FACEBOOK LIVE

19 OCT

MICROWORLD: A NEW WAY TO LEARN ABOUT WOUND EXUDATE

PRESENTED BY:
SIOBHAN MCCOULOUGH

WOUND CARE PEOPLE AND MICROWORLD

IN PARTNERSHIP WITH Mölnlycke®

9:59

STARTING SHORTLY...

HAVE A QUESTION?

COMMENT ON THE VIDEO

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LEARNING OBJECTIVES

At the end of this session the listener will be able to:

- Recognise the different components that make up Microworld
- Appreciate that Microworld offers a new animated way to learn
- Understand the role of wound exudate in normal healing
- Understand why wound exudate can be problematic
- Identify and prevent problems associated with exudate
- Understand the aims of exudate management.

WHAT IS MICROWORLD?

- Microworld can connect and educate professionals from around the world
- Completing a module:
  - **Counts towards revalidation**
  - **Opens other learning areas of the site**
- Complex content delivered through fun, engaging interactive animations, videos, games and illustrations.

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CHARACTERS

GLUCOSE
(GLUCO)

MACROPHAGE
(MAC / THE CLEANER)

MONOCYTES
(MC)

PLATELETS
(CLOTSWORTH)

PROTEASE ENZYME
(PRO TWINS)

PROTEASE INHIBITORS
(PRO TWINS)

EXUDATE
(MR X)

NEUTROPHIL
(NEWT)

RED BLOOD CELLS
(SCARLET / THE RBCS)

GROWTH FACTORS
(THE CONTROLLER)

FIBROBLAST / MYOFIBROBLAST

NUTRIENTS & OXYGEN
(YELLOW) (BLUE)

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CLASS 1: WOUND HEALING

This class will take you through:

- The delicate process of wound healing
- The functions and anatomy of the skin and
- The four phases of healing.

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LEVEL 1

EPIDERMIS

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CLASS 2: WOUND EXUDATE

This class will take you through:

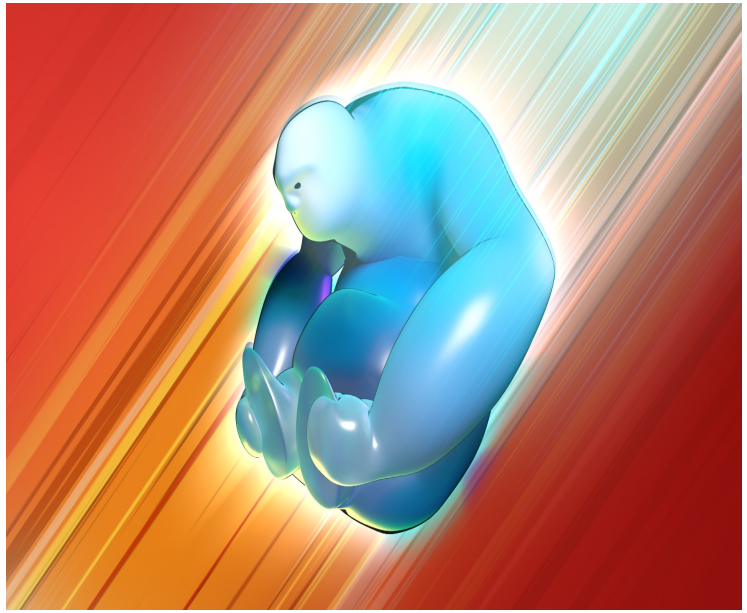
- What exudate is
- Exudate in normal and abnormal wound healing
- Holistic wound and exudate assessment
- Management and prevention of complications.

WHEN AN INJURY OCCURS

- Inflammation
- First stage of wound healing triggered
- **Inflammatory mediators** (e.g. histamine) released into the blood
- Increases permeability of capillaries
- Essential cells/molecules for healing pass through capillary wall into wound
- The resulting fluid is **exudate**.


INSIDE CAPILLARY
HISTAMINES
Inflammatory mediators, such as histamine, are released in to the blood

EXUDATE IS ESSENTIAL



- Exudate is an **essential fluid** that delivers all the components needed to start the wound healing process
- Moist wounds heal **2–3 times more quickly** than wounds that are allowed to dry out (Winter, 1962; Hinman and Maibach, 1963)
- Exudate **bathes the wound bed** to prevent it from becoming dry.

WOUND EXUDATE CONTAINS SO MUCH

- **Clotting agents** to stop bleeding on initial wounding
- **Nutrients** that provide energy for cellular repair
- **White blood cells** that clean the wound at different stages of healing

- **Growth factors** that control healing activity
- **Protease enzymes** that break down proteins in the wound
- **Protease enzyme inhibitors** prevent proteases from being active once their job is done (WUWHS, 2019).

