

# Off-ice training for younger players

By Jim Reeves

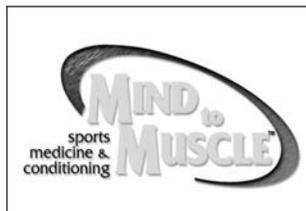
Puberty is a time of change, and there is no doubt that the bodies of young hockey players between the ages of twelve and fifteen undergo a significant overhaul during these years. Aside from the obvious changes in height and weight, there are significant consequences to deal with in regards to the hockey player's ability to perform on the ice.

Puberty causes uneven rates of growth in the body. Commonly, many people of this age experience bone growth at a faster rate than the muscular system. Too often, players who had previously enjoyed adequate range of motion in their joints at a younger age are all of a sudden appreciably less flexible. The abrupt change in their flexibility is due to an imbalance between the length of the bones and muscles in their body.

Skating requires a player to repeatedly flex one hip completely while the hip on the other side moves into full extension, stressing the flexibility and mobility of both joints. Any restriction of flexion or extension in either hip will result in a player shortening their skating stride. A player in this situation will take more strides than would otherwise be required to skate the length of the ice, and work harder against their own body, to accomplish the same task. Flexibility exercises which stress proper dynamic movement of the hips and legs will help to limit the negative effects that rapid growth spurts will have on a player's performance.

Muscles of the body are controlled by the nervous system which uses the brain and nerves to monitor body positions, spatial awareness and movement of the body in its environment. Players will often develop problems with their skating skills, balance, movement coordination and agility because the nervous system has not adapted to changes in the body.

The core, a region of the body that includes the hip, lower back, abdominal and upper back muscles, is responsible for proper positioning and stability of the body. With growth, the muscles of the core need to be re-educated about their role in maintaining both stability and efficient movement patterns. The nervous system needs to reprogram itself ensuring that the correct muscles are firing at the appropriate times.



The core muscles need to be properly emphasized in training programs to allow players to relearn the basic control and movement patterns necessary to move efficiently and accurately on the ice.

Another significant change during puberty is a rapid increase in a player's weight and how that weight is distributed throughout the body. A young player may have the strength level of an average fourteen year old and yet try to move a body that is the same size as a full grown adult. During puberty, a player's muscles may not have developed enough absolute strength yet to properly move their increased body weight. For many adolescent hockey players, strength does not match body size.

Numerous times, athletes will develop compensatory movement patterns to overcome this strength deficiency, in order to continue playing hockey or participating in their daily activities. This compensation is a primary factor that leads to the development of overuse syndromes in the knees of young hockey players. It is very important to teach these players to move efficiently, with exercises that stress proper muscle recruitment and joint mobility. Hockey players need to move from the hips, so that other joints, such as the knees, are not subjected to additional stress.

Exercises which emphasize proper movement and core recruitment are best for athletes in this age group. Illustrated here (ast left) is an exercise called Stability Ball Tabletop Marching with Straight Leg Raise. To perform this exercise, support your upper back and head on the stability ball, then raise your hips up level with your shoulders into a tabletop position.

Slowly lift the left foot off the floor, extending the knee and hold that leg out straight out to complete the marching portion of the exercise.

To perform the straight leg raise portion, keep the hips up level with the shoulders and slowly raise the left leg up towards the ceiling. Raise the left leg until either you can't move it upwards anymore, or until your hips drop down away from the tabletop position. Try to keep your hips up as you lift the left leg higher and higher with each repetition. Slowly lower the left leg down under control to the floor, then repeat with the right leg. Your

arms can be out to the side to help balance you, or you can place your hands on your hips to make the exercise more difficult.

The second exercise (right and below) is called a Lateral Lunge and Hold. To start this exercise, stand with your back straight, lift your left leg up and lunge sideways towards the left. Plant the left foot, toes pointing straight ahead, then allow the hips to drop back into a single leg squat on the left side as low as possible. Keep the right leg straight and do not allow the left knee to slide forward past the toes at all.

From the deep squat position on the left leg, stand yourself back up using the left leg, then repeat the lunge on



the right side to complete the first repetition. Perform both of these exercises for six repetitions on each leg, repeating both exercises three times.

Both exercises will target stabilization of the entire core, as well as develop flexibility and efficient movement of the hips and legs. During adolescence, the hockey player will experience many changes in their body. Parents and players must respect limitations their bodies will have during this time and should look at off-ice training as a means to help them adapt quicker to the changes within their body.

(Jim Reeves, CAT(c), CSCS is Conditioning Coordinator at Mind to Muscle Sports Medicine & Conditioning Centre)



## Challenge Cup Youth Tournaments



**Montreal**  
February 16-19, 2006  
(Presidents Day)  
Novice, Atom, Peewee, Bantam, Midget  
March 23-26, 2006  
Novice, Atom, Peewee, Bantam, Midget

**Lake Placid**  
March 16-19, 2006  
Novice, Atom, Peewee, Bantam  
March 23-26, 2006  
Novice, Atom, Peewee, Bantam  
March 30 - April 2, 2006  
Novice, Atom, Peewee, Bantam  
April 6-9, 2006  
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April 13-16, 2006 (Easter)  
Bantam & Midget Showcase

October 19-22, 2006  
Peewee Showcase  
October 26-29, 2006  
Bantam & Midget Showcase  
November 2-5, 2006  
Novice, Atom, Peewee, Bantam  
November 9-12, 2006  
Novice, Atom, Peewee, Bantam  
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Atom, Peewee, Bantam  
November 30-December 3, 2006  
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