Special Issue

Hughston Health Alert

6262 Veterans Parkway P.O. Box 9517 Columbus GA 31908-9517

VOLUME 8, NUMBER 2 | *For a Healthier Lifestyle* | SPRING, 1996

Inside This Special Issue:

Welcome to a special issue!

To celebrate the 1996 Olympic Games, we asked medical professionals who are providing medical care to the Olympic athletes to write about the sports with which they will be involved. These professionals include physicians, athletic trainers, physical therapists, and medical researchers. The result is two issues filled with information on Olympic sports, Olympic athletes, and the recreational athlete's involvement in these sports.

In this issue, we present table tennis, men's basketball, and women's softball. We also remind you how to prevent and treat heat-related illness, especially when attending outdoor Olympic events.

Look for articles on sports, such as swimming, shooting, athletics (track and field), and beach volleyball, in Vol. 8, No. 3. Learn a few fun facts about the Olympic Games, too.

Please join us in Atlanta, Georgia, or at one of the outlying venues for the Centennial Olympic Games.

Todd A. Schmidt, M.D.
Editor, Atlanta, GA

Medical Care at the Olympic Venues

1996 Olympic Games
July 19 - August 4, 1996

For the Olympic athlete, years of hard work culminate at the competition venue — the site where he or she finally competes against other world-class athletes with the eyes of the world watching. The 26 venues of the Centennial Olympic Games will host an estimated 2,000,000 spectators; 15,000 coaches, athletes, and team officials; 1000 Olympic family members; 20,000 media personnel; 3000 Atlanta Committee for the Olympic Games (ACOG) staff members; and 45,000 volunteers. Of the 26 venues, 18 are in Atlanta, Georgia, and eight are as far away as Orlando and Miami, Florida; Birmingham, Alabama; Washington, D.C.; Savannah, Athens, and Columbus, Georgia; and Ocoee, Tennessee.

ACOG has set up Medical Services stations at each venue to care for everyone who attends or participates in the 1996 Olympic Games. About 4200 volunteers (including 700 to

800 doctors) will provide free medical care at these stations for any condition that arises, from a simple headache to a life-threatening problem. Although most of the visits to the stations will be for minor problems, the medical teams will be prepared for the "worst case scenario" with state-of-the-art defibrillators, back-up emergency medical services including ambulances and helicopters, and local hospitals on standby. Interpreters will be available for athletes and visitors who do not speak English. In case of more serious or exotic diseases, the medical team can refer a patient to a specialist for treatment.

Uniformity

The Medical Services stations are divided into Venue Medical Services (first aid stations), which provide medical care to everyone at the venue except athletes, and Athlete Care stations, which provide medical care to athletes and medical personnel traveling with the athletes.

Similar services, supplies, and medications will be available at all Venue Medical Services stations. The size and number of stations available depend on the number of spectators expected to attend the events at that venue. Each of these stations comprises a registration area, a private examination area, storage for supplies and medications, a trauma area with advanced cardiac life support capability, an administrative area where each visit and problem are documented, and an ambulance holding area.

In addition to these areas, the Athlete Care stations have an area for an athletic trainer to examine the athlete and an area for massage. All of the Athlete Care stations will have the same basic supplies and medications available; however, some supplies and medications will differ among venues depending on the needs of the athletes in each sport.

Venue Medical Services stations

In the Venue Medical Services area, the doctor will be assisted by nurses, paramedics, emergency medical technicians (EMTs), first responders, and administrative and clerical personnel. The first responders, paramedics, and EMTs will actually be in the spectator areas. They will carry supply packs so they can give minor first aid to spectators when needed. If

(please see "Medical Care" on p. 7)

Heat-Related Illness

During this summer's Olympic Games in Atlanta, Georgia, and the surrounding venues (competition sites), heat-related illness, such as heat exhaustion and heat stroke, will be a major concern for athletes and spectators alike. Problems from the heat will be especially evident during the outdoor events, such as softball, athletics (track and field), and soccer. To understand this potentially serious problem, you need to know how the body cools itself, the signs and symptoms of the illness, how to treat the illness, how to prevent it, and what informative signs and first aid will be available at the venues.

