

Exudate

Everything you
need to know
about but were
afraid to ask

EXPLAINED

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Glossary

EXUDATE: Fluid that comes from the wound

PERIWOUND: The area around the wound (surrounding skin), which can be damaged by exudate

MACERATION: Softening or breakdown of the skin due to prolonged exposure to moisture

EXCORIATION: Skin erosion due to prolonged exposure to moisture (caused by its components)

MASD: Moisture-associated skin damage, which can be caused by exudate, urine, or other fluids

VISCOSITY: The consistency of the fluid (e.g. thick or thin/watery); for more information on different types of exudate, see page 4

What is exudate?

Exudate consists of fluid that has leaked out of blood vessels and closely resembles blood plasma (WUWHS, 2019). Exudate production forms part of the normal wound healing process and can be beneficial to healing, by:

- Maintaining a moist wound healing environment
- Carrying tissue-repairing cells and essential nutrients
- Enabling autolytic debridement of the wound bed (natural removal of dead or devitalised tissue).

However, when in the wrong amount, in the wrong place, or of the wrong composition, exudate can delay healing and cause complications (WUWHS, 2019).

It is important to remember that exudate can be a good indicator of the state of a wound. Wound exudate should be monitored – in terms of several factors such as exudate amount, colour, viscosity (thickness) and odour – and any changes should trigger action (Simon, 2020).

What causes excessive exudate?

Some wounds, such as chronic venous leg ulcers, burns, dehisced surgical wounds and donor site wounds, are more likely to produce higher levels of exudate due to its role in the healing processes involved.

If any wound is hard-to-heal and becomes chronic, the healing process is disrupted and exudate may increase or change composition in a way that may be damaging to the wound

and the surrounding skin (periwound). Studies have shown that exudate produced by chronic wounds differs in composition compared to acute wounds and causes more damage to the skin (WUWHS, 2019).

Exudate production can increase for a variety of other reasons, such as:

- Infection
- Trauma
- Presence of oedema or underlying conditions – e.g. lymphatic, renal, cardiac or hepatic failure
- Medications – e.g. steroids.

Why does it matter?

It is important that exudate is assessed and managed appropriately and that the underlying causes are explored. If exudate is not properly managed, healing may be delayed and damage caused to the periwound. Excessive or unmanaged exudate can be distressing to the patient and affect their activities of daily living and quality of life, impacting on relationships and mental health, resulting in being self-conscious and potentially causing isolation. This can be as a result of related issues such as leakage, odour, pain, discomfort and soiling of clothes or bed linen.

Assessing exudate

Assessment of wound exudate should take place in the context of a structured holistic wound assessment. This should include: the overall health of the patient, current wound management, patient/carer queries and or concerns, the cause of the wound, the wound itself, the exudate, the periwound area and the risk for future wound development (WUWHS, 2019).

It is vital that underlying causes are assessed and that care is tailored to the individual and their circumstances. Progress should be assessed and documented on an ongoing basis, if necessary,

forming the basis of a step-up/step-down treatment regimen.

Assessment of exudate should include:

- Type, colour and consistency
- Amount
- Odour.

Exudate type, colour and consistency (viscosity) can provide useful indicators of the stage of healing and possible problems. For example, a change from clear, thin exudate to opaque, discoloured, thick exudate may indicate the development of wound infection.

Identifying different types of exudate (adapted from WUWHS, 2019)

Type	Colour/opacity	Consistency	Cause
Serous	Clear/amber/straw-coloured	Thin, watery	Often a normal part of healing, but an increase or excessive amounts may indicate an underlying issue requiring reassessment
Fibrinous	Cloudy	Thin, watery	Containing fibrin strands, may indicate inflammation (with or without infection)
Serosanguinous	Clear/pink to light red	Thin, slightly thicker than water	Presence of red blood cells indicates capillary damage, may occur post-operatively or due to traumatic dressing removal
Sanguinous	Red	Thin, watery	Low protein content or presence of red blood cells indicating capillary damage; may be associated with hypergranulation
Seropurulent	Cloudy, creamy, yellow or tan	Thin	Serous exudate containing pus, may indicate impending infection
Purulent	Opaque, milky, yellow, tan or brown; sometimes green	Often thick/sticky	Indicates infection, may be associated with malodour
Haemopurulent	Reddish, milky, opaque	Thick	Mixture of blood and pus, often due to established infection
Haemorrhagic	Red, opaque	Thick	May indicate trauma to the wound or bacterial infection

Dressing selection

Managing exudate in practice can be a challenge and appropriate dressing selection is key. Superabsorbent polymer (SAP) dressings have been found to be ideal for managing wounds with moderate to high volumes of exudate, as they provide excellent absorption and retention of exudate, help to maintain optimal wound bed conditions, and are able to prevent leakage and other exudate-related complications (Hiskett, 2020).

