

## Permanent Pain Relief from Vascular Pain Without Surgery

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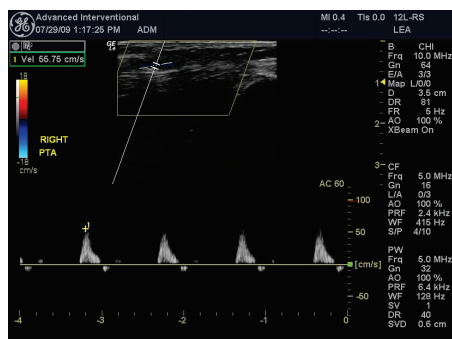
Pain that results because of inadequate blood supply or absent blood supply is called vascular pain. In most cases this will present as leg and foot pain. The feet hurt as soon as one would start walking. Any exercise requires additional oxygen to the exercising organ as oxygen requirements are increased several fold during the exercise. In a normal person, this additional oxygen is delivered by improved blood flow to the exercising organ. Legs that already have reduced blood supply because of poor circulation cannot keep with the oxygen demand resulting in severe pain that reduces as soon as walking stops. Calf muscles also frequently hurt when there is poor blood supply, a symptom known as claudication.

There are many reasons for vascular pain due to poor blood supply. In younger patients this is almost always due to smoking which leads to constriction of blood vessels. In the elderly, this is due to thickening of the inner wall of the blood vessels making blood difficult to flow through them. As time passes without identifying the vascular pain more serious effects result. The feet and toes become black as they start to die away, a process called necrosis. Necrosis results from loss of nutrition to the tissues which again is dependent on blood supply. As necrosis spreads the whole feet may die away until treatment is given.

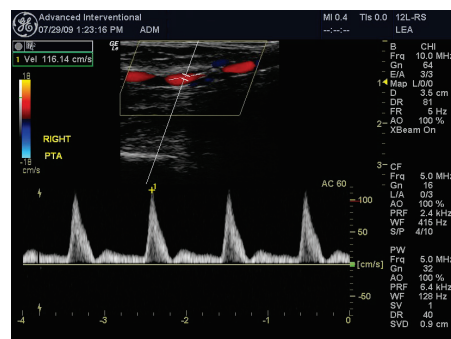
Vascular pain will not respond to treatments if smoking is not stopped, so this should be the first step. Commonly vascular pain is treated with surgery. The diseased blood vessel is identified and is replaced by an artificial blood vessel called a graft. This surgery is not without complications. Long time results are poor. Most cases end up in graft occlusion, making no room for any more surgery. Amputations of the extremity are used when there is no salvageable tissue left that may benefit from return of blood supply. Amputations are done above the dead tissue which may be toes, feet or higher levels where healthy tissue remains.

What are the alternatives to surgical treatments? At Advanced Interventional Pain Center, we have implemented treatment modalities that cause permanent pain relief from vascular pain using minimally invasive procedures. A number of cases within our pain practice are well documented to have been a success in getting rid of vascular pain through correct diagnosis, application of scientific principles and the use of minimally invasive procedures. One case involved a 78 year old lady with severe foot pain who had failed surgery after a blocked vascular graft. After just one treatment, collateral blood flow from small vessels were established causing permanent pain relief despite the blocked surgical graft. More recently a 68 year old's painful foot from necrotic toes completely healed after treatments at our pain center.

We can provide scientific proof that treatments at Advanced Interventional Pain Center work. Using ultrasound equipment, the flow characteristics in the tibial artery, a major artery providing blood flow to the foot was measured for the 68 year old in the above example before the procedure (picture on the left). As can be seen, the blood flow amplitude is less than 50% as seen by the white peaks. Also only two waveforms are seen once again indicating poor blood flow. The 'after' treatment blood flow in the same patient is seen in the picture to the right. Blood flow amplitude is now 100% and three different waveforms are seen indicating full restoration of blood flow with the innovative treatment.



(before treatment)