LARGE VOLUME OF EXUDATE

- Some wound types may produce more exudate, such as:
  - **Venous leg ulcers**
  - **Larger wounds**
  - **Deep wounds**
- If an acute wound is healing properly, exudate volume will reduce as the wound heals.

POINTS FOR PRACTICE

- Understand the stage of healing the wound has reached as this influences the volume of wound exudate to expect:
  - **Initial inflammatory phase, more exudate is required**
  - **Granulation and epithelialisation phases, less exudate is required**

- Some patients/carers believe the production of exudate is bad. Explain the important role of exudate to educate and involve them at every step:
  - **They will feel part of the decision-making process and understand what you are trying to achieve.**

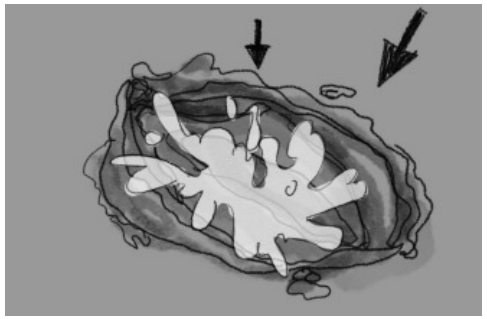
POINTS FOR PRACTICE

- If a large volume of exudate is produced, be proactive and ensure you **protect the periwound skin** before there are any signs of periwound moisture-associated dermatitis

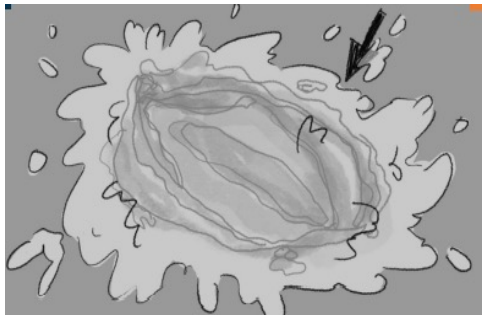
- If wounds start producing more exudate than normal it could indicate a **change in wound status**, such as **infection**, or a change in the status of an underlying condition.

EXUDATE CAN DELAY HEALING

In some cases, exudate can delay healing, if:

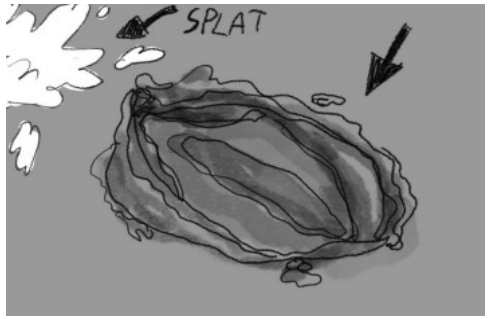


Too little

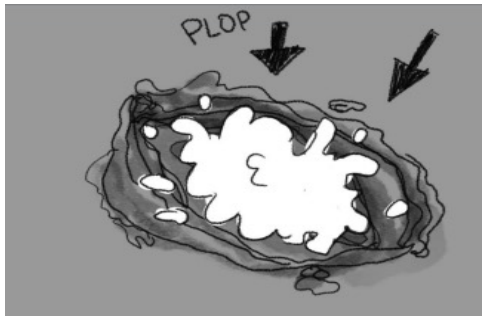


Too much

In the wrong place



The wrong composition



FACTORS AFFECTING EXUDATE VOLUME

- **Phase of healing:**
  - Largest volume of exudate is produced in the inflammatory and proliferative phases of wound healing
  - In hard-to-heal wounds the inflammatory phase is longer, leading to prolonged exudate production

- **Systemic** – e.g. cardiac, venous and lymphatic disorders, resulting in excess exudate being produced
  - Underlying condition needs to be addressed to correct this

- **Local** – the size, depth, location, or type of wound, wound infection and presence of devitalised tissue

IMPACT ON WOUND HEALING ENVIRONMENT

- Exudate from hard-to-heal wounds can have a **negative impact** on the wound healing environment
- The inflammatory process is **prolonged**
- Proteases that are normally carefully regulated become **unregulated** (WUWHS, 2007)
- This means that exudate can result in **damage** including wound enlargement and delayed healing
- Comprehensive **assessment** and **optimal management** of wound exudate is therefore of paramount importance.

IMPACT ON PERIWOUND SKIN

The periwound skin should be assessed for evidence of:

- Maceration – when the skin turns soft and white with a wrinkled appearance (Bianchi, 2012)
- Excoriation – fiery, red, inflamed, wet tissue that is often associated with pain
- Erythema – redness
- Spongy texture
- Wounding.

