EMPHN- wound management update

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Learning outcomes:

- Stage skin tears according to the Star Tool
- Recognise suitable products to protect and stabilise skin flaps
- State 3 characteristics of venous leg ulceration
- Name the best management regimes for venous leg ulceration
- State 4 Classic signs and symptoms of arterial leg ulcers
- State the principles of care of arterial ulcers
- Name some of the signs and symptoms of common skin cancers
- List some of the best dressings for managing skin lesions

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The overarching principles in wound management are:

1	2	3	4
Understand how the wound commenced and what type of wound this may be—give it a name for its type	Look at the 'whole' patient and decide what factors may be influencing healing	Select appropriate dressing or device-according to tissue type, volume and type of exudate, depth and aim (there may be other things to consider)	Once healed revisit aetiology to ensure all prevention strategies have been addressed

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Before jumping in to select a dressing .....

- Very important to take a history of the wound
- Look at the past medical and surgical histories
- Look at medications being take
- Have some understanding of the person with the wound-know your patient

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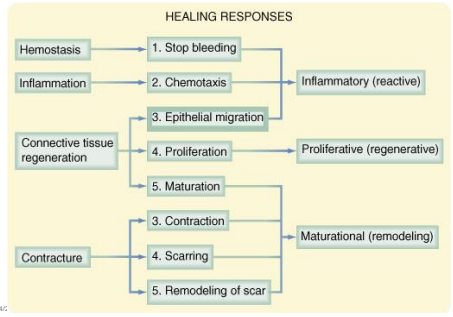

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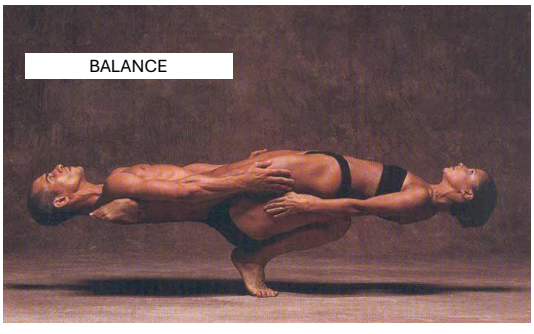

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Balance.....

- Too much inflammation causes delay
- Too little inflammation cause to delay
- Too many microbes may lead to issues
- Too much moisture can cause issues
- Too dry a wound may be problematic.....

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Wounds seen in General Practice

- Trauma-- abrasions and cuts, skin tears
- Superficial partial thickness burns
- Venous leg ulcers
- Arterial leg ulcers
- Foot wounds often associated with neuropathy and neuro-ischaemia
- Skin cancers

Generally do not see –Pressure injuries or dehisced surgical wounds

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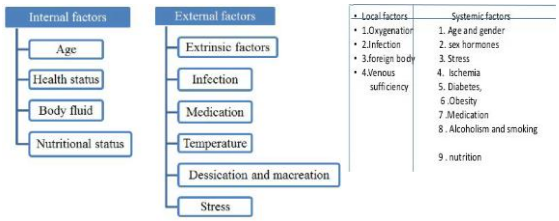
Factors influencing wound healing



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Documents to consider reading

www.ewma.org

www.woundsinternational.com

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Mental State

- Evidence shows that patients perception of
  their illness directly relates to how they progress
- Depressed patients heal more slowly
- Motivation is a big factor in healing---the power of the mind...the placebo effect.. we still have much to learn in this field

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Lifestyle Factors

- Smoking decreases peripheral blood supply by 50% for one hour after just one cigarette
- Excessive alcohol consumption is also linked to poor healing rates... possibly due to malnutrition linked with alcoholism

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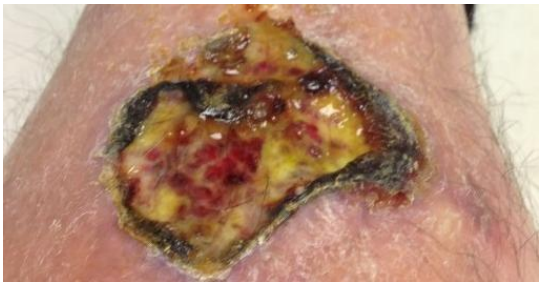

