

Wound Expo 2019

Wound Exudate Zone

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Exudate Friend or Foe?

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Session aims

- Understand what exudate is
- Understand why exudate is important in wound healing
- Understand the different types of exudate
- To understand what is normal levels of exudate versus excessive levels
- Understand the best management options

What is exudate?

- Wound exudate is produced as a natural and essential part of the healing process
- Exudate is a liquid produced by the body in response to tissue damage
- The production of wound exudate occurs as a result of vasodilation during the early inflammatory stage of healing under the influence of inflammatory mediators such as histamine and bradykinin
- This presents as serous fluid in the wound bed and is part of the normal wound healing process in acute wounds

What is exudate?

- Exudate consists of mainly water, but it also contains electrolytes, nutrients, proteins, inflammatory mediators, protein-digesting enzymes, such as matrix metalloproteinases (MMPs), growth factors and waste products, as well as cells such as neutrophils, macrophages and platelets
- In wounds that are healing naturally through the standard stages of wound healing, exudate supports the healing process by:
 - Providing a moist wound environment
 - Enabling the diffusion of immune mediators and growth factors across the wound bed
 - Acting as a medium for the migration of tissue-repairing cells across the wound bed
 - Promotes cell proliferation
 - Supplying essential nutrients for cell metabolism
 - Promoting the separation of dead or damaged tissue (autolysis)

Different types of exudate

There are 4 main types:

Serous

- Serous drainage is clear, thin, watery plasma often described as straw like in appearance. It's normal during the inflammatory stage of wound healing and small amounts is considered normal. However, a moderate to heavy amount may indicate a high bioburden occurring

Sanguineous

- Sanguineous drainage is fresh blood that is prevalent among deep wounds of full and/or partial thickness wounds. A small amount may be normal during the inflammatory stage, but we don't want to see blood in the wound exudate, as this may indicate trauma to the wound bed

Different types of exudate

Serosanguineous

- Among the most common of all drainage types is serosanguineous which is thin, watery, and pale red to pink in colour. The pink tinge, which comes from red blood cells, indicates damage to the capillaries with dressing changes

Purulent

- **Purulent exudate** is never **normal** and is often associated with infection or high bacteria levels. It is plasma fluid that becomes off colour and thick because pathogenic microorganisms and dying bacteria in addition to inflammatory and white cells are invading the affected area, This appears as opaque, thick, and viscous though some purulent exudate can be thin (seropurulent) It can also be tan, yellow, green, or brown in colour and is commonly referred to as pus
- As the infection worsens, the amount of purulent leakage increases
- This type of exudate can produce malodour too according to the prominent bacteria within the wound

What is the normal amount?

For wounds to heal, we as clinicians want to promote what is termed as MOIST WOUND HEALING.....

But do we know what that means?

Are all wounds the same?

The amount of exudate produced by a wound is dependent on:

- Wound aetiology – some wound types are more prone to high or low exudate levels
- Wound healing phase – the amount of exudate produced by a wound usually diminishes as healing progresses (Wounds UK, 2013)
- Wound size, depth and position – larger and deeper wounds may produce higher levels of exudate, as can wounds in dependent parts of the body, e.g. the lower leg (Dowsett, 2012)
- Comorbidities, complications and other factors – there are many other reasons for increased or decreased exudate production

What is the normal amount?

Other factors that might influence exudate production can be divided into 3 main sections;

Local factors

- Infection, inflammation or trauma. Localised oedema, sinus, fistula , tumour or foreign body

Systemic factors

- Congestive cardiac, renal or hepatic failure ■ Infection/inflammation ■ Endocrine disease ■ Systemic medication – e.g. calcium channel blockers, non-steroidal anti-inflammatory drugs (NSAIDS), steroids, glitazones ■ Obesity ■ Fluid overload during intravenous therapy ■ Malnutrition ■ Increased age ■ Low serum albumin levels ■ Raised C-reactive protein (CRP)

Practical factors

- Wound position – e.g. wound is in a dependent position on the lower limbs or sacral area ■ Heat ■ Reduced willingness or ability of the patient to co-operate with pharmacological or non-pharmacological treatment ■ Inappropriate dressing/device/intervention

What is the normal amount?

Other factors can also influence the reduction in exudate production, and these can also be divided into 3 main sections;

Local factors

- Wounds with dry eschar
- Ischaemia of the wound location

Systemic factors

- Dehydration
- Hypovolaemic shock
- Microangiopathy

Practical factors

- Inappropriate dressing/device use or intervention

What is the normal amount?

