



# "Keeping It Clean: Optimizing Aseptic Technique in Wound Care"

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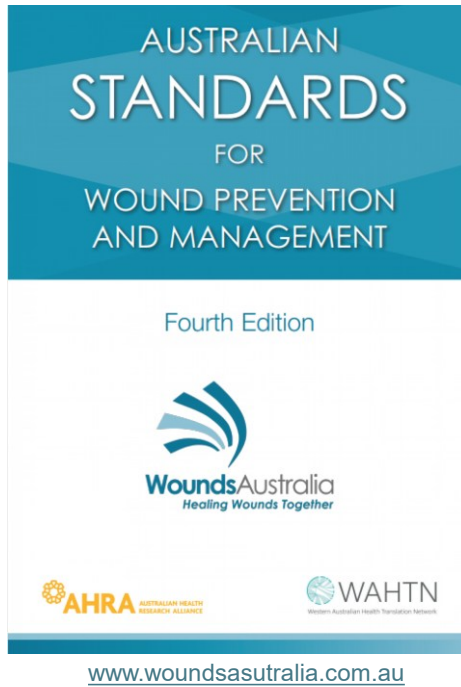
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- Explore the principles and standards of wound management
- Discuss which method of aseptic technique is appropriate in wound care
- Define the definitions of wound infection
- Examine the importance of antiseptics, antimicrobials and antibiotics in wound management

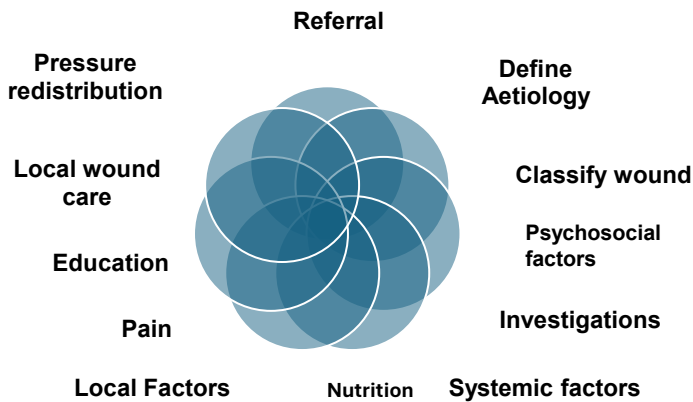
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# Holistic Wound Assessment



Wounds UK, 2018

**WOUND ASSESSMENT**

**WOUND:**

- Duration
- Location
- Size & shape
- Wound bed tissue
- Margins
- Exudate
- Pain
- Odour
- Periwound skin

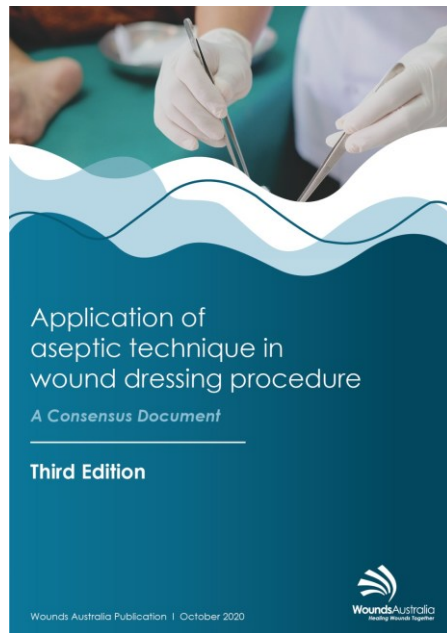
**REGIONAL:**

- Perfusion
- Function
- Deformity

**GENERAL/SYSTEMIC:**

- Comorbidities
- Medications
- Social
- Health requirements

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Wounds Australia. Application of aseptic technique in wound dressing procedure: A Consensus Document. Wounds Australia: Turner, ACT; 2020

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## The theory behind aseptic technique



The use of aseptic technique minimises the introduction of pathogenic organisms into a wound that might lead to infection.



The adoption of Aseptic Non-Touch Technique (ANTT®) as a framework for aseptic practice around the world has assisted towards standardisation of practice and supported reduced rates of healthcare-associated infection



The ANTT® Clinical Practice Framework, developed by Rowley in 2001 provides a basis for contemporary aseptic technique founded on core infection control principles.



The type of ANTT® to be used is selected according to the technical complexity of maintaining asepsis during any given procedure.



The terms 'sterile technique' and 'clean technique' are not supported in the ANTT® and aseptic procedures are described and performed according to the principles and process of Standard-ANTT Clinical Practice Framework,® or Surgical-ANTT

Wounds Australia. Application of aseptic technique in wound dressing procedure: A Consensus Document. Wounds Australia: Turner, ACT; 2020

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## Scope of document

- Document makes recommendations based on the outcome of a risk assessment for each patient, which includes the six core prevention components of asepsis :
  1. Cleaning aspects when undertaking a wound dressing
  2. Wound cleansing
  3. Environmental considerations
  4. Storage of wound products
  5. Use and management of open but un-used dressing products
  6. Patient considerations in assessing correct use of open-but-unused dressings
  7. Managing open-but-unused dressings aseptically
- Other factors considered are;
  - Patients health related risks factors
  - Wound characteristics
  - Availability of products and storage
  - Procedural considerations

Wounds Australia. Application of aseptic technique in wound dressing procedure: A Consensus Document. Wounds Australia: Turner, ACT; 2020