EXUDATE AND QUALITY OF LIFE

- Poorly managed exudate can lead to:
  - **Pain and discomfort**
  - **Leakage and soiling of clothes/bedding**
  - **Odour**
  - **Frequent dressing changes**
- Patients generally have a poor quality of life
- Patients can become socially isolated and depressed.

WOUND ASSESSMENT

Tools are available to help undertake and document a holistic wound assessment.

This assessment should consider:

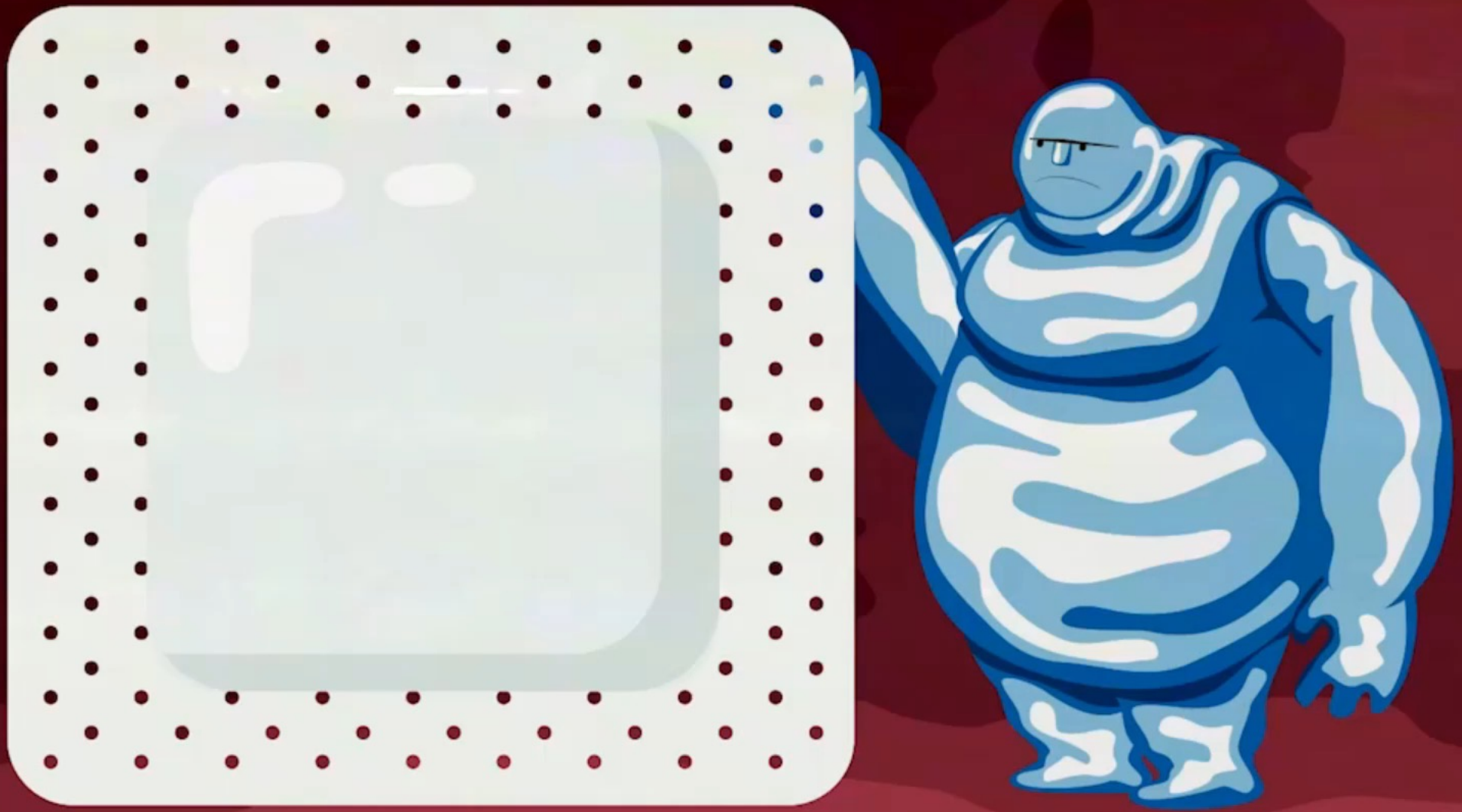
- **The wound bed**
- **Periwound skin**
- **Exudate and odour**

Other factors that may affect the patient and their wound:

- **Pain**
- **Arterial status**
- **Nutrition and hydration**
- **Psychosocial status.**

EXUDATE ASSESSMENT

- Assessing exudate can be difficult
- Key things to look out for are **colour, odour, consistency** and **volume**
- Normal exudate is **clear or straw-coloured** and is fairly **thin**
- When there are white cells and bacteria in the exudate it becomes **thicker, opaque** and **discoloured**
- **Pink or red** exudate may indicate the presence of red **blood** cells or a traumatic dressing change (WUWHS, 2019).



