

EXTREMITIES



Extremity — a limb of the body, (arm, leg, hand, or foot). The extremities are vital as they are our physical contact with the world around us. We use them for numerous functions and sensitivities that are necessary for our comfort and good health. The loss of an arm, leg, hand, or foot causes significant difficulties in performing everyday activities. For this reason, protecting the extremities from trauma and disease is worth investing in sufficient and comfortable clothing, any protective devices when exposed to hazards, and avoiding hazards from devices such as snow blowers, fireplaces, appliances, etc. This chapter will concentrate on the trauma, pain, circulation, and deformities that are common to the extremities.

Well, your ankles don't appear to be swollen Mr. Sasquatch.
Sasquatch . . . is that a French name?





ARM AND LEG DISORDERS

■ ARTERIOSCLEROSIS OF THE LEGS

Arteriosclerosis is discussed in more detail in the Heart and Blood Vessels chapter. In the form of arteriosclerosis that affects the lower extremities, the major arteries that deliver the blood to the legs and feet become narrowed and the amount of blood flow is reduced. When this happens, the small blood vessels sometimes try to assume the responsibility of the larger ones, often resulting in leg and feet cramps after walking for a considerable distance. The symptoms are often relieved with rest.

SIGNS AND SYMPTOMS

Leg pain (especially calves or feet) developing during activity; numbness or pain in the foot or toes at rest; ulcers or gangrene on the feet or toes.

TREATMENT

Physical activity is the most useful treatment for limited blood supply to the legs. The idea is to exercise at different periods, hard enough to produce pain, and then take necessary periods of rest. The circulation will improve with time.

Wear shoes that fit properly.

If you smoke, stop! Smokers are at a risk for clogged arteries and could be even more at risk if arterial blood circulation is limited further.

DRUG TREATMENT

Aspirin is used to relieve pain and decrease any clotting of the blood.

Vasodilator (Trentyl) may help improve the blood flow to the extremities; however, the effectiveness of this treatment is controversial.

SURGICAL TREATMENT

A balloon angioplasty (to dilate the vein) or removal of a portion of the affected artery or clot may be helpful. This type of surgery is usually recommended only for severely impaired walking, severe pain, or breakdown of the skin that might lead to the loss of a limb.

■ ACUTE ARTERIAL OCCLUSION

This is a sudden and severe pain in the arm or leg that is accompanied with pale skin and coldness, indicating a blocked artery. This is often caused by arteriosclerosis with a clot. This requires immediate medical attention because of the risk of gangrene.

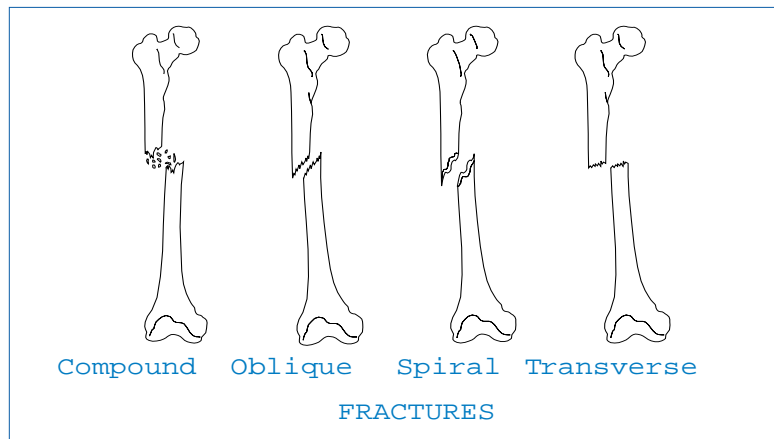


■ TRAUMA

Traumas that cause fractures, severe sprains, dislocations, and other serious bone and joint injuries require professional medical treatment. If not treated correctly, a permanent deformity or disability could occur.

FRACTURES Broken bones (fractures) are a common injury that can occur at any age. It may be a minor crack on the surface of the bone (fissure) or a complete break through the entire bone. Fractures are normally caused by a sudden impact, or by compression (pressure to an area of the body). A closed fracture is a broken bone that does not protrude through the skin. An open fracture is a broken bone that does protrude through the skin. Some fractures are called “stress” or pathologic fractures and are caused by a long or repeated force that strains the bone — these are common among long-distance walkers. Nutritional deficiency or chronic disease, which can weaken the bone, increase the chance of a pathologic fracture.