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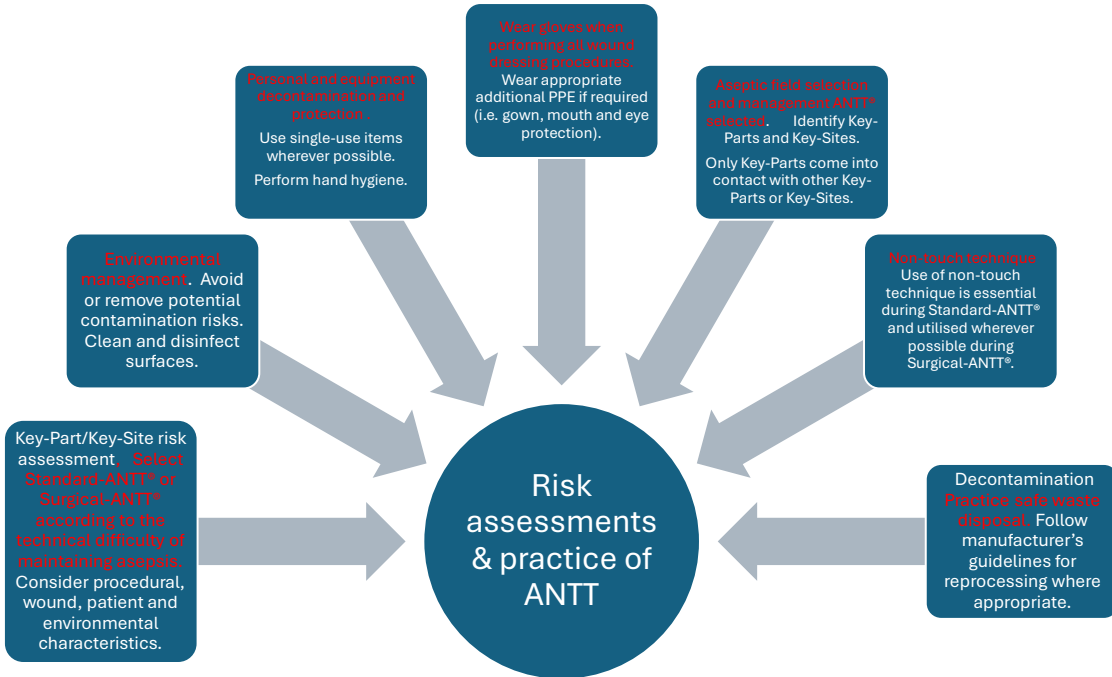
## Risk assessment

- Two risk assessments are performed before the beginning of a procedure
- **The healthcare professional (HCP) must ascertain the level of risk based on a their skills in performing aseptic technique and the level of difficulty** (as per National Safety Quality of Health Care Standards - NSQHS)
- Based on this, the professional then selects either;



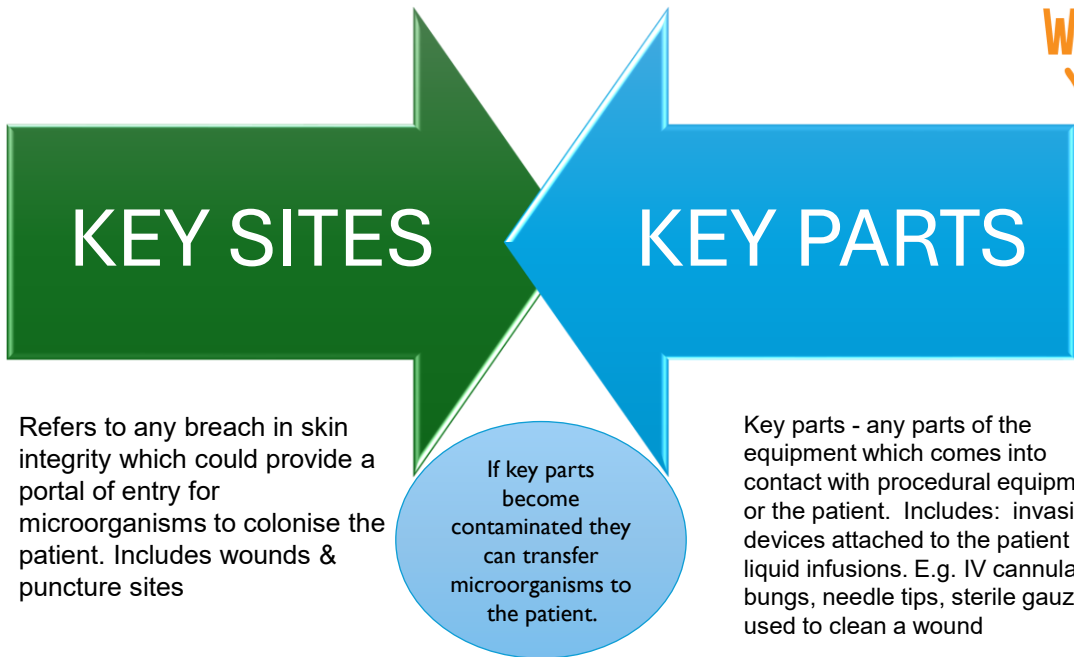
Wounds Australia. Application of aseptic technique in wound dressing procedure: A Consensus Document. Wounds Australia: Turner, ACT; 2020

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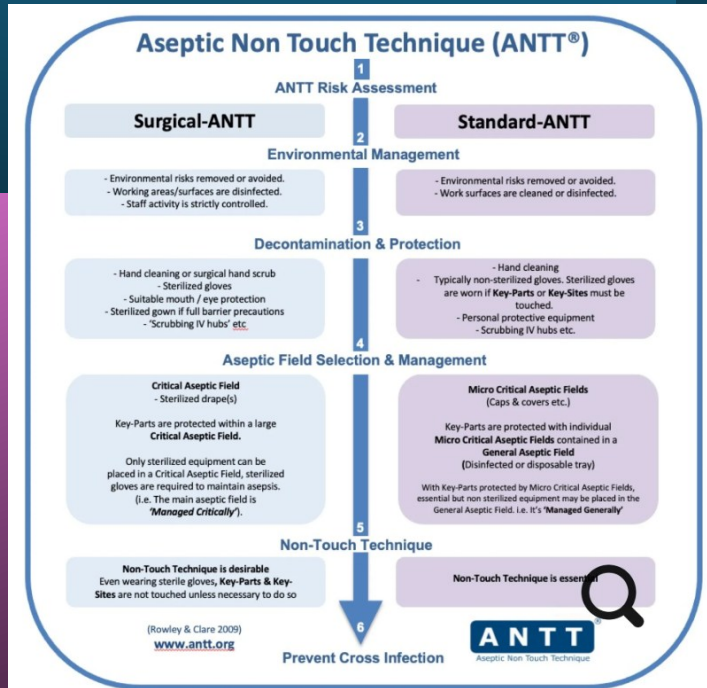
Wounds Australia. Application of aseptic technique in wound dressing procedure: A Consensus Document. Wounds Australia: Turner, ACT; 2020

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National Health and Medical Research Council (2019) Australian Guidelines for the Prevention and Control of Infection in Healthcare. Canberra: Commonwealth of Australia.

