The exudate debate: getting it right in primary care

24 Sept 2019
7.00pm

GPN

HARTMANN

Learning objectives

1. To understand what causes exudate.
2. To recognise the role of moisture balance in wound healing.
3. To address exudate-related skin problems.
4. To understand the impact of exudate on patient quality of life (QoL).

Background

- The cost of chronic wound care in the UK places a significant burden on NHS resources (Guest et al, 2015; Phillips 2015)
- The escalating costs have been linked to inadequate wound assessment and under use of evidence-based practice (Guest et al, 2015; Grey et al, 2019)
- Dowsett et al (2011) indicated that exudate management was one of the most challenging and costly parts of treating wounds within the community setting.

Background

- The causes of too little or too much exudate production can be complex, and, if not managed effectively, can lead to prolonged wound healing and have a significant impact on patient quality of life
- Maintaining the right amount of moisture within the wound is essential and can contribute to wound progression or deterioration
- It is essential that GPNs are able to assess a patient with moisture imbalance within the wound and treat the underlying causes in order to provide cost-effective and evidence-based interventions.

What is exudate?

- Exudate or ‘wound fluid/wound drainage’ originates from interstitial fluid found in the spaces between the cells in body tissue
- Interstitial fluid usually re-enters the circulatory system via the lymphatics
- Exudate consists of:
  - Water
  - Fibrin
  - Glucose
  - White blood cells
  - Protein digesting enzymes (matrix metalloproteinases - MMPs)
  - Platelets
  - Growth factors
  - Microorganisms and wound debris.

What is exudate?

- During the inflammatory phase of wound healing, inflammatory mediators such as histamine are released, which increase the permeability of capillaries allowing serous fluid to leak from the blood vessels to the surrounding tissue and wound bed, thus producing exudate
- Exudate usually decreases as a wound progresses along the healing trajectory.

What is exudate?

There are many complex factors that may influence the amount of interstitial fluid and exudate produced, such as:

- Wound aetiology
- Wound size, depth and position
- Comorbidities.

An increase in exudate is usually due to:

- Factors relating to increased inflammation, such as infection or localised/general oedema, e.g. venous insufficiency/lymphoedema

GPN

HARTMANN

Role of moisture balance in wound healing

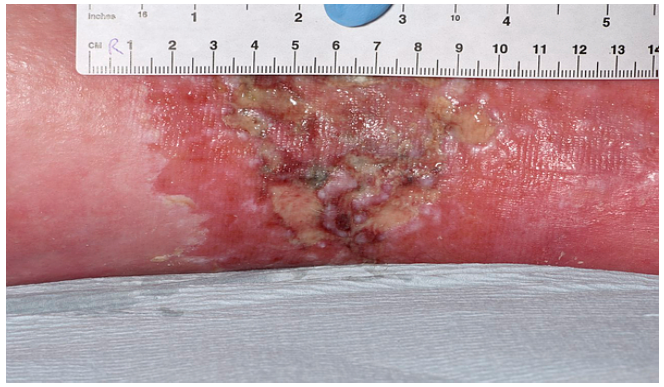
Moist wound healing has been shown to facilitate faster healing. Exudate is an essential part of wound healing and has many important functions, including:

- Assisting the healing process by promoting moist wound healing and naturally debriding the wound bed by a process called autolysis
- Supplying essential nutrients and energy for cell metabolism
- Stimulating cell growth and migration
- Preventing dehydration of the wound bed
- Enhancing angiogenesis (formation of new blood vessels) and collagen synthesis
- Decreasing wound pain.

What can excess moisture lead to?

If too much exudate is produced, it can have a detrimental impact on a wound and patient quality of life:

- Skin maceration — skin is in contact with moisture for a long period of time
- Excoriation — skin is in contact with toxins contained in the exudate, which strip and erode the peri-wound skin
- Increase in wound size due to skin damage caused by the above
- Impacts negatively on patient due to leaking dressings/bandages.



What can not enough exudate lead to?

If the wound is too dry, it can lead to the presence of non-viable tissue (necrosis/eschar), which can have several negative effects on wound healing:

- Acts as a barrier to wound assessment
- Provides nutrients for micro-organisms
- Provides a physical barrier to healing, thus prolonging healing
- Blocks the delivery of topical therapies
- Can cause dressing to adhere to the wound bed causing pain and trauma on removal.

Image reproduced courtesy of Cardiff and Vale fotoweb

What should I consider when assessing a patient with uncontrolled exudate?