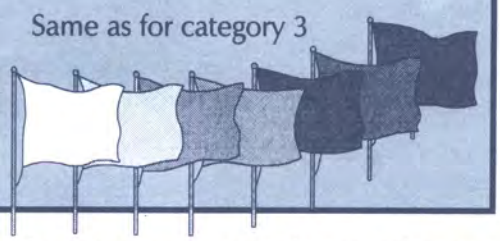
How does the body cool itself?

Heat-related illness can range from mild problems, including heat cramps and fainting after exertion, to more severe problems, including heat exhaustion and heat stroke. Heat cramps or fainting are not associated with a significant rise in body temperature. However, with more serious conditions, your body temperature can rise to physically damaging or potentially deadly levels. If you have developed heat exhaustion, your body temperature may be as high as 103° F, and if you have developed heat stroke, your body temperature may be as high as 107° to 108° F.

As your body temperature increases, your body uses convection (loss of heat to air or vapor molecules) and evaporation to help maintain a constant body temperature. The brain sends a message to the blood vessels in the top layer of the skin and to the sweat glands. The capillaries (small blood vessels between the arteries and the veins) in the skin dilate to allow more heated blood to circulate closer to the skin's surface, where the heat can be lost to the cooler air around the body. The sweat glands

Category	WBGT*/Risk	Recommended Fluid Intake
0 No flag	< 64° F Low risk	3 quarts (3 liters) of water a day or enough to avoid thirst, keep urine clear, and avoid weight loss
1 Green flag	64° - 72.9° F Moderate risk	1 quart (1 liter) of water with each meal (3 meals a day) plus 1 quart (1 liter) of water 60 to 90 minutes before exertion
2 Yellow flag	73° - 81.9° F High risk	Same as for category 1 plus 1/2 quart (1/2 liter) of water every hour of exertion
3 Red flag	82° - 85.9° F Very high	Same as for category 1 plus 1quart (1 liter) of water every hour of exertion
4 Black flag	> 86° F Imminent heat injury	Same as for category 3

***WBGT = Wet bulb globe temperature. Used to determine the heat category.**



also coat the body with fluid, heat is lost to the fluid, and the heated fluid evaporates, cooling the body. Evaporation is the primary way heat is transferred from the body.

You are in real danger of developing heat-related illness when the temperature and the humidity of the environment are too high to allow adequate heat loss from the body.

Signs, symptoms, and treatment

Early signs and symptoms of heat-related illness include headache, dizziness, fatigue, blurred vision, heart palpitations, difficulty breathing, muscle cramps, and chills. As the illness gets more severe, you may become confused, agitated, disoriented, and delirious, which can progress to lethargy and unconsciousness. Coma may occur in the severest of cases.

People often do not recognize their own symptoms of heat-related illness, especially if they have a severe condition. Therefore, you should look for symptoms in people around you at an event, and friends and family who attend an event with you should look for symptoms in you.

If you have any of these symptoms, seek immediate medical attention. First, medical personnel will make sure your airway, breathing, and circulation are clear and stable. Next, they will try to decrease your core body temperature as rapidly as possible to less than 102° F. The medical personnel may douse or immerse you in cool or ice water or may apply ice packs to the sites of large or major vessels located in the armpit, neck, and groin. If you have a more severe case of heat-related illness, you will be transported either to the hospital assigned to treat people at that venue or to the closest hospital.

At each venue, there will be an intricate system to help treat you if you develop heat-related illness or another health problem. There will be a fully supplied "cooling tent" beside the first aid tent, a cool mist shower that you can walk through, and medical personnel to treat you in the spectator area and in the Venue Medical Services station and to transport you to a hospital if necessary.