POINTS FOR PRACTICE

- Examining the wound and dressing before and after removal gives an indication of the type of exudate and how the dressing is performing
  - **Note wear time**
  - **Take a photo of the dressing pad on removal**
- Some wounds may have a low volume of exudate; if so, use a wound dressing that rehydrates the wound bed
- With a large volume of exudate, protein is lost:
  - **A hard-to-heal wound can increase protein requirement by 250% and can increase calorie requirement by 50% (Quain and Khardori, 2015).**

EXUDATE MANAGEMENT

Clinicians who manage wound exudate effectively will aim to:

- Optimise the patient's condition and quality of life
- Manage wound-related symptoms
- Prevent or manage factors that contribute to the development or perpetuation of the wound and to abnormal exudate volume or composition
- Consider patient preferences and provide patient/carer education.

EXUDATE MANAGEMENT

(continued)

- Conduct further **investigations** and make specialist **referrals** when necessary
- Optimise the condition of the **wound bed** and periwound skin
- Achieve **moisture balance**
- Prevent and **treat** any other exudate-related problems (WUWHS, 2019).

POINTS FOR PRACTICE

- Macerated skin has a **higher pH** than normal skin and is therefore at increased risk of **damage** and bacterial/fungal **infections**
- Some patients may have a **high volume** of wound exudate for a considerable **length of time** and the wound will not heal, e.g. fungating wounds
- Full, therapeutic **compression therapy** for venous leg ulcers is likely to be effective in reducing exudate production.

EXUDATE MANAGEMENT – WOUND DRESSINGS

- Choose the **appropriate dressing** for the amount and type of exudate produced by the wound (Gardner, 2012)
- The dressing should **contour** to the wound bed so that the pooling of exudate is prevented
- Absorbent dressings should be able to efficiently transfer exudate to **prevent pooling**
- When required, the absorbent dressing should support a clean wound bed by **absorbing and retaining exudate** and micro-organisms and promote autolytic debridement.

EXUDATE MANAGEMENT – WOUND DRESSINGS

- Topical **antimicrobials** incorporated with efficient absorption may be required when wound biofilm or infection are present
- **Negative pressure wound therapy** (NPWT) can also be used to remove excess fluid from the wound bed (Bianchi, 2012)
- Low volumes of exudate may prevent migration of epithelial cells - dressings that **keep the wound moist** have been shown to improve healing rates and reduce pain and infection (Wiegand et al, 2015).

WOUND DRESSINGS – PERIWOUND SKIN PROTECTION

- Protect the **periwound skin** from the effects of excess exudate with high absorbency and retention capacity dressings
- Skin **barriers or creams** can protect healthy skin from exposure to corrosive exudate (Bianchi, 2012)
- Adhesive dressings can **damage** delicate periwound skin and should be avoided
- Use **low adherent or silicone dressings** instead (Bianchi, 2012; WUWHS, 2019).

WOUND DRESSINGS – THE PATIENT

- The patient should always be **at the centre** of any decision-making when choosing a dressing
- This will ensure it **suits their needs** and fits in with their daily life
- It will **aid concordance** and help to improve their quality of life.

POINTS FOR PRACTICE

- Be aware of how each type of absorbent wound dressing works. Gelling fibres, foams and superabsorbents all **absorb** and deal with exudate in **different ways**

- Position the dressing to best absorb exudate bearing in mind **gravity** can pull exudate downwards in some cases

  E.g. if you are using a secondary dressing over a primary dressing in a lower limb wound, place more of the secondary dressing under the wound to protect the periwound skin

- Ensure that the size of the absorbent **pad covers the wound** and surrounding skin to offer protection to the periwound area.

