

# Feet

## **Foot problems can cause health problems in any part of your body - and your feet may not even hurt!**

“When my feet hurt, I hurt all over.” This statement is frequently heard from long-term foot sufferers. We now understand much better why the general body aches and fatigue develops with foot problems, thanks to recent research in chiropractic applied kinesiology. Indeed, the foot does not even have to be painful to create problems in almost any area of the body.

Within the foot there are nerve endings called proprioceptors. The purpose of the nerve endings is to send the position and movement of the foot, and to inform the rest of the body for coordination of movement and position. For example, when you walk, the ankle and toes of your trailing foot bend and stimulate the nerve sensors in the ankle, foot, and toes, sending information up to the shoulder on the same side. This information causes the muscles in the back of the shoulder to relax and the muscles in the front of the shoulder to contract, so that your arm moves smoothly forward in synchronization.

If the foot is not functioning normally (as from a previous injury, flat feet, hammer toes, dropped metatarsals, etc.), the nerves are stimulated in a confused manner, and do not send correct information up to the shoulder for this symphony of muscular action. When coordination of muscular action is absent, the body in essence works against itself. The shoulder and arm do not move in a smoother manner, thus causing joint aches and muscular fatigue. Your body is actually walking in strain, and working much harder than is necessary.

Unfortunately, the problem does not stop with simple joint strain and fatigue. As you walk and make quick movements, there are literally thousands of nerve impulses being sent through the body for normal coordination. When the foot sends confused messages, the entire body ultimately becomes involved and many symptoms can result. As the neck becomes strained and fatigued from poor body economy, the small nerves that go through the muscular areas of the base of the skull become irritated; headaches develop around the base of the skull and radiate up over the head. Upper back strain may possibly cause digestive distributed or other health problems from the subsequent autonomic nerve system imbalance. The autonomic nerve system is the group of nerves that control the function of organs and glands within the body.

Indeed, the foot is frequently the most neglected portion of the body, and the one that possible receives more abuse than any other body structure. The normally functioning foot is a

marvel of engineering efficiency. There is a constant pounding, twisting, and wrenching to the structure during normal walking, turning or running. Even though the foot is subjected to these strains on a constant basis, it can take it until it is subjected to poor quality or improperly fitted shoes, ankle sprains, or other foot injuries.

## **Warning Signs of Foot Problems**

Even Though your feet may not hurt, they may be providing improper neurologic coordination information to your body. Observe yourself for the following signs and call them to attention of your doctor should any be present or develop in the future.

### Shoe Wear

Heels should wear the back and slightly to the side. Sole wear should be even. The back (counter) of the shoe should not break down or roll over.

### Callus Formation

There should be no callus development on the bottom or top of the foot. Callus formation on the bottom is due to poor weight bearing into the foot. On top, the formation is usually due to poor shoe fit; it can be from poor foot position.

### Developing Hammer Toes

Hammer toes develop as a result of muscular imbalance in the foot and leg. If treated early enough, they can be corrected.

The effort you put into the rehabilitation of your feet and ankles will be of great value to you in the future. We are interested not only in how you function now, but how you will be functioning in 5 years – 10 years and 20 years from now. The foot and ankle are the foundation of your body; your body’s function will be enhanced by normal foot integrity.

## **Toe Flexion and Dexterity**

Place a handful of marbles on the floor. By flexing the toes, pick up one marble, rotate the foot to its limit, and put the marble down. Turn the foot back as far as it will go in the direction of the original pile, pick up another marble, again rotate your foot as far as it will go, and drop the marble. With practice, you will find you can pick a marble with any toes, and you will gain great dexterity of your feet. Be careful that you do not use only the distal joint of your toe. Use the entire toe, bending clear back at the base of the toe.

## **Plantar Muscle Rehabilitation**

The muscles in the bottom of your foot become weakened when there is a poor nerve control over a prolonged period of time. The poor nerve control develops as a result of the tarsal tunnel syndrome, where the nerve becomes entrapped within an enclosed tunnel at the medial back portion of your foot. After the doctor opens this area by manipulation, it is necessary to keep it open by support, and then to exercise the muscles.

The contraction of the muscles causes the toes to flex. You can work these muscles by placing your foot on a hand towel, then gathering the towel beneath your foot by toe action. The muscles you are exercising are the muscles that bend the toe at its base. Be careful that you do not do the gathering by working only the distal end of the toes. The muscles that work the distal end of your toes are up in the calf and leg, and are not the muscles you need to exercise. If you get a lot of cramping or fatigue in the calf of your leg, you are not isolating the muscles of the bottom of the foot.

