INESSS
LE SAVOIR PREND FORME

Decision support tool - May 2023

WOUND CARE

SURGICAL WOUND

For more details, click on the underlined words

This decision support tool is intended primarily for front-line clinicians. It is provided for guidance only and does not replace the judgment of the clinician performing the activities reserved to him or her by law or regulation. This document has been designed on the basis of clinical recommendations developed by the INESSS using a systematic approach and supported by the scientific literature as well as by the knowledge and experience of clinicians from different specialties and areas of expertise. The content of this tool excludes newborns and young children. Tools to guide **wound assessment and the determination of healing potential**, as well as decision support on an **optimal treatment plan based on wound etiology, vascular supply, and infectious risk, tissue type and exudate quality**, are also provided, along with a **reminder of dressing specifics**. For further details, visit **inesss.qc.ca**.

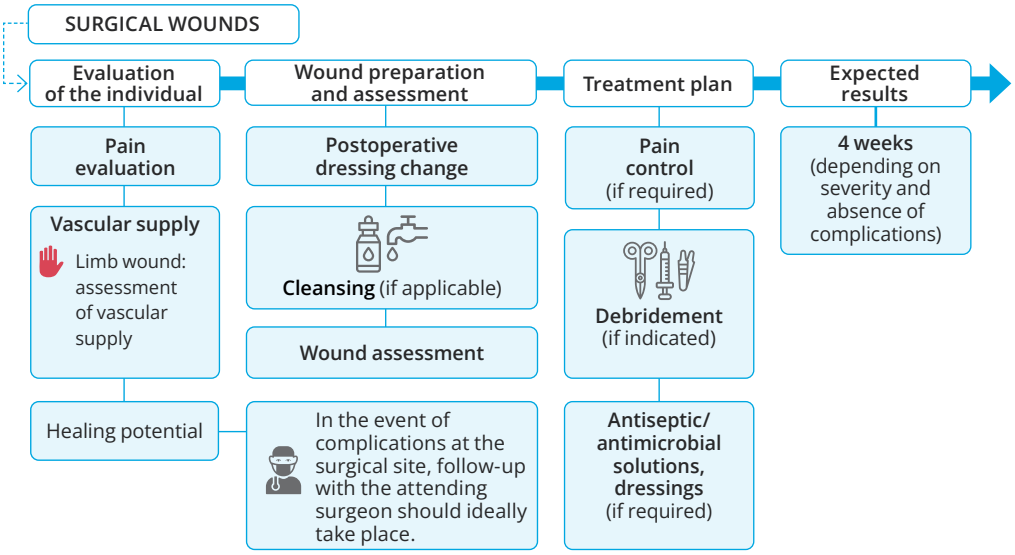
PATHOPHYSIOLOGY

- **Surgical wounds:** incisions that disrupt the skin's integumentary system and are intentionally made by an authorized healthcare professional within a well-defined medical framework.
- Surgical wounds can be:
  - closed in the operating room with stitches, staples or adhesives (1st intention healing).
  - be left open, for example, due to significant tissue loss, edema, or infection that prevents immediate surgical closure (2nd intention healing).
- **Dehiscent surgical wound:** partial or complete reopening of the wound edges following closed surgery.

EVALUATION : POINTS TO REMEMBER

- If a closed surgical wound is present, all scars should be closely monitored in the first few weeks post-operatively to check for the development of surgical site complications and to adapt management promptly if necessary
- The most common complications that can affect closed surgical incisions include surgical site infection (SSI), dehiscence, seroma, or hematoma.

WOUND MANAGEMENT PRINCIPLES



SUMMARY

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HOLISTIC EVALUATION OF THE INDIVIDUAL

Evaluate and, if necessary, control pain.

HISTORY AND LOCATION OF SURGICAL WOUND

→ Identify - if possible - the nature of the operation, including reason, presence, or absence of pre- or post-operative complications, surgery duration, closure method, and date of suture/clip removal.

Dehiscent limb wound:

- Perform a complete vascular supply assessment.

If vascular supply inadequate or uncertain:

Refer promptly for vascular assessment by a qualified professional or specialized service.

DETERMINING OF WOUND HEALABILITY

→ Consult Wound assessment and determination of wound healability decision support tool to determine wheter the wound is **curable**, **under maintenance** or **incurable**.

WOUND PREPARATION PRIOR TO EVALUATION

POST-OPERATIVE DRESSING

→ After surgery, dressings are generally kept on the wound for a few days.

→ Dressing frequency varies according to the type of surgery performed and the type of dressing used.

→ Change any dressing that has become detached or more than 50% soiled.

CLEANSING

→ No cleansing necessary until the first post-operative dressing change, provided there are no signs of excessive exudate or infection.

→ If necessary, cleanse the wound with aqueduct water or physiological solution (NaCl 0.9).

WOUND ASSESSMENT

→ Wound assessment should consider the following factors:

Identification of tissue type and exudate type	Appearance of wound and surrounding skin
• The type of exudate describes the wound condition and may vary according to certain situations (e.g., infection or presence of underlying disease). • Closed surgical wounds generally have low exudation.	• **Dehiscent surgical wound:** evaluate wound depth and monitor for infection. • **Closed surgical wounds:** examine scars in the first few weeks post-operatively to monitor for complications at the surgical site.

Possible complications at the surgical site

→ Follow up with the surgeon concerned. If necessary, consult an experienced colleague (e.g., an ostomotherapist, or clinical nurse specialist in wound care), a physician or a specialized nurse practitioner to evaluate the urgency of re-evaluation.

