

Simplified Sural Nerve Flap for Wound Coverage in Distal Tibia, Ankle, and Foot Area***Jiyao Zou MD***

Universit of Louisville, Louisville, KY, United States

Purpose: Due to lack of good soft-tissue envelope, wound complications are commonly seen in the distal tibia, ankle, and foot area due to trauma or surgery. A free flap is often needed to cover the wound. It is technically challenging and requires special microsurgical expertise. Even with experienced microsurgeons, it has a high failure rate, and often ends in amputation. We present here the options of local flap transfer for wound coverage around these areas, the simplified sural nerve flap. The goal is to find a simple way for wound coverage around these areas with high success rate and minimal donor site morbidity.

Methods: In our simplified technique, the sural nerve flap can be harvested from the proximal/posterior leg, where there is abundant good soft-tissue envelope. This is a fasciocutaneous flap based on the landmark of sural nerve. A pen Doppler is used to detect perforators along the sural nerve for flap design. However, there is no need to dissect the perforators. It is can be easily harvested in about 20 minutes. The flap is versatile and can be used to cover different kinds wounds over anterior ankle, Achilles tendon, lateral malleolus, calcaneus, and dorsal foot. The secondary wound at donor site can usually be closed primarily. If not, a skin graft can be used.

Results: We present some typical cases for wound coverage for the anterior ankle, lateral malleolus, calcaneus, Achilles tendon, etc. These wounds were caused by either trauma or surgical wound dehiscence. Surgical techniques will be illustrated in detail.

Conclusion: The simplified sural nerve flap is a simple, reliable, and versatile flap for wound coverage in distal tibia, ankle, and foot area.