PATIENT ASSESSMENT:

BEYOND THE WOUND

AIMS – LINKING RISK FACTORS TO HEALING

- Linking the risk factors to wound healing potential
- Nutrition and its role in wound healing
- Pain and its impact on wound healing and patient engagement
- Partnership working and patient engagement in care.

RISK FACTORS TO HEALING

	Alcohol		Infection
	Allergies		Malnutrition
	Auto immune disorders e.g. Rheumatoid arthritis		Peripheral arterial disease
	Blood disorders (inc abnormalities from screening)		Medication
	Cardiovascular disorders (in hypertension)		Neurological disorders
	Concordance concerns		Oedema
	Dehydration		Pain
	Dementia		Peripheral neuropathy
	Diabetes		Respiratory disorders
	Immobility		Smoking
	Incontinence		Assessed and none

Impact on healing

What can HCP do to improve outcomes?

NUTRITION AND WOUND HEALING

Important for each phase of healing

Wound care nutrition – a resource for **patients**

Some people are at higher risk of developing pressure sores or wounds due to:

- Reduced or limited mobility
- More time spent sitting or lying
- Poor nutrition or malnutrition
- Incontinence
- Traumatic injury or post-surgery
- Overnutrition and obesity
- Medical conditions that affect blood circulation or reduce movement e.g, Diabetes, peripheral arterial disease and multiple sclerosis, and many more.

Aims of treatment: If you have a wound, your nutritional requirements will likely be increased. Wound healing is an energy-demanding process, and certain nutrients are required to support blood clotting, tissue repair and collagen formation; if sufficient protein and energy is not consumed, your body will have to break down fat and protein stores, which can lead to malnutrition and muscle weakness.

You should try to maintain your weight during this process or avoid significant weight loss, as this could affect wound healing. If you are underweight, ask your Doctor, Nurse or Dietitian to explain food fortification and high calorie drinks and snacks.

PROTEIN is key to promoting wound healing. Protein requirements are increased when you have a wound so inadequate protein intake can delay healing.

- It is recommended to aim for **1.2-1.5 grams of protein per kilogram of body weight each day***. For example, if you weigh 60 kilograms, that would be 72-90g of protein each day. People who arebed-bound, non-weight bearing or who have severe illness may need as much as 2 grams of

Energy

- Guidelines recommend intake of 24 to 35kcal/kg/day.
- Sufficient calorie intake supports anabolism and spares the use of protein as an energy source.
- Carbohydrates are broken down into glucose which provides a major fuel source for the body.
- Dietary sources include bread, pasta, rice, potatoes, oats.

NUTRITION AND WOUND HEALING

Necessary for all stages of wound healing: proliferation of cells and collagen, and formation of connective tissue.

Recommended daily amount:

1.5-2g protein/kg/day

PROTEIN

- Required for body tissue synthesis, maintenance and repair.
- Protein should be included as part of a balanced diet to ensure that it can be utilised properly.
- Dietary sources include beans, pulses, fish, eggs, meat and dairy products.
- Aim to include a portion at each mealtime, which is approximately 20-30g of protein or around a palm-size.

Phase of Healing	Supporting Nutrients
Haemostasis Vasoconstriction leading to reduction of blood flow. Bleeding controlled. Coagulation	Protein, Vitamin K
Inflammation White blood cells and macrophages remove bacteria and necrotic (dead) tissue. Collagen synthesis initiated	Energy, protein, vitamins A, C, E, selenium, antioxidants
Proliferation New tissue and blood vessels grow. Fibroblasts produce collagen	Protein, copper, iron, vitamin A, vitamin B6, zinc, vitamin C Remodelling
Maturation Remodelling: Continued collagen cross-linking increases wound tensile strength. Wound closure and contraction. Maturation of fibrous scar tissue	Energy, Protein, Zinc, Vit. C, Iron

NUTRITIONAL PLANNING FOR WOUND HEALING

IF YOU HAVE LOST WEIGHT OR ARE UNDERWEIGHT

Food First: Advice for eating if you have lost weight or are underweight

NHS BOB Buckinghamshire, Oxfordshire and Berkshire West Integrated Care System

You may have been given this resource because you have lost weight, are at risk of weight loss or are trying to gain weight. If you have swallowing difficulties, specific dietary requirements or have diabetes, this resource may not be appropriate for you. Please speak to a Dietitian for personalised advice.

What do I need to do to prevent further weight loss and promote weight gain?

① Aim to have 1 pint of full fat (whole milk) each day (see below) and,

② Include 2 high energy snacks each day from the list below and,

③ Aim to eat 3 meals a day that have been fortified (see below)

It is recommended to **aim for an additional 500 calories (energy) per day to support weight gain.** Ideally this should include high protein foods to help prevent muscle loss and restore lost muscle.