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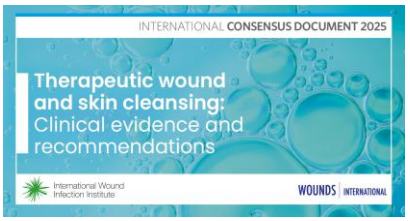
www.international.wound-infection.institute.com



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Summary of recommendations

- 1. Therapeutically cleanse all wounds when the wound dressing is changed or removed
- 2. Therapeutically cleanse the wound bed and wound edge and the periwound skin with an inert wound cleanser prior to collecting a wound or tissue sample for microscopy, culture and sensitivity
- 3. Therapeutically cleanse the wound bed and wound edge, the periwound skin and the surrounding skin when the wound dressing is changed or removed
- 4. Select either sterile/surgical aseptic technique or clean/standard aseptic technique when performing a wound dressing procedure. Conduct a risk assessment that considers the individual, the wound and environmental considerations to guide technique selection
- 5. Implement universal precautions when conducting a wound dressing procedure

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Summary of recommendations continued..

- 6. Assess the individual, the wound and the environment to determine whether it is appropriate to cleanse a postoperative or hard-to-heal wound in a shower
- 7. Select a wound cleansing solution based on: • The type of wound dressing procedure and therapeutic cleansing technique that will be performed • Characteristics of the wound • The risk and/or presence of infection • The abundance and profile of microorganisms in the wound (where known) • Cytotoxicity, pH and allergenicity of the solution • Goals of care and other individual factors (e.g. immunocompromised) • Local policies, resources and availability
- 8. Use a wound cleansing solution with antimicrobial properties as part of a comprehensive wound infection management plan when wound infection is confirmed or suspected.

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Summary of recommendations continued..

- 9. Do not use a microwave to heat wound or skin cleansing solutions.
- 10. Therapeutically cleanse the skin using a mild skin cleanser with a pH close to normal skin.
- 11. Select a wound cleansing technique based on the following: • Presentation of the wound bed and wound edges, including signs and symptoms of wound infection, as outlined on the IWII Wound Infection Continuum • Presentation of the periwound • Presentation of the surrounding skin • Goals of care and other individual factors (e.g. pain experience) • Local policies and resources.

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Summary of recommendations continued..

- 12. Therapeutically cleanse the surrounding skin and periwound first
- 13. Therapeutically cleanse the wound bed from the most vulnerable to least vulnerable regions, based on assessment of the wound
- 14. Adjust wound cleansing techniques and implement pain management strategies according to the individual's pain experience

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Proposed definition of Therapeutic wound cleansing

- The term therapeutic wound cleansing refers to the **active removal of surface contaminants, loose debris, non-attached non-viable tissue, microorganisms and/ or remnants of previous dressings from the wound bed and periwound**

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Cont.

- Therapeutic wound cleansing is a fundamental component of the process that is undertaken to prepare the wound bed for healing and the application of treatment such as wound dressings
- The process involves the targeted removal of undesirable surface contaminants (e.g. exudate), loose debris, non-attached non-viable tissue, microorganisms and/or remnants of previous dressings from both the wound bed and periwound using a wound cleansing solution and mechanical action
- Therapeutic wound cleansing is closely aligned with, but different from, general skin hygiene and washing the surrounding skin

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Cont.

- Therapeutic wound cleansing is only one component of the recognised best practice approach to preparing the wound bed for healing
- Several steps are undertaken as part of the wound care process. This process, which occurs during a wound dressing procedure, has had several names over the years, including wound bed preparation (WBP), TIME (tissue, infection/inflammation, moisture balance, wound edge), biofilm-based wound care (BBWC), TIMERS (tissue, infection/ inflammation, moisture balance, wound edge, regeneration and social factors) and more recently, Wound Hygiene