Preventing heat-related illness

There are several things athletes and spectators can do to help reduce the risks of developing heat-related illness. Stay out of the direct sunlight especially between 11 AM and 4 PM, wear loose-fitting light-colored clothing, and protect your head, face, and skin with a hat (preferably with a wide brim) and with sunscreen.

The most important way to reduce the risk of heat-related illness is to drink plenty of fluids to replenish those you have lost. Don't drink according to your thirst; thirst is not a sensitive indicator of fluid requirement. You can find out how much fluid you should be drinking by noting the color of the heat category flags, which will be set up around the venues (see table at left). The table is an example of what will be included in the program purchased at each Olympic venue. The temperature used to determine the heat category is based on the measurements taken by a series of thermometers that are sensitive to air temperature, cloud cover, humidity, and breezes around the venue.

The best way to prevent heat-related illness at the summer Olympics or any other summer activity is to bring a large container to hold fluid so you will have plenty to drink and to take frequent drinks from it. We hope you will join us during this great event and that your visit will be a healthy one.

***Steven Mares, M.D.**, is a primary care fellow who is studying the specialty of sports medicine in Columbus, GA.*

Olympic Men's Basketball

July 20 - August 4, 1996

The Olympic Games are coming to Atlanta, Georgia, this summer, and with the excitement of the Olympics comes the anticipation of "Dream Team II." Tickets for the men's basketball finals, along with the Opening Ceremony, were the most requested of all Olympic tickets. The basketball medal rounds will be played in the new Georgia Dome.

The 1996 Olympic men's basketball team will again be mostly made up of professional players, with a few college stars completing the roster. Atlanta Hawks coach Lenny Wilkens will head the team that will include David Robinson, Shaquille O'Neil, and, possibly, Michael Jordan.

To be successful at the Olympic level of competition, athletes need to be in top physical condition. The players are very skilled athletes, and training for their sport is their job. They spend endless hours preparing themselves for competitions. The athletes weight train to build strength and endurance, they do aerobic training to increase their cardiovascular fitness, they eat well-balanced meals, and they practice often to fine-tune their technique and develop teamwork.

Common injuries in Olympians

The most common injuries among Olympic basketball players are ligament injuries to the knee and ankle and overuse injuries, such as stress problems and tendinitis (inflammation of tissue that connects muscle to bone). Knee ligament (tissue that connects bones) injuries typically occur from twisting or hyperextending the joint. The ankle is usually injured when the athlete comes down from a rebound and lands on another player's foot, turning the ankle. Tendinitis and stress injuries usually are caused by overuse or constant running on hard courts and by repeated jumping.

Many of these injuries can be properly treated by rehabilitating the muscles and protecting the player from further injury. With proper treatment, most players with minor injuries can return to playing basketball within 3 to 4 weeks. Taping the ankle or bracing the knee after an injury are helpful ways to prevent further, more serious injuries and frequently enable these elite athletes to return to competition more quickly. Rest and physical therapy often are successful treatments for overuse injuries. When these treatments are unsuccessful or when more serious injuries occur, athletes may need surgery to treat the injury before they can get back on the court.

Injuries in the weekend athlete

College, high school, and recreational basketball players can have the same type of injuries as Olympic basketball players. For example, most people who have played basketball at any level have sprained their ankle. The treatment for your injuries is also similar to that of Olympic athletes. Resting, icing, and elevating the injured area is usually adequate treatment for minor injuries. However, you should consult your doctor before returning to the court if symptoms persist for more than 2 or 3 weeks or if you have pronounced swelling, limited range of motion when flexing your ankle, and inability to bear weight on the ankle without a cane or crutch.

Prevention of injuries is the best treatment for both Olympians and for you. Most weekend athletes do not have 6 to 8 hours each day to train for their sport. However, working out regularly, stretching to help maintain your flexibility, and using properly fitted shoes and equipment will help minimize your risk of injury.

