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**Flexible learning in challenging times:
development of an e-learning resource for
health care students**

Karen Ousey

University of Huddersfield



Introduction

- Nurses and podiatrists are regularly involved in the care of patients with chronic wounds
- Collaborative practice is an essential component of modern wound care however the reality remains that there is often little collaboration between the two professions

Barriers to collaborative practice

- Lack of awareness of each others roles
- Professional stereotyping
- Professional identity
- Inconsistent educational strategies
- No exposure to interprofessional education at undergraduate or postgraduate level

(Mandy et al 2005; Xyrichis and Lowton 2007)

Objectives

The Interactive Web Based Resource will provide an innovative approach to wound care education that will:

- Bridge the theory to practice gap
- Broaden perspectives beyond the students specialist area
- Highlight the importance of interdisciplinary working and raise awareness of each others roles.

Problem Based Learning

- Savin-Baden (2000)
‘PBL should mimic practice in so far as it reflects the collegiate way in which practitioners need to operate, identifying their own and others’ expertise and working coherently to solve a problem’
- Aims to develop:
 - Critical thinkers
 - Problem Solvers
 - Questioning students

Structure

- Core knowledge
- Case study selection
- Resources
- Quizzes
- Activities
- Interactive

Welcome to Challenges in Wound Care, an interactive on line teaching and learning tool for practitioners involved in wound care and tissue viability. The tool aims to offer an inter-professional approach to wound care and tissue viability issues encouraging an awareness of professional roles and the need for liaison and referral to ensure optimum patient care and enhance professional practice.

The tool is split into two sections and uses a problem based learning format with case studies scenarios centred on the assessment, diagnosis and management of various wound care scenarios.

The two sections are:

Core Knowledge

- | | |
|--|--|
| 01 Chronic Oedema | 07 Pain |
| 02 Physiology of Wound Healing | 08 Diabetic Foot Ulcers |
| 03 Wound Debridement | 09 Pressure Ulcer Management |
| 04 Wound Products | 10 Recognising Infection |
| 05 Wound Cleansing | 11 Exudate Management |
| 06 Nutrition | 12 Legal Issues |

Clinical Case Studies

- | | |
|--|---|
| 01 Pressure Ulcer | 04 Venous Ulcer |
| 02 Surgical Dehiscence Wound | 05 Arterial Ulcer |
| 03 Diabetic Foot Ulcer | 06 Mixed Disease Ulceration |

Resources

- | | |
|---|-----------------------------------|
| 01 Leg Ulcer Differential Diagnosis | 02 External Links |
|---|-----------------------------------|



Survey ...
Click here to let
us know your
feedback by taking
our [online survey!](#)

It is anticipated that you will first work through the core knowledge section, which will give you the underpinning knowledge to undertake the case studies.

There are number of differences between acute and chronic wounds as described by Cutting and Tong (2003) and displayed in the table below:

Acute	Chronic
Short duration for healing	Not healed within 6 weeks of formation
No underlying pathology	Underlying pathology
Normal inflammatory stage	Prolonged inflammatory stage
Usually heal without complication	A variety of complications
Acute wound fluid supports cell proliferation	Chronic wound fluid does not support cell proliferation
Acute wound fluid does not damage peri-wound skin	Chronic wound fluid damaging to peri-operative skin
Neutrophil elastase and MMP levels are normal	Neutrophil elastase and MMP levels are high
Fibronectin intact	Fibronectin degraded
Normal remodelling of extracellular matrix	Defective remodelling of extracellular matrix
Normal levels of inflammatory cytokines	Increased levels of pro-inflammatory cytokines

The acronym **TIME** may be used to assess and manage wound bed preparation.

Tissue Management: Assess the amount of viable and non-viable tissue. The presence of slough and necrotic tissue can delay healing. Useful to use % to act as an objective marker

Infection/ inflammation: Prevention of infection is vital to prevent complications. Signs and symptoms of infection are frequently absent with subtle changes such as increase in exudate may be only indication of infection. Infection is frequently polymicrobial with a rapid onset and osteomyelitis is a frequent complication.

Moisture Balance: Assess wound exudate and record

Edges of the wound: Closure of diabetic foot ulcers can be delayed due to necrotic tissue. Skilled sharp debridement is essential to promote healing.