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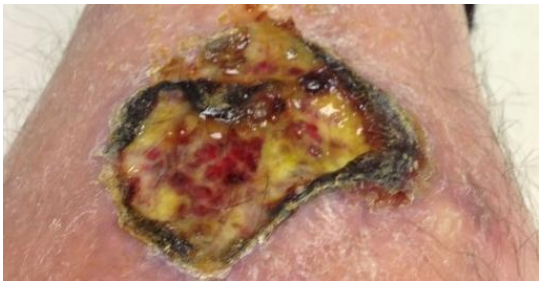

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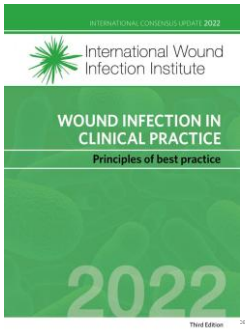

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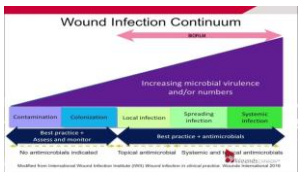

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Contamination[35]	Colonisation[35]	Local infection		Spreading infection[27, 35]	Systemic infection[27, 33]
All wounds may acquire micro-organisms. If suitable nutritive and physical conditions are not available for each microbial species, or they are not able to successfully evade host defences, they will not multiply or persist; their presence is therefore only transient and wound healing is not delayed	Microbial species successfully grow and divide, but do not cause damage to the host or initiate wound infection	Covert (subtle) signs of local infection[7, 27-34] ■ Hypergranulation (excessive 'vascular' tissue) ■ Bleeding, friable granulation ■ Epithelial bridging and pocketing in granulation tissue ■ Wound breakdown and enlargement ■ Delayed wound healing beyond expectations ■ New or increasing pain ■ Increasing malodour	Overt (classic) signs of local infection[7, 27, 28, 30, 34] ■ Erythema ■ Local warmth ■ Swelling ■ Purulent discharge ■ Delayed wound healing beyond expectations ■ New or increasing pain ■ Increasing malodour	■ Extending in duration +/- erythema ■ Lymphangitis ■ Crepitus ■ Wound breakdown/ dehiscence with or without satellite lesions ■ Malaise/ lethargy or non-specific general deterioration ■ Loss of appetite ■ Inflammation,	■ Severe sepsis ■ Septic shock ■ Organ failure ■ Death

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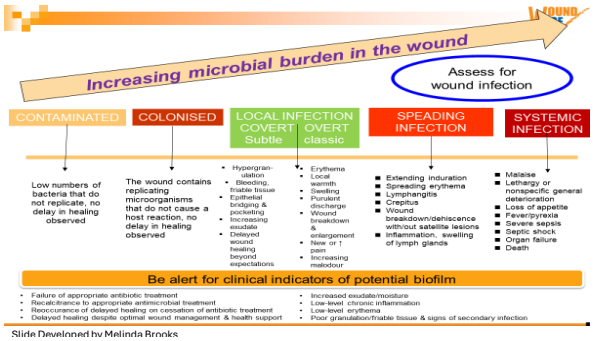

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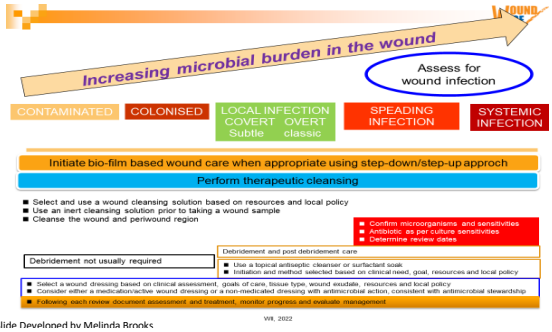

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Problem solving using 4 broad categories

- Patient-related factors
- Wound-related factors
- Skill and knowledge of the healthcare professional
- Resources and treatment related factors

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Investigations

- Wound swab
- Wound tissue biopsy
- Xray
- Bone scan
- MRI or CT scan
- Sinugram
- Hand held Doppler for calculating ABPI
- Arterial or venous duplex scan

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Skin tears

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Understand the skin changes predisposing skin to injury in the aged