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Olympic Softball

July 21 - 30, 1996

This summer, the city of Atlanta, Georgia, will host the Games of the XXVI Olympiad. As part of these Centennial Olympic Games, the city of Columbus, Georgia, will host the very first women's fast-pitch softball Olympic competition. Eight teams, representing Australia, Canada, China, Chinese Taipei (Taiwan), Japan, the Netherlands, Puerto Rico, and the United States, will travel to Columbus to compete for Olympic Gold.

In the United States, more people participate in softball than in any other sport. Thirty-five million American men and women of all ages, sizes, and abilities enjoy playing softball at the recreational, high school, college, or professional level. The game was first played as indoor baseball in 1887 using a boxing glove as a ball and a broom stick as a bat. Rules and equipment were soon developed. A larger, softer ball and a bat with a smaller batting surface than a baseball bat were produced. The name softball was first used in 1926 and was officially adopted in 1933.

Most people are familiar with the slow-pitch version played by almost all recreational leagues. The 1996 Olympic competition will be fast-pitch softball. The biggest difference in the two versions — the pitching speed — is evident in the name itself. Slow-pitched balls are pitched with an obvious underhanded arc at a slow to moderate speed. Fast-pitched balls are also pitched underhanded but are thrown as hard and as fast as the pitcher is able, usually in a distinct windmill style. Elite pitchers sometimes pitch balls that reach speeds of over 70 mph. Fast-pitch softball also uses a ball that is larger, nine players on defense and on offense (10 if a designated hitter is used) rather than nine on offense and 10 on defense, a shorter distance from the pitching mound to home plate, bunting, and base stealing.

The basic skills needed to play softball are throwing, catching, running, and hitting. Power is required to hit the ball, but batting accuracy and ball placement can make up for a lack of power. At times, the game can demand strenuous effort, but there are also periods during which the players can rest. The varied playing situations call for quick, intelligent decisions, and the game requires individual as well as team effort.

Softball is one of the safest sports for participants of any age; however, there are some injuries associated with the sport. Frequent injuries in slow-pitch softball include jammed fingers (from tagging runners or catching the ball on or near the tip of the finger) and muscle strains, ankle sprains, and fractures (mostly due to sliding into unrecessed bases). Stretching and conditioning programs, adequate warm-ups before play and after sitting on the bench, and good coaching techniques can prevent many injuries. New equipment, such as break-away bases and fences, can help prevent injuries caused by sliding and collision.

Traditionally, softball pitchers are not as injury-prone as their baseball counterparts. However, researchers have found that fast-pitch pitching does not involve the same "natural" motion that is used in the slow pitch. The unnatural motion used can put stress on the shoulder, elbow, and wrist. To prevent injuries, young fast-pitch pitchers must learn pitching styles based on sound mechanical principles and must understand the importance of strengthening arm, leg, and trunk muscles.

Whether you are a fan of the sport or just a casual observer, you are not likely to see a better softball game than those played in the 1996 Olympic Games. Plan to join us here in Columbus for the Olympic premier of women's fast-pitch softball!

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Olympic Table Tennis

You Can't Call It Ping-Pong Anymore
July 23 - August 1, 1996

Table tennis, which began as a casual parlor game in Great Britain in the 1880s, has evolved into a sport for highly trained athletes. Parker Brothers began marketing this popular sport in the early 1900s in the United States under the tradename Ping-Pong. Today, table tennis is second only to soccer in terms of worldwide participation. Just 6 years ago in the United States, more people played table tennis (20 million) than soccer (15.9 million), baseball (15.5 million), or football (12.3 million).

USA Table Tennis (USATT), founded in 1933, is the national governing body for this sport and is a member of the International Table Tennis Federation. As a member, USATT organizes and trains teams for national and international competition. The organization also works closely with more than 150 international table tennis associations and approximately 250 table tennis clubs in the United States.

