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In Motion

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Good Hygiene Key to Healthy Skin for Wrestlers

Due to frequent skin-to-skin contact, wrestlers are prone to skin infection. Each infection poses a major concern to a wrestler, who by rule may not return to play until the infection has been adequately addressed. A recent review of the NCAA surveillance system defined skin infections as the leading cause of missed practice time among collegiate wrestlers.

Most disease transmissions occur through skin-to-skin contact, but may be transferred through inanimate objects such as headgear and soap. Wrestlers should be inspected prior to each practice or match to identify any suspicious lesion. If an infection is discovered, the wrestler should be referred to a physician for treatment. Antibiotics, antifungals, and antivirals are standard treatments proven to reduce the duration of infection.

Nonetheless, the best method of limiting missed time from play is prevention. Several hygiene practices have been suggested and include showering immediately after practice, wearing laundered clothes daily, and avoiding shared equipment such as headgear. Preventative antifungal and antiviral medication has shown promise in reducing the number of infections per season, but is not routinely recommended. The most effective way to prevent the spread of skin infections is to look for lesions and remove athletes from play until the infection is treated.

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Focus on Nutrition May Maximize Sports Performance

By Jeffrey Giuliani and Brett D. Owens, MD

Sports nutrition plans are critical to maximizing performance, and should take into consideration the type of training and the athlete's desired fitness goals. Further, diet and caloric requirements depend on factors like age, gender, height, weight, body composition (BMI and muscle mass), and activity level.

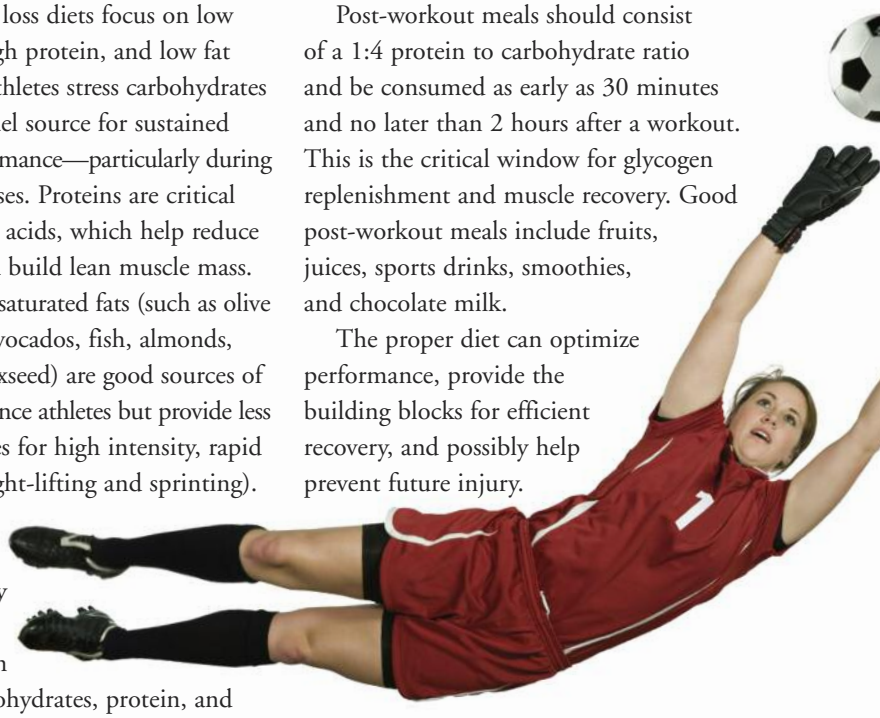
While weight loss diets focus on low carbohydrate, high protein, and low fat foods, diets for athletes stress carbohydrates as the primary fuel source for sustained energy and performance—particularly during endurance exercises. Proteins are critical sources of amino acids, which help reduce muscle stress and build lean muscle mass. Foods high in unsaturated fats (such as olive and canola oil, avocados, fish, almonds, soybeans, and flaxseed) are good sources of energy for endurance athletes but provide less accessible supplies for high intensity, rapid movements (weight-lifting and sprinting).

Calories are the direct amount of energy produced from food and come in the form of carbohydrates, protein, and fat. The ideal diet should include meals with a 40 percent, 30 percent, 30 percent combination of these foods respectively.

