



HARTMANN Wound Care Training

Session 1 Wound Care in General Practice

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At HARTMANN since 2010

Internal and external education in wound care

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Topics to be covered

- Overview of the skin, wound healing & the factors that impact healing
- Look at the importance of good assessment and documentation of wounds
- Provide an understanding of burns first aid & how to manage minor burns
- Provide an understanding of prevention and treatment of skin tears
- Summary & questions

Who is HARTMANN?



Over 10,000 employees

34 countries

Global headquarters in Heidenheim,
Germany

The HARTMANN Portfolio



Wound
Management



Continenace
Management



>433,000
Australians
affected

4,000
major
amputations

\$3 billion
per
annum

Hard to heal
wounds reduce
quality of life and
often take
months, even
years to heal

WC one of
21st century's
**major clinical
challenges**



The Skin

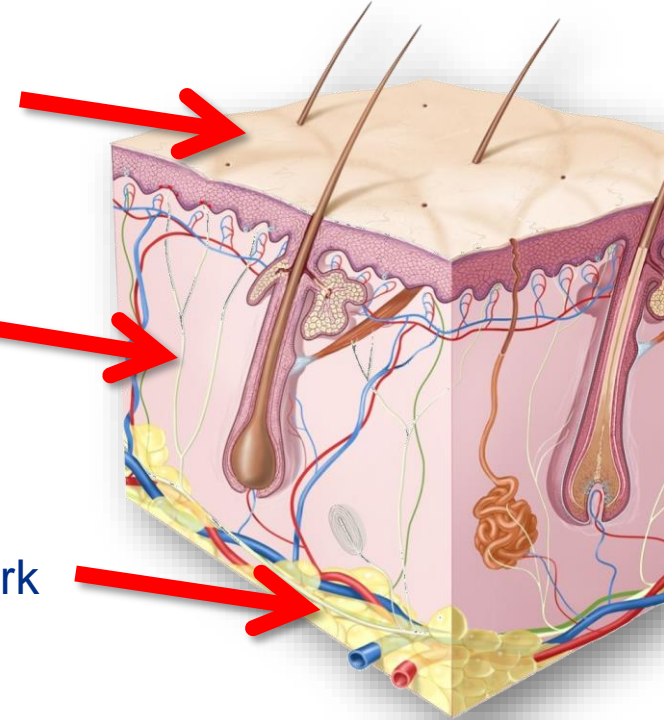
The background of the slide is an abstract geometric pattern composed of various-sized triangles in different shades of blue, ranging from a deep navy to a light sky blue. A small, irregular white shape is located in the bottom-left corner, partially overlapping the blue triangles.