TREATMENT Immediate treatment is necessary to stop any bleeding, reset the fracture, and keep the extremity stable while healing takes place.



■ SPRAINS

Many different kinds of injuries are referred to as sprains, but a true sprain involves a partial tearing of the ligaments that connect the bones. Most minor sprains can be treated at home. Some serious sprains cannot be differentiated from a fracture and should be treated by a physician.

TREATMENT A combination treatment, referred to as PRICE (protection, rest, ice, compression, and elevation) is recommended.



■ DISLOCATION

A dislocation is a drastic shift of two bone ends out of their normal position, particularly of a bone from its socket, usually resulting from force. It can be extremely painful and will sometimes tear ligaments in the joint or fracture of one or both bones. The person who has a dislocated joint should remain as still as possible until getting medical assistance.

TREATMENT A professional will replace the dislocated joint quickly because of the swelling and pain involved. If more than one-half hour has passed since the dislocation, an anesthetic may be necessary to realign the joint.

■ NEUROPATHIES (See Brain and Nervous System chapter)



MUSCLE, TENDON AND SOFT TISSUE DISORDERS

■ CARPAL TUNNEL SYNDROME

Carpal tunnel syndrome isn't something that happens overnight. It is a cumulative trauma disorder that develops over time due to repeated and stressful movements of the hands and wrists. The carpal tunnel is a passageway through the wrist. When the tissues in this tunnel become swollen or inflamed, the nerve that runs to the hand is compressed and the result is pain. Professions that require repeated motions such as writing, typing, hammering, pinching, or gripping commonly cause this disorder. Sometimes, the first sign is numbness or tingling of the hand, especially at night. When this happens, it is time to look for relief.

TREATMENT

Gentle hand exercises; put your hands up in the air above your head and rotate your arms to give your hands a break from what you are doing. Do this at regular intervals. Conservative treatment usually includes rest and the use of a splint.

SURGICAL TREATMENT

This involves dividing the ligament that is pressing on the nerve. After recuperating, normal use usually returns within a few months.

■ COSTOCHONDRITIS

This is pain in the chest (also known as Tietze's syndrome), usually in front of the rib cage. The pain and soreness are the result of inflammation of the cartilage, sometimes caused by a blow to the chest; however, the cause is often unknown. The pain is made worse with movement, especially deep breathing or coughing. With sufficient rest and time, the symptoms normally disappear.

MEDICAL TREATMENT

Aspirin and anti-inflammatory drugs help with pain relief. Steroid injection may be helpful if oral drugs fail.

■ GANGLION

A ganglion is a swelling beneath the skin, usually on the back of the wrist or hand, and in some instances, on the foot. It is caused from an accumulation of a jellylike substance that has leaked from a joint or tendon sheath and feels rubbery to touch. Most ganglions do not cause discomfort but occasionally cause pain when flexing or extending the joint. They are usually harmless, but should be seen by a physician to rule out something more serious.

SURGICAL TREATMENT

Draining the substance with a needle and injecting anti-inflammatory drugs into the cyst is frequently done. Surgical excision may be performed for recurrent or terribly painful ganglions.



■ DUPUYTREN'S CONTRACTURE

This is a progressive thickening and tightening of tissue under the skin of the palm. It is not always painful but causes the fourth and fifth fingers to bend into the palm and resist being extended. Although the condition starts in one hand, it usually affects both hands. The cause is unknown but appears to have a strong genetic tendency (runs in families).

SURGICAL TREATMENT If the flexibility of the hand decreases or is very painful, a surgical release may be performed.

■ FIBROSITIS

This is inflammation of the connective tissues and causes pain and stiffness in the neck, shoulder, and body. It resembles the muscular aches of flu, but without fever. The discomfort of fibrositis tends to be present most of the time. It can worsen with inactivity. It is not the result of infection but may be due to a specific injury or emotional tension.