Nearly 100 years after its development, table tennis became an Olympic event at the 1988 Games in Seoul, South Korea. Table tennis is extremely popular in Europe and Asia — home to most of the world's best players. Athletes compete year-round in professional leagues that offer large purses for the winners. Its popularity helps explain why ticket requests to the competitions at the 1996 Olympic Games quickly exceeded the number of available tickets.

Playing to win

Athletes who participate in world-class table tennis competitions are extremely well conditioned. Both male and female players have various body builds; height and weight differs from player to player. However, they all possess the strength, power, and agility required to smash the ball at speeds exceeding 80 miles per hour. They spend hours strengthening their legs through weight training and special exercises. Competing helps build their upper body strength.

The players must also have an extremely acute sense of hand-eye coordination that allows them to react to the fastest hit ball and return it effectively to the opponent's side of the net. There are times when the players return these shots from 15 to 20 feet away from the table. The spin put on the ball is also remarkable. If you watch a match from behind one end of the table, you can see the ball curve several feet due to the spin put on the ball. The amount of spin is determined by the style of play and by the type of surface on the athlete's racquet — the piece of equipment commonly but incorrectly called a paddle ("Paddles are used for rowing," says one player.). The rubber surface on the racquet may be smooth or may have pips (dimples) with or without a sponge backing.

Another effective technique or strategy used by these players is disguising the serve. Players hide the ball until the last possible moment before impact so the opponent cannot tell what kind of spin to expect.

Player to watch

Jim Butler from Augusta, Georgia, is the American player to watch this summer. At the World Team Cup Tournament held last August in Atlanta, Georgia, Jim won the Most Valuable Player award as the U.S. team finished in a surprising third place. He is ranked 70th in the world.

Common injuries

Injuries during competition are relatively rare. Most injuries are related to the conditions found at the venue (competition site). For example, because the ball weighs only 2.5 grams, the airflow in the competition area can affect play. To keep the airflow under the 10 cm per second level, fans and air conditioners are sometimes turned off completely. When this happens, athletes must prepare for heat stress by increasing the amount of fluids they drink before and during their matches that can last for over an hour.

Acute injuries during competition are usually related to court conditions. Players can sprain their ankles or pull their muscles by stepping on boundary markers or by slipping on the court surface. Severe thumb and hand injuries occur when the player strikes the table while trying to smash the ball.

Due to the rigorous year-round training that is required to compete at the national and international levels, overuse injuries are more common than acute sprains and strains. The major muscle groups of the legs, back, and shoulders must be strong enough to generate the power needed to strike the ball at high speeds over and

over. Proper warm-up, stretching, and cool-down routines should be followed during training to prevent overuse injuries to these muscles. Early detection and intervention by athletic trainers can also reduce the amount of time lost because of this type of injury.

Athletes must condition their bodies well before competing because no time-outs are given for problems related to poor conditioning. For example, if an athlete cannot compete because of dehydration, muscle cramps, or overuse injuries, he or she will be disqualified.

Overall, table tennis is safe and can be enjoyed at all levels of competition. The Chinese describe table tennis as "the people's sport." It is inexpensive to play and easily adaptable to the confines of the home basement or local club. And, it's fun to watch.

***Keith Webster, M.A., A.T.,C.**, is chief athletic trainer for the 1996 Olympic table tennis competition. He is an athletic trainer in Columbus, GA.*

Medical Care *(continued from p.2)*

they cannot treat a person in the spectator area, they will transport him or her to Venue Medical Services.

If a spectator is admitted to Venue Medical Services, a medical team will examine the individual and give any treatments that can be rendered at the station. After treatment, the medical team determines whether the person can return to the event safely. If appropriate treatment cannot be given at Venue Medical Services and the problem is not critical, the person will be advised to go to the hospital assigned to care for people at that venue. If the problem is critical, the person will be transported by ambulance to the closest hospital.

