Hughston Health Alert

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Competitive Running

Long distance running is a popular method of improving cardiovascular fitness. In addition to running for health and fitness, thousands of runners enjoy competing in races throughout the United States. For beginners and competitive runners, there are several things to remember that will make your run more rewarding.

Routine physical examination

Before beginning any exercise program, you should have a complete physical examination. Long-distance running can be physically demanding, and it is not appropriate for everyone. Develop a running and exercise program based on the advice of your physician.

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Running shoes

Selecting a good running shoe will help you avoid running-related injuries. Make sure the shoes you buy are comfortable. You should also consider the construction and wear characteristics. Inspect the shoe for symmetrical design and quality workmanship. Select shoes made for the shape of your foot and your running style. If you have low arches or flat feet, choose shoes with additional heel support. If you have high-arched feet, look for shoes with shock absorption either in the heel or the front of the shoe, depending on your running style. People with Achilles tendinitis need shoes with good flexibility and more height within the heel wedge.

Gradually break in new shoes over 1 to 2 weeks. Discard the shoes after 500 to 750 miles of use. Although the treads may appear to be in good shape, the shock absorbing features wear out after 500 to 750 miles of typical use.

Flexibility

Runners who do not have flexible leg muscles are more likely to injure muscles and tendons. To avoid these injuries, you need to maintain flexible hamstring, quadriceps, and calf muscles by stretching each of these muscle groups for 5 minutes before and after each run. Do not bounce while stretching because you can injure your muscles.

Training

Gradually increase your weekly mileage and carefully choose the running terrain to match the event for which you are training. Avoid running more than 5 consecutive minutes during your first uphill workout. Instead, add 1 minute of uphill training with each successive workout to build up stamina.

Always warm up for 5 to 10 minutes before running at your full pace. A slow-paced warmup raises your pulse to between 100 and 120 beats per minute. Cool down for 10 minutes after running to slow your pulse rate to 120 beats per minute.

New runners, especially those who are overweight or large, should avoid the temptation to overtrain. Overtraining is associated with running longer distances or more often than your body is capable of doing. Increased stresses on your joints from the impact of running can cause back, hip, knee, and foot problems. To avoid overtraining, run 3 nonconsecutive days a week and bicycle or swim on the days you do not run. Include rest days between hard workout days to allow your body to recover.

Fluid requirements

Water is the most important nutrient runners need. You must consume enough fluid to enable your body to sweat while you exercise. When sweat evaporates, it disperses heat and regulates body temperature. Dehydration prevents your body from regulating body temperature, and it leads to fatigue and decreased athletic performance.

Because thirst is not a sensitive indicator of fluid requirement, runners need to drink water before they become thirsty. Avoid caffeinated, carbonated, or sugary beverages because they actually worsen dehydration. If you are competing in a race, you should consume 20 ounces of water 2 hours before the race. Fifteen to 30 minutes before the race, consume 16 ounces of water. During the race, consume 4 to 8 ounces of water every 10 to 15 minutes.

Precompetition meal

The precompetition meal should provide energy to help maintain adequate blood sugar levels and should not cause gastric distress. Ideally, a 500-calorie meal high in complex carbohydrates and low in fat should be consumed 4 hours before a race. Complex carbohydrates, such as bread, cereal, pasta, and fruit, are the best sources of energy. These foods are usually emptied from the stomach into the intestines within 2 to 3 hours. Avoid simple sugars, excessive fiber, or carbonated beverages.

Sample Meals

Breakfast

3/4 cup corn flake cereal (with fruit)
1 cup of skim or lowfat milk
2 slices of wheat toast with jelly
8 ounces of orange juice

Lunch

1 cup of vegetable soup
Chicken sandwich (no mayo)
1 cup of lowfat yogurt
1 cup of applesauce

Competitive running can be a rewarding way to enjoy staying physically fit. Proper training is essential for avoiding injuries. Before beginning a running program or competing in an organized race remember to undergo a routine physical examination; obtain an appropriate running shoe that fits well; maintain maximum flexibility; train sensibly, especially when just starting out; and observe proper nutrition and fluid requirements.

Joseph Martino, M.D.
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Running with the Big Dogs

Your Dog as Your Exercise Partner

Done correctly, regular exercise can be a very positive experience for you and your dog. Just as regular cardiovascular exercise can help you maintain good health, an exercise program (such as running) can greatly improve your dog's overall health and fitness. An exercise program will help your dog maintain its proper weight and prevent "middle age spread." Daily exercise can also be stimulating for your dog and may discourage bad habits such as digging and chewing.