TREATMENT Small lifestyle changes are helpful, such as maintaining proper posture, using a firm mattress, participating in relaxation exercises, and avoiding physical and emotional stress.

DRUG TREATMENT Aspirin and other anti-inflammatory drugs may help relieve the pain.

■ MUSCULAR DYSTROPHY

Muscular dystrophy is a term that describes a group of diseases, usually inherited, in which the skeletal muscles progressively deteriorate. Symptoms are muscle wasting and loss of muscle function. It begins at an early age (usually before age five). Muscular dystrophy is crippling and in most cases the arms, legs, and spine become deformed and a wheelchair is necessary by the teen years. Most patients die before reaching adulthood, usually from respiratory failure and infections. This occurs only in males, but the genes are carried by females and any woman with a family history of muscular dystrophy should seek counseling before becoming pregnant. The odds are one in two that a male child of a carrier will have the disorder.

TREATMENT There is no effective treatment although physical therapy may be comforting.



■ TENDINITIS

Like simple muscle soreness from overuse or a minor injury, tendinitis (inflammation in or around a tendon) can be painful. But where simple muscle soreness is temporary, tendinitis is persistent and doesn't quit. As one sufferer of tendinitis put it, "Here today, here tomorrow, here to stay." There is relief, but if you continue using the tendon in the same repetitive way that triggered the problem, it is going to be extremely difficult. Tendinitis can cause permanent damage to a tendon or may rupture with overuse. This could lead to surgery, or permanent disability.

TREATMENT

Rest is essential; a sling is sometimes helpful for elbow or shoulder tendinitis. Elevation of the extremity and ice applications may also help. Prolonged inactivity can cause stiffness of the joint. Flexibility should be maintained by doing gentle, range of motion exercises after a few days of rest. Warming up before, and cooling down after exercising is important.

DRUG TREATMENT

Aspirin or other anti-inflammatory drugs may be helpful. Sometimes injections of corticosteroid drugs are used.

■ TENOSYNOVITIS

Long, cable-like tendons run through your hand into each finger. Each is protected by a membrane called synovium, the same tissue that protects the joint cavity in your knee and other large joints. In tenosynovitis, the synovium becomes inflamed or infected. The cause can be from overuse and the symptoms are pain, difficulty in straightening the finger, and a cracking sound on movement. When tenosynovitis is caused by a bacterial infection, prompt medical attention is needed for prescribing antibiotics or occasionally, surgical draining. When it is the result of overuse, time and rest may result in a full recovery. One type of tenosynovitis is called "trigger finger," where the finger does not respond to straightening it. After a moment, it may suddenly jerk into position.

DRUG TREATMENT

Analgesics or anti-inflammatory drugs, such as aspirin, may reduce the pain of a noninfectious condition. Injection of corticosteroids may be indicated if oral anti-inflammatories fail.



BONE AND JOINT INJURIES, ATHLETIC INJURIES

■ ACHILLES' TENDINITIS

This is the inflammation of the Achilles tendon, (the thickest and strongest tendon in the body that links leg muscles to the bone at the back of the heel) and produces pain and mild swelling or tenderness.

TREATMENT Rest, ice, and perhaps a change in an exercise program should allow the tendon to heal itself in a few weeks. Calf flexibility is essential.

DRUG TREATMENT Aspirin and other anti-inflammatory drugs help reduce the pain.

SURGICAL TREATMENT If there is acute pain and you are unable to move your foot, contact a physician immediately for emergency treatment and possibly surgical repair.

■ ACUTE PAINFUL SHOULDER

Also known as “frozen shoulder,” this is the inflammation of the bicipital tendons around the shoulder joint. It may come on suddenly for no particular obvious reason, and last for several weeks. Excessive use of the shoulder may be the cause“. Motion of the arm and shoulder are restricted, causing problems with extending the arm in instances like putting on a coat. These acute attacks are usually recurring.

DRUG TREATMENT Prescribed anti-inflammatory drugs in generous amounts. In severe cases, a corticosteroid injection may be given.

Occasionally, the joint requires manipulation under anesthesia to restore the range of motion.