① Aim to have 1 pint of full fat (whole milk) each day:

- **Swap to full fat (whole milk) as this contains extra calories.**
- **Fortify a pint of whole milk by adding 4 tablespoons of skimmed or whole milk powder.**
  - Add the milk powder to a jug, stir in a small amount of milk to make a paste then slowly add the remaining milk whilst mixing to remove any lumps. Cover and store in the fridge, using within 24 hours. Use for making hot drinks, cereal, porridge, desserts and in cooking e.g. in mashed potato.
- **If you use milk alternatives, soya is the highest in terms of protein content.** Whichever you use, choose the one that has the highest calories (kcals) and protein per 100mls and one fortified with calcium and iodine. 'Barista' and 'Whole' versions are higher in energy.
- **You can also buy over-the-counter nutritional supplements** e.g. Aymes Retail®, Complan®,

NUTRITIONAL PLANNING FOR WOUND HEALING

PROTEIN:

1.5-2g protein/kg/day

Protein-rich snacks

NHS BOB Buckinghamshire, Oxfordshire and Berkshire West Integrated Care System

You may have been given this leaflet if you have been advised to follow a high protein diet, for example if you are physically active or have muscle wastage, burns, an injury or a wound. You can find these high protein options in most supermarkets. If a supermarket is not stated, the product is available to buy in various shops and/or online. If you need either a lower calorie or energy-dense diet, ask your Dietitian for the best options.

If you have renal disease or have been advised to limit your protein intake, please consult your Dietitian or Doctor before following a high protein diet.

Yoghurts and Milkshakes: *(nutrition per pot/bottle unless otherwise stated e.g. per 100g/ml).*

These products are suitable for vegetarians.

Arla Protein: 142kcal, 20g protein

Arla Skyr: 111kcal, 14g protein

Graham's: 158kcal, 25g protein

Lindahls PRO+ Kvarg: 92kcal, 18g protein

Lindahls Kvarg: 81kcal, 15g protein

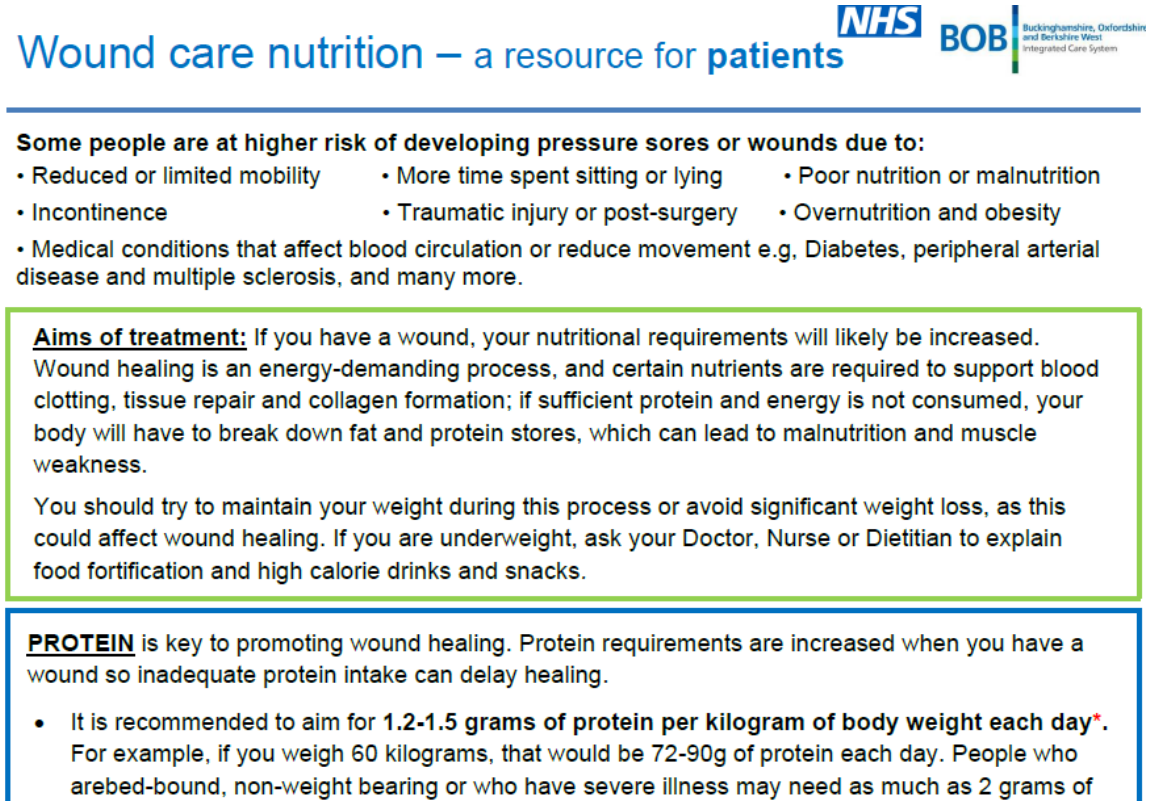
A patient weighs:

64Kg

102kg

How much protein does the patient need?