Not only does your dog benefit from this combined exercise program, but you will see rewards as well. Your dog will be a willing and quiet companion as you run. Even if your dog is not trained as an attack dog, the mere presence of a large animal can ward off unwanted attention from strangers. Also, dogs are creatures of habit, and they will come to expect a run at a certain time each day. They will look forward to it and even remind you about it. This can be a strong motivation for you to stay with your exercise program. Of course, dogs can be flexible, and you can vary the time of exercise if necessary.

Dogs with high energy levels, such as Dalmatians and Labradors, are much easier to train and live with if they are "worn down" a bit with regular exercise. Larger dogs, at least as big as bird dogs, are the best at keeping up with a human running pace. Just as jogging is comfortable for people, trotting is a natural pace for your dog. If you have a smaller dog, be sure you keep an eye on it and do not expect it to be able to run full speed or keep up with you for long distances.

Even though dogs in general are more athletic than people, they should still be allowed to gradually work themselves into shape. Once it is accustomed to the exercise, however, a dog will be eager to go as soon as you give the sign! Dogs do not need a warm-up period before exercise, so you may want to do your own stretching before you leash the dog. A leash will be necessary in most running areas. Use a 4 to 6 foot lead. A longer lead could become tangled around you or your dog, and a flexi-lead may allow the dog to bound too far ahead of you.

It is best not to run with your dog immediately before or after it has eaten. Waiting an hour or two will prevent "bloat," a life-threatening condition that may develop if a dog is overexerted as it tries to digest its food. Before running with your dog, check the running area for broken glass that could hurt your dog's feet. Also, watch for such potential hazards and for cars as you run. Check the pads on your dog's feet, especially if you run on asphalt, to make sure they build adequate calluses to guard against cuts and bruises. If your dog starts limping, look at its pads to discern the problem and take any necessary steps to treat them. Products such as Tuf-foot™ that you paint on the bottom of the dog's feet will protect your dog's pads and help the pads to toughen up.

Dogs have very few physiologic mechanisms to deal with heat; therefore, you must make sure your dog drinks plenty of water and keeps from overexerting itself on hot days. A dog that can run for 6 miles in the winter may only be able to handle 1 or 2 miles in the heat of the summer. Warning signs of a dog that is overexerting itself include rapid panting and lagging behind as you run. If this happens, slow down to a walking pace or take a rest. In general, dogs can run just as hard and long as human beings can—and probably more. But during hot weather be kind to your dog and yourself and run in the early morning or early evening. Just as you should consult your physician before beginning an exercise program, speak to your veterinarian before including your dog in your exercise program.

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Walking By Old Age

"A Walk a Day Keeps the Doctor Away"

Many exercise experts consider walking the best exercise for all ages. You do not have to have special skills or equipment to enjoy this activity, which can help improve blood flow, strengthen muscles, increase bone density, and increase metabolism. Walking can be particularly beneficial for older people because it strengthens the muscles of the lower extremities and can help prevent falls. It also increases cardiovascular function, which means a stronger heart and improved circulation and lung capacity. Walking can stimulate your nervous system, increasing coordination and reaction time and slowing the loss of mental prowess. Walking can be a part of a prescription taken daily to slow the progress of osteoporosis, help control diabetes, burn off a few calories, or just get some fresh air.

As you age you can lose bone density through a process called osteoporosis. For whatever reason, your bones lose substance faster than your body can rebuild it. This can lead to "brittle bones" and place you at higher risk for fractures. Doing weight-bearing exercise, i.e., walking rather than swimming, can help bone rebuild faster. Having stronger and bigger muscles can also help give you extra padding if you do fall.

Another process of aging is that the ligaments and tendons around the joints get stiff and your muscles get smaller. This means that you cannot move as well as when you were younger. Doing regular exercise helps keep the ligaments and tendons stronger and more flexible and helps keep your muscles stretched and toned. This means you will move better and have less risk of injury.

