Clinical Guideline

WOUND CARE

SETTING	Primary and Secondary Healthcare Institutions in the Western Cape which refer to Red Cross War Memorial Children's Hospital (RCWMCH)
FOR STAFF	Primary and Secondary Doctors and Nurses who refer patients to RCWMCH
PATIENTS	Patients under the age of 13 years old with open wounds

Introduction

Open wounds are a common presentation in children. Trauma is usually the source of these wounds, although surgery or burns that were previously managed at a surgical centre may also need ongoing wound care in the primary care setting.

Dressings are used to keep wounds clean and to optimise the environment around the wound to increase the rate of healing. Many dressings that are expensive to purchase have been shown to be more cost effective than simple dry dressings when used appropriately. This is because many dressings can be left in place for a number of days, and because the faster rate of healing results in a shorter period of dressings requirements overall.

The key to using dressings effectively is understanding which dressings to use when and how best to use them. This guideline outlines several simple dressings that have specific uses for different wound challenges. The hope is that with some information into when and how to use these dressings, clinics will be more inclined to order them and use them under the correct circumstances.

Background

Wound healing is a complex physiological process that the body undertakes to repair damaged tissue. This process can be divided into four overlapping stages: Haemostasis, inflammation, proliferation and remodelling. Each phase plays a crucial role in restoring the integrity of the skin and underlying tissues.

Haemostasis:

The first stage of wound healing begins immediately after injury, focusing on stopping bleeding and preventing further blood loss. This involves vasoconstriction, platelet activation and fibrin clot formation. This phase is critical as it not only halts bleeding but also releases growth factors that initiate the healing process.

Inflammation:

This begins with a few hours and last for a few days. White blood cells arrive at the wound to prevent infection and prepare the wound bed by cleaning away debris and pathogens before releasing factors that will promote the healing process. The wound has increased blood flow and oedema which can make it appear red or swollen.

Proliferation:

This starts a few days after the injury and lasts up to 3 weeks. There is increased production of granulation tissue and new blood vessels within the wound while keratinocytes around the edges cover the surface with new epithelial tissue.

Remodelling:

This phase lasts weeks to years. Remodelling is the process when the collagen in the granulation tissue is replaced with a stronger version which allows the scar to strengthen and mature

Materials available on tender

When we use dressings to help with wound healing we are manipulating the area in the wound where there processes are happening. We aim to provide the body with an environment which is clean, moist and pathogen free so that these processes can be undertaken without delay.

Different dressings can improve the environment by:

- inhibiting the pathogens in the environment
- providing the current balance of moisture or dryness
- Inhibiting overgrowth of slough or granulation tissue
- keeping the wound undisturbed to allow cells to cover over

See below for a selection of dressings available on tender that clinics can order.

Dressing	How it works	When to use it
Mupirocin (Bactroban/ Supiroban/Nuban) ointment:	Active in Staph and Strep infections.	Useful for infected wounds. Needs to be changed daily. Can be mixed with Hibitane Chlorhexidine cream.
Hibitane Chlorhexidine cream:	Broad spectrum antimicrobial. Change daily. Beware in peanut allergy and chlorhexidine hypersensitivity.	Useful for infected wounds. Needs to be changed daily. Can be mixed with Mupirocin ointment. Beware in peanut allergy and chlorhexidine hypersensitivity.
Bactigras:	Paraffin gauze impregnated with 0.5% chlorhexidine acetate.	Non-stick if changed every 2-3 days. Useful as a secondary antibacterial dressing

		under other dressings and can be used to carry creams and ointments.
Inadine:	Non-Adherent knitted viscose fabric impregnated with a polyethylene glycol (PEG) base containing 10% Povidone Iodine; equivalent to 1.0% available iodine.	Antimicrobial activity only lasts 2-3 days. Beware iodine allergy.
Silver Sulfadiazine cream (Flamazine/ Bactrazine/Silbecor):	Effective antibacterial cream.	Cheap but needs to be changed daily. Good as part of daily dressing regime in acutely infected wounds, especially with Pseudomonas infections.
Iruxol Mono ointment:	Collagenase containing ointment used for enzymatic debridement of necrotic tissue. Works best in moist environment.	Needs to be changed every 1 -2 days for maximal effectiveness.
Prontosan X gel:.	Gel containing surfactant that breaks down biofilms	Useful in slimy, slow-healing, wounds. Best carried on a non-stick dressing. Also, useful as a thin layer under Acticoat
Mepilex Ag:	Silver containing foam dressing with silicone interface.	Gently adheres to wound making it easy to apply, but is easy to remove with minimal pain and trauma. Able to manage a moderate amount of exudate and releases silver for antimicrobial effect. Although it can be left on for up to seven days in a dry/healing wound it may become moist and the ideal duration is closer to 5 days. Excellent for non-infected wounds with no slough.

Acticoat .	a nanocrystalline silver dressing which releases large concentrations of silver into the wound. It penetrates wounds and has antimicrobial and anti-inflammatory effects.	It can be either fenestrated (Flex) or un-fenestrated (shiny) and effective for either 3 (Acticoat 3) or 7 (Acticoat 7) days. This is a good choice of a non-infected wound that needs to cover over. It is expensive so make sure to use it for the full time allowed to make that cost worthwhile

Children's Surgery Network

Western Cape Government
TOGETHER

Western Cape Government
TOGETHER