Arterial Ulcer Assessment

Prolonged impairment of peripheral blood flow caused by peripheral artery disease (PAD) can lead to ulceration of the lower limbs. Arterial ulcers commonly occur on the toes and bony prominences of the feet. Other clinical manifestations associated with peripheral artery disease include absent or decreased pulses in the lower limbs, intermittent muscle cramping, pain at rest, smooth, shiny skin, hairless legs, and paresthesia or a numbness or tingling in the toes or feet.



PLAY PICMONIC

Absent or Decreased Pulses

Absent and Down-arrow Pulse from heart

Absent or decreased pulses may be noted during assessment due to lack of adequate blood flow to the lower extremities. A doppler should be used to detect pulses before determining that they are absent.

Intermittent Claudication

In-mitten Claws

Intermittent claudication, or intermittent cramping pains, are usually caused by exercise or physical activity and typically go away within 10 minutes or less. These cramping pains are often mistakenly attributed to aging; however, unlike joint pain, these cramps occur in the muscle.

Sharp Pain

Sharp Claws causing Pain-bolt

Sharp lower limb pain associated with peripheral artery disease varies in quality and intensity. In severe cases, pain can occur at rest.

Dependent Rubor

Dependent-on-position Rubies

The affected limb, when in a dependent position, may exhibit a deep red or purplish discoloration (reactive hyperemia) compared to the person's baseline skin tone. Blood flow to the lower limbs is compromised, so the body compensates by dilating the arteries in the leg to achieve maximal blood flow and oxygen delivery. When elevated; however, the leg will become pale (elevation pallor). In individuals with a darker skin tone, it is crucial to assess the skin color relative to unaffected areas. It is essential to compare the color of the dependent limb to adjacent, healthier skin areas. This helps in discerning between the reactive hyperemia of dependent rubor and other skin conditions, such as erythema associated with infection. Dependent rubor in individuals with dark skin tones may still be associated with temperature changes. The affected limb, experiencing compromised blood flow, may feel cooler to the touch when compared to other regions of the body or to a healthy limb.

Well Defined Edges

Well Defined Edges of ulcer-volcano

The boundaries of arterial ulcers are well defined; these ulcers appear round and smooth.

Over Bony Areas

Bony Area

Arterial ulcers occur on bony prominences, such as the toes, heels, and outside of the ankles, where the skin is most likely to rub on shoes, bed sheets, etc. Improper cutting of toenails, or removal of an ingrown toenail can also initiate an ulcer in the nailbed.

Smooth, Shiny Skin

Smooth and Shiny Skin-suit

Reduced blood flow to the lower limbs can result in thickened, brittle nails, and thinning of the skin. Patients with peripheral artery disease often have shiny, smooth skin and hairless legs, feet, and toes. Edema is absent.

Sign up for FREE at picmonic.com

Toes, Heels, Lateral Lower Legs

Toe, Heel, and Ladder at Lower Leg

Arterial ulcers commonly occur in areas likely to lose blood supply when arterial blood supply is compromised, such as the toes, heels, and lateral lower legs. In these areas, the skin is also more likely to rub on shoes, bed sheets, clothing, etc, causing breakdown. Paresthesia and peripheral neuropathy can develop in patients with long-standing ischemia, especially noted in patients with diabetes.

Cool

Cool ice and snow

Coolness of the skin is evident during assessment, due to decreased arterial blood flow to the lower extremities. The leg typically gets cooler as it gets closer to the foot.

Sign up for FREE at picmonic.com