Healthy Skin

Epidermis – Outermost layer

Dermis – Factory of the skin

Subcutaneous – Support framework

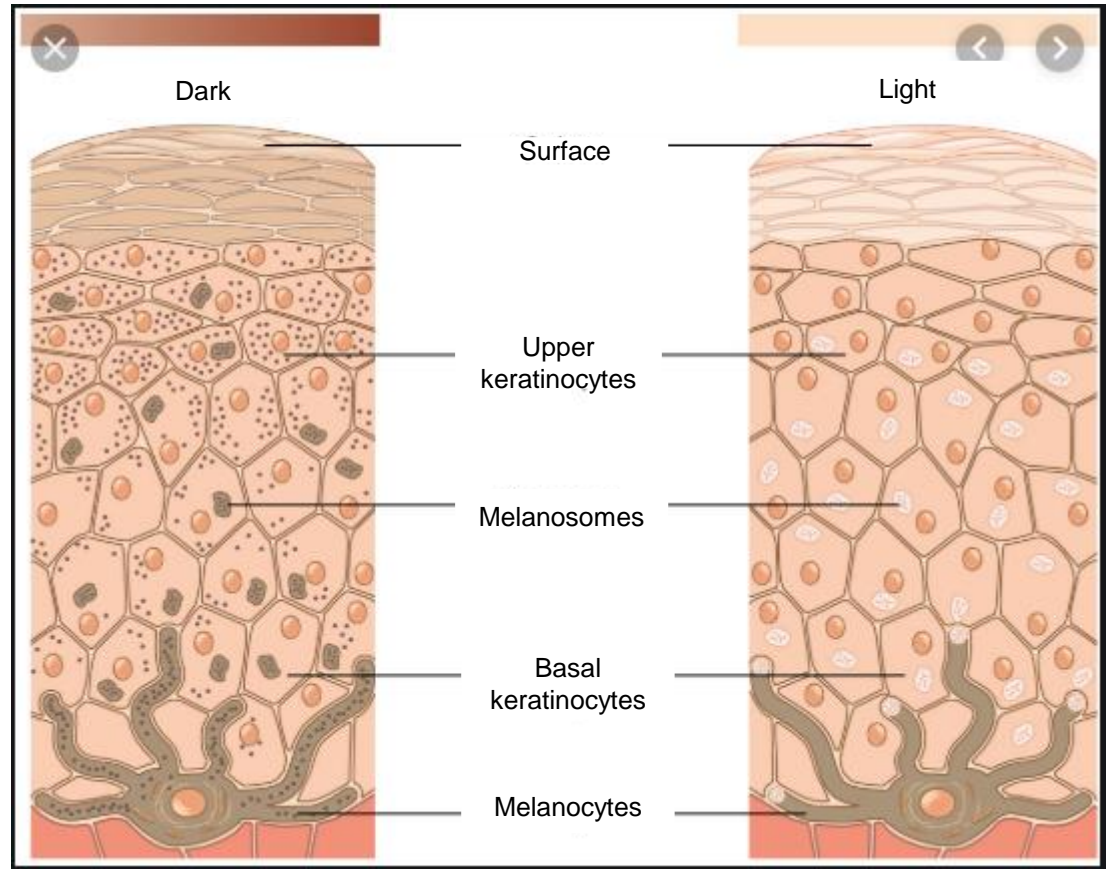


Epidermis

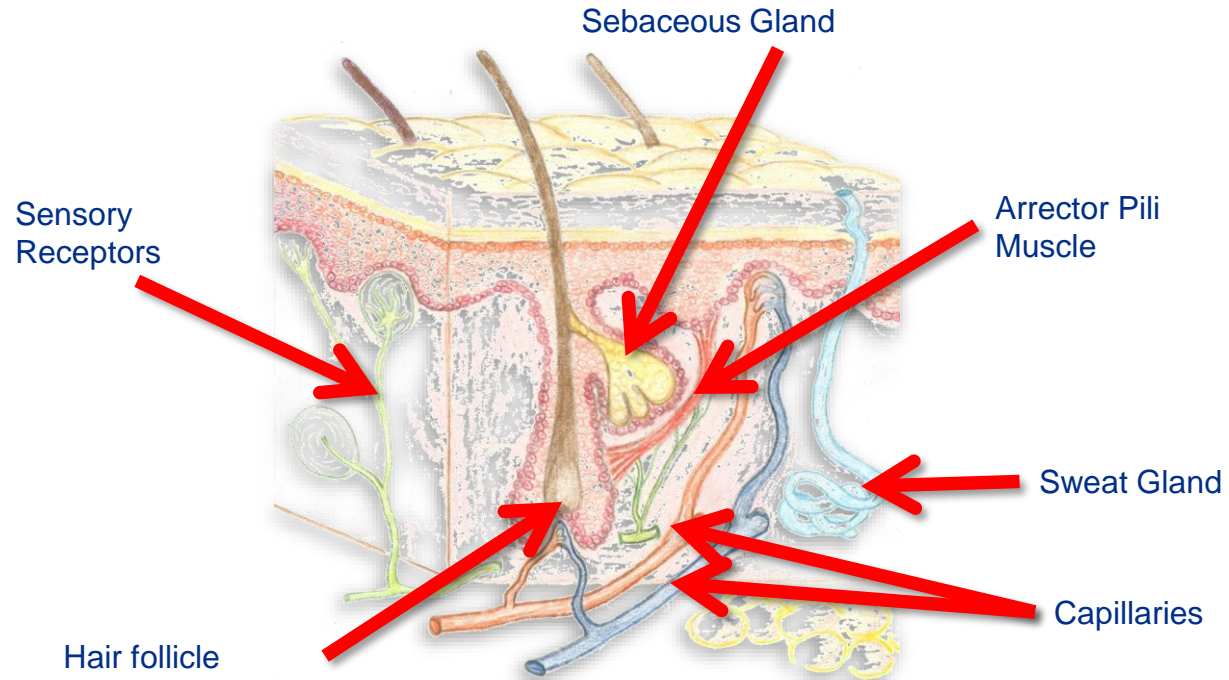
Stratum Corneum



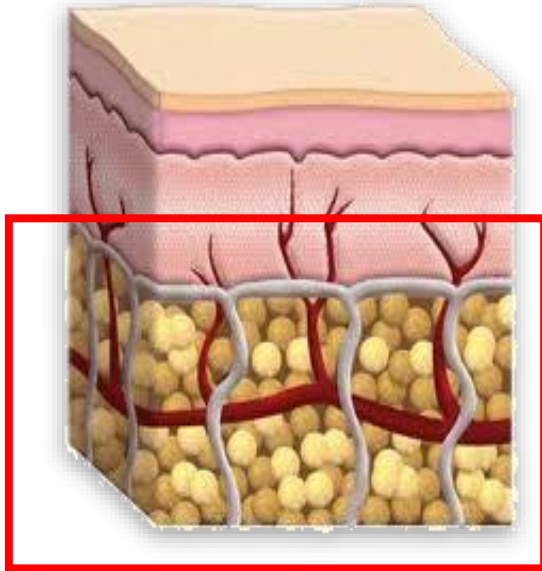
Basal Layer



Dermis



Subcutaneous Layer



- Thickest layer of the skin
- Support framework for the skin
- Shock absorber
- Regulates our temperature
- Stores fat
- Protects the underlying organs

What To Think About...



The background is an abstract geometric pattern composed of various-sized triangles in shades of blue and white. The triangles are arranged in a way that creates a sense of depth and movement, with some triangles pointing towards the center and others pointing outwards. The overall effect is a modern, minimalist design.

Stages of Wound Healing

Stages of Wound Healing



Haemostasis

- Clot formation
- Vasoconstriction
- Build up of platelets and fibrin



Inflammation

- Growth factors, neutrophils & macrophages flood the area
- Neutrophils (white cells) kill bacteria & release MMPs into the area
- Macrophages: phagocytose (eat) debris & release cytokines (communicating cells) & growth factors
- Growth factors start to stimulate new cell growth & tissue repair

Stages of Wound Healing

Proliferation

