From wound to recovery: The **basic principles** of **wound management**

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Following on from the previous article on the basic principles of wound healing, this article discusses the basic principles of wound management.

A wound that is not properly managed can delay the healing process and become chronic. The overall aim of wound management is to provide the ideal environment for the wound to heal. A warm, moist and non-toxic healing environment provides the best conditions for the wound to heal naturally.

Certain factors may help to determine whether the patient's wound may be managed in the pharmacy, or will need to be referred for further evaluation.

Factors to consider when assessing a wound

- **Colour of the wound tissue?**

  Pinkish/red tissue that bleeds easily is considered to be healthy tissue during the granulation phase of wound healing. Hypergranulation (or overgrowth of wound tissue above the wound border) may be a sign of the wound being irritated, or infected.

  Light pink (almost white) tissue will only form over healthy granulation tissue.

  Yellowish tissue indicates the presence of dead cells, whereas hard, dry black tissue indicates a necrotic wound or dead tissue.

- **Presence of infection?**

  All wounds are colonised with bacteria, however, this does not mean all wounds are infected. Signs and symptoms of an infected wound may include:

  - Fever, nausea, chills
  - Red, inflamed, swollen skin surrounding wound
  - Tender red streaks radiating from wound
  - Excessive discharge (exudate) oozing from wound
  - A thick yellow, grey or green discharge from wound
  - Foul odour from wound
  - Rolled or raised wound edges
  - Localised pain

- **Moisture: is the wound dry or wet?**

  A discharge (or exudate) is a normal part of the healing process. Too much exudate can lead to a softening and breaking down of skin (maceration) and may be a sign of infection.

While assessing the patient's wound is important, it is also important to determine the patient's overall health. Certain factors may delay the wound-healing process:

- Chronic illnesses, such as diabetes or autoimmune disease
- Certain medications and treatments, such as chemotherapy, radiotherapy, corticosteroids
- Malnutrition
- Infection
- Blood circulation disorders which reduce blood supply
- Smoking and excessive alcohol use
- Obesity
- Immobility

Cleansing a wound

The aim of cleansing a wound is to remove all visible debris, as well as dead tissue.

Acute open wounds that may be contaminated are best cleaned with lukewarm, drinkable, tap water. Cleaning a wound with a disinfectant is not recommended, as this may break down the tissue and delay healing. Soaking a wound in a basin/bath of water with soap or cleansing agents (e.g. baking soda or washing powder) should be discouraged as this macerates (softens and breaks down) the skin, increasing the risk of infection, and delays healing.

After gently irrigating the wound with water, a topical antiseptic or antibiotic may be used to reduce the risk of infection and keep the wound moist, which helps to minimise scarring.

Closed wounds do not need to be cleansed.

Dressing a wound

Open wounds, and wounds that are leaking, should be covered with an appropriate dressing. Wound healing may be significantly delayed (up to 30%) if a wound is left uncovered to dry out.

Key Points

- Optimal healing of a wound occurs if it has an adequate blood supply, is free from dead skin and debris, is kept moist and is not infected.
- A wound should be kept moist enough to promote healing, but should not be wet (to avoid maceration).
- Clean lukewarm tap water should be used to clean acute open wounds.
- Patients should be advised to look for signs and symptoms of infection.
- Patients with wounds that show signs of infection should be referred for further management.
- A patient with a puncture wound, or a wound contaminated with debris, (dirty wound), may need a tetanus vaccine booster dose, if not received in the past five years.
- Refer any patient immediately to a doctor if:
  - the bleeding is severe or does not stop even with pressure
  - the wound is deep or jagged and may need stitches
  - the wound was caused by a bite (animal or human)
  - a wound is not healing
  - the patient has a chronic condition that affects wound healing (see above)

The ideal dressing should be able to keep the wound moist (not wet), be able to absorb excessive fluid (if necessary), be non-adhesive, sterile, protect the wound and keep the wound warm (close to normal body temperature).

The choice of wound dressing depends on the nature of the wound:

- Closed, dry wounds should be left uncovered, unless the patient wishes for it to be covered.
- If the closed wound is oozing, it may be covered by a non-adhesive gauze dressing.
- Open wounds should be covered by a non-adhesive gauze dressing in order to speed up the healing process, and to keep the wound clean.
- A more absorbent dressing may be needed for wounds that are leaking.
- Ensure that the dressing is the right size for the wound.

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