Comprehensive, systematic patient assessment is essential if managing a patient with exudate is to be effective. This will:

- Identify underlying aetiology and factors that may influence exudate production
- Assist in developing interventions and management plans that are appropriate for the wound and the patient.

What should I consider when assessing a patient with uncontrolled exudate?

Assessment should include:

Patient history:
Co-morbidities that may contribute to a high volume of exudate, e.g. venous disease, peripheral vascular disease (PAD), lymphoedema, diabetes, cardiac failure, renal disease, poor dietary intake, malignancy, medication, obesity, inflammatory disease (e.g. Crohn's, rheumatoid arthritis), age, social circumstances and psychological issues, patient concordance with treatment.

What should I consider when assessing a patient with uncontrolled exudate?

Assessment should include:

Examination of the wound and surrounding skin using TIMES:

- Tissue
- Infection
- Moisture balance
- Edge
- Surrounding skin.

What should I consider when assessing a patient with uncontrolled exudate?

Assessing exudate:

- Colour
- Consistency
- Amount
- Odour
- How well the dressing is containing the exudate — is there any strikethrough or leakage?

Which wounds may produce a higher volume of exudate?

- Large deep wounds
- Chronic leg ulcers/lymphoedema
- Dehisced surgical wounds
- Malignant wounds
- Burns
- Inflammatory ulcers
- Skin donor sites
- Infected diabetic foot ulcers (DFUs).

What is the impact of uncontrolled exudate on patient quality of life ?

Several studies have highlighted the impact on both psychological and social wellbeing of patients who live with highly exuding wounds (Issac and Watson, 2016).

Issues that patients highlight are:

- Embarrassment
- Social isolation
- Reliance on healthcare processional to change dressings frequently. This is mainly due to dressing/bandage leakage, odour and soiled clothes.

How can we improve outcomes for patients with uncontrolled exudate?

- Involving patients in the assessment process and deciding on an individualised treatment plan
- Understanding how exudate is impacting on an individual's psychological and physiological wellbeing
- Developing an individualised management plan in conjunction with the patient and family.

How can we improve outcomes for patients with uncontrolled exudate?

- Address any underlying aetiology or potential factors that may delay or contribute to excessive exudate production
- Refer to a specialist if aetiology cannot be established or if the underlying cause requires specialist management
- Optimise the environment within the wound bed and surrounding skin
- Ensure that the patient and their carers have an adequate understanding of underlying conditions and treatments available to assist in making an informed choice about managing their condition
- Consider the patient's treatment preferences and ensure that they address and manage issues that may affect their wellbeing and quality of life.

GPN

HARTMANN

How can I prevent periwound skin damage?

Protection of periwound skin may be required in patients with highly exuding wounds to protect and prevent further skin damage from excoriation or maceration.

How can I prevent periwound skin damage?

Use of barrier preparations which provide an occlusive film may be considered. Some preparations that are available within general practice are:

- Petroleum-based ointments — form an occlusive layer and increase skin hydration. May prevent adhesive dressings from sticking
- Silicone-based barrier preparations containing products such as dimethicone. These are water repellant and have an occlusive action. Most are available in several types of preparations such as creams, films and sprays. Some of the film barrier products can be used on broken skin. However, products should be applied as per manufacturer's instructions and over application should be avoided.

GPN

HARTMANN

What dressings can I use to manage exudate?

- Dressing selection will have an important part to play in managing exudate and will be used as part of the holistic treatment of a patient with an exuding wound (Gardner, 2012).

- Dressings manage exudate by either absorption or evaporation (World Union of Wound Healing Societies [WUWHS], 2019). Selection of the correct dressing will depend on the volume of exudate produced and the fluid-handling capacity of the dressing (Wounds UK, 2013). If the wound progresses well along the healing trajectory, exudate may decrease.

GPN

HARTMANN

What dressings can I use to manage exudate?

- A wound may also deteriorate and develop a complication such as infection, which may increase exudate production. Both these instances require a review of the management plan and a possible change in dressing selection to manage any changes within the wound
- It is essential that healthcare professionals review the effectiveness of the interventions in a timely manner and reconsider/reassess the treatment plan if issues are improving or not resolving (Wounds UK, 2018).

What dressings can I use to manage exudate?

The following factors should be considered when choosing a dressing:

- Ability of the dressing to wick away and retain fluid while still providing a moist healing environment
- Ability of the dressing to prevent maceration/excoriation of surrounding skin
- Patient comfort and acceptability
- Ease of application and removal without causing pain/trauma
- Ability of dressing to manage exudate without strikethrough or leakage
- Conformability to the wound bed.