Zetuvit® Plus Silicone Border (HARTMANN) is a simple and safe adhesive Silicone SAP dressing with a border that provides very good absorption and retention performance while maintaining optimal microclimate. The dressing is ideal for managing moderate to highly exuding wounds, and is also suitable for shared care in suitable patients. This can lead to significant savings in clinician time and resources (Hiskett, 2020). In clinical evaluations, Zetuvit Plus Silicone Border was found to be an effective option, which made time and cost savings, and resulted in better patient quality of life and healing outcomes (Barrett et al, 2020; Hiskett, 2020).

In a trial, 97% of clinicians agreed that the dressing successfully managed exudate, over 90% rated it 'excellent' or 'good' for ease of application and 89% would use again (Barrett et al, 2020). Use of the dressings was also found to have a beneficial impact on the wound edge and periwound skin, reducing periwound skin complications and enabling the development of healthier tissue (Barrett et al, 2020).

Zetuvit Plus Silicone Border dressings can be used as part of a 'step-up/step-down' care pathway as exudate levels change.

'Step-up/step-down' treatment as needed (adapted from WUWHs, 2019)

Too dry	Select a dressing that conserves or donates moisture
	Use a thinner/less absorbent version of the current dressing
	Decrease the frequency of dressing changes
Optimal	Continue using current dressing
	Do not change the frequency of dressing changes
Too moist	Use a thicker/more absorbent version of the current dressing
	Change to a dressing with greater fluid-handling capacity
	Add/use a higher-absorbency secondary dressing
	Increase the frequency of the primary and/or secondary dressing change
	Consider negative pressure wound therapy or wound drainage collection or ostomy/fistula appliance

Semi-permeable backing film

> Bacteria and showerproof

Green hydrophobic backing

Absorbent core

Consisting of:

- Unique SAP & cellulose combination
- Diffusion layer

> Absorbs and retains exudate

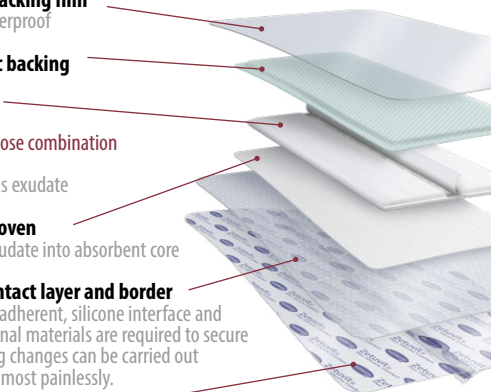
Hydrophilic non-woven

> Quick uptake of exudate into absorbent core

Silicone wound contact layer and border

> Featuring a micro-adherent, silicone interface and borders so no additional materials are required to secure the dressing. Dressing changes can be carried out atraumatically and almost painlessly.

Protective sheets



Shared care

Shared care means encouraging patients to take an active role in their treatment, working in partnership with their healthcare professional. Ensuring that the patient is happy to be involved, understands their treatment and knows who to contact if necessary is key. This may include knowing when dressings need to be changed in terms of exudate handling, or knowing how to spot changes to the wound or the amount/type of exudate that may require clinician advice.

Some tips for patients to look out for (and when to contact your healthcare professional):

- Monitor your wound and any changes to wound exudate (amount, colour, consistency, smell) – if there are changes

or you are concerned, contact your healthcare professional

- Consider keeping a wound journal to monitor progress, including photographs if possible
- Change your dressing as instructed
- If you have issues with your wound dressing, or the dressing becomes saturated, contact your healthcare professional.

