Tissue Viability

http://www.ncctrainingresources.co.uk/product/skin-lesions-and-breakdown/

Course Sample
Certificate in Tissue Viability

PROGRAMME

Student Name: ...........................................................................................................

Company: ..................................................................................................................

Tutor/Mentor: ............................................................................................................

Start Date: .............................................................................................................
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Module 1

Identify Clients at Risk of Skin Breakdown

At the end of this module you will be able to:

- Identify clients in the care environment/setting who may be at risk of impaired tissue viability and skin breakdown
- Identify any pre-disposing factors which might exacerbate risk
- Identify any external factors which you should consider in your assessment
- Identify the effects of a pressure sore on the client

Structure of the skin

In order to help you to understand how skin breakdown can happen, it is essential to have some understanding of how the skin is made up and what its’ functions are.

The skin is the largest organ in the body, both by weight and surface area. It acts as a protective layer that covers the entire body, also acting as a two-way barrier to prevent the inward or outward passage of water and electrolytes. The skin is involved in maintaining body temperature. It gathers sensory information from the environment and plays an active role in immunity, which acts to protect us from disease. The skin has many functions and in order to understand these it is helpful to gain an understanding of the structure of the skin.
Cross section of the structure of skin

The skin is a complex structure, but is basically made up from three layers known as the:

- Epidermis
- Dermis
- Subcutaneous layer

**The epidermis**
The epidermis is the outer surface of the skin, and is made up from five layers, these being from top to bottom the:

- Stratum corneum (horny layer) – the outermost surface of the skin
- Stratum lucidum (clear layer)
- Stratum granulosum (granular layer)
- Stratum spinosum (prickle cell layer)
- Stratum basale (basal layer) – the layer just above the dermis

The bottom layer, the stratum basale, generates new cells that migrate slowly through the layers to the top layer, the stratum corneum. As the cells move into the higher layers, they flatten and eventually die. These cells replace the dead cells that are continuously shed from the skin’s surface. Lower down in the epidermis are rounder cells called basal cells and scattered among these lie the melanocytes, the cells which produce the melanin, the pigment that gives skin its colour. Moles and freckles are both areas of skin where there is a lot of melanin.

**The dermis**
The dermis is made up from three types of tissue which are:

- Collagen
- Elastic tissue
- Reticular fibres

The dermis consists of two layers and these are the:

- Papillary layer
- Reticular layer

The upper papillary layer contains a thin arrangement of collagen fibres. The lower, reticular layer is thicker and made of thick collagen fibres that are arranged parallel to the surface of the skin.
The dermis contains many specialised cells and structures such as the:

- **Hair follicles** which are embedded in the dermis and are present all over the body except on the palms, soles of the feet and the lips and their erector muscles, called pili muscles. These muscle fibres contract in cold weather and sometimes when a client is frightened. This is what makes the hair stand up and this pulls on the skin resulting in goose bumps.

- **Sebaceous (oil) glands** which opens into each hair follicle and produces sebum. This is a lubricant for the hair and skin which helps to repel water, chemicals and bacteria.

- **Sweat glands.** These are present on all skin areas. Sweat glands are important in regulating body temperature. When the body needs to cool down the glands produce sweat. The sweat moves to the surface of the skin along the ducts of the sweat glands and evaporates on the skin’s surface. This then has a cooling effect on the body.

- **Blood vessels** which supply nutrients to the dividing cells in the basal layer of the epidermis. They also help to maintain body temperature by dilating and carrying more blood when the body needs to cool down, and they constrict and carry less blood when the body needs to retain heat.

- **Specialised nerves** which detect and transmit sensations of pain, itch, temperature, touch and pressure. This helps the body to sense environmental changes that may be potentially harmful to the body.

- **Vitamin D production.** When the skin is exposed to sunlight, modified cholesterol in the dermis produces vitamin D, which helps the body to absorb calcium for healthy bones.

**Subcutaneous tissue**
The subcutaneous tissue is the innermost layer of the skin. It is a layer of fat and connective tissue and contains a larger network of blood vessels and nerves. This layer is important in the regulation of the temperature of the body and the skin itself. The size of this layer varies throughout the body and from person to person.

**Functions of the skin**
As you can see, there are many different structures within the skin. Together these structures impart many protective properties to the skin that help avoid damage to the body from outside influences. In this way, the skin:

- Is a sensory organ which contains various nerve endings which can detect temperature, pain and pressure.
- Protects the body from water loss and from injury due to bumps, chemicals, sunlight or bacteria.
- Protects the underlying organs and tissues from mechanical damage, also helps to keep body tissues moist and prevents them from drying out.
- Acts as a barrier to infection (skin that is intact provides a physical barrier which can prevent bacteria from entering the body).
- Helps to control body temperature; sweat is produced through the sweat pore, which cools on evaporation. When the body becomes warm blood vessels dilate. When cold the blood vessels constrict. Hairs stand up to trap heat that is near to the surface of the skin.
- Synthesises vitamin D
- Excretes waste in the form of perspiration

**What are pressure ulcers / sores?**

Pressure ulcers are also known as pressure sores, bed sores and decubitus ulcers. These are all terms used to describe damage to the skin or underlying tissue caused by shearing, friction and/or direct pressure and moisture. The damage can range from skin redness to deep ulcers which involve fat, muscle and bone.