What dressings can I use to manage exudate?

- Will the dressing require secondary fixation?
- Ease of use
- Suitable for use under compression
- Available on local formulary
- Cost-effective.

What dressings can I use to manage exudate?

The main types of dressings used for managing exudate are:

- Foams
- Hydrofibers and alginates
- Superabsorbents
- Hydro-responsive wound dressings (HRWD®)
- Negative wound pressure therapy (NWPT).

What dressings can I use to manage exudate?

Type	Mode of action	Considerations	Volume of exudate
Foams — made from synthetic polymers, polyurethane or silicone	Wicks exudate into the dressing by absorption where it evaporates into atmosphere by moisture vapour transfer rate (MVTR)	MVTR rate and fluid handling may vary depending on the make of dressing. May not be suitable under compression, as fluid may leak out causing maceration. Adhesive variety may not be suitable for fragile skin, although some versions contain silicone designed for use on fragile skin. Some foams may be impregnated with antimicrobial agents, such as silver or polyhexamethylene biguanide (PHMB)	Due to fluid-handling capacity, only suitable for low–to–medium exudate
Hydrofibre dressings (carboxymethyl cellulose) Alginates	Absorb exudate into dressing forming a gel conforming to the shape of the wound. May also trap microorganisms and matrix metalloproteinases (MMPs) within the gel	Some alginates have haemostatic properties. Will require a secondary dressing. May also contain antimicrobial agents, such as silver	Moderate–to–high exudate
Superabsorbents	Absorb and lock bacteria into the dressing. Superabsorbents containing polyacrylate polymers (SAP) can reduce MMPs and bacteria within the wound	Efficiency may vary according to make of product. May lead to longer dressing wear time and reduced maceration to surrounding skin. Retains fluid handling under compression. Most will require secondary dressing Some superabsorbents have a silicone adhesive	Superior fluid handling — suitable for medium-to-high exudate
Negative pressure wound therapy (NPWT)	Applies controlled negative pressure via suction. Exudate is collected either via a canister or into a foam dressing which uses MVTR to manage exudate	May need training on product use. May not be available in all settings. Several contraindications for use, e.g. untreated osteomyelitis, exposed blood vessels, bleeding wounds, unexplored fistulae	Disposable NWPT can be used on low–to–moderate exudate. Powered NWPT attached to a canister is effective for highly exuding wounds

GPN

HARTMANN

Case study

- 45-year old female patient with lymphoedema who had a longstanding leg ulcer
- She had been self-managing between appointments with compression wraps
- Compression wraps helped to control fluid in her legs.

Leg ulcer at initial presentation

Case study *continued*

- It was decided to introduce Zetuvit® Plus to help manage the exudate being produced
- At this stage, the wound measured 37x11cm
- But, after just two weeks' treatment with this dressing, the wound had reduced to 27x7cm
- The community nursing team assessed the dressing for:
  - Ease of application and removal
  - Comfort
  - Ability to manage exudate
  - Use under compression.

Reduction in wound size after two weeks' treatment with Zetuvit Plus

Case study *continued*

Conclusion

- Absorbency of the dressing reduced the number of dressing changes needed, resulting in both cost- and time-savings
- Patient said that the dressing was comfortable to wear and that it was easy to apply and remove
- Clinicians commented that Zetuvit Plus:
  - Managed exudate well and that there was no damage to the peri-wound skin
  - Reliably retained exudate within the absorbent core without any detrimental effects on the level of compression applied.

This case report has been reproduced courtesy of Kimberley Wilde, wound care pathway lead, Pennine Care

GPN

HARTMANN

Case study *continued*

- Exudate can be a significant challenge for clinicians to manage and causes of excessive exudate can be complex
- Comprehensive, structured patient assessment will assist in identifying underlying causes that will need to be addressed to manage exudate and prevent peri-wound skin damage effectively
- Understanding the impact of uncontrolled exudate is essential and patient involvement and understanding can lead to better concordance and co-partnership
- Dressing selection can play a vital role in the management of exudate, and should be based on the volume of exudate being produced, product availability and patient choice.

GPN

HARTMANN

HARTMANN UKI

Please visit the webpage www.hartmann.co.uk, or contact your HARTMANN UKI representative for more details

Phone: +44 (0) 1706 363200

Email: info@uk.hartmann.info

Visit the GPN Academy: www.gpnursing.co.uk/hartmann-academy


To access your
certificate
visit: www.gpn-live.co.uk/certificate
GPN
HARTMANN


Thank you
for watching