POINTS FOR PRACTICE

- If a secondary dressing is required, ensure that the primary dressing used is **capable** of transferring fluid into it

  E.g. using a waterproof film-backed primary dressing will prevent the transfer of exudate

- It is important to keep the **wound bed moist** to promote healing

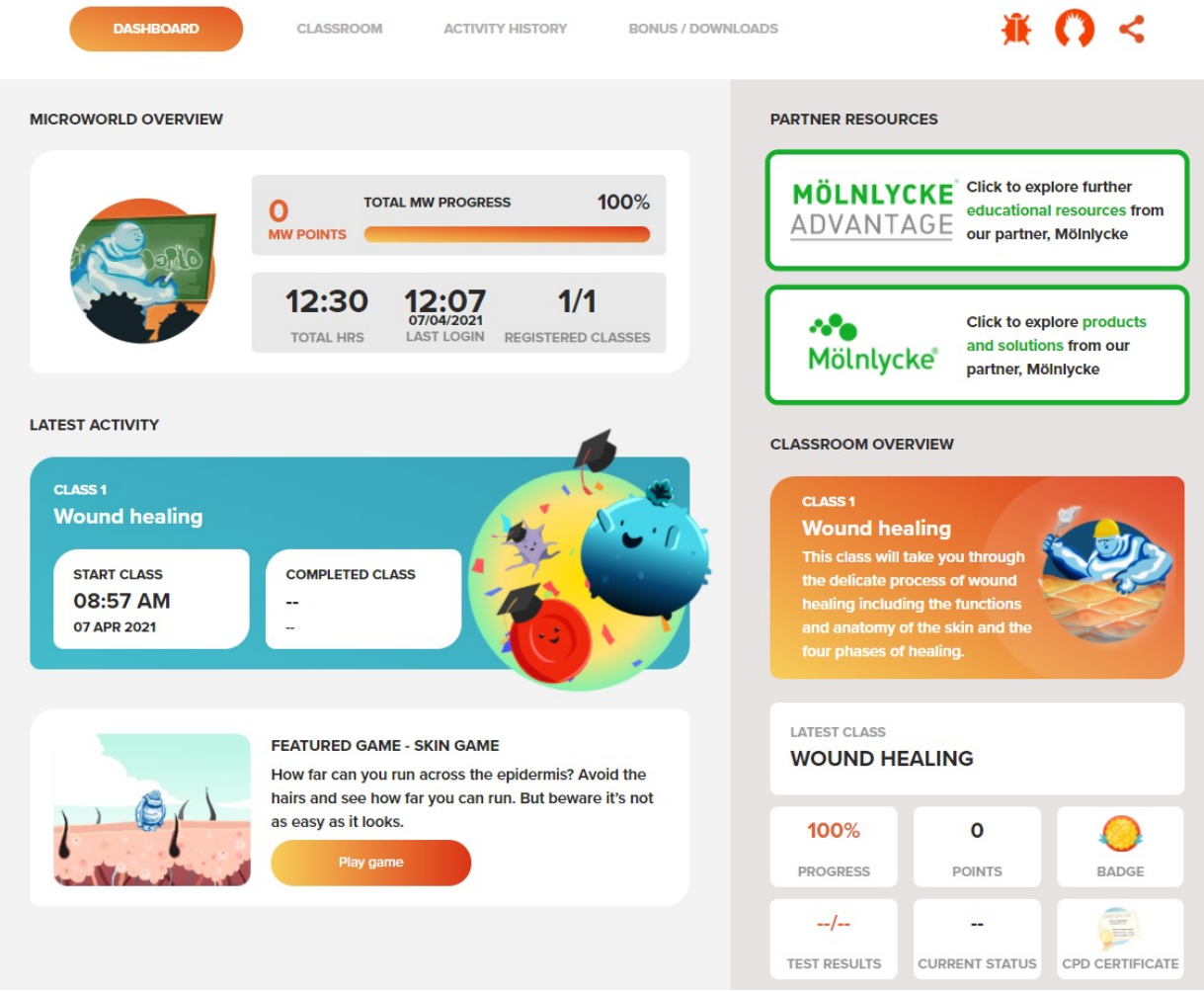
- As the wound **condition changes** over time, so too will the dressing that is needed

- Assess the wound and dressing at each change, to ensure the **right dressing** is used to achieve moisture balance.

AT THE END OF THE MODULE

- Repeat and recap on information
- Undertake a test to assess learning
- Monitor progress on the dashboard.

DASHBOARD



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CONCLUSIONS

- Microworld offers a **new animated** way to learn, catering for the different learning styles
- Exudate is an **essential fluid** to deliver what is needed to start the wound healing process
- In hard-to-heal wounds exudate can have a **negative impact** on the wound healing environment
- The **patient should be at the centre** of wound assessment and management
- Microworld can offer an **enhanced learning** experience.

VISIT MICROWORLD

Register at Microworld
www.mymicroworld.online/
to undertake the full wound healing and wound exudate modules.

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SEND IN YOUR QUESTIONS FOR SIOBHAN

LIVE Q&A

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