- ↓dermal thickness
- Weakened dermal-epidermal junction
- ↓ vitamin D, collagen and moisture
- ↓ migration of capillary cells
- ↓ epidermal turnover
- ↑ fragility of capillaries
- Compromised inflammatory response
- Concomitant illnesses and medications

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STAR Skin tear Classification system

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If you cannot control bleeding or suspect the resident has another injury as a result of the trauma or there is exposed muscle then send the resident to an acute care facility

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So skin must be maintained at an adequate hydration-not dry –not wet

- Apply moisturizers twice per day—best time to apply is immediately after a shower and prior to bed—generally arms, legs and feet are the only areas that require this but sometimes all body is required
- Ensure fluids are offered as often as they are possible unless on fluid restrictions
- Ensure fans and heaters are adjusted as the climate dictates
- Remember air conditioning, fans and heaters will dry the skin, so more fluids may be required
- If applying the moisturizers and the skin is dry by lunchtime then you need to report this to the RN as a better quality product may be required

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- www.woundsinternational.com

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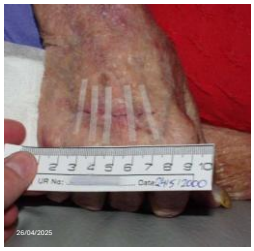
Skin tear – 1a



- Steri strips –yes or no??????
- In reality in aged care evidence indicates they are NOT a good idea—suggested that you use an impregnated mesh to anchor and protect flap

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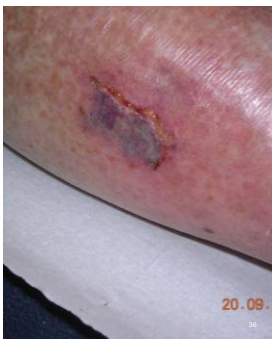
Skin tear 1b

- Again the impregnated mesh will aid flap adhesion



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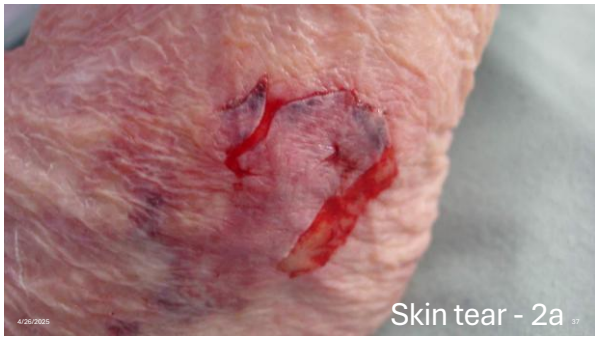

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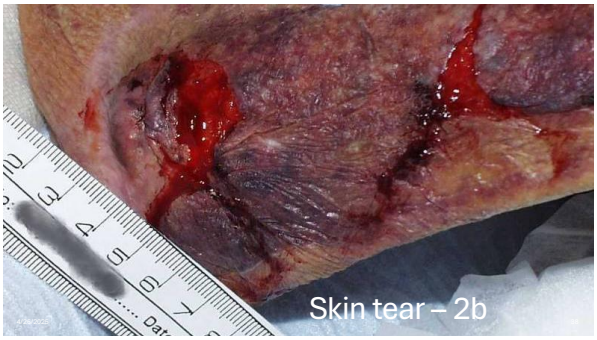

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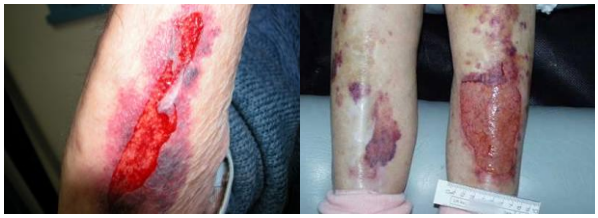

Skin tear- 3

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Timelines for skin tear healing

- Category 1--- approximately 1-2 weeks
- Category 2---- approximately 2-3 weeks
- Category 3---- one month

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So what can go wrong with the healing of a skin tear

- Further bleeding
- Too much exudate and hence the area is too moist
- Infection
- Wound is too slow to heal and so changes morphologically into a skin cancer
- Due to some other underlying disease the skin tear now converts into a venous or arterial leg ulcer or maybe even a vasculitic ulcer

