Wound Care Insider

An educational resource from Gentell

July 2026

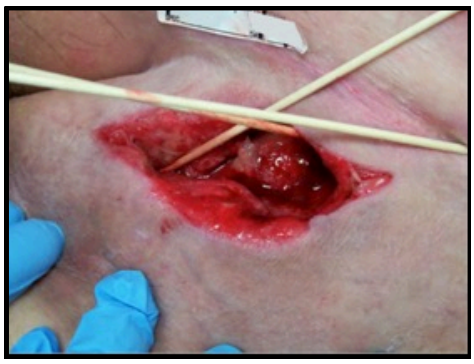
Tunneling and Undermining: What's the Difference?

As part of the wound assessment, there are times when we also need to measure tunneling and/or undermining, in addition to measuring the length, width, and depth of the wound. "Tunneling" and "undermining" are distinct wound care terms and should not be used interchangeably. Understanding the difference between them is important for accurate assessment and documentation.

What is Tunneling?

Tunneling is the presence of a narrow passageway caused by the destruction of the fascial planes that extends in one direction from the wound bed into deeper tissue layers. It is dead space in the wound that could result in abscess formation, and it may or may not have a visible external opening. Tunneling can occur in any wound type. Sinus tract is also used interchangeably with the term tunneling.

To measure tunneling, a probe (ideally a cotton tip applicator) is gently inserted into the passageway until resistance is felt. The distance from the top of the probe to the point at which the probe is level with the wound edge is the depth of the tunnel. Clock terms are used to describe the location of the tunneling in the wound bed where the patient's head and feet represent 12 o'clock and 6 o'clock respectively. The length of the tunnel is measured in centimeters.

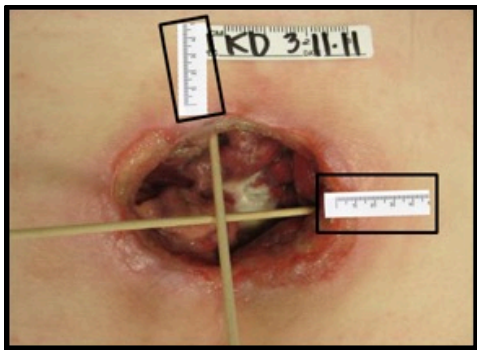


Tunneling

What is Undermining?

Undermining is the erosion or destruction of tissue beneath the wound margins, creating a pocket or "shelf" under the wound edges, potentially resulting in a large wound with a small opening. The small opening on the surface belies the larger area of tissue destruction beneath it.

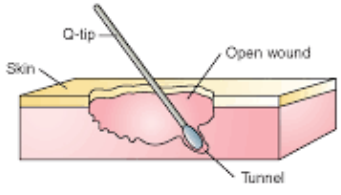
To measure undermining, clinicians use a sterile probe and feel resistance to determine how far the tissue separation extends under the wound edges. The depth and the direction are documented. Clock terms similar to those for measuring tunneling are used, with a start and stop point documented, ie undermining from 10-2 with greatest depth of 1.5.



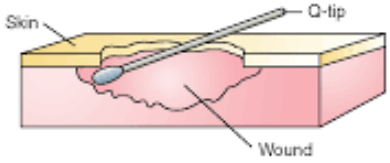
Undermining

Identifying Tunneling and Undermining

The main difference between tunneling and undermining is tunneling is unidirectional (moving in one direction), whereas undermining can occur in more than one direction. Stage 3 pressure injuries may or may not include tunneling and/or undermining, whereas stage 4 pressure injuries often include one, or both. The only way to determine if a wound tunnels or undermines is to probe under the wound edges, since neither are easily visualized.



Tunneling



Undermining

References:

Swezey, Laurie. "Tunneling Wounds". WoundSource June 26, 2014 https://www.woundsource.com/blog/how-assess-wounds-tunneling-and-undermining

Photos courtesy of Dot Weir, RN, CWON, CWS