Answer Guidance

# Chapter 26: Skin integrity

## Activity answer guidance

### Activity 26.1

Locate and read the study by Hinman and Maibach (1963). Consider the validity and reliability of this study today:

 What is the likelihood that this study could be repeated today (reliability)?

 Does this study still hold value currently (validity)?

 Discuss the ethical issues involved with using prison volunteers

#### Answer guidance:

Reliability is a quantitative research term and relates to the consistency of a measure. Polit and Beck (2017) more broadly consider reliability to be the extent to which scores for people (who have not changed) are the same for repeated measures. Whereas validity refers to the degree to which inferences from a study are accurate and well-founded (Polit and Beck, 2017) Heiman and Maibach (1963) replicated Winters’ (1962) study but on human subjects rather than domestic pigs and both studies indicated consistent findings (increased epidermal regeneration in moist wound environments) across the samples. Validity was enhanced in the study by Heiman and Maibach (1963) due to the use of human subjects compared to pigs as findings are more directly applicable to human populations. When multiple studies are drawing the same inferences from similar studies (e.g., they are generating a consensus) then arguably the findings are reliable and valid across different participant groups. If the study by Heiman and Maibach (1963) was repeated today in a similar prison population, the findings may still suggest improved wound healing in moist environments. However, ethical considerations would need to be followed. Heiman and Maibach (1963) created experimental split-thickness wounds in their study, which may not gain the same level of ethical approval today as it did during the 1960s, for further examples of research on prisons and associated exposés, see literature from Rugaber (1969 and Mitford (1973). Polit and Beck (2017) explain that particular care needs to be taken into consideration when recruiting institutionalised people as they may feel pressured into participating to prevent their regular treatments are jeopardised. Various codes of ethics have developed over the past century, to address potential violations of moral principles and human rights, such as the Nuremberg Code (developed following Nazi experiments); Declaration of Helsinki (another set of international standards), and more recently the Belmont Report which incorporates three ethical principles; respect for persons, beneficence, and justice. If the study by Heiman and Maibach (1963) was repeated, it would need to meet all the appropriate ethical standards as part of a clinical trial.

### Activity 26.2

Reflect on your previous placement experiences. Consider a time when you assessed a person’s risk of pressure damage; or a time when you were involved with pressure ulcer management.

 What risk assessment tools did you use?

 If an ulcer was present, what category/stage was it?

 Outline how you used the principles of SSKIN to manage this person’s risk of pressure damage?

#### Answer guidance:

*You have been asked to reflect on your practice and consider:*

 What risk assessment tools did you use?

*You may have used Waterlow to assess the risk of pressure area damage, or Purpose T or Brayden Q.*

 If an ulcer was present, what category/stage was it?

*Use Table 26.2 to decide if the pressure ulcer was stage 1–4 or ungradable, or a deep tissue injury.*

 Outline how you used the principles of SSKIN to manage this person’s risk of pressure damage?

*Surface—did the person need a cushion or special mattress?*

*Skin inspection—did you regularly inspect the patient’s skin, especially on bony prominences?*

*Keep moving—did you encourage mobility and regularly relieve the patient’s pressure areas?*

*Incontinence/moisture—did you keep the skin clean and dry?*

*Nutrition/hydration—did you undertake a MUST assessment and ensure optimum nutrition?*

### Activity 26.3

On your next placement, consider ways to promote public health. Identify any strategies used to promote healthy lifestyles (such as posters, leaflets, or tools).

Explore this resource by PHE (2020) Childhood obesity: Applying all our health (<https://www.gov.uk/government/publications/childhood-obesity-applying-all-our-health/childhood-obesity-applying-all-our-health>). Discuss the existing strategies with staff for promoting health with patients. Share this new information with your placement area (if appropriate) to influence positive lifestyle behaviour change.

#### Answer guidance:

You have been asked to complete a health promotion resource on your next placement to promote healthy lifestyles and look at a resource about childhood obesity.

## Case study answer guidance

### Case Study 26.1: Basheer

Basheer is a 7-day-old full-term baby who received surgery on the day of his birth due to testicular torsion. Basheer attended the practice with his mother for a wound check (7 days post-operative) of the surgical site on his right lower abdomen. There is a dissolvable suture in situ. You are working with the practice nurse and are required to undertake the wound check. Explore the steps that you will need to take to assess, cleanse and manage Basheer’s wound (see Step-by-step clinical skill 26.1).

 Consider how you should adapt this procedure to account for Basheer’s age.