Fig. 1 Calf stretch

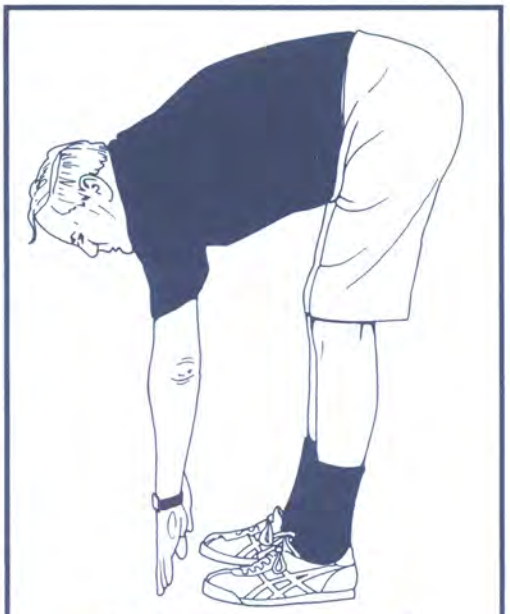

Fig. 2 Hamstring stretch

Make your walking program pleasant and safe

Be sure to check with your physician before starting an exercise program, particularly if you have any special health risks.

Take a good look at your shoes. They should be comfortable, should fit your foot snugly, and should not cause blisters or calluses. Make sure the shoes provide good arch support, with the heel elevated about ½ inch above the sole. They should have uppers that "breathe" such as leather, cotton, or nylon mesh. A firm sole that provides good traction is important. "Tennis" or "gym" shoes can bend too much at the base of the big toe and can cause inflammation and pain. There are shoes specifically designed for walking, but light hiking boots or casual shoes with a firm rubber sole can be used.

Stretching before and after your walk can prevent muscle soreness and leg cramps. Two important muscle groups to stretch are the gastrocnemius-soleus (back of calf) and the hamstring group (back of thigh) (Figs. 1 and 2).

Before leaving the house, check the weather. In cold weather, wear several layers of light clothing. Because walking generates much body heat, some of these layers will need to be shed. The head and hands lose a high percentage of body heat, so wearing a hat and gloves is important in cold weather. If it is too hot or cold outside, consider walking in the local shopping mall. Walking after a meal is usually not a health risk, but it may not be comfortable. A better idea is to walk during meal time. Because walking decreases the appetite, you will eat less and burn more calories, which is an unbeatable combination.

The proper walking technique includes pointing your toes straight ahead, swinging your arms at your sides, and landing on your heel and rolling off the ball of the foot. Walking only on the ball of the foot or walking flat-footed may cause soreness. Move at a steady pace that is brisk enough to make you breathe more deeply. Take long strides, but do not strain. When walking up an incline, lean

forward. As you become faster at your walking pace, swing your arms more and lean forward more.

Start slowly

Once you are out of the house, start walking slowly and give your body some time to get "warmed up." Try just a few blocks at first. Remember, it took years to get out of shape, and it will take a while to get back in shape. Overexerting on the first day is the reason many people give up on an exercise program. Concentrate on the distance. Walk ¼ mile every other day for a week, then ½ mile, then ¾ mile, then 1 mile. Once you can walk 1 mile, try walking that distance 5 days a week. Soon you will be able to enjoy a leisurely walk every day. Distance is the key to walking, NOT speed. One mile equals about 100 calories, whether you walk or run, so it takes 3 miles to burn off one regular soda or one twinkie. However, walking on a daily basis increases your body's resting metabolism. That means your body is burning more calories even when you are not exercising.

In older people, overexertion can be a medical emergency. If you are panting, have air hunger, nausea, or pain in the chest, arm, or jaw during a walk, STOP and seek medical attention. If your breathing is a little hard after a walk and it does not return to normal within 10 minutes, see your doctor.

Walking is best done in the company of others, especially with the spouse who recommended a walking program in the first place. If you cannot enjoy a light conversation while walking, you may be going too fast. Remember, it is the activity of walking that is beneficial not the intensity. Enjoying your daily walk is the secret to saying bye-bye to old age.