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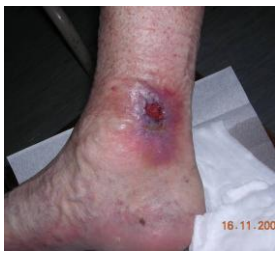
Ulceration to lower legs



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Getting the aetiology right

- Enquire about initiating factors
- Determine if there is any family history of leg ulcers
- Ask Pharmacist/LMO to review medications –particularly any that may precipitate lower leg oedema or delay healing
- Palpate foot and leg pulses if able
- Note the site, size & characteristics of the ulceration
- Enquire about previous treatments or any history of past ulcerations

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Perform some laboratory tests

- Baseline blood levels
- Serum albumin
- Serum glucose
- ESR +/- CRP and other inflammatory markers
- ABPI (ankle brachial pressure index)
- Duplex scan
- Biopsy –for histopathology and micro pathology

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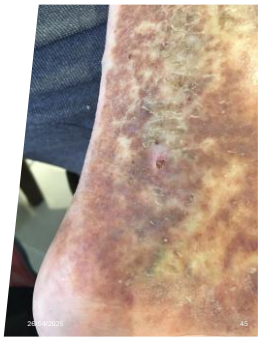
Statistics

• Venous	70%
• Arterial	10%
• Mixed	10%
• Skin cancers	2%
• Others	8%



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Venous ulcer characteristics

- Presence of firm 'brawny' oedema
- Leg takes on an inverted "champagne" bottle shape
- Ulcer has irregular edges/shape
- Ulcer begins on medial or lateral aspect lower third of lower leg
- Ulcer is wet, shallow with minimal necrotic tissue
- There may be atrophie blanche
- There may be venous eczema, staining and lipodermatosclerosis(LPD)
- Pulses are palpable, there is generally minimal pain especially when the leg is elevated

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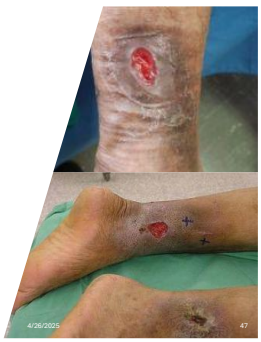
Lower gaiter region, medial or lateral



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Standard venous leg ulcer treatment

- Zinc paste bandages
- Undercast padding or similar
- Tubifast™ or retention bandages
- Compression therapy –as tolerated by patient
- Leave insitu for one week if possible
- Aim to heal within 3-4 months, if not achieving good healing re-assess aetiology and factors influencing healing

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Straight elasticated tubular bandages

Tubigrip Size Guide

CORRECT SIZE	WRIST	ELBOW	ANKLE	KNEE	THIGH	TORSO
A 10-12cm	CHILD LIMB					
B 12.5-14.5cm	SMALL	SMALL				
C 15-24cm	MEDIUM	MEDIUM	SMALL			
D 25-35cm	LARGE	LARGE	MEDIUM	SMALL		
E 36-44.5cm			LARGE	MEDIUM	SMALL	
F 45-90cm				LARGE	MEDIUM	
G 51-60cm					LARGE	
J small torso						SMALL
K medium torso						MEDIUM
L large torso						LARGE

6mmHg pressure at ankle

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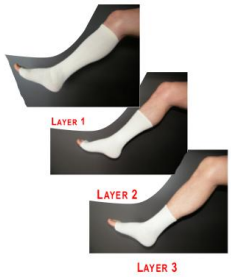
- Sub-bandage pressure difference of tubular form and short-stretch compression bandages: in-vivo randomised controlled trial Weller CD, Jolley D & McNeil J



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Multi-layered compression bandages

- These deliver continuous sustained pressure over the week that they remains insitu.

