 1:2. At times, active rest components are incorporated into the conditioning drills to be even more similar to competition. For example, instead of simply running a 100-yd run with a 1:3 rest, the rest component will be a slower paced jog in a different direction.

Conclusion

Looking at the metabolic demands of the sport, a high demand of the phosphagen system along with a moderate demand of anaerobic glycolysis and aerobic metabolism (1), lacrosse offers the strength and conditioning coach the opportunity to design a program that addresses multiple energy systems. Gone are the days of simply going out for a run. For explosive speed work (phosphagen system), the rest periods should be long (approximate work-to-rest ratio 1:10). Designing the conditioning program that addresses both anaerobic and aerobic systems requires work-to-rest ratios that range from 1:1 to 1:3. The concept of specificity of training tells us that with a properly designed program, athletes can improve their agility, speed, and conditioning levels with respect to their sport. ♦

References

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Glenn Harris is the Head Coach of Strength and Conditioning at Boston University in Boston, Massachusetts.