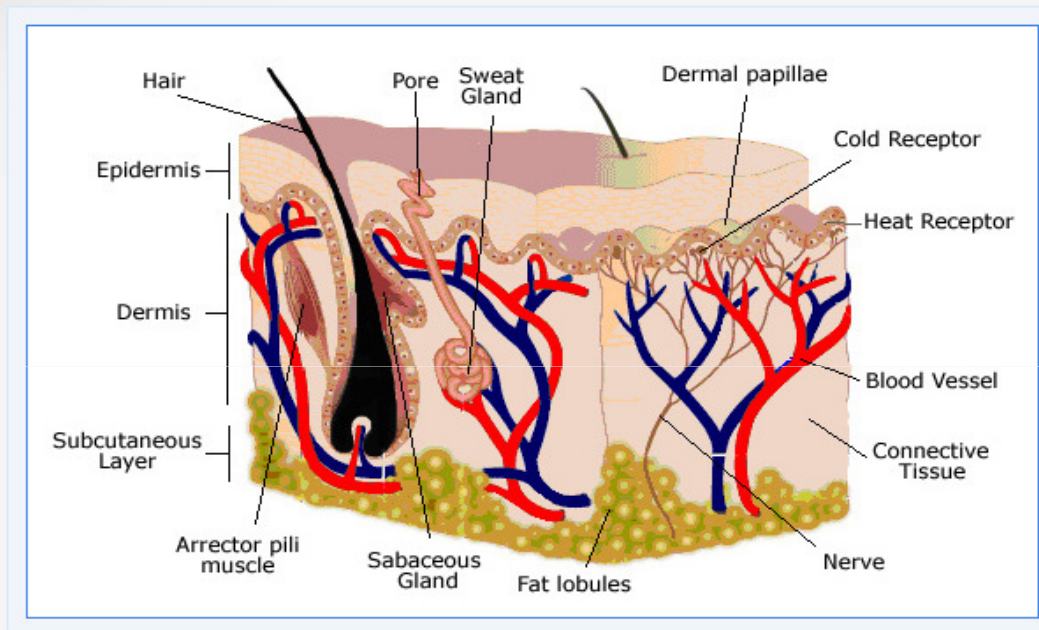
There may be a failure of epithelial advancement due to:

- Callus
- Dried exudate
- Non-viable tissue
- Wound pH
- Growth factor deficiency
- Excess protease activity
- Abnormal cellular matrix components

Blood Vessels

There are three interconnected networks of blood vessels associated with the skin:

- 01 Capillary network beneath the epidermis – plexus
- 02 Arterioles and venules in the dermis
- 03 Larger arteries and veins in the subcutaneous tissue



Functions of the skin

The skin has several functions:

- Protection of internal structures
- Sensory perception
- Regulation of body temperature
- Excretion
- Metabolism
- Absorption
- Immunity

Clinical Case Study: Mixed Disease Ulceration



CHALLENGES IN WOUND CARE

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Slide 1 / 17 | Stopped



Challenges in Wound Care

Outline Thumb Notes Search

Slide Title Duration

CLINICAL CASE STUDY...

INTRODUCTION

Patient

Social circumstances ...

Family history and nut...

Mobility and mental st...

Current status

ASSESSMENT

Baseline assessment

Pulses and ABPI

Establishing aetiology ...

Establishing aetiology ...

MRA scan

TREATMENT

Wound management

QUIZ

END

0 Minutes 2 Seconds Remaining

INTRODUCTION



Mobility

Independent and active, Lilly is the main carer for her husband.



Mental status

Lilly has no history of mental illness and is generally very positive and outgoing, although she admits becoming increasingly concerned about her ulceration, not for herself but in terms of who would look after her husband if she required hospitalisation.



CHALLENGES IN WOUND CARE



Slide 6 / 17 | Stopped



Challenges in Wound Care

Outline	Thumb	Notes	Search
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Slide Title	Duration
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CLINICAL CASE STU...	
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INTRODUCTION	
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Patient	
---------	--

Social circumstances ...	
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Family history and nut...	
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► Mobility and mental st...	
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Current status	
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ASSESSMENT	
------------	--

Baseline assessment	
---------------------	--

Pulses and ABPI	
-----------------	--

Establishing aetiology ...	
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Establishing aetiology ...	
----------------------------	--

MRA scan	
----------	--

TREATMENT	
-----------	--

Wound management	
------------------	--

QUIZ	
------	--

END	
-----	--

0 Minutes 2 Seconds Remaining

ASSESSMENT

Wound assessment

How would you describe these ulcers?