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## Standard aseptic technique

### Should be used when procedures:

- involve a small number of key parts and key sites
- involve small key parts and key sites
- are technically simple
- are short in duration (less than 20 minutes)

### Clinicians are required to:

- identify key parts and key sites
- protect those key parts and key sites from contamination during the procedure
- decontaminate non aseptic key parts as required
- create and maintain aseptic fields
- perform hand hygiene
  - wear gloves, use a non touch technique &
- control environmental risks

### Examples of procedures that may use this technique include:

- preparation and administration of IV fluids or medications
- simple wound dressings
- insertion of an IV cannula
- emptying or changing drainage bags

ANTT.org

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# Surgical aseptic technique

**Should be used when procedures:**

- involve a large number of key parts or key sites
- involve large sized key parts or key sites
- are technically complex are long in duration (e.g. more than 20 minutes)

**Clinicians are required to:**

- identify key parts and key sites
- protect those key parts and key sites from contamination during the procedure
- decontaminate non aseptic key parts as required
- maintain aseptic fields
- perform hand hygiene
- wear sterile gloves
- use a non touch technique whenever possible
- control environmental risks

**Examples of procedures that may use surgical aseptic technique include:**

- complex wound dressings
- insertion of a PICC or CVC
- Surgery
- Complicated wound care
- Urinary Catheterisation
- Spinal epidural

Due to the high risk of contamination of key parts or key sites, a critical aseptic field and sterile gloves are required.

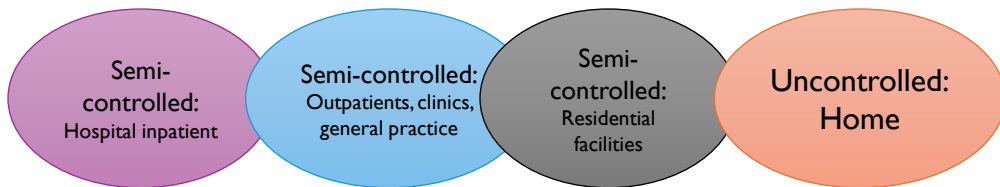
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## Scope of document

Document developed to assist clinicians to apply aseptic technique in a **range of clinical settings**





*Hand hygiene, glove use, non-touch technique & environmental controls & sequencing are not discussed within the document as it is expected clinicians will have prior understanding of these core components of infection prevention.*

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## 1.3 Care delivery setting

SEMI-CONTROLLED: HOSPITAL INPATIENT	SEMI-CONTROLLED: OUTPATIENTS, ETC.	SEMI-CONTROLLED: RESIDENTIAL CARE	UNCONTROLLED: HOME
<ul style="list-style-type: none"> <li>Scissors are single use or reprocessed according to manufacturers instructions</li> </ul>	<ul style="list-style-type: none"> <li>Scissors are single use or cleaned/stored as per recommendations previously described</li> </ul>	<ul style="list-style-type: none"> <li>Scissors are single use or cleaned/stored as per recommendations previously described</li> </ul>	<ul style="list-style-type: none"> <li>As per recommendations outlined in 1.2</li> </ul>

Wounds Australia. Application of aseptic technique in wound dressing procedure: A Consensus Document. Wounds Australia: Turner, ACT; 2020



## 2. Wound Cleansing considerations

Semi-controlled – hospital inpatient	Semi-controlled – outpatients, clinics, etc.	Semi-controlled – residential facility	Uncontrolled – Home
<p>Avoid cleansing in the shower when bathroom is shared</p> <p>If appropriate to cleanse the wound/s in the shower; Cover the wound during general hygiene Then remove and wash the wound &amp; periwound separately Use a separate cloth cleansing drying the wound Ensure a new liner is used if using a container for separate limbs</p>	<p>If appropriate for the patient to remove the dressings/bandages at home and cleanse the wound in the shower prior to clinic, then assess their equipment for cleanliness (Shower) and educate regarding using sterile water if tap water not potable Patients must be able to do the correct procedure Ensure wounds are covered during general hygiene Then remove and wash the wound &amp; periwound separately Use a separate cloth Use a separate bin liner for each wound/limb</p>	<p>Avoid wound cleansing in the shower &amp; shared bathrooms</p> <p>If it is appropriate to cleanse a wound in the shower; Ensure resident is educated regarding correct technique Cover the wound during hygiene care Then remove and wash the wound &amp; periwound separately Use a separate cloth Use a separate bin liner for each wound/limb</p>	<p>Assess equipment cleanliness Avoid tap water for cleansing wounds Follow all other instructions as per residential facility  Used tap water is disposed of down the toilet</p>

Wounds Australia. Application of aseptic technique in wound dressing procedure: A Consensus Document. Wounds Australia: Turner, ACT; 2020



### 3.2 Environmental considerations

Semi-controlled – hospital inpatient	Semi-controlled – outpatients, clinics, etc.	Semi-controlled – residential facility	Uncontrolled – Home
<p>Clean, stainless steel trolley or cleaned over bed table can be used if trolley not available</p> <p>Trolleys without drawers preferred</p>	<p>Clean the surface of the dressing trolley and examination bench/chair</p> <p>Dressing trolley should only contain appropriate equipment required for the dressing procedure</p>	<p>As per recommendations in 3.1</p> <p>It is recommended that animals are removed from the area where care is being attended to</p>	<p>Use a hard, clean surface to set up the equipment (such as a table, no-fabric chair). Avoid the floor or bed</p>

