



## What is Buerger's Disease

Also known as Thromboangiitis obliterans (TAO) is a rare disorder characterized by inflammation of the small and medium arteries and veins. It affects about 8-11 persons per 100,000 in North America. The inflammation in TAO frequently leads to blockages of arteries of the lower segments of the arms and legs, and may cause claudication or rest pain and non-healing sores or ulcers, a condition known as Critical Limb Ischemia (CLI).

TAO is different from Peripheral Arterial Disease or PAD, because it is not caused by atherosclerosis (plaque) build-

up that causes a narrowing of the artery. Instead TAO is caused by inflammation of the artery wall, along with the development of clots in the small and medium sized arteries of the arms or legs causing the arteries to become blocked. Without blood flow below the inflamed artery or clots, the fingers, toes, and skin tissue do not receive adequate blood. This usually leads to enormous pain at rest or with exercise, plus sores may develop and may be slow to heal.

## Symptoms of Buerger's Disease

Symptoms of TAO are generally rest pain and skin ulcerations in the feet or hands. This is often referred to as critical limb ischemia (CLI). The pain may also be felt in the leg or foot when exercising. Pain may become steadily worse and eventually become more constant, occurring at night while lying in bed. Foot sores may be present.

Individuals may also feel a coldness, numbness, or tingling in their feet and hands.

## Risk Factors for Buerger's Disease

- Exclusively in individuals with a history of tobacco exposure of any kind, including smoking, chewing, or snuff.
- Mostly in individuals between 20 and 40 years old.
- More commonly in men.
- In those with a history of high cholesterol, high blood pressure, or diabetes.

## Diagnosis of Buerger's Disease

There are four key factors physicians use to diagnose:

- Rest pain or ulceration before 50 years of age
- Tobacco use
- Tests indicating the arteries are blocked. Typical tests include artery blood flow measurements (such as the ABI, or other vascular laboratory tests, such as ultrasound), arteriography (pictures of the affected blood vessel obtained by injecting a dye via catheter), and/or biopsy of the affected artery.

No other causes for artery blockage or clot development. A physician would want to be sure that a clot did not develop from the heart or a large blood vessel and travel to the arm or leg (an embolus). The doctor would also want to be certain there had been no blood vessel injury or trauma, no local lesions such as a blood vessel cyst, no autoimmune diseases such as scleroderma, and no blood clotting diseases.

## What are the Treatment Options?

The treatment for TAO is immediate and complete tobacco cessation. It is absolutely essential. Mayo Clinic physicians have found that TAO patients who continue to smoke have a high rate of amputation that persists up to 17 years after first diagnosis. The risk of amputation in TAO patients who stop smoking is much lower.

What else should I know about TAO?

Unfortunately, knowledge about TAO is limited, and the long-term (greater than 15 year) risk of amputation and death is not well known. One widely cited study of 112 patients was gathered from the Cleveland Clinic

Foundation from 1970 to 1987. The study revealed that skin ulcerations occurred among 76 percent of TAO patients. Additionally, 27 percent of TAO patients underwent one or more amputations (15 percent finger, 33 percent toe, 10 percent forefoot, 36 percent below the knee, 5 percent above the knee). Clots in the superficial veins of the arms and legs and Raynaud's phenomenon (fingers turning white and painful upon cold exposure) are also common. Despite these statistics, there is also good news. Long-term survival in TAO patients is slightly lower than for the US population as a whole. The cause of this is not known but may be related to ongoing tobacco use.

## Resources

The National Organization of Rare Disorders (NORD): [www.rarediseases.org](http://www.rarediseases.org)



To find out more about the Vascular Disease Foundation, call 888.VDF.4INFO or visit us online at [www.vdf.org](http://www.vdf.org)