Pre-workout meals should be a small snack consumed no less than 30 minutes prior to a workout. Carbohydrates such as pasta, bread, brown rice, or whole grains with a lean protein (chicken, turkey, fish, beef) are ideal. Foods high in fat and protein slow down digestion and do not provide energy prior to exercise. Hydration remains critical pre-workout but also during exercise and activity.

Post-workout meals should consist of a 1:4 protein to carbohydrate ratio and be consumed as early as 30 minutes and no later than 2 hours after a workout. This is the critical window for glycogen replenishment and muscle recovery. Good post-workout meals include fruits, juices, sports drinks, smoothies, and chocolate milk.

The proper diet can optimize performance, provide the building blocks for efficient recovery, and possibly help prevent future injury.



Inside

Recognizing Symptoms of Asthma in Athletes

By D. Monte Hunter, MD

Exercise induced asthma (EIA) is a common ailment among athletes at every competitive level. It is more common in high-intensity aerobic sports, particularly those with exposure to cold (i.e. speed skaters, ice hockey players, cross-country skiers). If unrecognized, an asthma exacerbation or "asthma attack" can lead to serious complications including intubation and ICU stays or even death. The ability to recognize the symptoms of asthma is thus essential to caring for athletes.

EIA is defined as an intermittent narrowing of the airway that leads to a decrease in measure of air flow and symptoms of cough, wheeze, chest tightness, shortness of breath, and mucous production that is triggered by exercise. It is possible to exhibit symptoms both during and immediately after exercise. Symptoms may not always be straight forward. Nonspecific symptoms such as feeling out of shape, abdominal pain, headaches, muscle cramps, fatigue, or dizziness may also be present but can often lead to misdiagnosis. Conversely, symptoms that worsen with cold air, certain endurance sports (i.e. running, ice skating, cross-country skiing), and the presence of a family history of asthma or allergies may increase the probability of diagnosis.

Likewise, avoidance of activity, easy fatigability in fit individuals, inability to keep up with peers, difficulty with specific seasons or environmental changes, and sub-optimal athletic performance may be subtle indicators for asthma. Healthy adolescents often present with non-cardiac chest pain while elite athletes most often present with cough.

Symptoms alone cannot make the diagnosis of asthma. If an athlete presents with cough, shortness of breath, chest tightness, etc. and a cardiac work up is negative, suspicion should be raised for asthma as the cause. At this stage the athlete should be referred to a primary care, pulmonary, or sports medicine physician in order to undergo appropriate lung testing. Such testing is performed with an exercise challenge and can definitively determine the diagnosis of EIA and guide future therapy.

It is possible to exhibit symptoms both during and immediately after exercise, but symptoms may not always be straight forward.

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Prevention Tips to Keep Hockey Players on Ice

By Kenneth Fine, MD

Ice hockey is classified as a collision sport and can be extremely fast and violent. The risk of injury comes from the forces generated by the players as well as the unyielding nature of the instruments and environment of the game. Players typically aim to skate at high rates of speed and use their sticks to take shots that can have greater velocity than a pitched baseball. This, in combination with the unpadded boards, slippery surface of the ice, and the sharp edges of skates all contribute to the risk of injury.

Mechanics of Ice Hockey

Ice hockey combines fast skating with shooting a projectile (the puck) at extremely high speeds. Each player also carries a stick that can become a weapon when swung violently. Skating speeds have been measured as high as 30 miles per hour in adult players and 20 miles per hour in youth players, with puck speeds clocked at over 120 miles per hour for professionals and over 50 miles per hour for youth players.

Injury Patterns

Collisions with the boards or another player account for most ice hockey injuries. Sticks, pucks, and skates also cause injuries. Other injuries are caused by overuse, fatigue, and twisting mechanisms. All body parts are vulnerable to injury including sprains, strains, contusions, and fractures.

Cervical spine (neck) injuries are a concern in ice hockey, especially due to the risk of permanent paralysis. The most dangerous situation for causing serious cervical spine injuries is when a player hits the boards or another player with the top of the head and the neck slightly flexed. Concussions, which are defined as any change in mental functioning due to trauma to the brain, also occur frequently in hockey.

