

Appendix K: Assessment for Infection

This is one method to systematically assess for superficial critical colonization (localized infection) and deeper and surrounding infection (systemic infection) in people with pressure injuries. This is not intended to be a comprehensive list but rather suggestions identified within the systematic review, AGREE II appraised guidelines, by the expert panel or external stakeholder feedback.

Both kinds of infections must be treated in order to avoid delays in wound healing.

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This method has been validated for the assessment of bacterial burden in wounds (Woo & Sibbald, 2009). A person must meet **at least three of the following criteria** to be considered for superficial wound infection treatment (Perry et al., 2014; Sibbald et al., 2007; Sibbald et al., 2011):

N – non-healing wound. This refers to wounds that have not healed, despite the implementation of appropriate wound care interventions (e.g., the cause of the wound was treated and person-/family-centred concerns were addressed).

E – exudate. Increased exudate from a pressure injury indicates bacterial imbalance (in the absence of an autolytic debridement process), which in turn can cause peri-wound maceration.

R – red and bleeding. A red and bleeding wound surface and granulation tissue is indicative of bacterial imbalance.

D – debris. Yellow or black necrotic tissue and debris on the wound surface stimulates infection by acting as a food source for bacteria.

S – smell. The unpleasant smell from a pressure injury generally results from bacterial imbalance, tissue inflammation, and the release of bacterial byproducts from tissue necrosis. Different bacteria produce different smells—for example, *Pseudomonas* diffuses a sweet scent, while anaerobes produce a putrid smell.

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This is one method to systematically assess for deeper and surrounding wound infections (systemic infections). This method has been validated for the assessment of bacterial burden in wounds (Woo and Sibbald, 2009). A person must meet **at least three of the following criteria** to be considered for deep and surrounding wound infection intervention:

S – size. An increased wound size may be due to (1) deeper and surrounding tissue damage caused by bacteria, (2) the cause of the wound not having been treated, or (3) a local or systemic cause that is impairing wound healing (Sibbald et al., 2007).

T – temperature. Infection should be highly suspected if there is greater than a 3-degree temperature difference between the two mirror-image sites (e.g., the left heel and the right heel) (Sibbald, Elliott, Ayello, & Somayaji, 2015; Sibbald et al., 2007).

O – os (probe to or exposed bone). Osteomyelitis should be highly suspected if a health-care professional can probe to bone or if the bone is exposed (Sibbald et al., 2007).

N – new or satellite areas of breakdown. Satellite breakdown refers to areas of skin breakdown that are separate from the main pressure injury. This may occur when (1) the cause of the wound has not been treated, (2) local damage is present, or (3) there is an infection (Sibbald et al., 2007).

E – exudate. Increased exudate is indicative of increased bacterial burden and damage (Sibbald et al., 2015; Woo & Sibbald, 2009).

E – erythema and/or edema (cellulitis). Erythema and/or edema is indicative of increased bacterial burden and bacterial damage. The bacterial burden and damage in turn causes inflammation, vasodilation (i.e., erythema), and leakage of fluid into the tissue (i.e., edema) (Sibbald et al., 2015; Sibbald et al., 2007; Woo & Sibbald, 2009).

S – smell. Bacteria that invade tissue cause wounds to have a “foul” smell (Sibbald et al., 2007).