The **tissue** on Mary's ulcer is mostly viable with approx 15 % of non viable tissue evident (slough) there is evidence of increased bacterial load as the wound bed appears generally **inflamed** and the exudate was malodorous, there is a definite **moisture** imbalance as the levels of exudate was high and the **edges** are non advancing: there was no evidence of new granulation tissue or epithelial growth around the wound edges.



Flash clock on Istock File #: 10438765

For more information on
Wound Classification see
attached PDF



CHALLENGES IN WOUND CARE



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Challenges in Wound Care

Outline Thumb Notes Search

Slide Title

Duration

CLINICAL CASE STU...

INTRODUCTION

Patient (1)

Patient (2)

Patient (3)

Social circumstances

Medical and family his...

Nutritional status

Mobility

Mental status

Current status

ASSESSMENT

Baseline assessment

Wound assessment (1)

Wound assessment (2)

▶ Wound assessment (3)

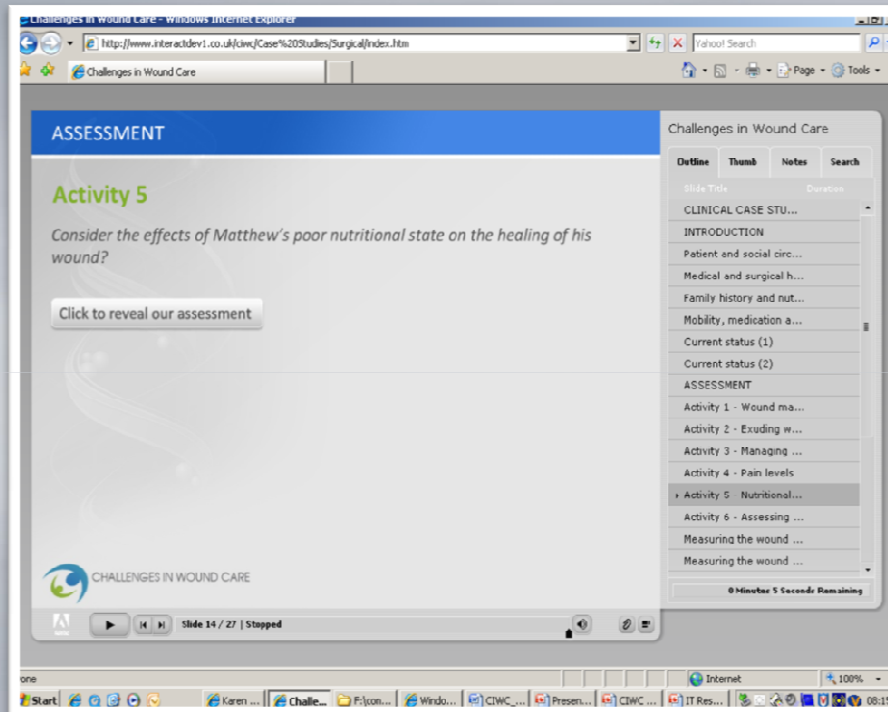
Wound assessment (4)

Wound assessment (5)

Wound assessment (6)

0 Minutes 7 Seconds Remaining

Interactivity



Challenges in Wound Care - Windows Internet Explorer

http://www.interactdev1.co.uk/cwec/Case%20Studies/Surgical/index.htm

Challenges in Wound Care

ASSESSMENT

Activity 5

Consider the effects of Matthew's poor nutritional state on the healing of his wound?

