WHAT IS EXUDATE?
Wound exudate is produced as a normal part of the healing process to prevent the wound bed from drying out. Fluid in the wound bed also helps tissue-repairing cells to migrate and provides essential nutrients and growth factors for wound healing.

In a wound that is progressing normally, exudate production generally reduces over time, but in chronic wounds exudate is believed to prolong the inflammatory phase and be detrimental to healing. This exudate contains high levels of harmful substances that break down the cell-supporting extracellular matrix. By managing the amount of fluid produced, the detrimental effects of wound exudate can be minimised.

WHY DO SOME WOUNDS PRODUCE EXCESSIVE EXUDATE?
A wound healing by primary intention may produce a small amount of exudate and will heal without complication. However, some chronic wounds or surgically dehisced wounds healing by secondary intention, will produce large amounts of exudate. This may be related to:

- Size and position of the wound
- Underlying conditions that increase capillary leakage (eg cardiac, renal or hepatic failure)
- Pathology of the wound
- Failure of the lymphatic system
- Increased bacterial burden
- Medications (eg steroids)
- The presence of oedema.

If the quantity of exudate that is being produced cannot be explained by any of the above causes, it is important to consider other underlying factors.

WOUNDS THAT ARE TYPICALLY AFFECTED INCLUDE:
- Chronic venous leg ulcers
- Postoperative dehisced wounds
- Fungating wounds
- Burns
- Inflammatory ulcers such as rheumatoid ulcers or pyoderma gangrenosum
- Skin donor sites.

PROBLEMS ASSOCIATED WITH HIGH EXUDATE
If a wound produces high levels of exudate and is not managed appropriately, the wound bed will become overhydrated, causing moisture to leak out onto the periwound skin. Where this becomes trapped under the dressing, it can cause ‘softening’ or ‘sogginess’ (maceration), making the skin more prone to damage (Cutting, 2002). In addition, enzymes in chronic wound exudate may cause skin stripping (excoriation).

High exudate levels can also lead to:
- Malodour
- Wound pain
- Enlargement of the wound
- Protein loss/fluid electrolyte imbalance
- Delayed healing
- Local wound infection
- Soiled clothing and bedding.

Exudate-associated leakage together with malodour and pain can be distressing for patients and lead to social isolation (Int Consensus, 2012). If not managed effectively, exudate-related problems may lead to poor patient concordance due to a loss of confidence in the treatment. This may be related to the frequency of dressing changes, the type of dressing being applied (may become heavy and bulky), or a reluctance to sit for long periods with their legs elevated.

AIMS OF MANAGEMENT
Moist wound healing involves maintaining a balance between excessive moisture and the wound bed becoming too dry. An understanding of the role of exudate in wound healing and the management options available is vital if goals are to be achieved.

An effective treatment plan should aim to improve clinical outcomes by treating the underlying cause or contributory factors, reducing exudate-related problems, reducing time to healing and improving patients’ quality of life.

Dressings are the main option for managing high exudate levels and are designed to handle fluid through various different mechanisms. Negative pressure wound therapy (NPWT) may also be useful when soiling and leakage pose a significant problem (Romanelli et al, 2010).
Dressing selection for high exudate wounds

Assess the patient and the wound to identify any local, systemic, wound-related, environmental or psychosocial factors

Is the wound highly exuding?

Yes No

Consider absorbent dressing suitable for low to moderate exudate (e.g. a foam such as Adhesive)

Consider advanced dressings (e.g. a superabsorbent dressing such as Eclipse) Consider NPWT for larger or cavity wounds

Where is the wound located?

Sacroiliac, breast or underarm area?

Lower leg/foot?

Is the wound a...

Consider anatomically designed dressing (e.g. Eclipse Adherent Sacral) Consider circumferential dressing (e.g. Eclipse Boot dressing)

Is the wound highly exuding?

Yes No

Consider absorbent dressing suitable for low to moderate exudate (e.g. a foam such as Adhesive)

Consider advanced dressings (e.g. a superabsorbent dressing such as Eclipse) Consider NPWT for larger or cavity wounds

Is compression required?