Dehiscence	Surgical site infection	Abscess or seroma
• May occur around postoperative day 7. • Often related to persistent exudate, SSI, poor glycemic control, malnutrition, or obesity. (!) *Beware of the presence of deep structures (e.g., bone or tendons), prostheses, implants, or wires.*	• Rarely occurs in the first **48 hours** post-operatively. *Inflammation may be present at the incision site for the first few days after surgery.*	• May require puncture, drain, or collection bag. ⊗ **Never puncture a seroma** if an implant, bypass, or orthopedic prosthesis is present.

TREATMENT PLAN

(!) **Control pain as needed**

→ For more information, consult the decision support tool for a treatment plan based on wound etiology, vascular supply, infectious risk, tissue type and exudate quantity, as well as the dressing specifics reminder.

CLEANSING

→ The wound should be cleansed every time a dressing change is necessary, with aqueduct water or physiological solution (NaCl 0.9%).

DEBRIDEMENT

Closed surgical wound	Dehiscent surgical wound
⚠ **Does not generally require** debridement	If necessary, consult the surgeon concerned, an ostomotherapist, or a clinical nurse specialized in wound care.

APPLICATION OF ANTISEPTIC/ANTIMICROBIAL SOLUTION

Local infection or presence of biofilm	
Therapeutic use	**Prophylactic use**
✓ **Indicated** if local infection is confirmed or the presence of biofilm is clinically suspected *Consult antiseptic/antimicrobial solutions for details .*	⚠ **Not generally recommended** unless one of the clinical situations described above applies. *Consult reasons for prophylactic use of antiseptic/ antimicrobial solutions.*

DRESSING CHOICE

⊗ **To be avoided**	• **Closed surgical wounds:** absorbent dressings[1] • **Dehiscent surgical wounds:** non-absorbent, occlusive, or fraying dressings.
✓ **Preferable**	• Non-adherent, semi-occlusive dressing[1] that require minimal changing.

1. They may keep the wound moist, macerate the incision line, and encourage dehiscence.

Dressing choice according to wound characteristics

Closed surgical wounds	Dehiscent surgical wounds	Infected surgical wounds
• Leave the wound open to the air OR • Use a protective dressing such as: - Absorbent acrylic dressing	• Fill dead space with a primary dressing. (e.g., alginate[2] or hydrofiber[2]). • Cover with a secondary dressing, depending on the exudate level. • NPWT may be considered if wound drainage requires very frequent dressing changes and/or if the individual has risk factors for complications.	• Antimicrobial dressings

2. If abundant exudate is present, this could promote biofilm formation or infection. If so, consider using an antimicrobial.

METHOD FOR FILLING DEAD SPACE

For dressing /gauze application	For dressing/gauze removal
• If possible, use a single piece of dressing/gauze. • If necessary, tie the pieces together. • Do not overfill to avoid compressing the walls. • Allow a piece of gauze to protrude from the cavity to facilitate removal. • Cover with a secondary dressing depending on the exudate level.	• Check that all material has been removed. • If dressing adheres to wound bed, rinse with physiological saline (NaCl 0.9%) or water.

If more than one gauze is required, check the exact count of the number of gauzes used.

RELATED CARE

- → Gestion métabolique : au besoin, envisager un soutien nutritionnel postopératoire afin de prévenir la déhiscence de la plaie.
- → Gestion de la douleur postopératoire.
- → Identifier (au besoin et selon la situation clinique) les problèmes psychosociaux tels que l'anxiété et le trouble de stress post-traumatique (TSPT) qui peuvent parfois survenir à la suite d'une intervention chirurgicale.

INFORMATION TO BE GIVEN TO THE PATIENT AND FAMILY

HYGIENE

- → Shower instead of bathe - depending on the type of dressing used, showering is safe for 48 hrs. post-operatively.
- → Dry and pat dry the wound gently.

SITUATIONS REQUIRING COMMUNICATION WITH THE NURSE OR SURGEON INVOLVED

- → Symptoms and signs of infection present (e.g., redness, swelling, increased exudate level, induration).
- → Persistent fever for several days.
- → Partial or complete opening of wound edges (dehiscence).

MONITORING AND FOLLOW-UP

Evaluate and, if necessary, control pain

Dressing change frequency	
Change - ideally - any dressing that has become detached or more than 50% soiled[1]	
Non-infected wounds	• Wear dressing according to manufacturer's maximum recommended duration[2] or clinical judgment.
Infected wounds	• Regular dressing changes according to wound properties, individual condition and, above all, the product's action level.

1. If necessary, change frequency should be increased.
2. Use beyond the recommended wearing time may reduce dressing efficacy and increase risk of infection.

RE-EVALUATION FREQUENCY

→ Once a week or more frequently, depending on:

- the risk of wound deterioration or complications/the individual's condition (if necessary, reassess healing potential):
- type of dressing used - e.g., at least once every **2 weeks** if using an antimicrobial dressing.

FOLLOW-UP CONSIDERATIONS

→ Look for clinical indicators, including symptoms and signs of infection (local, deep soft-tissue or systemic).

→ Signs of suture edge separation (dehiscence).

HEALING EVALUATION

→ If there are no complications and with optimal management, the surgical wound should close within **4 weeks**.

CONSULTATION WITH SPECIALIST

→ Consult a specialist or experienced colleague if:

- deep wound dehiscence with or without exposure of structures (e.g., tendons or bone), prostheses, implants or wires;
- seroma puncture is required;
- Surgical Site Infection present (SSI), deep soft tissue infection or systemic infection (may require the addition of a microbiologist-infectiologist to the integrated medical team);
- delayed healing or wound deterioration.

MAIN REFERENCES

→ References are presented in the INESSS report associated with this tool.

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