Plan a realistic day of meals for the patient



Wound care nutrition – a resource for **patients**

NHS BOB Buckinghamshire, Oxfordshire and Berkshire West Integrated Care System

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HAVE A GO....

NUTRITION AND WOUND HEALING

Vitamin A

Important in the inflammatory phase.

Stimulates the immune system through increasing the macrophages.

Stimulates epithelialization and fibroblasts that increase the production of collagen.

Stress and illness can cause deficiency.

NUTRITION AND WOUND HEALING

Vitamin C

Synthesis of collagen.

Encourages the activity of fibroblasts, capillary formation and neutrophil activity.

Deficiency can result in scurvy, swollen, bleeding gums, capillary hemorrhaging, tender and painful extremities, poor wound healing, weakness and fatigue.

NUTRITION AND WOUND HEALING

Micronutrients:

- **Magnesium** – Protein and collagen synthesis
- **Copper** – Strengthens new tissue
- **Zinc** – Role in the immune response, cellular proliferation and wound healing.
- Iron – Collagen formation, oxygen & nutrient transport to the tissues

HYDRATION – KEEPING THE SKIN SUPPLE

Dehydration causes the skin to lose its elasticity, making it vulnerable to breakdown.

Hydrated skin equals improved perfusion of the tissue in the wound and surrounding skin.

Hydration recommendations vary according to the individual however;

<u>Fluid requirements:</u>

Aged >60 years = 30ml/kg body weight

Aged <60 years = 35ml/kg body weight

HYDRATION

General guidance is 6-8 cups per day.

Increase in fluid loss from wound increases risk of dehydration.

Water, tea, coffee, fruit juice, milk, soup all count.

What is the patient's current food/fluid intake like?

Who will prepare nourishing drinks / fortified foods / snacks?

Can the patient access the suggested food/fluids – physically, financially?

Any swallowing difficulties?

Presence of comorbidities? E.g. Type 2 diabetes, renal disease

NUTRITION CONSIDERATIONS:

MANAGEMENT

Optimizing nutrition should be a consideration in all patients with delayed healing, even if MUST = 0

For patients unable to eat, MUST score ≥2, or more specialist support outside of your remit is required, seek dietetic advice

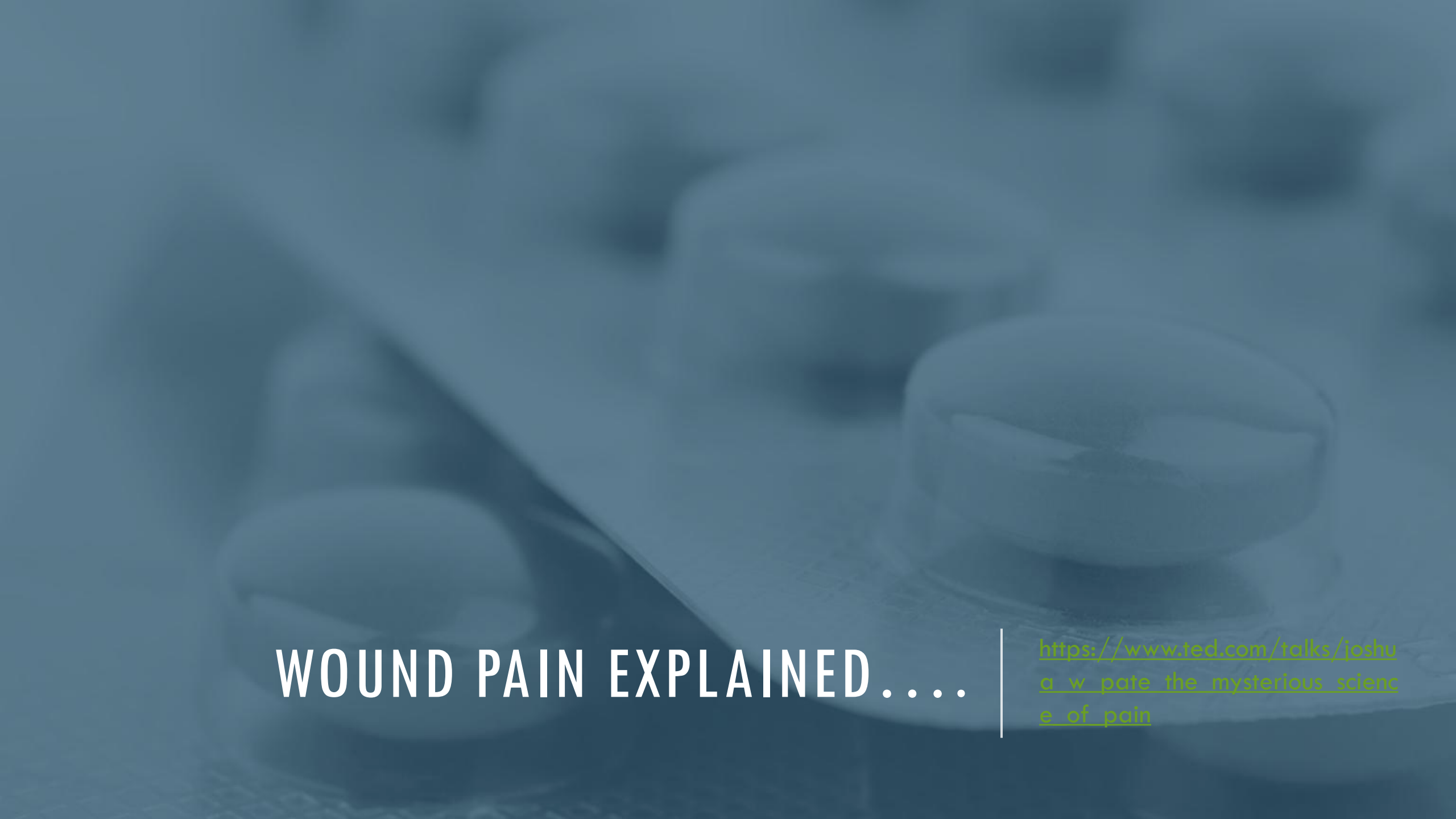
Talk to your patient – a holistic, collaborative approach