- Growth of extra cellular matrix (ECM)
- Regeneration of new granulation tissue
- Angiogenesis: growth of new blood vessels
- Collagen development
- Re epithelialisation of new epidermis
- Contraction of wound deficit



Maturation

- Wound completely re epithelialized
- Reduction in vascular supply
- Contraction of the wound scarring
- Collagen remodelling
- Wound only ever regains 80% of its original strength



Wound Assessment

Wound Assessment

“Looking at the **whole** person before you look at the **hole** in the person”



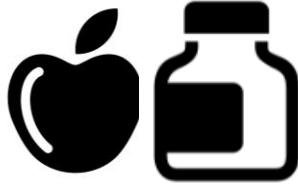
Systemic factors that impact healing



Age



Co morbidities



Poor nutrition
& hydration



Obesity



Mental
health



Mobility



Loss of sensation



Chemo &
Radiation
Therapy



Medication

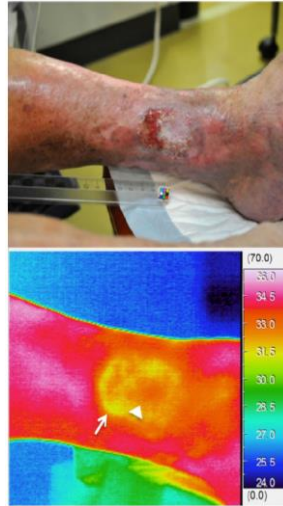
Local factors that impact healing



Foreign Bodies



Bacteria



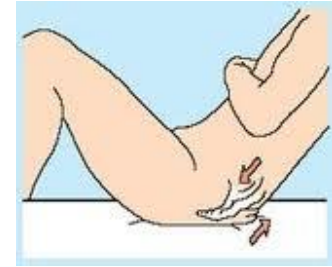
**Wound
Temperature**

Representative pH values

Substance	pH
Battery acid	0.5
Gastric acid	1.5 – 2.0
Lemon juice	2.4
Cola	2.5
Vinegar	2.9
Orange or apple juice	3.5
Beer	4.5
Acid Rain	<5.0
Coffee	5.0
Tea or healthy skin	5.5
Milk	6.5
Pure water	7.0
Healthy human saliva	6.5 – 7.4
Blood	7.34 – 7.45
Sea water	8.0
Hand soap	9.0 – 10.0
Household ammonia	11.5
Bleach	12.5
Household lye	13.5