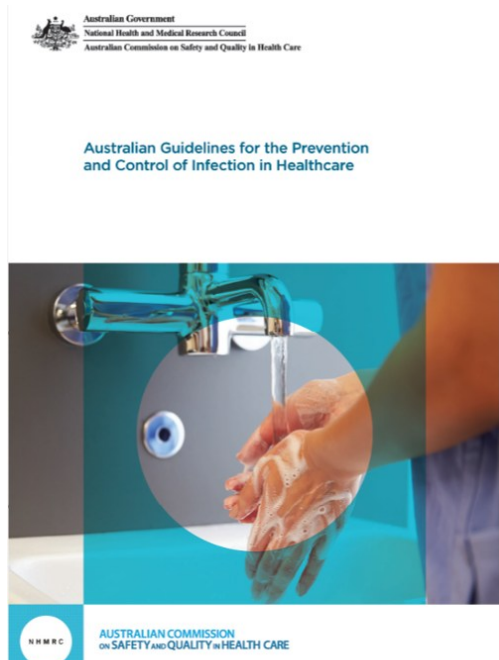
Wounds Australia. Application of aseptic technique in wound dressing procedure: A Consensus Document. Wounds Australia: Turner, ACT; 2020



### 4. Storage considerations

Semi-controlled – hospital inpatient	Semi-controlled – outpatients, clinics, etc.	Semi-controlled – residential facility	Uncontrolled – Home
<p>Avoid storage of dressing equipment in patients rooms</p> <p>Collect equipment immediately before procedure from a bulk storage area</p> <p>In rooms where additional precautions are required for patients, take minimal equipment into the room. If items are unused, store these as recommended above</p> <p>If appropriate to store open-but-unused product, do so as above</p>	<p>If appropriate for patients to use and store open-but-unused products, these should be managed as per 5.2.3</p> <p>Recommendations: The patient take their own sealed plastic bag containing the open-but-unused dressings home with them and store as above, they then bring their sealed container with them to their next appointment</p> <p>When this is not possible, clearly labelled bags must be kept in the department/clinic room in a separate area</p>	<p>Aim to avoid storing any wound dressing equipment in the residents rooms</p> <p>Collect equipment immediately before attending to the dressing from the bulk storage area</p> <p>In rooms where additional precautions are required, take minimal equipment into the room. If these items are unused, store these as recommended above</p> <p>It is appropriate to store open-but-unused products as per section 5.2.3</p>	<p>Aim to avoid storing excessive amounts of equipment in the home</p> <p>Unopened dressings can only be removed from a home &amp; used for another patient if the original patient did not need additional precautions and packaging remains sealed &amp; intact and can be cleansed with a detergent wipe</p> <p>If these items are open-but-unused, store these as recommended above</p> <p>It is appropriate to store open-but-unused products as per section 5.2.3</p>

Wounds Australia. Application of aseptic technique in wound dressing procedure A consensus document 2017



National Health and Medical Research Council (2019) Australian Guidelines for the Prevention and Control of Infection in Healthcare. Canberra: Commonwealth of Australia.

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Sandy-Hodgetts K et al (2022) Optimising prevention of surgical wound complications: Detection, diagnosis and prediction. London: Wounds International. Available online at: [www.woundsinternational.com](http://www.woundsinternational.com)

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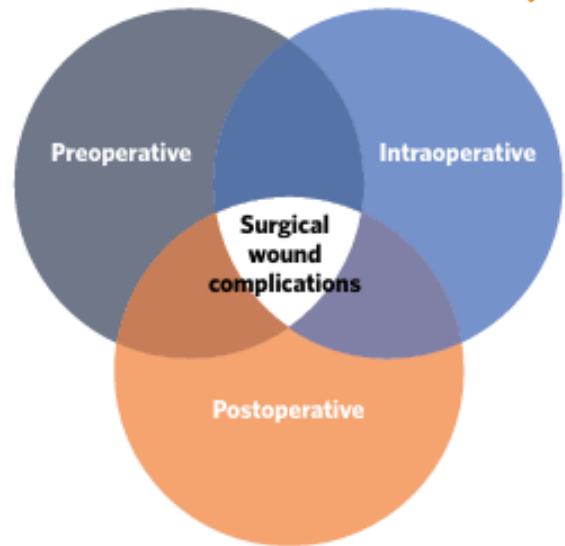


To reduce the impact of all SWCs on patients, clinicians and healthcare systems, **the focus must be on prevention** and, where this is not possible, on **early identification, to prevent any SWC from escalating into a more serious issue.**

Early intervention, conducted in a cost-effective way, also reduces use of resources and results in overall cost savings.

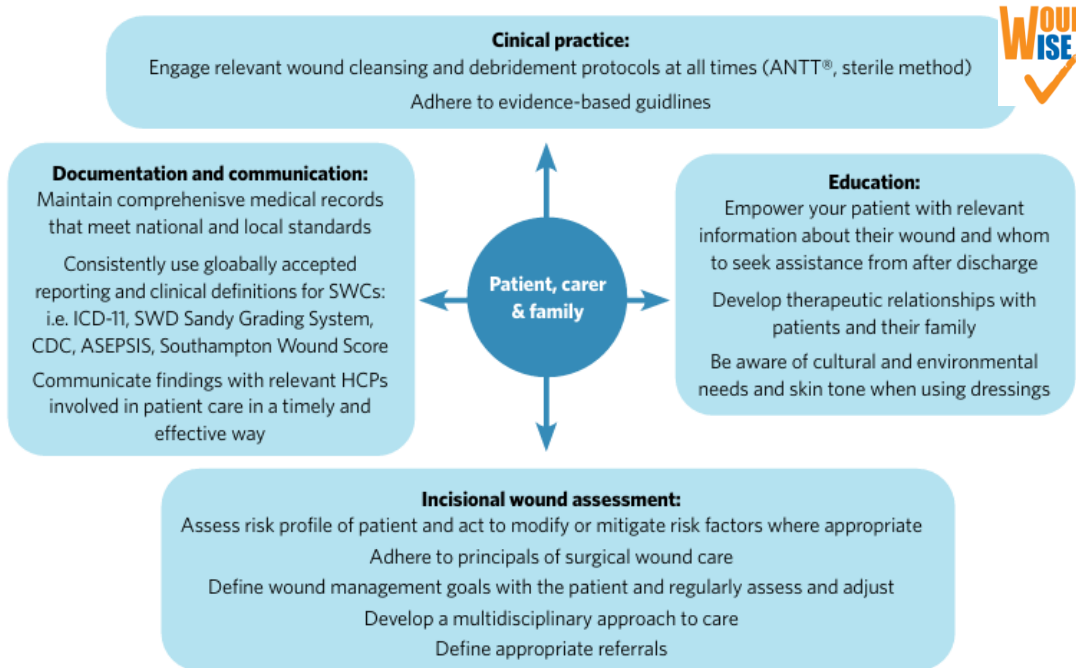
Early detection can be facilitated in a number of ways:

- through preoperative and intraoperative risk assessment
- monitoring of the patient's wound in the post-discharge period



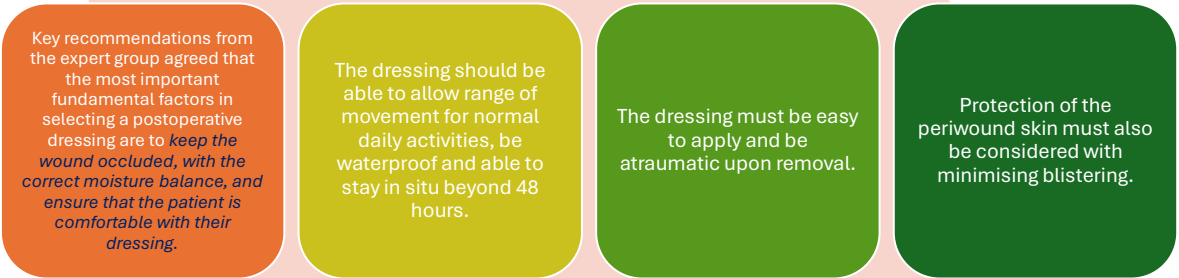
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Sandy-Hodgetts K et al (2022) Optimising prevention of surgical wound complications: Detection, diagnosis and prediction. London: Wounds International. Available online at: [www.woundsinternational.com](http://www.woundsinternational.com)

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Sandy-Hodgetts K et al (2022) Optimising prevention of surgical wound complications: Detection, diagnosis and prediction. London: Wounds International. Available online at: www.woundsinternational.cc



## Ideal dressing properties

<p>The ideal dressing properties. The 'ideal' dressing could not be agreed upon, the dressing properties that were agreed were:</p>	<ul style="list-style-type: none"> <li>Absorbent, able to handle exudate, maintains MWH</li> </ul>	<ul style="list-style-type: none"> <li>Eliminate dead space where necessary, manage exudate to avoid maceration</li> </ul>	<p>Dressing selected to be appropriate for exudate/drainage- consider NPWT</p>
<ul style="list-style-type: none"> <li>Flexible, should not impede the patient's movement</li> </ul>	<ul style="list-style-type: none"> <li>Waterproof, to seal the wound and enabling showering</li> </ul>	<ul style="list-style-type: none"> <li>Long wear time, to promote undisturbed wound healing (UWH)</li> </ul>	<ul style="list-style-type: none"> <li>Patient comfort</li> </ul>

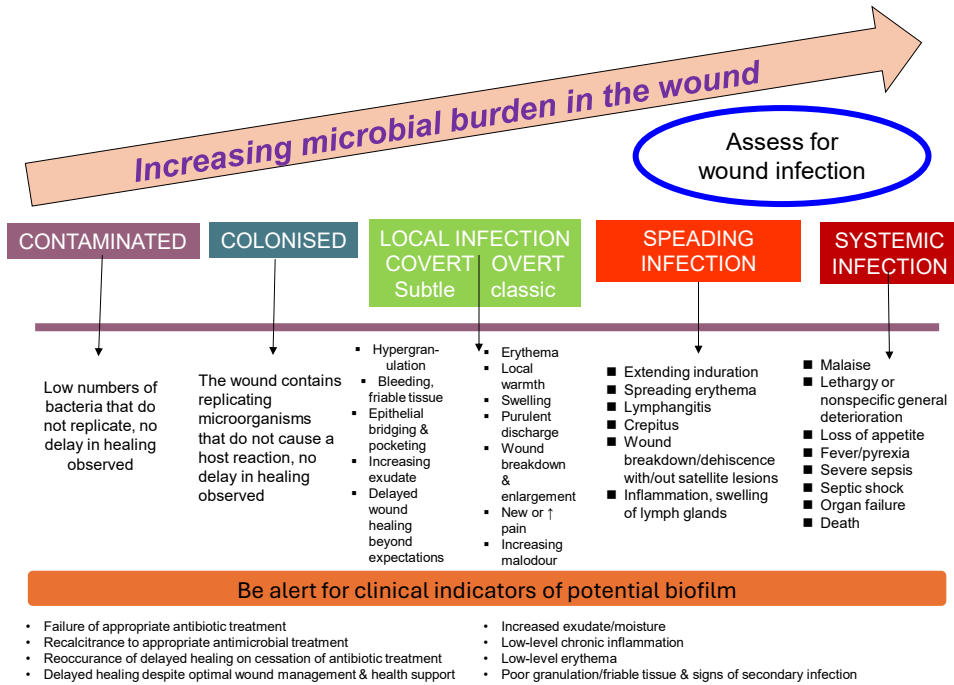


- Good adhesion, to minimise medical adhesive-related skin injuries (MARS).

Suitable for community if required



World Union of Wound Healing Societies (WUWHS) Consensus Document. Surgical wound dehiscence: improving prevention and outcomes Wounds International, 2018



W11, 2022

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## How do you or your colleagues confirm wound infection?