Athlete Care stations

In the Athlete Care stations, a Chief Athletic Trainer supervises the athletic trainers, physical therapists, and student athletic trainers. If needed in that venue, physician assistants, nurses, paramedics, EMTs, and first responders will also be available. Medical personnel will also be located in warm-up areas, on the field of play, and at the doping control area (where athletes take drug tests). Most athletes can be cared for by the athletic trainer. The doctor at the station will assist the athletic trainer if needed.

The medical team will know any rules a particular sport has for treating athletes during competition and any rules regarding medications that the athletes cannot take while training or competing.

Most teams outside the United States will bring their own medical personnel. The medical team in each Athlete Care station will assist the athlete's medical personnel as needed.

If necessary, injured or ill athletes will be brought to the Athlete Care station for evaluation and treatment. As with spectators, all athletes with a critical problem are transported to the closest hospital. Athletes who do not have a critical problem but cannot be treated at the station are transported either to the hospital assigned to care for athletes at that venue or to the Polyclinic at the Athlete Village (where the athletes live during the Games).

Common problems

Common problems that people will face are heat-related illness in both spectators and athletes (please see "Heat-Related Illness" on p. 2); accidents and infections in children; and cardiac problems, lack of fitness, and trauma in elderly people. Visitors from other countries may have an exotic disease that is endemic to their country but is rarely, if ever, seen in the United States. The medical teams are currently preparing to treat these and other problems.

Participating in the 1996 Centennial Olympic Games will be a once-in-a-lifetime opportunity for the medical volunteers in the competition venues. They will be an integral part of the huge team effort that we hope will make these Olympic Games the most successful ever. We have the chance to show the world the quality of our medical care, the beauty of Atlanta and the surrounding area, our people, our country, and our Olympic spirit. If you have not already volunteered, we enthusiastically welcome your application. The only thing missing is you!

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Olympic Softball Hits Columbus

Since 1990, the Columbus-area community has been preparing to host the premier of Olympic fast-pitch softball. These preparations include the development of the South Commons Softball Complex, which comprises the new civic center and renovated Golden Park. To help with the preparation process, the Hughston Sports Medicine Center is working in the community and supporting the Olympic volunteer force. The Hughston Sports Medicine Hospital, a part of the Center, is helping support the Polyclinic where Olympic athletes will receive medical care. Another branch of the Center, the Hughston Sports Medicine Foundation, will work with the International Olympic Committee during the Games to explore the biomechanics of softball pitching. These investigations will help doctors better understand shoulder, elbow, wrist, and low back problems, so they can provide better care and education for all patients, not just athletes.

Olympic softball will leave a legacy in Columbus that will affect generations to come. The city can host future sports and other community events in the new facilities. Teachers can use the information learned to teach the biomechanics of softball pitching and hitting in science and math classes. And, learning more about how injuries occur will enable us to better prevent them and to more effectively treat them.

John M. Henderson, D.O.
Columbus, Georgia

The Hughston Health Alert is a quarterly publication of the Hughston Sports Medicine Foundation, Inc. The Foundation's mission is to help people of all ages attain the highest possible standards of musculoskeletal health, fitness, and athletic prowess. Information in the Hughston Health Alert reflects the experience and training of physicians at The Hughston Clinic, P.C., of physical therapists and trainers at Rehabilitation Services of Columbus, Inc., of physicians who trained as residents and fellows under the auspices of the Hughston Sports Medicine Foundation, Inc., and of research scientists and other professional staff at the Foundation. The information in the Hughston Health Alert is intended to supplement the advice of your personal physician and should not be relied on for the treatment of an individual's specific medical problems.

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We Stand Corrected!

A mistake was made in the article, "The Posterior Cruciate Ligament," that appeared in Vol. 8, No. 1. The sentence on page 2 stating, "Strong quadriceps muscles can take the place of the PCL to a certain extent, helping to prevent the femur from moving too far backward over the tibia," should state, ". . . too far forward over the tibia."

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