Yes

Consider a superabsorbent dressing with a high evaporation rate that can stay in place for up to seven days under compression (e.g. Eclipse)

No antimicrobial/ antibiotic required

Consider skin barrier cream or film

Consider dressing with soft silicone contact layer (e.g. Eclipse Adherent). Ensure the skin surrounding the wound is dry to enable good adherence

Is the wound infected?

Yes No

Consider treatment of the primary wound

No antimicrobial/ antibiotic required

Consider use of antimicrobial dressing and/ or systemic antibiotics

Reassess wound and exudate level at dressing change and switch to an alternative dressing as required

What is the wound aetiology?

Leg ulcer

Surgical dehiscence

Fungating wound

Skin donor site

Burn

What is the wound condition?

Is compression required?

Yes

No

What is the condition of the periwound skin?

Is the wound on a...

Sacrum, breast or underarm area?

Lower leg/foot?

Is the wound on a...

Sacroiliac, breast or underarm area?

Lower leg/foot?

What is the condition of the periwound skin?

Is the wound lifted?

Yes No

Consider dressing with soft silicone contact layer (e.g. Eclipse Adherent). Ensure the skin surrounding the wound is dry to enable good adherence

Is compression required?

Yes

No antimicrobial/ antibiotic required

Consider skin barrier cream or film

Figure 4.

Dressing selection for high exudate wounds

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\]
Managing high exudate wounds

IMPROVING OUTCOMES IN HIGH EXUDATE WOUNDS

Traditionally, foam dressings have been seen as the most absorbent dressing as they are designed to absorb wound exudate, prevent strike-through and reduce the time between dressing changes. However, where exudate levels exceed the absorbency capacity of the foam dressing, it is important to assess whether the current dressing is appropriate to reduce the risk of periwound maceration. For example, if there is evidence of leakage and the dressing changes are too frequent, this may indicate the need to switch to a superabsorbent dressing.

In addition, for areas that are difficult to dress, anatomically designed dressings that fit closely to the contours of the body may perform more effectively. They can be placed in close contact with the wound bed, helping to prevent leakage. These may also have low profile rounded edges to help prevent rucking and rolling of the dressing on movement of the patient, increasing wear time.

If a dressing is selected that is unable to cope with the level of fluid, is occlusive or the wound contact layer does not have the capacity to absorb the required amounts of moisture, fluid will become trapped beneath the dressing, potentially leading to maceration of the skin.

Secondary damage caused in this way will delay healing and extend treatment time. This has an impact on dressing usage and nursing time. There may also be an increased risk of infection with the additional costs of systemic antibiotic therapy (Thomas, 2008).

Conversely, if the wound bed is dry and the dressing is adherent to the wound bed, it is important to switch to a less absorbent dressing to maintain an optimal moist wound environment.

BENEFITS OF USING SUPERABSORBENT DRESSINGS

An evaluation of a superabsorbent dressing (Eclypse Adherent Sacral) on patients with sacral pressure ulcers demonstrated improvement in the condition of the surrounding skin, reduction in pain scores and frequency of dressing changes. Superabsorbent dressings have also been found to be cost-effective in the treatment of wet cellulitis, reducing nursing time with a considerable improvement in quality of life (Rafter, 2011).

ROLE OF EDUCATION

Understanding the exudate-handling properties of wound dressings and the recommended wear time is essential when caring for patients with highly exuding wounds. This will help to prevent complications such as skin reactions and maceration caused by inappropriate dressing selection and poorly timed dressing changes (Dowsett, 2011).

REFERENCES


Further reading


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KEY LEARNING POINTS

1. Understand what exudate is and why some wounds may produce excessive amounts of exudate.
2. The importance of appropriate dressing selection based on the condition of the wound and patient needs.
3. Dressing choice will be determined mainly by the ability to manage the current volume of exudate, to assist healing and prevent complications.