Microbiology – indications for use

- ❖ Acute wounds with classic signs of infection
- ❖ Chronic wounds with signs of spreading or systemic infection
- ❖ Infected wounds that fail to improve or deteriorate following antimicrobial treatment
- ❖ In accordance with local policies for the monitoring of drug-resistant microbes
- ❖ Wounds where particular bacteria or microbes would indicate the need for surgery (such as beta-haemolytic strep in wounds pre grafting)

**ALWAYS USE YOUR CLINICAL JUDGEMENT**

Examples:

Wound swab (Levine technique)

Needle aspiration

Tissue biopsy

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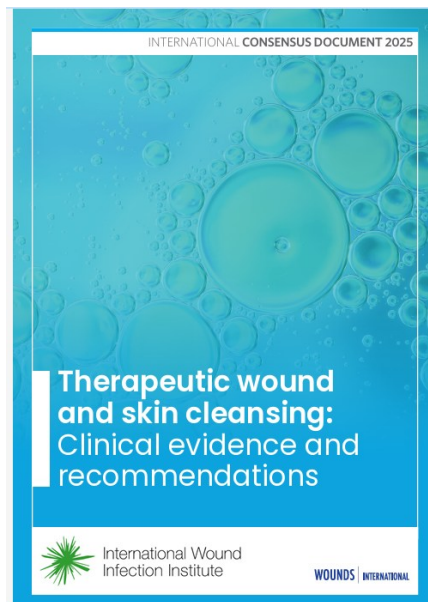
## Common bacteria found in wounds

- MRSA
- Pseudomonas
- Staph aureus
- Specific treatment is required for each bacteria
- Do not swab within two weeks of antibiotics completion



IWII, 2025

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International Wound Infection Institute (IWII) Therapeutic wound and skin cleansing: Clinical evidence and recommendations. Wounds International. 2025.

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## Key recommendations

- 1. Cleanse all wounds well when the dressing is changed or removed
- 2. Therapeutically cleanse the wound bed & wound edge, along with the periwound skin with an insert wound cleanser, before swabbing or collecting a tissue sample
- 3. Select with standard or surgical aseptic technique when performing wound dressing procedure. Conduct a risk assessment (including the person, the wound & environment)
- 4. Do not use microwave to heat cleansing solutions
- 5. Ensure universal precautions are followed when attending to wound dressing procedure
- 6. Assess the person, the wound and environment, to determine whether a person can cleanse their post-operative wound in the shower

International Wound Infection Institute (IWII) Therapeutic wound and skin cleansing: Clinical evidence and recommendations. Wounds International. 2025.

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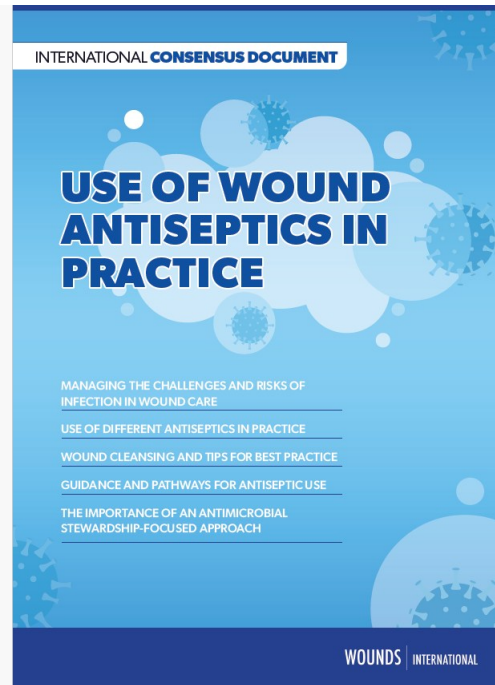


## Key recommendations

- 1. Select a wound cleansing solution based on: type of wound, wound assessment, risk/presence of infection, profile of microorganisms, cytotoxicity/pH of solution, goals of care, policies/serources
- 2. Use a wound cleanser with antimicrobial properties in combination with a comprehensive wound infection management plan
- 3. Therapeutically cleanse the skin using a mild cleanser (with a pH as close as possible to the skin)
- 4. Select appropriate wound cleansing technique based on assessment. Adjust cleansing techniques based on each individual's pain
- 5. Cleanse the surrounding skin and periwound skin first. Then cleanse the wound bed from most vulnerable to least vulnerable regions – based on wound assessment

International Wound Infection Institute (IWII) Therapeutic wound and skin cleansing: Clinical evidence and recommendations. Wounds International. 2025.

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- Indications for antiseptics in preventing and treating wound infection
- Properties of an ideal antiseptic
- Cleaning vs cleansing
- Considerations for selection of a wound cleansing solution
- Tips for using antiseptics in practice

Nair et al, 2023

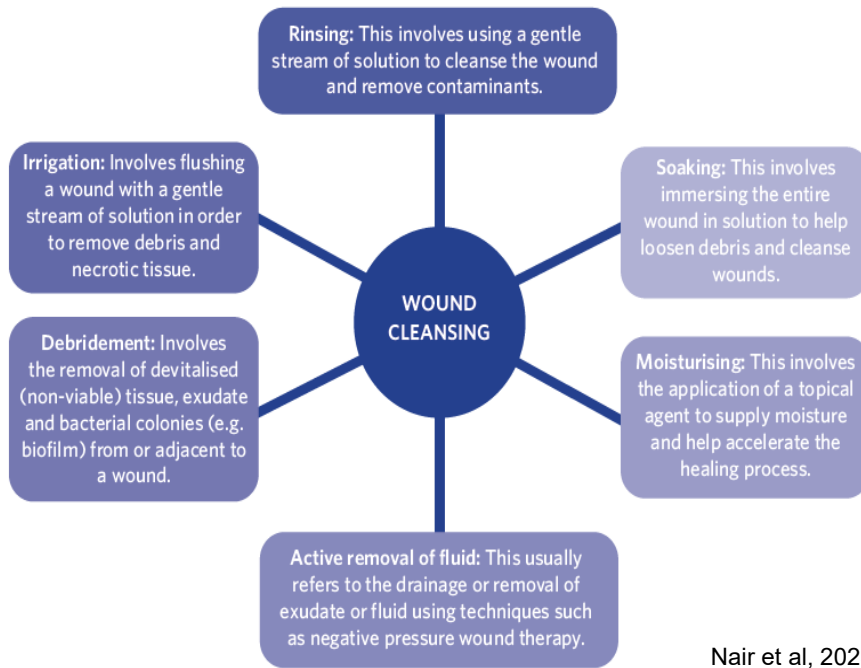
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Table 2. Dos and don'ts of using antiseptics in practice	
Do	Don't
✓ Do consider the patient's allergies and tolerance level when selecting an antiseptic	✗ Don't overuse antiseptics and only use them when clinically indicated
✓ Do wash your hands thoroughly and follow infection control procedures when applying antiseptics	✗ Don't ignore signs of adverse reactions to an antiseptic, and make sure to adjust treatment as necessary
✓ Do wear gloves, and use sterile equipment and aseptic technique	✗ Don't use antiseptics as a substitute for proper wound cleansing and debridement
✓ Do monitor the wound's progress and adjust treatment as necessary	✗ Don't mix different antiseptics as this can lead to adverse reactions or reduced effectiveness

