Wound Cleansing — A Guideline and Clinical Effectiveness Review of Potable Water Versus Antiseptics

Context
A wound is a cut or break in the skin that can result from trauma, heat, pressure, or as a complication of another condition such as diabetes or poor blood flow (i.e., the venous insufficiency of deep vein thrombosis). Wounds are cleansed to remove any debris, excess exudate (fluid that has leaked from the wound), and necrotic or dead tissue that could lead to infection, and to generate the ideal conditions for wound healing.

Technology
Fluids that may be used for wound cleansing include tap water (potable water), normal saline solutions (sterile or non-sterile), or various antiseptics including triclosan, chlorhexidine, hexachlorophene, povidone iodine, hydrogen peroxide, and alcohol.

Issue
The optimal fluid to be used for wound cleansing remains a topic of debate. Normal saline is viewed by some clinicians as the favoured solution. It doesn’t damage tissue or cause sensitization or allergies and it doesn’t alter the normal bacterial flora of the skin or interfere with the normal healing process. Tap water is often recommended because it is quickly, cheaply, and easily accessed; however, its use has not been recommended in wounds where bone or tendon is exposed, although the basis for this recommendation is unclear. The availability of a number of different antiseptics further complicates the issue. A review of the clinical effectiveness of the different fluids available for wound cleansing will help to inform clinical decisions on wound care. A review of evidence-based guidelines will also contribute to the decision-making process.

Methods
A limited literature search of key resources was conducted, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

Key Messages
Potable water versus normal saline for wound cleansing:
- Potable water may be associated with lower infection rates than saline in adults with acute wounds.
- Evidence is limited.

Potable water versus antiseptics for wound cleansing:
- No evidence.

Evidence-based guidelines suggest:
- Tap water or sterile water or saline for wound cleansing.

Results
Of the 460 citations from the literature search, 25 potentially relevant studies were identified. An additional six guidelines were found in the grey literature search. Of these 31 articles, one systematic review and two evidence-based guidelines met the inclusion criteria.