Antalgic (painful) gait is when the patient attempts to avoid putting weight on one leg due to pain. If the patient is walking, he puts as little weight on the affected extremity as possible for the shortest time possible during the stance phase. The patient tries to minimize the amount of weight placed on the painful leg, knee, ankle or foot while walking or running by altering their gait. The stride is shortened on the injured side, affecting the posture or style of the patient’s normal gait cycle. Antalgic gait can come on suddenly or gradually due to a disease or damage to a nerve or to the musculoskeletal system. It can be mild, moderate or severe, temporary or permanent. Antalgic gait can affect anyone at any age, but seniors and athletes seem to suffer from it more often and it is seen in men more than women.

An example of antalgic gait coming on suddenly is when you sit on your foot or leg in an awkward position for a while. When you get up, your foot or leg feels like it’s being attacked by pins and needles. We are often told to “walk it off,” and as we do, we walk with an antalgic gait until our sensation comes back. An example of antalgic gait coming on gradually is someone who is suffering from gout. Gout is a form of arthritis that affects the joints, mainly the one located at the base of the big toe, where uric acid crystals can accumulate. Gout can affect any joint in your body. It is very common and very painful. Many patients describe gout as feeling like their toe is on fire, and during flare-ups they are forced to walk with an antalgic gait.

The Normal Gait Cycle

In a normal gait cycle there are two phases: stance and swing phase. During a normal gait, movements are smooth and coordinated as weight is transferred from one leg to another. The stance phase begins when you begin to walk, or when the heel strike is first, followed by the midstance and finishing with the toe-off movement. The swing phase is broken into three divisions: the initial double stance, single limb stance, and terminal double limb stance. The three divisions can also be referred to as acceleration, midswing, and deceleration. The swing phase begins with the toe-off and ends with the heel strike, or the time in which the foot is not in contact with the ground. In actuality, during the gait cycle, both feet are in contact with the ground only 20 percent of the time. In order for the gait cycle to go smoothly, the joints, pelvic rotation, pelvic tilt, balance, and strength all have to be unimpaired. From the hip to the toes, any disruption within these areas can cause an antalgic gait.
Antalgic Gait Symptoms

There are specific symptoms and signs of antalgic gait that doctors look for when making a diagnosis, including:

- Unusual or altered walk
- Walking differently to reduce pain
- Pain when walking normally
- Shortened duration of stance phase
- Uneven strides in the swing phase

Antalgic Gait Causes

There are numerous things that can cause antalgic gait. Common causes include:

- Trauma to hip, knee, ankle, leg, or foot
- Diabetic foot or peripheral neuropathy
- Arthritis or gout
- Joint or limb deformity
- Stress fracture
- Bone infection
- Tumor
- Blisters
- Painful calluses
- Ingrown toenail
- Foreign body
- Leg cramps
- Muscle or tendon injury
- Ankle sprain

As you can see, some of the items listed above are disease or disorder related, while others are due to trauma. This is why it is important to be seen by a podiatrist if you have antalgic gait, or if you are changing the way you walk in order to reduce pain in your lower leg, ankle or foot. If left untreated, it can lead to further problems such as back pain.

Antalgic Gait Treatment

Treatment for antalgic gait usually begins with identifying and focusing on the underlying cause. Antalgic gait can be seen when a person is trying to reduce or eliminate pain in one limb. In most cases, once the underlying cause is eliminated the antalgic gait diminishes and a normal gait returns. Here is a look at some of the additional things your doctor can do to help reduce the pain and return you to a normal gait:

- Prescribe a cane, crutches, walker, or other type of ambulatory device
- Medications to reduce pain, swelling, or other symptoms
- Modified activity/ cross training exercises (swimming, biking)

The goal is to reduce symptoms and increase balance and mobility. Ambulatory devices are the most common treatment option used by physicians, but there are surgical and non-surgical methods of treatment, depending on the underlying cause. For example, if you broke a bone in your foot and after
a normal amount of recovery time the bones had not healed on
their own, your podiatrist might decide to surgically fuse the
bone back together with a bone graft. It can take three months
to recover from a bone graft procedure, during which time you
would walk with an antalgic gait. Ingrown toenails can also
cause a consistent and recurring antalgic gait. If that is the
case, your doctor may want to surgically remove the nail root.
Once you have healed from the surgery, a normal gait cycle
should return.

Talking To Your Doctor

Here are some questions to ask your doctor about an antalgic
gait:

- Are there any orthotics or ambulatory devices that would be
  beneficial?
- Is there a chance this is genetic?
- Can an antalgic gait affect other parts of my body?
- Can we discuss an appropriate diet or nutritional plan for
  me?
- Do you think the shoes I am wearing are appropriate
  footwear?
- Would physical therapy or special exercises help?

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Opioid dependence treatment in the
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Medical References:
1. Taber’s Cyclopedic Medical Dictionary, 21 edition (F.A. Davis Company, 2005) 918

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