When you first begin exercise, it may be very, very difficult. However, by concentrating, relaxing the calf of your leg, and by contracting the bottom of your foot, you will be able to gather the towel completely under your foot by using, primarily, the muscles in the bottom of your foot.

## **Obtaining Foot Mobility**

Normally the foot is very flexible and has no painful areas. The foot that has been functioning abnormally for a prolonged period of time will have many tight and painful areas. The best way to regain motion in these areas is to work the foot on a golf ball. The areas that are extremely painful are the ones that need the most work.

Roll your foot back and forth over the golf ball, then from side to side. Concentrate on the uncomfortable areas. As your foot loosens and gains mobility, apply more and more pressure on the golf ball, until you reach the point where you tend to lose the ball and it scoots across the floor, place it inside a "Mason" jar ring for containment.

## **Bunions**

Bunions develop from improper shoe fit and, especially, from foot breakdown and muscular imbalance. Early treatment produces good results.

## **Indications of Foot Problems**

Imbalanced shoe wear	Corns
Shoe breakdown	Burning feet
Calluses	Numbness
Hammer toes	Leg pain
Painful areas	Poor circulation
Leg fatigue	Foot pronation
Bunions	

## **Pain Location**

There should be no pain in the foot, ankle, or leg upon pressure.

Press or poke into your hand and compare the sensation with that of pressing or poking into your foot. If the foot is much more tender it's likely that there is a problem in the foot-ankle complex, affecting your health.

## **Foot Rehabilitation**

In our modern society a majority of people develop some foot problems by the age of 20. By the age of 40, almost everyone has foot problems in some degree.

Most foot problems respond very rapidly when a doctor of chiropractic knowledgeable in applied kinesiology procedures treats the foot, ankle, and supporting muscles. If the condition has been present for only a short time, the correction will hold very satisfactorily, and will not return unless the foot and/or ankle are re-injured. Unfortunately, most foot and ankle conditions are advanced by the time the doctor is consulted. When the condition is advanced, and the foot and ankle have lost normal structural integrity, it is your responsibility to follow through with a rehabilitation program.

## **Support**

Your first responsibility is to obtain and utilize good foot gear. Your doctor will advise you about the type of shoes you should wear. He may also find it necessary to have your shoes modified by a shoe repairman, or to have specially built inserts made for shoes. This is often necessary because even though the doctor can rapidly return the bones to normal position and regain normal muscle function, the foot is so weak that as soon as you place weight upon the foot, the bones will go back into the old position. Most frequently the special shoes and supports are prescribed on a temporary basis, to hold the foot in position while it is rehabilitated. Sometimes, however, it is necessary to use the special foot gear for the rest of one's life.

## **Rehabilitation Procedures**

Your doctor may assign foot exercises and their amount for you to complete.

Set aside a specific time of day to do the procedures your doctor has outlined for you. It is often best to pick a time which won't interfere with your normal activities. For example, do the procedures while you are watching television, eating dinner, just before going to bed, or upon arising in the morning.

## **Achilles Tendon Stretch**

If the foot does not flex upward enough, it is indicative of a short Achilles tendons and muscles of the calf of the leg. The tendon and muscles shorten as a result of prolonged

wearing of high heels. Stretching the tendon and muscles is accomplished in two ways.

When you are stretching a muscle or tendon, it is necessary to first fatigue the structures; then the stretching takes place. In any exercise or stretching procedure, the body must be placed past its physiologic ability to respond before the procedure puts a demand upon it. In this case you are fatiguing out a structure, at which time it starts the stretching activity. The first portion of the holding times does nothing to stretch the structure. If you are doing enough stretching to actually accomplish your goal, the calf of the leg will become tender to touch. If not tenderness develops, you are not stretching hard enough or long enough.

1. Sit in an upright position with one leg stretched out in front of you. Place a belt over the ball of the foot, and pull the foot back in flexion, holding the knee straight. You will feel tension in the back of your leg possibly in the back of your knee. Hold this position for one to two minutes.
2. Face a wall. With outstretched arms, lean against the wall. Move your feet back, keeping your heels flat on the floor. The increased angle of the ankle places stretch on the Achilles tendon. Keeping your knees straight, continue to move your feet back until there is significant stretch.