 Consider how you should document this episode of care and share the information with the relevant health and social care professionals.

 What advice should you provide Basheer’s mother in order to promote wound healing?

#### Answer guidance:

*The underlying principles of caring for a person with a wound would remain the same as the process outlined, but you would need to gain parental consent due to Basheer’s age. You may wish to sit Basheer down on the mother’s lap with a sterile field between them so that you are able to maintain some form of aseptic/clean technique. If Basheer appears to be unsettled you could encourage the mother to feed milk to Basheer, the milk may provide a distraction technique. Make sure that you have everything prepared in advance so that you can efficiently assess, cleanse and manage the wound when exposed. A screen between the treatment room door and you with Basheer and his mother (along with a paper towel over intimate areas) may provide a means of maintaining dignity and respect.*

*You should document the event in a contemporaneous manner using the appropriate record-keeping systems for the surgery. Many surgeries use electronic record management systems such as SystmOne. On the system, you may be able to locate a specific assessment or template (this may incorporate TIME) to document the episode. It is important that you familiarise yourself with the systems being used when you commence each and every placement.*

*Basheer’s mother should be encouraged to keep the area clean and dry if there are no signs of dehiscence. Basheer’s mother should also be made aware to contact the surgeon if there are any signs of infection or concerns.*

### Case Study 26.2: Edward

My name is Edward, I am aged 76. Sixteen years ago I suffered an ischaemic right leg due to an aneurysm that bled and formed a clot. Following emergency surgery to remove the clot it was discovered that I had compartment syndrome affecting my right calf. I was taken back to the theatre and had a tri-compartment fasciotomy, resulting in two wounds; a deep strip 3.75 cm wide x 45 cm long on my inside leg and a 5 cm wide x 60 cm long strip on my outside leg, which released the muscles and allowed swelling. The wounds were packed and dressed on alternate days and after three worrying days, the circulation returned.

 What method of wound healing was used to heal Edward’s calf wounds? You may wish to explore the images provided (Figures 26.3 and 26.4)

A week later the nurse noticed some redness and pus on the wound. A swab confirmed that I had contracted MRSA. The nurse in charge applied silver dressings which eventually controlled the infection and allowed the wounds to heal. I am left with some fairly impressive scars and up until recently, I would not wear shorts. Although restricted to the wounds the fact that I had contracted MRSA means that any future procedures, invasive or not, are always done at the end of the list, so the theatre can be deep cleaned. Because of the limited circulation on my legs, I must moisturise twice a day to prevent the skin from drying out to look like a dry riverbed and becoming open to infection.

 What impact did these ulcers have on Edward’s psychological health?

#### Answer guidance:

*The method of wound healing for Edwards's wounds was via secondary intention, as the wound edges were not brought back together.*

*Edward indicates that he did not wear shorts until recently, which might suggest that he was self-conscious of the scars. He may feel apprehensive about contracting MRSA and this may implicate future procedures. Edward referred to his legs as a dry riverbed which may suggest dry flaky skin that might have contributed to him wanting to hide these legs behind trousers. It is important that we address his perception of the problem. A model like Gordon’s (1994) functional health needs may help frame your assessment.*

### Case Study 26.3: Sarah

Sarah is a 59-year-old lady who has lived with Crohn’s for 40 years. As part of the condition, Sarah had multiple abscesses and fistulas. Previous abscesses were managed with antibiotics, excision and drainage, and seton stitches, resulting in cavities that required alginate packing by nurses. Sarah explains that seton stitches cause agony until settling. In 2013, Sarah received a colostomy formation, due to a seton stitch causing irreparable pelvic floor damage (and incontinence). The skin surrounding the colostomy became irritated and itchy due to stoma bag adherence. Consequently, the skin would bleed and become raw. The colorectal nurses referred Sarah to a dermatologist who recommended betamethasone treatment, to reduce inflammation.

In 2018, Sarah was admitted to the A&E department with bowel obstruction. Sarah received surgery to form an ileostomy and was transferred to intensive care. During the hospital admission, another abscess formed in the stomach wall near the fistula, resulting in drainage bags to collect faecal fluid and wound exudate from three abdominal openings. Subsequently, she suffered from recurrent infections. Sarah was in the hospital for 7 months in total. A year later, Sarah received another operation to close the fistula and ileostomy and reuse the original colostomy (which was now an ileostomy). Sarah has about a metre of bowel left and prior to the recent operation received total parenteral nutrition. Occasionally, Sarah’s skin still gets sore. Barrier films and stoma devices protect the skin. Her abdomen is covered with scars and this impacts her quality of life. Consider Sarah’s situation—find out the meaning of any unfamiliar terms by referring to the glossary for this chapter.

