Workshop on Debridement

WHY – WHEN – WHEN NOT?

Sources for best practice

Reference documents available in several languages:

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Introduction
Preparation of the wound bed ⇔ an active global holistic approach…

Wound management require a global, accurate patient and wound assessment process where the nurse has a leading role and responsibility.

Observation, thinking before action…

It is necessary to investigate the patient: (EVB = C)

- As a person (life/social habits, needs and demands)
- His/her health, medical, social (financial), psychological, wound and treatment history (searching for elements that might influence healing/risk factors)
- His/her implication, behaviour & cognition as well as that of the patient’s surrounding environnement (support)
# TIME* in context

1. **Start with the patient**
2. Identify wound etiology
3. Perform TIME assessment
4. Treat & evaluate TIME interventions
5. Is it healing?
   - Yes: Prevention
   - No: Repeat from Step 1

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## TIME* - Principles of Wound Bed Preparation

<table>
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<tr>
<th>Clinical Observations</th>
<th>Proposed Pathophysiology</th>
<th>WBP Clinical Actions</th>
<th>Effect of WBP Actions</th>
<th>Clinical Outcome</th>
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<tbody>
<tr>
<td><strong>T</strong>issue Non-visible or Deficient</td>
<td>Defective matrix and cell debris impair healing</td>
<td>Debridement (epidermal or continuous): - Autolytic, sharp surgical, enzymatic, mechanical or biological - Biological agents</td>
<td>Restoration of wound base and functional extracellular matrix proteins</td>
<td>Viable wound base</td>
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<tr>
<td><strong>I</strong>nfection or Inflammation</td>
<td>High bacterial counts or prolonged inflammation: - Inflammatory cytokines - Protease activity - Growth factor activity</td>
<td>Remove infected foul Topical/systemic: - Antimicrobials - Anti-inflammatory - Protease Inhibition</td>
<td>Low bacterial counts or controlled inflammation: - Inflammatory cytokines - Protease activity - Growth factor activity</td>
<td>Bacterial balance and reduced inflammation</td>
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<tr>
<td><strong>M</strong>oisture Imbalance</td>
<td>Desiccation slows epithelial cell migration: Excessive fluid causes maceration of wound margin</td>
<td>Apply moisture balancing dressings: Compression, negative pressure or other methods of removing fluid</td>
<td>Restored epithelial cell migration, desiccation avoided: Edema, excessive fluid controlled, maceration avoided</td>
<td>Moisture balance</td>
</tr>
<tr>
<td><strong>E</strong>dge of Wound Non Advancing or Undetermined</td>
<td>Non-migrating keratinocytes Non-responsive wound cells and abnormalities in protease activity</td>
<td>Reassess cause or consider corrective therapies: - Debridement - Skin grafts - Biological agents - Adjunctive therapies</td>
<td>Migrating keratinocytes and responsive wound cells: Restoration of appropriate protease profile</td>
<td>Advancing epidermal margin</td>
</tr>
</tbody>
</table>
Wound bed preparation, an active way to promote healing....

**Global evaluation of the patient**

- Treat the cause
- Evaluate the wound (weekly) EVB : C
- Listen & respond to the patient’s demands (quality of life)

**Wound bed preparation**

**→ type of wound ? WHY ?**

- 😊 Maintain bacterial balance
- 😊 Maintain optimal physical conditions in the wound
- 😊 Manage slough and necrosis
- 😊 Maintain humid environment, fluid balance (exsudates)
- 😊 Detect failing to heal wounds
  - 😊↓ MMP status

**Anticipation in an active, collaborative and individualised approach ...**

- → Pain management EVB = C
- → Cleansing solutions, antimicrobial therapy ? EVB = C
- → Mechanical, biosurgical, sharp and/or autolytical/enzymatic debridement EVB = C
- → Types of dressings ? Equipment ? (financial issues)

**Advanced treatment technics**

- → Skin grafts
- → Growth factors
- → Bio-engineering
How can biofilm burden be reduced?

The best methods for reducing biofilm burden are:

1. **debridement** (involves the removal of necrotic and contaminated tissue)

2. **vigorous physical cleansing** (sufficient pressure)

3. **use of antimicrobial agents** to kill planktonic microorganisms:
   - Antimicrobials most widely used in wound care are *silver, iodine, honey* and PHMB.