■ BASEBALL FINGER

Also known as “mallet finger” or “jammed finger,” it occurs when an injury forces the tendon connected to the muscles at the end of the finger to be separated from the bone. It often results when the end of the finger is struck by a thrown or batted ball, and normally takes approximately eight weeks for healing.

TREATMENT Immobilization with a splint is necessary.

DRUG TREATMENT Aspirin and other anti-inflammatory drugs may be helpful.

SURGICAL TREATMENT Surgery is only used if a fracture has occurred.



■ HEEL PAIN

Heel pain is thought to be caused from tears or inflammation of the heel pad where it is attached to the heel bone. Mild or intense pain occurs when weight is placed on the heel. In most cases, the pain will fade or disappear in a matter of weeks. It can recur if proper footwear is not worn.

TREATMENT Modify your activity by switching from jogging or tennis to swimming or bicycling. Apply ice to the painful area. Massage with gentle stretching and invest in some soft-soled running shoes.

DRUG TREATMENT Aspirin is often used. Occasionally, corticosteroid injections are necessary.

■ PULLED MUSCLES (MUSCLE STRAIN)

Muscle strain is the term for a moderate amount of damage to muscle fibers. Limited bleeding inside the muscle causes tenderness and swelling, which may also be accompanied by painful spasms and bruising. One of the most common areas affected by strain occurs to the hamstrings, a group of muscles at the back of the thigh that flexes the leg and extends the thigh. A second common area is in the groin. These result from repetitive overuse or trauma. Muscle strains usually heal with time.

TREATMENT Treat immediately with cold packs for the first 72 hours and then with heat. Try not to use the muscle until the soreness is gone.

DRUG TREATMENT Over the counter analgesics are helpful.

SURGICAL TREATMENT Surgery is not done unless the muscle is torn away from the bone, often caused by lifting weights or heavy objects.

■ SPRAINS

A true sprain is damage to the ligaments that are connected to the bones. This usually occurs with a twist or stretch that causes the joint to move beyond its normal range of motion. This causes tearing of the ligaments or tissues. Sprains seem to happen more in the joints of the ankles, knees, and arches of the foot. Rapid swelling is usually an immediate reaction and if the joint will not move, see a physician to rule out a fracture or dislocation.

TREATMENT Apply ice packs for the first 72 hours to help reduce the swelling, support the joint with a wrap (eg, Ace bandage), and keep the limb elevated as much as possible.

DRUG TREATMENT Over the counter analgesics and anti-inflammatory medications may be helpful.



■ RUNNER'S KNEE

With jogging and running becoming part of a popular lifestyle, pain sometimes occurs in the knees. This is caused normally by overuse, or misuse, and sometimes causes swelling. Runner's knee is caused by a small sprain of the ligaments of the knee and should be treated as a mild sprain discussed earlier in the chapter. It is often necessary to change an exercise program from jogging and running to swimming and cycling. A light brace worn on the knee often helps during exercise periods.

■ SEVERED TENDONS

A severed tendon is the result of a deep cut and will prevent movement of the extremity. This requires immediate medical attention to stop the bleeding, prevent infection, and surgically repair the tendon. If repaired promptly, it should heal and function normally.



FEET

We all depend on our feet to take us everywhere we want to go and we like to think they will last forever, or at least as long as we do. We squeeze them into tight-fitting or high-heeled shoes; we walk barefoot over sharp objects; and we walk all over them day after day, year after year. We don't really think about them until they start to hurt. A few of the problems associated with the feet are:

■ CORNS AND CALLUSES

Corns and calluses are ugly little bumps and lumps that are a veritable trash heap of discarded — but not forgotten — dead skin cells. They are the result of friction and irritation between your feet and your shoes, or between the bones of the same foot. Calluses are the body's way of protecting itself from pressure. When the pressure becomes excessive, the callus gets thicker and thicker. If it develops a hard core, it is then considered a corn. Soft corns often form between toes, and remain soft from foot perspiration. They are caused from one toe bone rubbing or causing pressure on the adjacent toe bone. The skin between the toes thickens to protect the foot from pressure. Calluses are easier to live with than corns. Corns can be extremely painful. To avoid these problems, wear sensible and comfortable shoes. Treat these problems with a good towel rub after they have become softened with bathing or showering. A pumice stone used as a mild abrasive during or after bathing may reduce the thickness of a callus. If you have diabetes or poor circulation, this is definitely not recommended — a professional should take care of any problems with your feet.