Types of wounds that can produce high levels of exudate

- Chronic venous leg ulcers (VLUs)
- Dehisced surgical wounds
- Burns
- Malignant fungating wounds
- Inflammatory ulcers e.g. rheumatoid ulcers, pyoderma gangrenosum
- Skin donor sites

Types of wounds that are likely to produce lower levels of exudate

- Ischaemic/arterial wounds
- Neuropathic diabetic foot ulcers

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Chronic wounds





Assessment

- As part of all holistic wound assessment's exudate is an essential component
- Most clinicians only assess the volume of exudate i.e. low/medium/high or depending on the leakage or absorbency of current dressing regime
- The type of exudate should be as essential as the volume
- Original best practice statement around wound bed prep introduced TIME framework, a structured, holistic approach to wound bed assessment and preparation
 - T** - Tissue
 - I** - Infection/Inflammation
 - M** - Moisture balance
 - E** - Edges
- The Best Practice Statement panel revised the TIME framework and updated it to TIMES. Incorporating 'S' into the framework recognises the importance of also assessing and managing the surrounding skin



Assessment

- The International Consensus Document recently launched TIMERS for hard to heal wounds
- This document looks further into the potential barriers that delay healing:
 - T** - Tissue
 - I** - Inflammation/Infection
 - M** - Moisture
 - E** - Edges
 - R** - Repair (the use of new dressings and technologies)
 - S** - Social and patient factors
- All these documents clearly emphasizes the importance of assessing and managing exudate/moisture effectively in both acute and hard to heal wounds
- With exudate management always consider the various benefits of traditional dressings and the introductions of new methods that hopefully can work both independently and in combination

Moisture balance

- Excessive moisture causes excoriation and maceration
- Too dry and it slows the migration of epithelial cells
- Use moisture balancing dressings
 - Foams, alginates, hydrofibres, hydrocolliods
- If exudate is high, then the use of more dynamic dressings may be considered
 - Superabsorbents, TNP, Compression therapy
- In addition consider
 - Increase dressing changes
 - Revising dressing regime
 - Is infection present



Picture courtesy of Jan Maxwell RSCN, SCM, MPH and Debby Sinclair RGN, RSCN, Msc; Great Ormond Street Hospital for Children NHS Foundation Trust London, UK



References

1. Atkin, L., Bućko, Z. et al. JWC Consensus Document: Implementing TIMERS: the race against hard-to-heal wounds. *Journal of Wound Care*, 2019, 28(3).
2. Dowsett, C (2012) Management of wound exudate. *Independent Nurse*. Available at: www.independentnurse.co.uk/clinical-article/management-of-wound-exudate/63637. Accessed 19/08/2019.
3. Harding, K., Carville, K. et al. WUWHS Consensus Document: Wound Exudate, effective assessment and management. *World Union of Wound Healing Societies*, 2019.
4. Wounds UK (2013) Best Practice Statement: Effective exudate management. Available at: <https://www.wounds-uk.com/resources/details/best-practice-statement-effective-exudate-management>. Accessed 19/08/2019.
5. Wounds UK (2017) Quick Guide: Times Model of wound bed preparation. Available at: <https://www.wounds-uk.com/resources/details/quick-guide-times-model-of-wound-bed-preparation>. Accessed 19/08/2019.



Interactive session

Let's look at these 3 types of dressings

What would you use on the following level of exudate:

- Dry wound
- Low to moderate
- Moderate to high

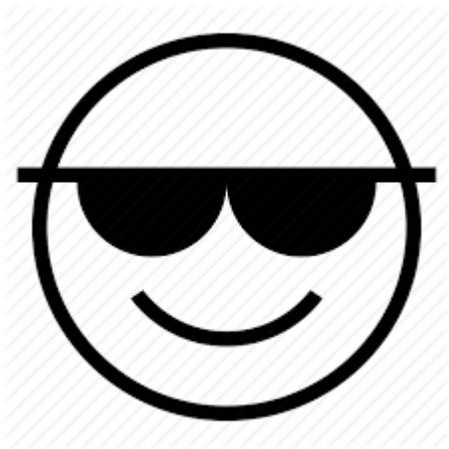
1. Non-adhesive contact layer
2. Foam dressings
3. Superabsorbents



Let's play

- Superabsorbents (SAP) are good at trapping the MMP's into the core of the dressing and away from the wound hence reducing the bacterial burden even under compression therapy
 - Let's practice
 - Pens, water and your artist skills
 - Let's have some fun

Draw your own emoji





Let's play

Eyes down, look in – be ready for the ultimate game of WOUND BINGO!

The rules are simple:

1. The word will be announced
2. You must make either a horizontal, diagonal or vertical line to get a BINGO
3. First one to shout BINGO, wins!
4. Winner will receive a PRIZE 😊





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