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AVOIDING INCISION CARE COMPLICATIONS:

MICROWORLD, AN ANIMATED WAY TO LEARN

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CLASSES 1, 2, 3 and 4



Wound healing



Wound exudate



Wound Infection



M.O.I.S.T.

CLASS 5: INCISION CARE

This class will take you through:

- 1 Types of surgical wound closure
- 2 Pre-operative preparation and risk assessment and their role in subsequent wound healing outcomes
- 3 Post-operative complications and the role wound dressings play in protecting the wound during the healing process
- 4 Signs and symptoms of surgical site infection.

SURGICAL WOUND CLOSURE

Types of surgical wound closure:

Primary closure

Sometimes known as primary intention and describes an immediate closure when the wound edges are located directly next to one another. For example, after surgical incision (Martin, 2013; Stryja et al, 2020).

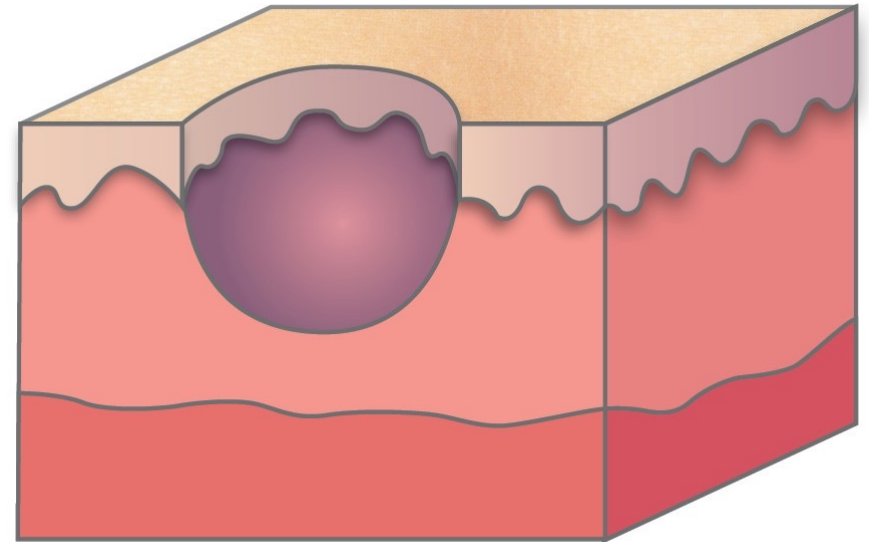


SURGICAL WOUND CLOSURE

Types of surgical wound closure:

Secondary closure

Or secondary intention, is when wounds are allowed to granulate from the bottom up without the wound edges being in contact. It is used for hard-to-heal wounds e.g. venous leg ulcers and diabetic foot ulcers (Martin, 2013; Stryja et al, 2020).



SURGICAL WOUND CLOSURE

Types of surgical wound closure:

Delayed Primary closure

When the closure of a wound is delayed. The wound is initially cleansed, debrided and observed for a few days before closure. It is commonly used for ruptured wounds, bleeding and infected surgical wounds (Martin, 2013; Stryja et al, 2020).

PRE-OPERATIVE PREPARATION

- Incisional care begins **before an incision is even made**
- Before a patient undergoes surgery, they will undergo a **period of preparation and risk assessment** (National Wound Care Strategy Programme [NWCSP], 2021)

POINTS FOR PRACTICE

1 Pre-operative preparation is vital for patient safety

2 Careful preparation can minimise anxiety and improve wound healing outcomes

3 This involves a range of procedures, for example:

- Ensuring patients understand the operation
- Exercise
- Reduce or stop smoking
- Resolve conditions such as anaemia and malnutrition
- Optimise predisposing conditions (e.g. blood sugar in diabetes).

SURGICAL WOUND CLOSURE

Early identification of those at risk is essential for prevention and can be achieved using **a reliable risk assessment system or tool.**

(Sandy-Hodgetts et al, 2020; NWCSP, 2021).



POST-OPERATIVE COMPLICATIONS

Surgical wound complications is an umbrella term for:

Surgical site infection (SSI)

A type of healthcare-associated infection in which a wound infection occurs after an **invasive (surgical) procedure** (National Institute for Health and Care Excellence [NICE], 2019). SSI can have a **significant effect on quality of life** for the patient and is associated with **considerable morbidity** and **extended hospital stay**.

POST-OPERATIVE COMPLICATIONS

Surgical wound complications is an umbrella term for:

Surgical wound dehiscence (SWD)

The **breakdown of opposed or sutured margins** which may or may not involve infection.

Hypergranulation

An **excess of granulation tissue** which goes beyond the height of the surface of the wound.

POST-OPERATIVE COMPLICATIONS

Surgical wound complications is an umbrella term for:

Scarring

Excessive scar tissue associated with burns and surgery.