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**Topical antibiotics are unable to penetrate the biofilm**

Colonisation $\Rightarrow$ infection of a wound

Decisional ⇒ wound assessment approach

- **Pain Management?**
  - EVB = C

- **Patient evaluation**
  - Wound assessment = EVB = C

- **Promotion of healing?**
  - No

- **Circulation?**
  - EVB = C

- **Infection?**
  - Yes
  - Antibiotics ⇒ Systemic
    - Debridement
      - Surgical ⇒ emergency
  - No debridement

- **Maintenance of wound**
- **Operation**

- **Inadequate**

- **Revascularisation**

- **Initial debridement**
  - EVB = C

- **Mecanical/Sharp**
- **Enzymatic**
- **Autolytical**
- **Surgical**

- **Maintenance debridement**
  - EVB = C

Pain management

On medical order:

**Local anesthesia:**
- **Xylocaïne® 1%, 2% or 5% gel** ⇒ on the wound 20 à 30 min. before debridement
- **Emla® cream 1%** ⇒ placed on the wound bed with an occlusif film **60 minutes before the treatment**

- **Neurodol Tissugel®**: patches for topical, local treatment, placed away from wound edges 60’ before treatment
- **Morphine on the wound in gels.**

**If use of injectable Morphine**
⇒ - evaluation of the total dosage to be given in relation with the planned debridements

**If use of Morphine sirop**
⇒ couverage every 4 hours
My role as a nurse in the debridement process

• What are my goals for this patient and his wound?

• Implication (both patient and nurse)?

• Am I skilled to assume debridement or should I refer to more qualified?

• Am I legally covered for this act?

• How do I feel about carrying out this task?
“The presence of necrotic or compromised tissue is common in chronic non-healing wounds, and its removal has many beneficial effects. It takes away non-vascularised tissue, bacteria and cells that impede the healing process (cellular burden), thus providing an environment that stimulates the build-up of healthy tissue. In the light of recent studies about senescence of wound cells and their unresponsiveness to certain signals, the fact that debridement removes the cellular burden and allows a stimulatory environment to be established is particularly important. Unlike acute wounds, which usually only require debridement once if at all, chronic wounds may require repeated debridement.”

Legal aspects

Swiss law:

It’s a medical delegated act for which the nurse takes full responsibility (the medical order is to be written)

⇒ Knowledge of her/his capacity and limits to accomplish the act…
When to debride?

Pressure ulcer ➞ patient stayed several hours on the floor

Necrosis dried up with Iodine

Wound debrided

Alginates + Hydrogels
Medical Honey
Hydrocellulaires/foams
Hydrocolloides
When to debride?

Sacral pressure ulcers

Heel pressure ulcer
When not to debride?
Prevention control

www.hcuge.ch
Use of an antiseptics?

Subject to debate, institutional, national protocols ....
Technics of mechanical debridement

Sharp debridement

The most efficient way to prepare a wound bed...

Process that enables to take away dead and devitalized tissues with the help of a scalpel, scissors or a curette in order to expose vitalized tissues and stimulate wound healing.

The wound edges must be considered.

EVB = C

Sterile instruments

Traumatic ulceration of the knee
Other methods to diminish bacterial load and devitalized tissues from the wound bed

**Mechanical**: Hydrojets, Debrisoft®, NPT

**Autolytical**: Gels, Alginate, Hydrocolloïdes

**Enzymatiques preparations**

Streptokinase, Streptodornase, collagenase. Decomposes and rehydrates the necrotic tissue

**Attention**: interactions with active products (antiseptics, soaps etc...)
Larval Debridement

1. Sticking of a polyurethane film around foam and on the patient’s skin to prevent larvae to leave the wound

2. Larvae are put onto the wound by pouring a small quantity of saline into the delivery tube and then delicately placing them on gauze on the wound

3. Place 2 humid gauzes to adapt to the foam cage

4. Stick the gauze in a window fashion (4 edges) to permit the larvae to breath.

Place a loose bandage to fix the system. 1-2 per day humidify the gauze (need for the larvy)
Showering ➔ Jet lavage

Enables:

• **Rehydration** of slough and necrotic tissue by a "lifting and soaking" effect and mobilization
• Takes away non-viable tissue by a mechanical effect
• Diminishes bacterial load (shower + active hand effect)

Showering with tap water (suitable for drinking)  **EVB = C**

Jet lavage

- Shower effect
- Propelled water + oxygen
- Measured pressure

Cleanse surrounding skin  **EVB = B**
Use of antimicrobial dressings + autolytical effects

Honey Dressings
EVB = C

Silver impregnated dressings
EVB = B

Ribbons, alginates /hydrofibers,

Alginates

Dermal Cream

Silver & Charcoal
Mrs. B...

Negative pressure therapy

(EVB = B for deep category III and IV pressure ulcers)

Necrotic tissue and slough ++
Exsudates ++
Mrs B..

3 weeks

Black foam

1 month

2 months: end of treatment
CONCLUSIONS

• Importance of a global evaluation of the patient
• What is the type (cause) of the wound: **should I debride or not?**
• Is pain management assured?
• What are the goals for this patient? What is planned next?
• **How do I feel about 😊 debridement (delegated medical act)?**

**Dressings:**
- maintain a balanced humid environment
- non-adherant, non traumatic
- temperature and bacterial isolation,
- non allergic
- liberated from any free fibres
- permit fewer dressing changes
- confortable and conformable
- re-embursed by insurances

**Adapted preventive and treatment measures**
- Continual evaluation
- interdisciplinary team decisions
Practice debridement with a cutter
Thanks for your attention

QUESTIONS?