

Disorders of Arterial Circulation

Peripheral Arterial Disease (PAD)

Peripheral arterial disease (PAD) involves the obstruction of arteries that supply the body's peripheral tissues, not the arteries that supply the central tissues like the heart or brain. Atherosclerosis is a common cause of this obstruction. If blood delivery to peripheral tissues is reduced enough, tissue damage may occur and an ulcer can be seen. The characteristics of an arterial wound versus a venous wound was described earlier.

PAD more often involves the lower extremities. With blockage to any of the large arteries delivering blood to the legs, hypoxia can occur and cause ischemic type pain. **Claudication** is a term used to describe pain while walking when arterial occlusion causes insufficient oxygen delivery to the tissue. Generally, the patient complains of calf pain when walking because the gastrocnemius has the highest oxygen demand of any tissue in the legs while walking. A person who has claudication usually feels better when they rest because the oxygen demand to the calf greatly decreases.

Thromboangiitis Obliterans

Thromboangiitis obliterans is a smoking-related condition that manifests as blood clot formation in medium to small arteries, and less often in veins. It most commonly affects the vessels of the feet and toes, although it is possible to see it in the hands as well. The exact cause of thromboangiitis obliterans is not known, but it does affect smokers almost exclusively. Not everyone who smokes experiences this pathology, so it is thought that some people are born with a susceptible genetic profile. If a person smokes and is diagnosed with this condition, it is imperative that they quit smoking immediately. The symptoms of thromboangiitis obliterans are severe pain at first, and then eventual ulceration and gangrenous tissue will ultimately follow. If the symptoms progress and worsen, portions of extremities may have to be amputated.

Thromboangiitis obliterans is also known as **Buerger disease**.



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