These bandages are very well tolerated

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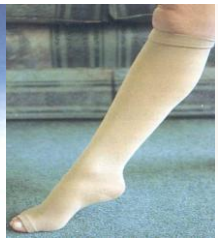
Thigh high or knee high



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Self adjustable wraps

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Medirent-- www.medirent.com.au

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Arterial ulcer characteristics

- Usually located between ankles and toes or high up on leg or posterior leg
- Deep, punched out regular shape, often dry
- Thin, shiny, non hair bearing skin
- Thickened toenails
- Diminished or absent foot pulses
- Elevation pallor, dependant rubor-(+ve Buergers test)
- Necrotic tissue, infection
- Pain, especially at night or when elevated

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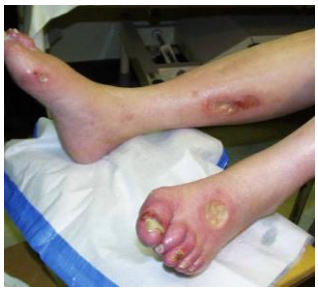

Arterial- deep, site of trauma, well defined edges, higher up on leg or posterior leg

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Treatment of arterial ulcers

- Usually require antimicrobial coverage while waiting for Vascular surgeon
- If necrotic and aiming to heal, **may** require debriding agent
- If no possibility of healing then inert dressings—keep area dry and free of infection if possible—topical antimicrobials=e.g. Betadine lotion

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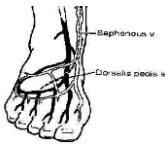
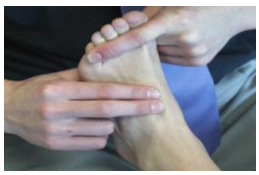
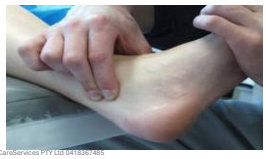
Feel for the pulses







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Skin cancers

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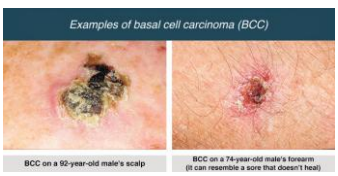
Basal Cell Carcinoma

- A shiny, skin-colored bump that's translucent,. The bump can look pearly white or pink on white skin. On brown and black skin, the bump often looks brown or glossy black. Tiny blood vessels might be visible, though they may be difficult to see on brown and black skin.



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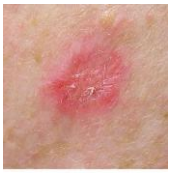

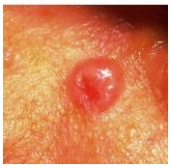

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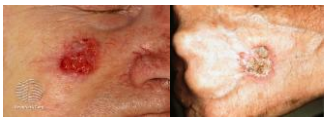
Squamous Cell Carcinoma

- A common type of skin cancer that develops in the squamous cells, which are flat cells in the outer layer of the skin. It's often linked to sun exposure and can appear as a thick, rough, scaly patch, a wart-like growth, or an open sore that doesn't heal. While SCC is generally treatable, it's crucial to detect and treat it early to prevent it from spreading.



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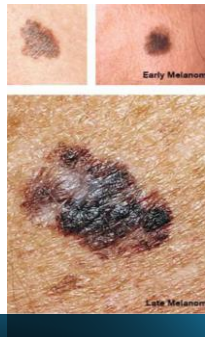
Melanoma

- A type of skin cancer that develops in melanocytes, the cells that produce melanin, the pigment that gives skin its color. It is the most dangerous form of skin cancer due to its potential to spread rapidly and widely throughout the body.



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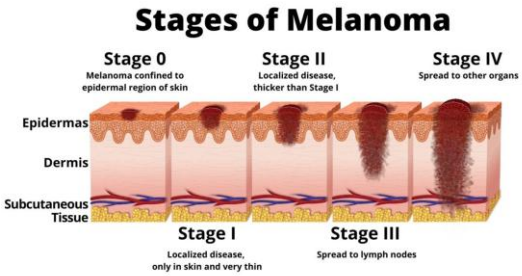

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Managing skin lesions

- Ideally ensure correct diagnosis
- Ideally have removed and pathology report
- If surgery not an option, then antimicrobial and absorbent pad 2nd to 3rd daily

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