Consider small frequent meals if food intake is poor or the addition of milky drinks

Plenty of good protein sources such as meat, fish, eggs, nuts etc.

Fortify using milk powder and/or adding full fat dairy. FORTIFIED MILK = 1 PINT WHOLE MILK + 2-4 SCOOPS OF MILK POWDER = 57g Protein.

WOUND PAIN ASSESSMENT & MANAGEMENT



WOUND PAIN EXPLAINED....

https://www.ted.com/talks/joshua_w_pate_the_mysterious_science_of_pain

WHAT ARE THE TYPES OF PAIN?

Nociceptive – usually arising from direct damage to tissue. Signals are picked up by sensory receptors which are then transmitted to the spinal cord and then the brain where they are interpreted as pain

Neuropathic – caused by damage to or dysfunction of the nervous system which causes an abnormally strong response

It is important to determine which type of pain the patient is experiencing as they require different treatments (Brown, 2015).

HCPs should also consider that any new/unexpected pain or change in pain could be a sign of wound infection or ischemia

Nociceptive Pain	Neuropathic Pain
✓ Described as ‘nagging’, ‘throbbing’, ‘gnawing’	✓ Described as ‘pricking’, ‘tingling’, ‘pins & needles’, ‘stabbing, ‘shooting’
✓ Usually due to direct tissue damage or ischemia	✓ Skin or wound abnormally sensitive to touch
✓ Caused by inflammatory markers that occur on injury	✓ Pain may come on in sudden bursts for no apparent reason
✓ May be due to prolonged healing time	✓ The temperature in the painful area may deemed to have changed - ‘hot’ ‘burning’

PAIN DESCRIPTORS

PAIN ASSESSMENT

What should we be asking about the pain?

OLDCART

- Onset/Cause
- Location – pain over pressure points indicates first sign of damage
- Duration
- Characteristics
- Aggravating and relieving factors
- Treatment
- Consider the impact of the pain on patient's quality of life

Physical Factors:

Cause, site, and symptoms of the wound. Wound debridement, poor dressing technique, and use of inappropriate dressings

Psychological Factors: Anxiety, stress, fear, and depression. These may cause sleep disturbance which further reduces pain tolerance

(Mudge et al, 2008; Soon & Acton, 2006)

ASSESSMENT TOOLS

NONPHARMACOLOGICAL METHODS

What might these be?

Methods for managing wound pain:

Can be pharmacological and non-pharmacological.

Non-pharmacological therapies: often not explored but can be very effective when used alongside pharmacological methods (Brown, 2014).

Reduce anxiety: Talk to the patient about what the plan is and what is done to minimize pain. (Smith et al, 1997; Vingoe 1994).

Distraction therapy: Watching television, listening to music, chatting or other activities the patient enjoys. This helps them to switch their focus (Williams & Irurita, 2004).

Aromatherapy: Essential oils can produce a sense of relaxation or may stimulate positive memories and feelings. (Howarth 2002; Walsh & Radcliffe, 2002)

REDUCING PAIN…

PATIENT EXPERIENCE OF LIVING WITH A CHRONIC WOUND

https://www.youtube.com/watch?v=bintSRTvFOs

ANY QUESTIONS?