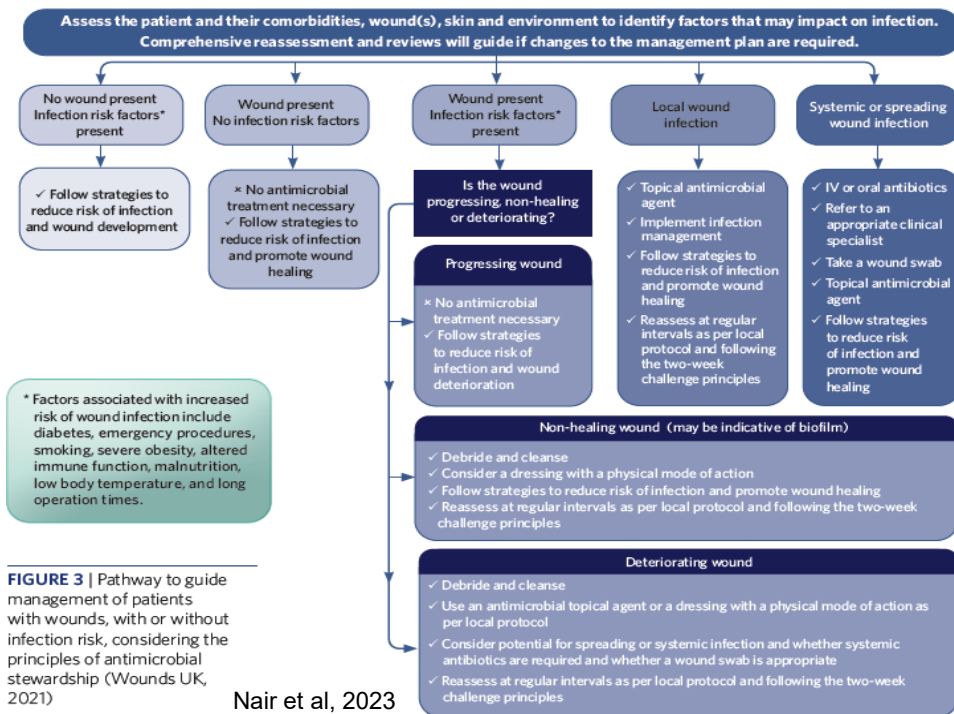
Nair et al, 2023

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Nair et al, 2023

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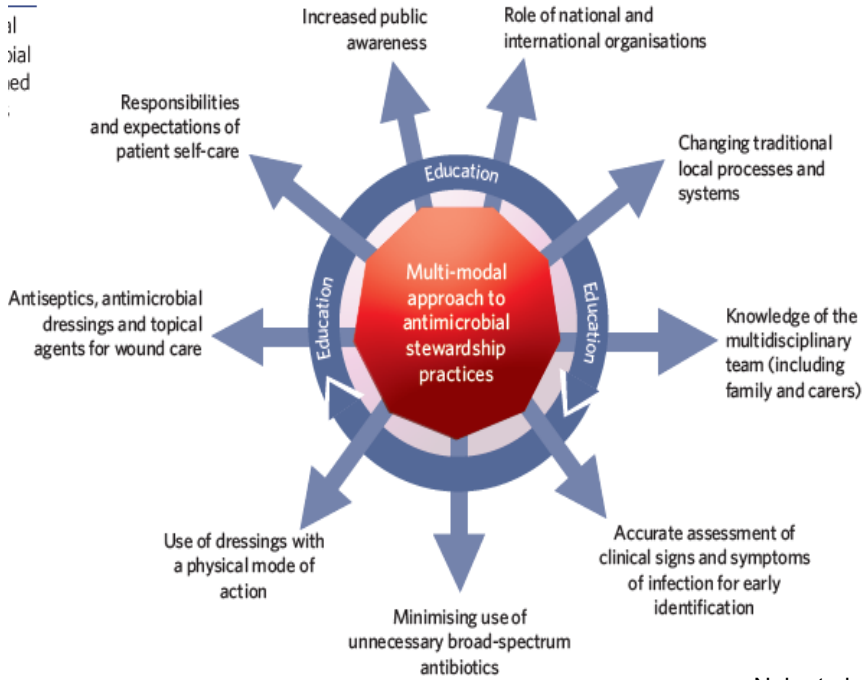
**FIGURE 3 |** Pathway to guide management of patients with wounds, with or without infection risk, considering the principles of antimicrobial stewardship (Wounds UK, 2021)

Nair et al, 2023

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Nair et al, 2023

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## Skin cleansers

- Skin cleansers can be used on any wound that staff feel is at risk of bacterial overload
- The Prontosan solution is a soak solution ideally for 10 minutes
- The PVP-Iodine surgical wash is generally used in the bathroom for the affected area and washed off after lathering up
- Povidine Iodine Antiseptic lotion may be used also for wound/skin cleansing but then is **not** generally washed off—it is 70% alcohol and evaporates and dries quickly



Nair et al, 2023

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# Wound bed cleansing agents



Saline vs water?