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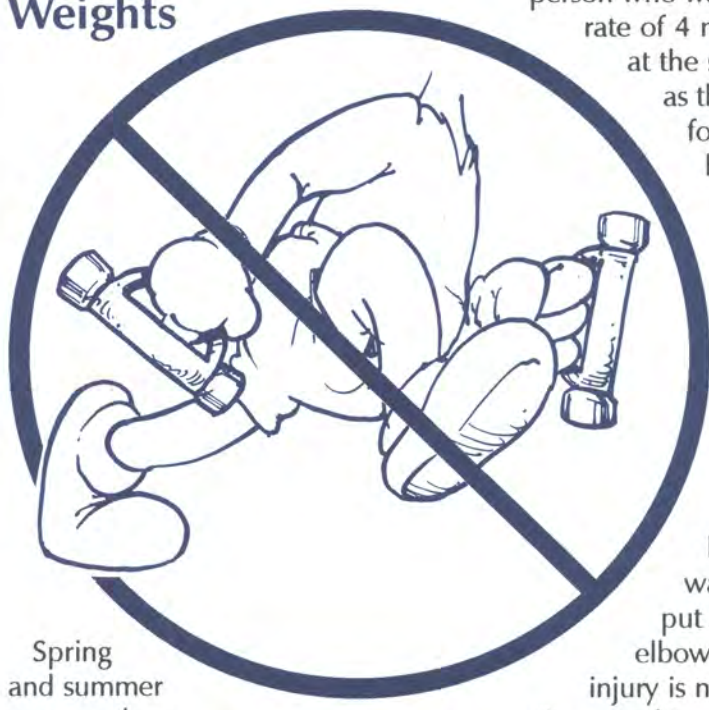
Walking with Hand-Held Weights



Spring and summer seasons always seem to bring exercisers out into the open air. They can be seen walking various paths in the parks, jogging along the roadsides, or walking the sidewalks near their place of business. Some people try to make the most of their workout by carrying hand weights during their exercise session. Dr. Leonard Schwartz, a University of Pittsburgh psychiatrist, first promoted this exercise technique in the late 1980s, and the concept caught on quickly with some exercisers. Researchers studied the concept further and discovered that yes there is an increase in the amount of work performed when walking or jogging with hand weights, but — and the but is the tricky part of the answer — work increases only if people swing their arms vigorously (clearing the height of the shoulder in the front and the waist in the back swing). Not many people can or do maintain such vigorous arm swings during the entire time they exercise. Instead of using hand weights, experts suggest that you just walk faster. That way you will cover more distance in the same amount of time. For example, a person who walks for 1 hour at the rate of 4 miles an hour exercises at the same level of intensity as the same person walking for 1 hour at 3 miles an hour vigorously swinging 3-pound hand weights.

Since many people have tried using hand weights, studies are being done on the injuries that can be caused by swinging these weights. Carrying hand weights during a walk or jog session can put stress on your shoulder, elbow, and wrist. The risk of injury is not worth the "increased" work load or burning calories at a higher rate, especially since you can safely increase the number of calories burned just by increasing your speed.

People who want to get the most out of their fitness program should design a two-part exercise program. Aerobic exercise that uses large muscle groups, like running, can be done to strengthen your heart and burn off calories. For muscle strengthening, set aside some time to use weights. Consult a weightlifting book, health and fitness magazine, or fitness facility to find out the safe way to lift weights and to decide what level and type of lifting is best for you.

The "shortcut" of combining hand weights with a walk can turn out to be a detour if it leads to injury. Exercise wisely and safely and exercise will be a part of your life for a lifetime.

Laura Stokes, M.S.
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RESEARCH

The Patient's Role in Research

Helping Put the Pieces Together

The main goal of medical research is to find new and better ways for a physician or surgeon to treat patients. No role is more important in this endeavor than that of the patient. Not only will patients benefit from the results of research studies, but they may play an active role in reaching those results.

One of the best ways for a surgeon to know how well a surgical procedure works is to study the patients on whom that procedure has been done. Patients who have had a certain procedure may be asked to return to see their surgeon or another physician who will assess the long-term results of the surgery. The researching surgeon attempts to locate as many patients as possible because the more patients included, the more meaningful the study. During the follow-up visit, the patients are examined and questioned about their experience with the procedure. The surgeon may ask patients how they feel or are they able to do all the things they did before their injury. This information is recorded and compared with similar information from other patients to determine if the procedure is beneficial. The surgeon can report the results of the study by writing a paper to be published in a medical journal or by making a presentation to other health care professionals.