Click to reveal our assessment

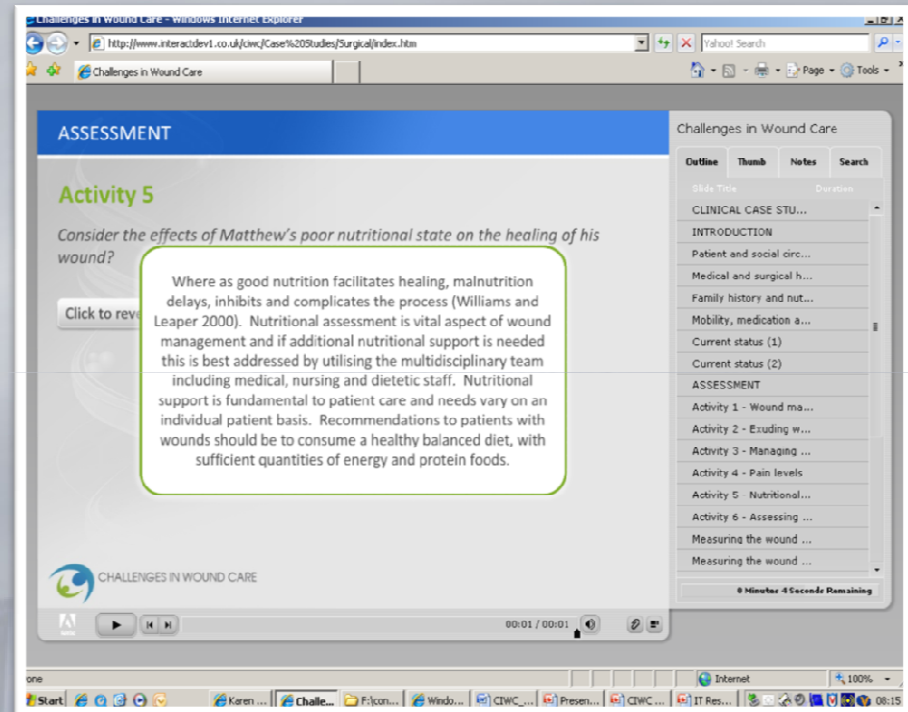
CHALLENGES IN WOUND CARE

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Challenges in Wound Care

Outline	Thumb	Notes	Search
CLINICAL CASE STU...			
INTRODUCTION			
Patient and social circ...			
Medical and surgical h...			
Family history and nut...			
Mobility, medication a...			
Current status (1)			
Current status (2)			
ASSESSMENT			
Activity 1 - Wound ma...			
Activity 2 - Exuding w...			
Activity 3 - Managing ...			
Activity 4 - Pain levels			
Activity 5 - Nutritional...			
Activity 6 - Assessing ...			
Measuring the wound ...			
Measuring the wound ...			

0 Minutes 5 Seconds Remaining



Challenges in Wound Care - Windows Internet Explorer

http://www.interactdev1.co.uk/cwec/Case%20Studies/Surgical/index.htm

Challenges in Wound Care

ASSESSMENT

Activity 5

Consider the effects of Matthew's poor nutritional state on the healing of his wound?

Click to reveal our assessment

Where as good nutrition facilitates healing, malnutrition delays, inhibits and complicates the process (Williams and Leaper 2000). Nutritional assessment is vital aspect of wound management and if additional nutritional support is needed this is best addressed by utilising the multidisciplinary team including medical, nursing and dietetic staff. Nutritional support is fundamental to patient care and needs vary on an individual patient basis. Recommendations to patients with wounds should be to consume a healthy balanced diet, with sufficient quantities of energy and protein foods.

CHALLENGES IN WOUND CARE

00:01 / 00:01

Challenges in Wound Care

Outline	Thumb	Notes	Search
CLINICAL CASE STU...			
INTRODUCTION			
Patient and social circ...			
Medical and surgical h...			
Family history and nut...			
Mobility, medication a...			
Current status (1)			
Current status (2)			
ASSESSMENT			
Activity 1 - Wound ma...			
Activity 2 - Exuding w...			
Activity 3 - Managing ...			
Activity 4 - Pain levels			
Activity 5 - Nutritional...			
Activity 6 - Assessing ...			
Measuring the wound ...			
Measuring the wound ...			

0 Minutes 4 Seconds Remaining

QUIZ

Q1: Cavity wounds that are left open and not sutured are left to heal by:

- ☐ A) Filling
- ☐ B) Primary Intention
- ☐ C) Secondary intention
- ☐ D) Granulation

Submit

Clear



CHALLENGES IN WOUND CARE



Answer Question



Challenges in Wound Care

Quiz

Thumb

Notes

Search

Quiz

01. Question 1

02. Question 2

03. Question 3

04. Question 4

05. Question 5

06. Question 6

Scored: 0/6

Passing Score: 3

Summary

- CIWC allows practitioners involved in wound care to develop their fundamental knowledge at a time convenient to them
- Acts as an adjunct to formal teaching
- Presents core knowledge development and proceeds to linking theory to practice – case studies
- Can be further developed for the interactivity element



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Thank You