Pressure ulcers are painful skin ulcers that form when constant pressure on a part of the body shuts down the blood vessels feeding that area of skin. The resulting damage first appears on the surface of the skin as a red or dark patch. As the pressure ulcer develops further, the skin breaks down to form blisters and dead skin and ultimately can lead to infection. As little as **two hours of continual pressure** can lead to a breakdown of the skin.

**Stages of pressure ulcers**

Pressure ulcers are categorised into stages according to the level of tissue involvement, or the depth of the sore. Having knowledge of the stages will help you to identify the extent of the damage and treat the pressure ulcer accordingly.

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<td><strong>Blanching</strong>&lt;br&gt;If light pressure is applied to the area the skin turns white and when pressure is released the skin turns red again. The redness is caused by a widening of the blood vessels as a result of constant pressure. The blanching happens because the blood vessels become occluded when pressure is applied. If the client’s position is changed the skin should return to normal.</td>
</tr>
<tr>
<td>1</td>
<td><strong>Non blanching</strong>&lt;br&gt;At this stage if light pressure is applied to the area it will not turn white but will remain red. This reaction happens because of the damage to the blood vessels. Clients who have white or pale skin will develop red patches on their skin which do not turn white when pressure is applied. People with dark skin may have patches of skin which turn red, purple, or blue. The skin may feel warm or cold and firm and may be itchy or tender. If measures are not taken to relieve the pressure, the client’s pressure area will deteriorate further and develop into a pressure ulcer.</td>
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<td>2</td>
<td><strong>Tissue erosion</strong>&lt;br&gt;Within this stage there is visibly partial thickness skin loss. The loss can occur down through the dermis to the subcutaneous tissue. The edge of the ulcer is clearly visible, and is usually seen as an abrasion, blister or a shallow crater.</td>
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<td>3</td>
<td><strong>Deep ulceration</strong>&lt;br&gt;Within this stage there is full thickness skin loss. The ulcer extends down through the subcutaneous fat and muscle is exposed. The muscle may appear swollen and inflamed.</td>
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<td>4</td>
<td><strong>Extensive ulceration</strong>&lt;br&gt;Again within this stage there is full thickness skin loss, but with extensive destruction and necrosis extending to the underlying bone, and/or supporting structures.</td>
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Activities and Self-Assessment Workbook

Student Name:

Company:

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SAMPLE
ACTIVITY AND SELF-ASSESSMENT EXERCISES

The purpose of the following exercises and self-assessment questions is to enable you to identify what you have learned from reading your programme. The exercises will assist you to be ready to complete your final examination.

Try to answer each question thoroughly and only include relevant information in the answers. You may find it helpful to jot down your answers first in the ‘notes’ pages throughout your workbook. You can then summarise your information to contain only the main points, before writing your answers. Write your answers neatly in your workbook. If you have any difficulty finding answers to any of the questions, you must always ask for support.

If you require additional space to write down your answers add loose pages to the workbook, making sure that they are securely attached and cannot get lost.

When you have completed each module, remove the relevant sheets, staple them together and submit them to your tutor by the method agreed. Please remember to insert your name on each sheet of paper. Use the grid below (using a tick) to record the fact that you have submitted work to the tutor and that you have received it back with feedback.

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Module 1 - Activities

Activity 1

Consider the following 4 clients and identify which of them is more at risk of developing pressure sores.

Mr P who is mobile and able to change his own position whilst sitting
Mrs L who spends long periods in bed
Miss R who has a poor appetite and does not eat well
Mr A who has a painful shoulder treated with paracetamol

OR

Describe a client in your care setting who you consider is at risk of developing pressure sores (do not use client’s name)

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Activity 2

Mrs B is an 85 year old lady who lives in her own home. She has recently been ill and has been in bed for three days. Mrs B finds moving on bed difficult. She is constantly sliding down the bed and her daughter frequently ‘helps her’ by pulling her up the bed.

Explain why skin breakdown may occur and what extrinsic factors are involved

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Activity 3

You are working with Jane a Senior Care Worker. Jane does not like using the hoist and insists on moving clients by putting care workers’ arms under the client’s axillae (armpits).

a. What is this lift called
b. Are you permitted to use this lift – Explain your answer
c. What are dangers of this lift to both client and Care Worker?
d. How should you respond to Jane’s insistence on lifting this way? (include any action you would take)