Another way for patients to contribute to medical research is to take part in a clinical trial. Clinical trials are investigations of new devices or medications that are carried out by the product manufacturer and physicians who believe the product can benefit their patients. The products being tested have already been tested extensively and proven safe for humans, but because the products are new, their use is monitored by the United States Food and Drug Administration (FDA). Patients may be asked to participate in a clinical trial if their physician determines they meet the study requirements. Participation in a clinical trial is always voluntary. Patients are not obligated to participate and will receive the same level of care regardless of their decision. Those patients who decide to participate in a clinical trial follow guidelines designed by the product manufacturer and approved by the FDA. Patients are asked to return to the physician's office periodically for follow-up visits. Information from questionnaires and physical examinations is collected at each follow-up visit and submitted to the manufacturer. At the conclusion of the study, the data are evaluated by the FDA, which decides whether the product is effective. If the product meets FDA standards, it will be approved for general use.

Patients who agree to participate in research studies or clinical trials are very special people. Many people may benefit from a single study, and the patients involved in that study will have the satisfaction of knowing that they played an important role in helping others.

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Snakebites

Summer is here again and what better way to enjoy it than by taking a long walk or hike up a mountain trail. While you are walking, remember to watch where you step. You may disturb a snake basking in the sun. Don't panic. Just stay out of its way.

Both venomous and nonvenomous snakes live in the United States; most are nonvenomous. About 45,000 snakebites are reported each year. Of these, 8,000 bites are from venomous snakes, and about 12 end in death. The seasons to be most cautious in are spring, summer, and fall because snakes are most active in warm weather. That is why the highest number of bites occur in the southern states. During the day, snakes usually stay under rocks and bushes. At sunrise or sunset they come out to mate, hunt, or warm themselves. Snakes become immobile at temperatures less than 46° F, and they are most active when the temperature is between 81° and 90° F. Their top speed is 3 miles per hour, which is equivalent to a person walking at a moderate pace.

Snakes attack humans out of defense rather than as prey. Snakes are considered nonaggressive because they strike mainly in defense. In fact, 40% of snakebites happen to people who purposely handle the snakes. Most bites occur on the fingers (80%) or on the feet and ankles (15%) because the victim has reached into a bush or walked into a snake's territory.

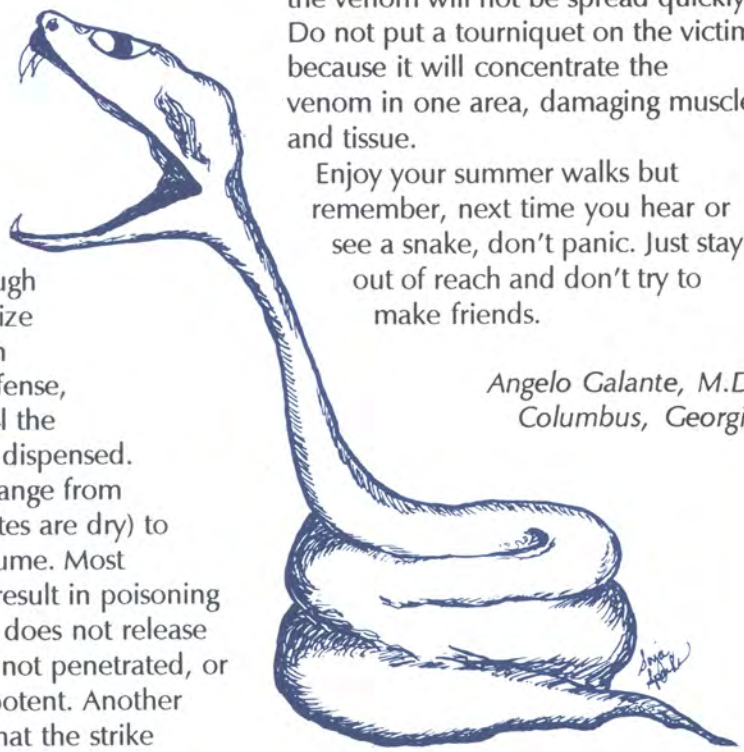
The venomous snakes are classified as pit vipers or coral snakes. Pit vipers have several distinctive features including a triangular head, fangs, slit-like vertical pupils, and heat-sensing pits between the nostrils. These reptiles, which range in size from 1½ feet to 8 feet, are responsible for most snakebites in the United States.

This group comprises copperheads, cottonmouths (water moccasins), and rattlesnakes, and each type has distinguishing characteristics. Copperheads have a diamond mark on the back of their head. Cottonmouths are semi-aquatic snakes that have dark-colored scales with a contrasting white inner mouth. Rattlesnakes have a single row of scales on their underbelly leading to the tail and a distinctive rattle (that they may or may not use before an attack).