Injury Prevention

Proper conditioning, including strength and flexibility training, can significantly reduce the risk of injuries in ice hockey. Proper use and fitting of equipment is also vital for protecting players from injury. Helmets, gloves, mouth guards, shoulder pads, elbow pads, knee and shin pads, and padded hockey pants are standard hockey equipment and should be worn at all times. Facemasks and neck guards may reduce the risk of serious injuries to the eyes, face, and throat.

Rules that prevent hits from behind (boarding) and those designed to reduce the risk of concussions should be strictly enforced. Additionally, teaching players to keep their head up before impending contact with the boards or other players can help lower the risk of serious injuries.

Injury Treatment

Ideally, a trained medical provider, especially a certified athletic trainer, will be available to help diagnose and treat injuries on the ice. After a concussion, an athlete should not be allowed to return to the ice until all symptoms have completely cleared. For injuries to the upper or lower extremities, coaches and parents should use common sense before deciding whether the athlete can return to play. If the symptoms resolve quickly, and the athlete can skate and shoot without significant pain, it may be safe to return to play. If there is any doubt, or if pain or swelling last more than two to three days, the athlete should be kept off the ice until evaluated by a physician. The affected body part should be elevated and treated with ice for periods of 20 minutes.

Removal from Ice

In general, if athletes can stand and skate off the ice using their own power, it is safe for them to do so. However, athletes with a suspected injury to the spine must be removed by trained personnel using a spine board. If there are changes in mental functioning, such as loss of consciousness, a spine injury must be assumed. Any obvious fracture with deformity or abnormal motion within a bone should be splinted before the athlete is moved.

Future Directions

Research on detection, treatment, and prevention of injuries, especially concussions, is continuing and will hopefully result in lower injury rates in the future. For now, athletes should focus on proper conditioning and equipment use, and coaches and officials should emphasize strict rule enforcement.

For a free tip sheet and more information on preventing hockey injuries, visit www.STOPSportsInjuries.org.

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About AOSSM and *In Motion*

As a world leader in sports medicine education, the American Orthopaedic Society for Sports Medicine (AOSSM) is pleased to provide you with this complimentary copy of *In Motion: Active Living for All Ages.* We have designed the publication to highlight relevant information for multiple age groups from exercise and rehabilitation to nutrition and psychology.

This important educational tool is published quarterly and can be purchased in bulk for a nominal fee for distribution in waiting rooms and other public areas. **If you purchase 50 or more copies of any three issues (Spring, Summer, Fall, Winter) you'll get the fourth set of issues free!**

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BIOMET SPORTS MEDICINE

Performance Aids Not Worth the Risk

By Richard Hinton, MD

A significant number of young athletes are experimenting with performance enhancing supplements hoping to boost athletic performance, ward off fatigue, and add muscle mass. The perceived "edge" often comes at the risk of their health, and at the exclusion of more effective performance enhancement strategies, such as adequate sleep, sound nutrition, appropriate conditioning, and respect for fair play.

Commonly available performance enhancing aids:

1. Anabolic steroids are man-made versions of testosterone used to build muscle mass and strength. They are effective but come with a high risk of side effects, including acne, high blood pressure, high cholesterol, aggressive social behavior, and abnormal sexual development.

2. Andro (Androstenedione) is a pre-hormone that the body converts primarily into testosterone. Its function and side effects are similar to those of anabolic steroids. Part is also converted into estrogen, which may lead to breast enlargement and testicular underdevelopment in male athletes.

3. Creatine is a naturally occurring substance in the body, and also available as a dietary supplement. It may help increase strength and short burst, high intensity athletic activity. It has been associated with muscle cramping and dehydration.

4. Ephedrine is an amphetamine-like substance used to provide quick energy, and is found in some cold medications. Used in combination with caffeine drinks, it may lead to high blood pressure, irregular heart rate, and even stroke.

5. Caffeine has been shown to improve endurance activity in adult athletes, but can lead to dehydration and heat illness in younger athletes.

6. Protein supplements are not required. An appropriate balance of protein, carbohydrates, and total calories, combined with proper strength training leads to gains in muscular strength.

Young athletes may consider experimentation with these ergogenic aids due to peer pressure, curiosity, or frustration in their training regimens and athletic performance. It is important to remember that supplements are not FDA approved medications. They do not have to be standardized, safe, or effective. Have a frank discussion with your children concerning performance enhancing drugs and use it as a possible mutual learning experience.