Nair et al, 2023

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# Antimicrobial dressings

Silver	Enzyme-algino gel	Iodine	Honey	Sorbact	Hypertonic Saline
<ul style="list-style-type: none"> <li>• Aquacel Ag</li> <li>• Acticoat 3 &amp; 7</li> <li>• Mepilex Ag</li> <li>• Biatain Ag</li> </ul>	<ul style="list-style-type: none"> <li>• Flaminal Hydro</li> <li>• Flaminal forte</li> </ul>	<ul style="list-style-type: none"> <li>• Inadine</li> <li>• Iodosorb</li> </ul>	<ul style="list-style-type: none"> <li>• Medihoney</li> <li>• Covita</li> </ul>	<ul style="list-style-type: none"> <li>• DACC binding dressing</li> </ul>	<ul style="list-style-type: none"> <li>• Mesalt</li> </ul>



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## COMMON BREACHES AND HOW TO AVOID THEM



### **Improper Glove Use**

Using gloves incorrectly can lead to contamination and increase infection risks in sterile environments.

### **Touching Sterile Areas**

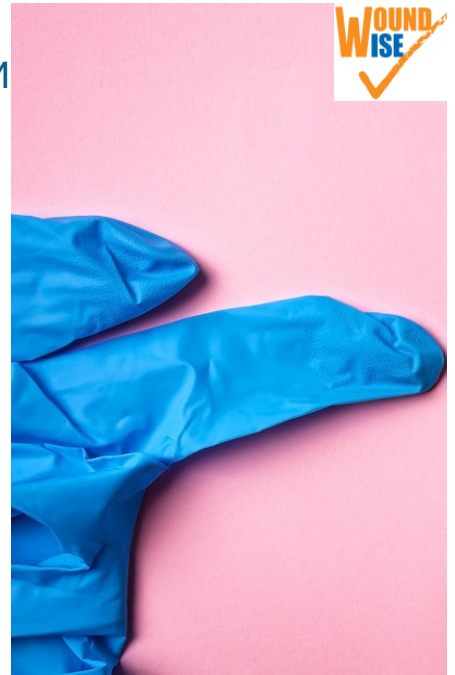
Touching sterile areas with unclean hands compromises sterility and can cause contamination.

### **Environmental Contamination**

Environmental contamination occurs when sterile zones are exposed to contaminants, risking infection spread.

### **Protocol Adherence**

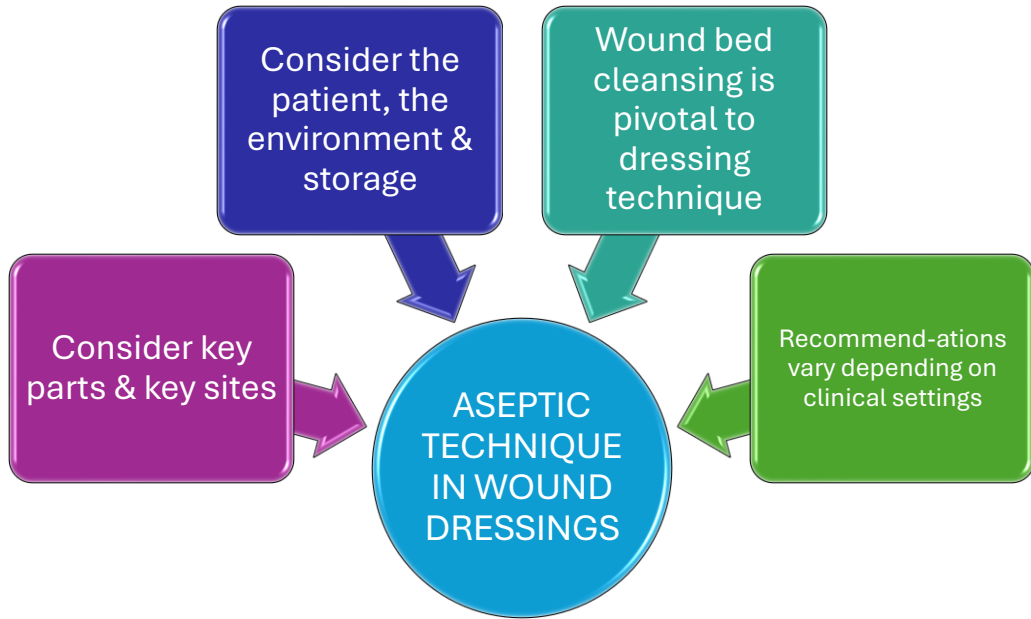
Strict adherence to protocols and awareness reduce breaches and maintain sterile conditions effectively.



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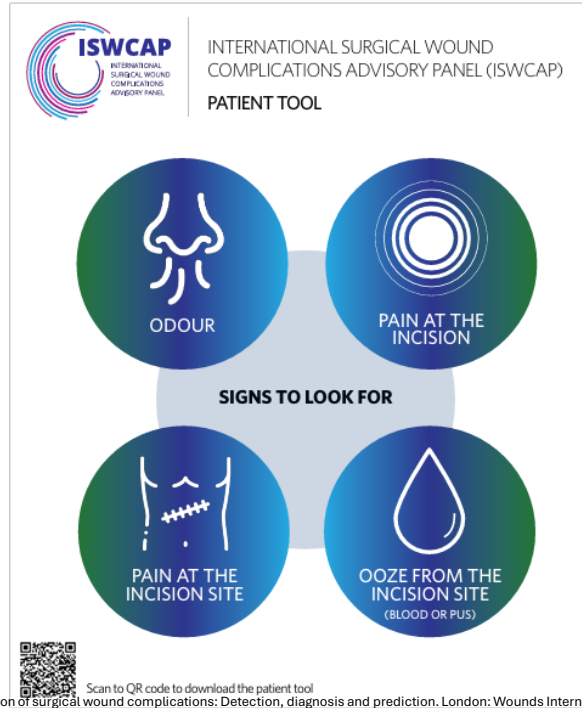


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# Resources



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