Medical adhesive-related skin injury

Repeated application and removal of adhesive dressings and tapes can result in the stripping of the skin, leading to pain, irritation and tissue breakdown.

POST-OPERATIVE COMPLICATIONS

Surgical wound complications is an umbrella term for:

Seroma and haematoma

(Sandy-Hodgetts et al, 2020; Morgan-Jones et al, 2022; Sandy-Hodgetts and Morgan-Jones, 2022).

SURGICAL SITE INFECTION FACTS AND FIGURES

Surgical site infections
have been shown to
account for as many as

20%

of all healthcare-
associated infections.

NICE (2019) state that at least **5%** of patients undergoing a surgical procedure develop a surgical site infection. Stryja et al (2020) states that it affects **up to 1/3** of patients who have had a surgical procedure.

SURGICAL SITE INFECTION FACTS AND FIGURES

Increased numbers of infections are being seen in primary care because **patients are allowed home earlier** following day case and fast-track surgery (NICE, 2019).

A surgical site infection may range from a **spontaneously limited wound discharge** to a **life-threatening postoperative complication** (NICE, 2019; Stryja et al, 2020).

SURGICAL SITE INFECTION: RISK FACTORS

Patient-related factors that predict the risk of SSI include:

- Advanced age
- Gender
- Severe underlying illness
- Diabetes mellitus
- Procedure due to trauma
- Body mass index (obesity)/Malnutrition
- Smoking/alcohol or substance use
- Wound classification.



SURGICAL SITE INFECTION: RISK FACTORS

Procedure-related factors that predict the risk of SSI include:

- Duration of the procedure (increased length increased risk)
- Minimally invasive techniques (e.g. laparoscopic – reduces the risk)
- Skill of surgeon/surgical team
- Performed as an emergency – increases risk
- Use of implants increases risk
- Type of hospital.



(European Centre for Disease Prevention and Control, 2016; Harris et al, 2017)

POINTS FOR PRACTICE

1

Following surgery, a surgical incision can be categorised depending on the degree of contamination:

- Clean
- Clean-contaminated
- Contaminated
- Dirty or infected (European Centre for Disease Prevention and Control, 2016).

2

This knowledge will help you identify the risk of a surgical site infection to your patient and the frequency of wound assessment required.

POINTS FOR PRACTICE

3

The signs and symptoms of inflammation can be very similar to that of infection – if it is noted in the first 48 hours after surgery, it is unlikely to be a surgical site of infection (Wounds UK, 2020)

SURGICAL WOUND CLEANSING

- If necessary (e.g. exudate leakage), it is recommended that **sterile saline is used for wound cleansing for first 48 hours**, then potable tap water/showering (water that is considered safe to drink)
- Patients **should not expose their wound in the first 48 hours** but can be reassured that it is safe to shower 48 hours after surgery (NICE, 2019).



THE ROLE OF WOUND DRESSINGS

- Because post-operative complications such as SSI and SWD are common, it is important that **wound care is based on the risk assessment undertaken before surgery** (Sandy-Hodgetts and Morgan-Jones, 2022)
- Post-incisional care will vary according to region and healthcare system but should **focus on reducing the risk of infection and associated complications** (Sandy-Hodgetts et al, 2020).



KEY FEATURES OF WOUND DRESSINGS

The most important factors in selecting post-operative dressings are to prevent contamination and ensure optimal healing.



Flexible



Protective



Well-fixed



Waterproof



Absorbent



Eliminate dead space

THE ROLE OF WOUND DRESSINGS

Low risk of surgical site infections

- Prevent contamination
- Maintain a moist environment
- Should not restrict the patient's mobility
- Stay in place for as long as possible

Moderate risk of surgical site infections

- More advanced dressings to absorb fluid
- Allow for visibility of surrounding areas of skin for monitoring purposes
- Be flexible, absorbent and waterproof

High risk of surgical site infections

- Closed incisional negative pressure wound therapy (ciNPT) may be necessary

POINTS FOR PRACTICE

- 1** Part of the ongoing assessment will include the colour of the incision and scar
- 2** The colour of the incision is a progression from red with approximated edges (days 1-4) to bright pink (days 5-14) to pale pink (day 15-1 year)
- 3** Scar tissue in a light-skinned people will have white or silver scarring, while persons with darkly pigmented skin will progress from pale pink to darker than usual skin colour (Harris et al, 2017)

CONCLUSIONS



There are three types of surgical wound healing



Incision care begins before the incision is made



Advanced dressings play a role in protecting the wound during the healing phase

CONCLUSIONS



Dressing selection plays a key role in reducing the risk of infection and associated complications and they will vary depending on risk



Regular assessment throughout the wound healing process



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