 What do you think could be the impact on Sarah’s quality of life?

 During the interview, Sarah mentioned that her marriage broke down and she has struggled to commence new relationships due to the embarrassing scars. Consider physical and psychological therapies that could help support and empower Sarah?

#### Answer guidance:

Quality of Life (QoL) is a subjective perception that a person has of their position in life. Without talking to Sarah it can be difficult to establish the impact on her QoL. We can anticipate how she might be feeling. Sarah received extensive surgery in order to help address troublesome signs of symptoms of Crohn’s disease after many months in hospital. The loss of financial income and the burden of balancing her home life commitments may have had a significant impact on her quality of life. Total parental nutrition involves the administration of nutrients intravenously, usually through a long-term central venous catheter. As such Sarah may have lacked the confidence to engage in the same activities and hobbies as before. Conversely, the formation of the stoma may have also offered further freedom for Sarah as she may have felt more in control of her bowels.

The patient observer scar assessment score (Draaijers et al. 2004) could provide an opportunity to explore Sarah’s perceptions of her scars. In this case, it indicates embarrassment towards the scars. Sarah may be eligible for scar reduction techniques such as massage, light therapy, silicone gel and sheets, and laser therapy. As a nurse, you could explore the options with Sarah. Cognitive-behavioural therapy has been shown to improve psychological symptoms associated with scarring (Kleve et al., 2002) and group therapy may provide a mechanism to promote social skills and assertiveness. Camouflage makeup may help with Sarah’s self-perception of the scars. For more information on the psychology of scars, consider reading the mini-review by Ngaage and Agius (2018).

### Case study 26.4: Mrs. Ahmed

Mrs. Ahmed is sixty-seven years old and suffered a stroke three months ago which left her with left-sided weakness, although she remains independent and is able to mobilise around her house and small garden with the aid of a stick. Her family drives her to see relatives once a week and they do her shopping. Good quality frozen meals are delivered fortnightly and she can make snacks and cups of tea, but normally spends most of her time in an armchair watching television or listening to the radio.

Mrs. Ahmed is 5ft 4″ and weighs 9st having lost 2 stones since the stroke. In the past two weeks, she has been feeling unwell with a cough and has not been eating much or going out. Two days ago she was unable to get out of bed without help and the GP prescribed oral antibiotics as she had pyrexia of 38C, a pulse of 90 beats per minute, blood pressure was 120/80, and she was perspiring. Her cough has become worse and she is expectorating green sputum.

Her most comfortable position in bed was sitting up with the aid of three pillows, a position she was reluctant to move from as other positions, such as lying on her side, increased her coughing. She had little appetite and was drinking fluids only when encouraged by her family.

Mrs. Ahmed refused to be admitted to the hospital, insisting that she wanted to stay at home, so she is being cared for by her family with support from the District Nurse (DN). When the DN inspected her skin she found a wound on the left side of her sacrum. It was a shallow wound with the appearance of a ruptured blister. The wound measured 3 × 4 cm and her skin were red and shiny for approximately 3 cm around the wound. The sheets were soiled with exudate from the wound. Mrs. Ahmed did not complain of pain in her left sacrum. The right side of her sacrum was red and remained red when light finger pressure was applied by the DN.

#### Answer guidance:

 The DN has found that Mrs. Ahmed has two pressure ulcers on her sacrum. What category would they be according to the EPUAP (2009) categories?

*The right side is red and remains red when pressed (non-blanching) so is stage 1.*

*The left side is similar to a ruptured blister so is stage 2.*

 Mrs. Ahmed is pyrexic and her skin is constantly damp from perspiration. How might this moisture contribute to skin damage and how would you protect her skin from further damage?

*This may create a moisture lesion or encourage tissue damage, leading to a pressure ulcer. It is important to try to keep the skin clean and dry and protected from bodily fluids such as urine.*

 Why is it important that Mrs. Ahmed has enough food and fluids? What would you do to encourage her to eat and drink?

*Good nutrition is vital to wound healing, compromised nutrition can lead to the development of pressure ulcers when combined with other factors such as reduced mobility. Carbohydrates, protein, fatty acids, minerals, and vitamins are required for wound healing, and a MUST assessment is very important.*