Coral snakes range in size from 1 foot to 2 feet and are distinguished by their color pattern of bands of red, black, yellow, or white. On the rare occasions when they bite humans, the snakes can hang on and inject dangerous amounts of venom into a person. If the red and yellow bands are arranged next to each other, the snake is venomous. If the red and black bands are next to each other, the snake is nonvenomous. A general rule to remember this is "red on yellow, kill a fellow" (venomous), and "red on black, venom lack" or "won't kill Jack" (nonvenomous).

Deadly juice

Snakes use their venom to obtain food and for defense. When a snake attacks its prey, it dispenses just enough venom to immobilize the prey. But when snakes strike in defense, they cannot control the quantity of venom dispensed. The amount may range from nothing (20% of bites are dry) to the snake's full volume. Most snakebites do not result in poisoning because the snake does not release venom, the skin is not penetrated, or the venom is not potent. Another interesting fact is that the strike distance of snakes is variable. Contrary to popular belief, rattlesnakes do not have to be coiled to strike; they can strike from a fully extended position.



Treatment

The method of treatment ultimately depends on whether the snake has released venom into the victim and on the proximity of a medical facility. First, check for signs including one or more fang marks (1 to 4 distinct large markings); burning at the site of the bite (may not be present with Mojave rattlesnake bite); swelling between 5 and 10 minutes after the bite (not present with Mojave rattlesnake bite); numbness and tingling in the face 30 to 60 minutes after the bite; metallic taste; and nausea, sweating, twitching, slurred speech, and drowsiness.

The best treatment for a person who has been bitten by a venomous snake is administration of antivenin at a medical facility. To ready the victim for transportation, calm the bitten person. Make the person remain still and keep the wounded area still so the venom will not be spread quickly. Do not put a tourniquet on the victim because it will concentrate the venom in one area, damaging muscle and tissue.

Enjoy your summer walks but remember, next time you hear or see a snake, don't panic. Just stay out of reach and don't try to make friends.

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ATHLETIC TRAINING CORNER

Finger Injuries

If you injure your fingers during sports, should you continue to play, leave the game, or see your physician? Recognizing the type of injury can help you decide how to treat your injured finger.

A sprained finger, commonly called "jammed" or "stoved," means you have injured the ligaments in the knuckles. The injured finger will swell around the affected joint. To treat this injury, apply ice to your finger and elevate your hand.

If your finger looks crooked, it usually means you have dislocated or broken your finger. If this happens, you should seek medical care immediately.

Anytime your finger is injured, it may remain sore and swollen for a day or two, but if you are unable to fully straighten it out after a couple of days, you should seek medical care. You may have damaged a tendon and could have chipped off a piece of bone. The physician may put your finger in a straight splint. This will allow it to heal in the correct position so that you do not lose the ability to straighten your finger all the way (mallet finger deformity).

Many times "buddy splinting" is all you need for your sprained ligaments to heal. The physician tapes your injured finger to the next longest finger to prevent excessive movement.

Remember, if your finger is crooked and you cannot bend or straighten it after applying ice or if it remains sore and swollen, you need to see your physician who can treat your injury.

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Ask the Doctor

Answers to your questions about musculoskeletal health.

Q ***What is a frozen shoulder?***

A Frozen shoulder describes when the capsule, or lining of the shoulder, becomes inflamed or irritated and contracts. The normal slack allowing full motion is lost. Sometimes the cause of frozen shoulder, or adhesive capsulitis, is unknown. Some physicians think that as little as banging the shoulder against a door frame might be enough to cause it. Sometimes it is caused by holding the shoulder still too long, like while an injury is healing, or having tendinitis or bursitis.

A physician must evaluate your shoulder to see what is causing the stiffness and pain. Typically, exercises will gradually stretch the ligaments back to their original length. Anti-inflammatory medications or injections of cortisone-like medicines can reduce the inflammation and allow healing. Occasionally, if symptoms do not improve, you may need the ligaments in your shoulder stretched while you are under anesthesia or surgery to treat chronic bursitis or bone spurs.

Frozen shoulder usually develops gradually, and once it has healed, patients do very well.

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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. and Committed Fitness Systems, 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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A JOINT PARADE™ Report

Thank you
to the patients and friends of The Hughston Clinic
and
The Hughston Sports Medicine Foundation who came out on June 12 to walk 1 mile in the first annual A JOINT PARADE™. There were 167 participants who helped raise $28,000 for orthopaedic research and education.

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