Courtesy of Wikipedia

Wound pH



**Pressure
Shear Friction**



**Poor management
practice**

Assessment & Documentation

Wound Description A

Skin tear on the left arm with some loose skin on the surface



Wound Description B

- Category 2B skin tear on left lateral aspect of the forearm
- Skin flaps bluish and ? non viable
- Surrounding skin looks dry & delicate but not red
- No bleeding or sloughy tissue seen on the surface of the wound.
- It looks clean and granulating

The Triangle of Wound Assessment

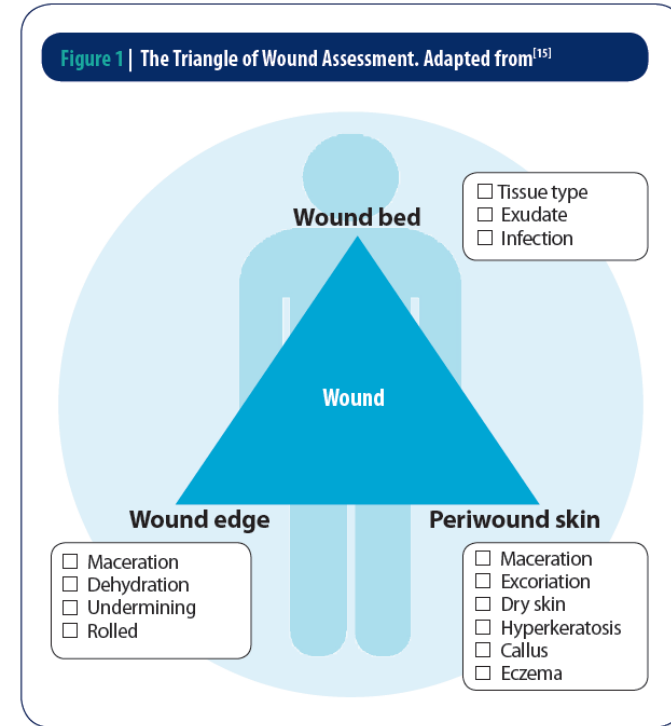
This is an intuitive framework that integrates evaluation of:

- the wound bed
- the wound edge
- the peri wound skin

Each of these areas have significant importance to wound healing

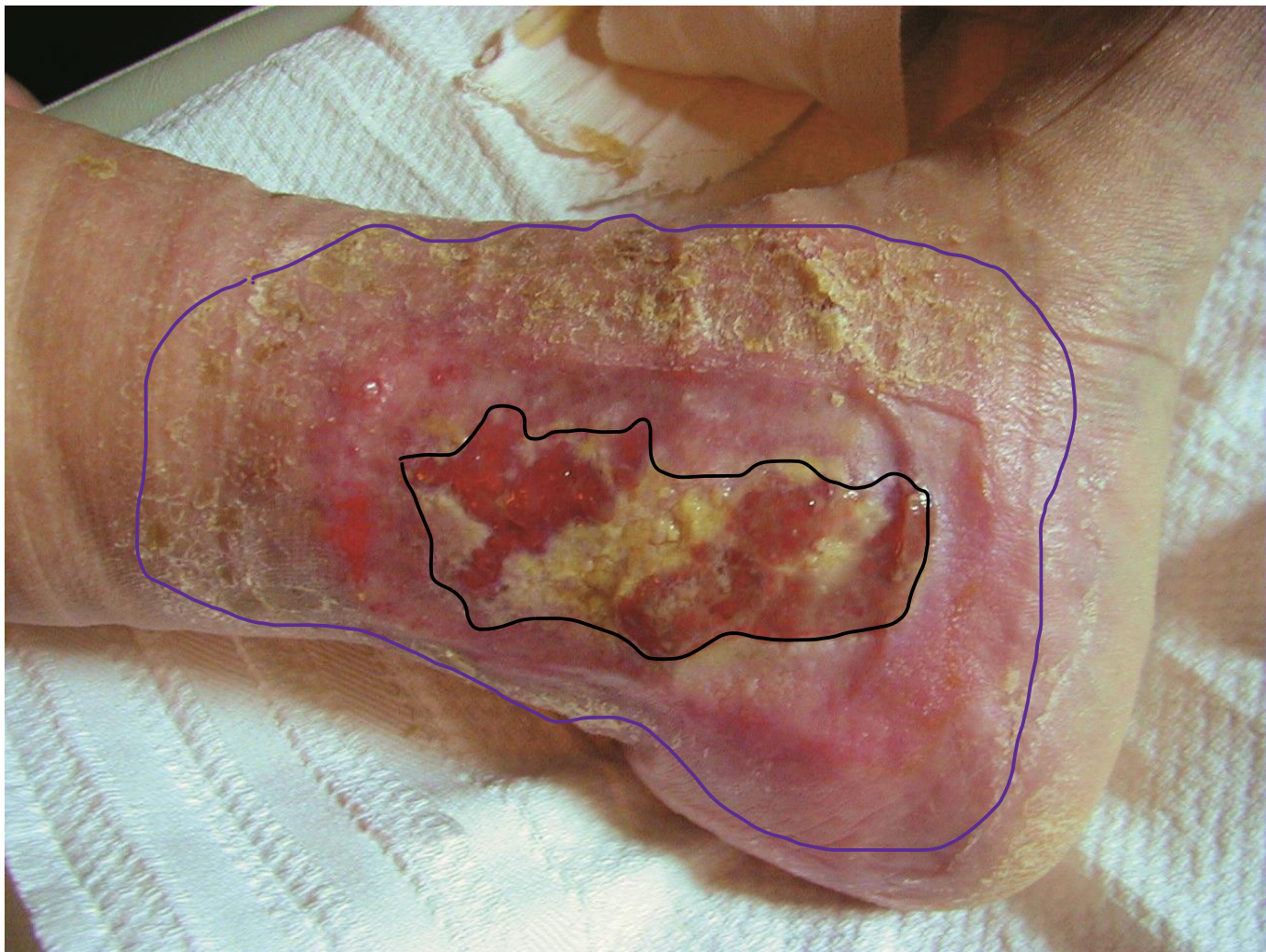
This assessment tool should be used within the context of holistic patient assessment

World Union of Wound Healing Societies (WUWHS), Florence Congress, Position Document.
Advances in wound care: the Triangle of Wound Assessment
Wounds International, 2016









Wound Needs

- Debridement
- Exudate management
- Antimicrobial protection
- Cleaning of the peri wound skin
- Compression with extra padding for protection



Using the Triangle of Wound Assessment

This encourages clinicians to identify barriers to healing at the:

- Wound bed
- Wound edge
- Peri wound skin

It enable clinicians to develop a management plan to address these issues

Patients should be included in the development of these plans.

World Union of Wound Healing Societies (WUWHS), Florence Congress, Position Document.

Advances in wound care: the Triangle of Wound Assessment
Wounds International, 2016

Poll Question

Acute Wound Management

Definition of an Acute Wound



“An acute wound is any surgical wound that heals by primary intention, or any traumatic or surgical wound that heals by secondary intention, and which **proceeds through an orderly and timely reparative process** that results in sustained restoration of anatomical integrity”

(Carville 2012)

Wound classification

Acute wounds

Traumatic wounds:

Cuts & lacerations
Grazes & abrasions
Skin tears

Surgical wounds

Incised and sutured
Laid open & granulating

Potential for infection

- Clean (no infection e.g. eye, joint)
- Clean contaminated (↑risk of infection e.g. GI tract)
- Contaminated (high risk of infection e.g. foreign body)
- Dirty (extremely high risk of infection
e.g. contact with faecal matter)



Wound classification

Hard to heal wounds

- Venous leg ulcers
- Arterial leg ulcers
- Diabetic foot ulcers
- Pressure Injuries

Wound Healing

- Slow due to health issues
- Heal gradually by secondary intention
- Can become stuck in the inflammatory stage
- Complications are common
- Patients can be noncompliant
- Experience a poor quality of life