*HARTMANN have developed **HOME**, a resource designed to facilitate shared care, helping patients and healthcare professionals to get the best out of treatment*

For **HOME** resources visit: sharedcareathome.com

Benefits of shared care in practice (adapted from Hiskett, 2020)

Patient	Sense of purpose
	Achieving a goal
	Better understanding of their health
	Financial benefits
	Motivation to heal
Healthcare professional	Effective use of resources
	Improved engagement with treatment
	Clinical outcomes
	Time- and cost-effective care

References

Barrett S et al (2020) Treatment of 52 patients with a self-adhesive siliconized superabsorbent dressing: a multicentre observational study. *JWC* 29(6)

Hiskett G (2020) Shared care in wound management: A significant opportunity. *GPN* 6(3)

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WOUND EXUDATE PATHWAY

DRY	LOW	MODERATE	HIGH
<p>Little or no exudate on dressing after 1 week</p>	<p>1-2 dressing changes a week Exudate contained within dressing No periwound maceration</p>	<p>2-3 dressing changes a week No strikethrough Minimal periwound maceration Oedema may be present</p>	<p>3-7+ dressing changes a week Probable periwound maceration / excoriation Strikethrough on dressings and bandages Possible presence of oedema</p>
<p>Is debridement indicated? Refer to local debridement policy/guidelines If on the foot, refer to podiatry for assessment If lower limb wound, what is the ABPI? If ischaemia suspected, refer to vascular</p>	<p>Consider reasons for low level of exudate Are the dressing changes too frequent? Is the patient dehydrated? Is the limb ischaemic?</p>	<p>Is this normal for this stage of healing? Is the wound infected? If wound is a leg ulcer, is patient suitable for compression? If a VLU, is strong compression in place (min of 40 mmHg)?</p>	<p>Re-assess patient / wound. Consider and manage causes for high levels of exudate: infection, inflammation, unmanaged oedema Are dressing changes frequent enough? If compression is in situ, is this applied correctly?</p>
<p>If debridement is not indicated, use non-adherent dressing (1) If debridement is indicated, apply dressing to aid autolytic debridement (2)</p>	<p>Discuss fluid intake and advise on adequate hydration requirements If the wound is on the lower limb, undertake a lower limb assessment / ABPI if ischaemia is suspected</p>	<p>Treat local infection / cause of inflammation (if applicable) Manage oedema – if indicated, full compression should be applied Consider management plan / frequency of dressing change</p>	<p>Consider further investigations to identify cause for increased exudate levels</p>
<p>Suggested dressings: Non-adherent dressing (Atrauman[®], Hydrogel HRWD (Hydro-Clean[®]))</p>	<p>Suggested dressings: Hydrogel (Hydro-sorb[®]) Foam</p>	<p>Suggested dressings: Alginate Hydrofibre Superabsorbent (Zetuvit[®] Plus, Zetuvit[®] Plus Silicone, Zetuvit[®] Plus Silicone Border)</p>	<p>Suggested dressings: Superabsorbent (Zetuvit[®] Plus, Zetuvit[®] Plus Silicone range)</p>

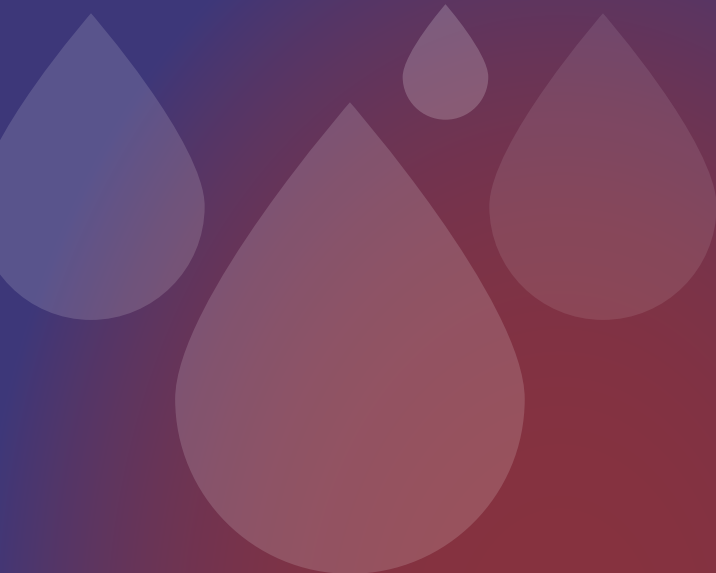
ASSESSMENT

MANAGEMENT

STEP DOWN

If exudate levels increase, review patient and step up the dressing absorbency
If exudate levels reduce, assess wound and step down the dressing absorbency

STEP UP



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