■ BUNIONS

A bunion is the protrusion of the bone at the base of the big toe, usually when the big toe overlaps another toe. It is caused by an inherited trait called hallux valgus. This is a common problem seen more often in women than men. A bunion can be uncomfortable and make it difficult to find shoes that will fit properly. To minimize the pain associated with bunions, wear shoes that give your feet ample room. Sometimes a felt pad, made for this very problem, can offer some relief. If a bunion causes intense pain, surgery can be performed to realign the bones and remove the excess bone tissue.

■ HAMMER TOE AND MALLET TOE

Hammer toes can be the result of wearing shoes that are not long enough for your feet. It occurs in some people with diabetes who have muscle or nerve damage from the disease. It causes a claw-like appearance of the toe and is sometimes painful, often when walking. Sometimes an appliance is prescribed by a physician to position the toe correctly. Of course, shoes that fit properly should also help. Surgery is available for some cases.



■ INGROWN TOENAIL

Ingrown toenails result mostly from improper cutting, but can also result from other incidences (eg, stubbing the toe, dropping a heavy object on the toe, wearing shoes that are too tight). The pain involved is caused by a sharp end of the nail that grows into the flesh of the toe, often the big toe. It causes pain, swelling, and redness around the toenail and can become infected. The treatment for getting rid of this problem may require soaking the foot, taking antibiotics, and getting surgical trimming of the nail bed. Once this problem has healed, don't clip your nails too short and be sure to cut them straight across (rather than curved, like the toe).

■ FOOT ULCERS

A foot ulcer can be caused by deterioration of a nerve or blood vessel. They can also result from a bedsore. Since they are caused from an inadequate blood supply, healing is slow. With good professional care, they usually heal. Some foot ulcers can be prevented by special stockings or support hose to help with the blood circulation. If the ulcer results from poor veins, elevate the foot above the level of the heart whenever possible.



■ SEVERED LIMBS

Remarkable medical advances have been made in recent years in reattaching severed fingers, hands, and even limbs. This is done through the use of a microscope for repairing the tiniest of tissues. The results depend upon many conditions, but if they are favorable, the chance for success is good.

Taking care of the extremities is extremely important for having an active lifestyle. Don't let a potential problem result in a permanent one. Fortunately, we have the ability to feel pain when there is something physically out of order. Don't disregard it — take advantage of the warning.



WHAT TO DO

SEVERITY LEVEL	SYMPTOM	POSSIBLE DIAGNOSIS
 <p>Seek Medical Help Immediately!</p>	<p>Bone piercing through the skin</p> <p>Severe pain following any trauma</p>	<p>Open fracture</p> <p>Broken bone</p>
 <p>Make an appointment to see your doctor</p>	<p>Before age five, loss of muscle function</p> <p>Leg pain with activity, numbness or pain in foot or toes at rest, ulcers or gangrene</p> <p>Tingling or numbness of hands and arms, especially at night</p> <p>Pain in chest (in front of rib cage)</p> <p>Swelling beneath the skin, usually on back of wrist or hand (sometimes feet)</p> <p>Inability of 4th and 5th fingers to bend into palm</p> <p>Pain and mild swelling in back of leg and heel</p> <p>Tenderness and swelling in groin and back of thighs</p>	<p>Muscular dystrophy</p> <p>Arteriosclerosis</p> <p>Carpal tunnel syndrome</p> <p>Costochondritis</p> <p>Ganglion</p> <p>Dupuytren's contracture</p> <p>Achilles' tendinitis</p> <p>Muscle strain</p>



Try the home treatment outlined in this chapter

Pain or stiffness in neck, shoulder, and body

Fibrositis

Muscle soreness

Tendinitis

Protrusion of bone at base of the big toe (if extreme, call physician)

Bunions

Claw-like appearance of toe, sometimes with pain (if extreme, call physician)

Hammer or mallet toe

Pain, swelling, and redness around toenail

Ingrown nail