Murphy C,Atkin L,Swanson T,Tachi m,Tan YK,Vega de Ceniga M,Weir D,Woolcott R.International consensus document. Defying hard-to-heal wounds with an early antibiofilm intervention strategy:wound hygiene. J Wound care 2020(suppl 3b):S1-28

Acute wound management

Identify the wound needs

- Cuts will need the edges held together and secured
- They need **protection** from bacterial invasion & to allow the damage tissue to repair
- Superficial abrasions will need **cleaning, absorption & protection**
- Deeper abrasions may need something more absorbent



Action of the dressing

Select a dressing that matches the needs of the wound



Cleans a
sloughy wound



Kills bacteria on
a contaminated
wound



Absorbs moisture on a
wet wound



Adds moisture to a dry
wound



Protects vulnerable
skin

Dressing Selection

Dressings to clean and debride:

HydroClean plus, iodine dressings, monofilament fibre pads, hydrocolloids, hydrogels

Dressings to kill bacteria:

Atrauman Ag, silver dressings, iodine dressings, medicated honey

Dressings that absorb exudate:

Zetuvit Plus & Zetuvit Plus Silicone Border, super absorbent dressings, foams, gelling fibre dressings, calcium alginates

Dressings that donate fluid:

HydroClean plus, hydrocolloids, hydrogels

Dressings that protect the wound and edges:

Zetuvit Plus Silicone Border, silicone foams, **Atrauman Silicone**, wound contact layers

Poll Question

Children will often benefit from wound closure strips not sutures



Correct application



Incorrect application

Burns Management

Minor Burns Management

Burn Assessment

Severity of burn depends on several factors including:

- Size of the burn
- Depth of the burn
- Location of the burn
- Age & general medical condition of burns victim



When to refer on...

- Burns greater than 10% Total Body Surface Area (TBSA) or >5% in children
- Full thickness burns greater than 5% TBSA
- Burns of special areas – face, hands, feet, genitalia, perineum, major joints and circumferential limb or chest burns
- Burns with inhalation injury
- Electrical & chemical burns
- Burns with pre-existing illness or associated with a major trauma
- Burns at the extremes of age – young children and the elderly.
- Burn injury in pregnant women
- Non-accidental burns

<https://anzba.org.au/care/referral-criteria/>

Burn Management – First Aid

- **Stop the burning process** - remove burning agent & clothing that is not stuck to the burn or any jewellery able to be removed
- Hold the burn under **cool** running water for 20 minutes, up to 3 hours is useful but **don't** cause hypothermia
- **DO NOT** use ice - can cause constriction of blood vessels around the burn wound increasing damage
- First Aid is **VERY** important in helping prevent deeper tissue damage.
- Actions taken in the first 30 min will have a big impact on the severity of the burn.

Minor Burns - Treatment

Soothe with suitable dressing such as:

Hydrosorb® or Hydrosorb® Comfort

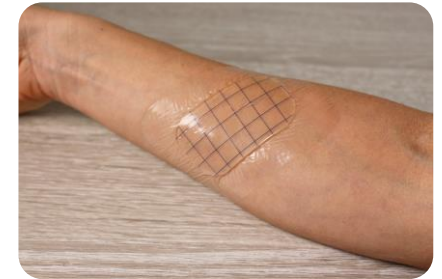
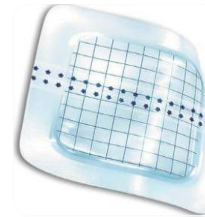
Cooling and soothing on painful wounds
Soft gel sheet provides a cushioning effect

- Able to see the wound while healing
- Provides a moist wound healing environment

Hydrosorb®



Hydrosorb® Comfort





Treatment of Superficial Dermal Burns

Leave blister intact & apply a **protective** dressing such as:

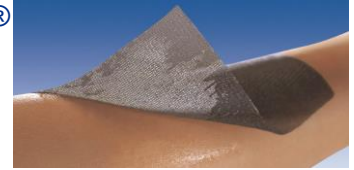
Atrauman®



Atrauman®
Silicone



Atrauman®
Ag



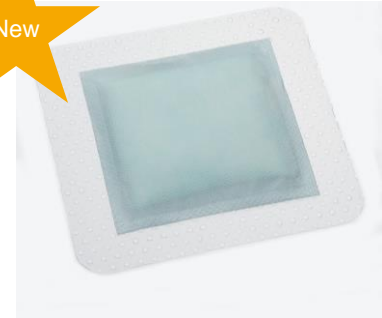
and cover with an **absorbent** dressing such as:

Zetuvit®
Plus



or

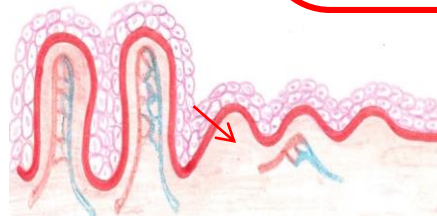
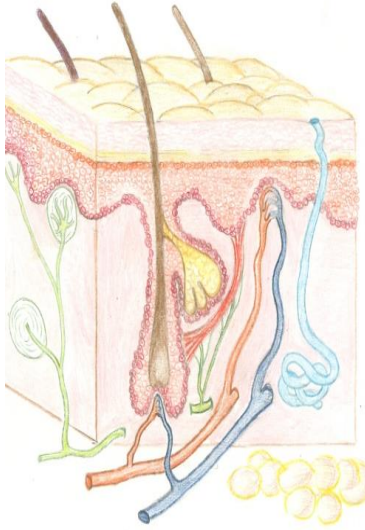
Zetuvit®Plus
Silicone Border



Poll Question

Skin Tear Management

Why do skin tears occur in the elderly?



- Epidermal/dermal junction flattens out
- Epidermis becomes dry & brittle
- Blood vessels become weak
- Epidermal cells take longer to regenerate

Normal skin and dermal papillae
Epidermal-Dermal junction flattening

Preventative measures



Good lighting



Protect sharp edges



Protect arms and legs



Ensure carers keep nails short and no jewellery



Regularly moisturise arms & legs

*Carville,K. et al. The effectiveness of a twice-daily skin-moisturising regimen for reducing the incidence of skin tears. International Wound Journal 2014 ISSN 1742-4801

Common Skin Tear Sites



Skin Tear Treatment



Stop any bleeding with gentle pressure to the area & elevating the limb



Always clean the wound with warm water or normal saline to wash away any old blood from under the flap.



Conduct a thorough wound assessment



Ensure the flap is replaced in anatomically correct position with either a gloved finger or moistened cotton tip.



Do not secure the flap with wound closure strips as they could do more damage on removal due to their strong adhesive

What not to do!!



Mark the direction of removal



Skin Tear Dressing

Objective:
Protection & hydration or absorption

Option 1.

Atrauman®
Silicone



Zetuvit®
plus



Peha Haft®

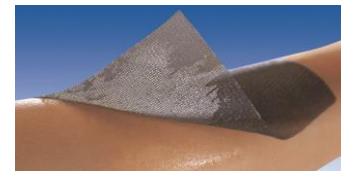
Option 2.

Zetuvit®Plus
Silicone Border



New

Atrauman®
Ag



Review at 24- 48 hours to assess if the skin flap is non viable or you are concerned about infection

In Summary

- We have looked at the skin & wound healing
- We have reviewed the importance of assessment and good documentation
- Acute wounds are usually able to heal without any complication unlike chronic wounds
- Always identify the needs of the wound and select a dressing to suit those needs
- When treating burns even if they are minor, good first aid will make all the difference to the outcome of the burn & refer on if you are concerned
- Skin tears are a common wound that needs protection from a gentle dressing that will do no harm
- Always remember to look at the whole person before you look at the hole in the person

If you would like a Primary Care Sample Pack please email...

primarycare.enquiries@hartmann.info

Are there any questions?



References

- World Union of Wound Healing Societies (WUWHS), Florence Congress, Position Document. *Advances in wound care: the Triangle of Wound Assessment* Wounds International, 2016
- Carville, K. Wound Care Manual 7th Edition Silver Chain Foundation
- Murphy C,Atkin L,Swanson T,Tachi m,Tan YK,Vega de Ceniga M,Weir D,Woolcott R.International consensus document. Defying hard-to-heal wounds with an early antibiofilm intervention strategy:wound hygiene. J Wound care 2020(suppl 3b):S1-28
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Thank you.

Do you have any questions?