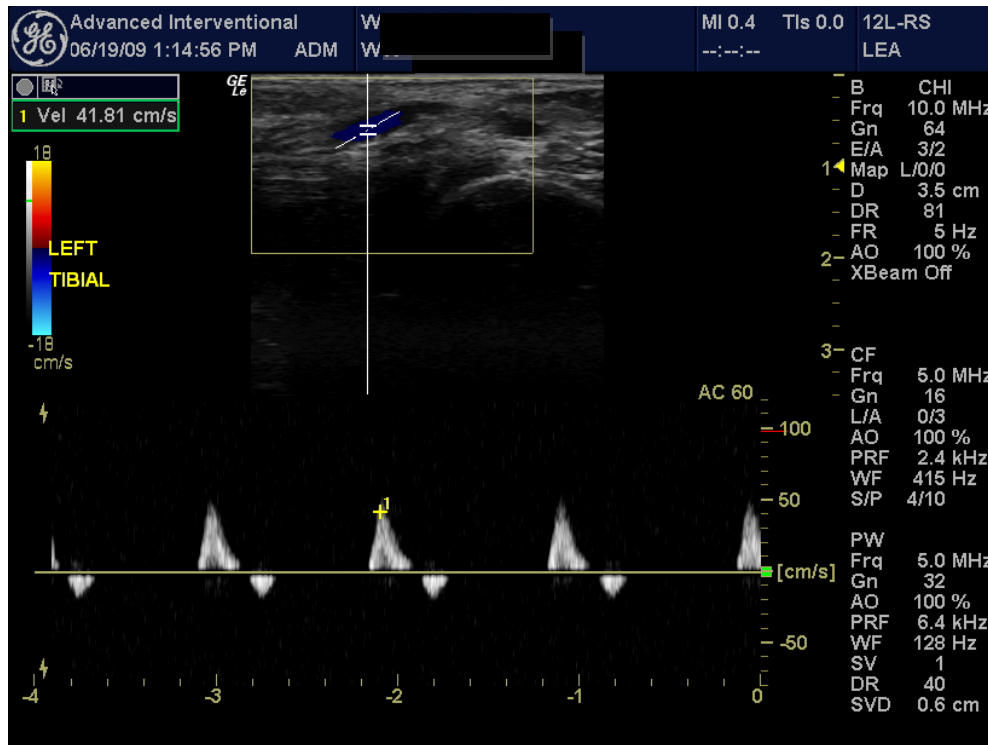


(after treatment)

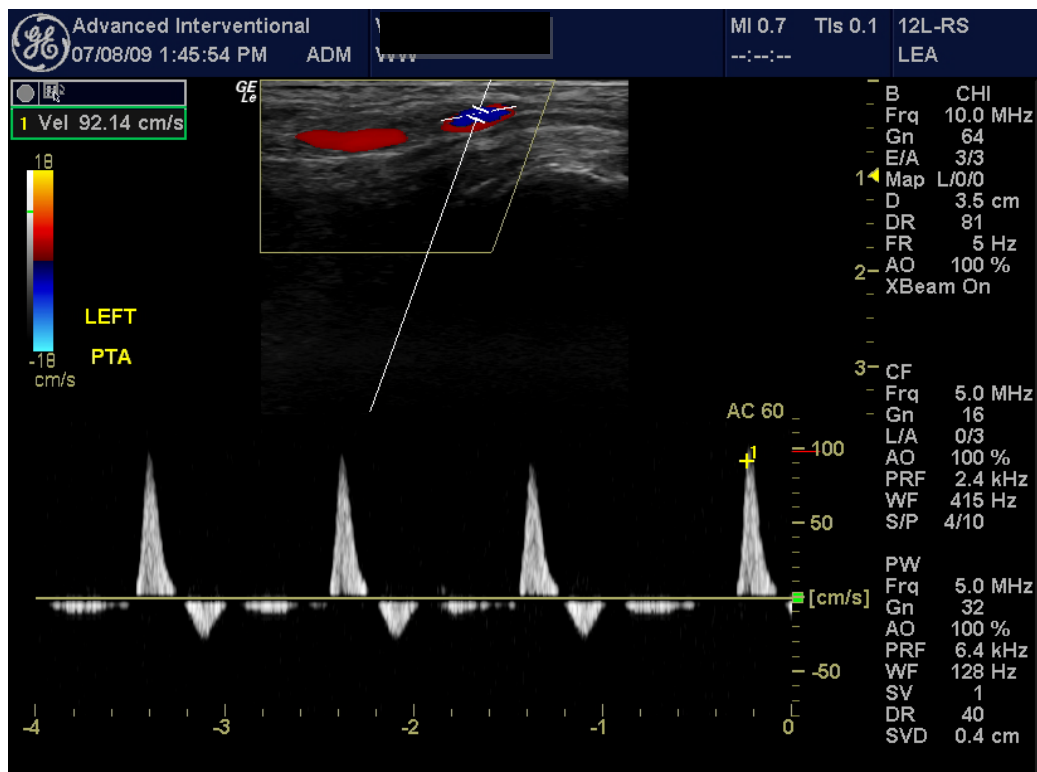
For more information on treatment of vascular pain and other pain conditions without surgery or narcotics patients are encouraged to contact Advanced Interventional Pain Center or visit [www.inter-pain.com](http://www.inter-pain.com).

A Single Non surgical Treatment Provides Permanent Relief from Vascular Pain, Improves Blood Flow,  
Reverses Ischemia and Early Necrosis

Patient WW Blood Flow in the Left Tibial Artery before Treatment:



Patient WW Doubling of Blood Flow in the Left Tibial Artery after Treatment:





Before Treatment: necrotic nail, ischemic toes



3 weeks after treatment: pink feet, improving ischemia



6 weeks after treatment, revascularization complete. The previous necrotic nail on R foot now has new nail growing underneath!