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Assisting other healthcare professionals

An understanding of health and the body's structures can help a support worker contribute more effectively when required to assist other health professionals by:

- ▶ conducting transfers
- ▶ lifting and turning a person in their bed
- ▶ observing changes in a person's condition, environment or behaviour
- ▶ applying and changing dressings
- ▶ taking and recording blood pressure
- ▶ monitoring self-medication or assisting with medication.

Health terminology

If you understand the prefixes and suffixes of medical terms, it will help you to determine the overall meaning of the word; for instance, 'pneumo' means referring to the lungs, as in pneumonia.

Below are common suffixes and prefixes that alter the meaning of the root word and will provide clues to the definition.

Common prefixes and suffixes

- A-D**
- a- or an- (prefix) without
 - ab- (prefix) away from
 - ad- (prefix) towards
 - algia (suffix) pain
 - anti- (prefix) against
 - asthen- (prefix) weakness or lack
 - bi- (prefix) two
 - cele (suffix) swelling
 - dema (suffix) swelling
-

- E-H**
- ectomy (suffix) surgical removal
 - edem- (prefix) swelling
 - endo- (prefix) within
 - epi- (prefix) upper
 - hyper- (prefix) excessive
 - hypo- (prefix) deficiency
-

- I-N**
- inter- (prefix) between
 - intra- (prefix) inside
 - ism (suffix) condition
 - itis (suffix) inflammation
-

Pulmonary circuit

A pulmonary circuit consists of the blood vessels located between the right ventricle and left atrium of the heart.

Stroke

A stroke occurs when the flow of blood to the brain is stopped and brain damage occurs.

Ventricles

The heart is divided up into four chambers. The lower two of these chambers are called the left and right ventricles. Blood is pumped from the atria into the ventricles.

Components of the cardiovascular system

The cardiovascular system consists of the heart, the body's blood vessels and the blood. The heart is located in the middle of the chest (thorax) region and has four chambers: two ventricles and two atria. The left side of the heart consists of a top chamber (atria) and a lower chamber (ventricle) this is repeated on the right side of the heart. The atria and the ventricles are separated by valves that open and close in time with the heartbeat. There is a dividing layer of tissue running lengthwise through the middle of the heart called the septum.



The blood vessels of the body consist of arteries, veins and capillaries. The major artery of the body is the aorta and is shaped like a candy cane. Arteries are very strong and elastic and take blood away from the heart.

The major vein in the body is the vena cava, which transports blood back to the heart. Veins are less elastic than arteries but contain small flaps that assist with the blood transportation back to the heart.

The capillaries are the smallest blood vessels of the body one cell thick to allow substances to cross through the cell wall. They eventually join the arterial and venous systems of the blood vessels at the 'capillary bed'.

Blood is composed of fluid and cells. The fluid part of the blood is called the plasma and is straw coloured. The different types of cells that carry out special functions for the body are transported in the plasma.

Location of the respiratory system

The respiratory system is located in the head, neck and chest. The air enters our nose then travels through the nasal cavity and nasopharynx where the warming process of the air to body temperature continues. The air then enters the oropharynx, which is a shared passage way for food and air. A little flap of tissue called the epiglottis closes the airway when food travels through to the stomach stopping it from entering the trachea. The air continues through the larynx, where the vocal cords are located and then travels through the trachea, before it enters the bronchi, which become smaller then become the bronchioles. At the end of each bronchiole are the alveoli – small grape-like clusters through which gaseous exchange takes place. The respiratory system at this level looks like an upside down tree.



The lungs are two large hollow organs divided into lobes in the chest cavity. They are protected by muscle and bones (the ribs).

Promote a healthy respiratory system

As people age they are more likely to experience the long-term effects of choices such as smoking, overeating (obesity) and a sedentary lifestyle. In addition, their lung function and overall inspiration and expiration abilities decrease. In other words the condition of the parts of the upper respiratory tract and lung declines over time. People who smoke, are overweight and/or inactive are more likely to experience respiratory problems.

You should be aware of any problems people may have with their respiratory system. If a person is experiencing severe breathing difficulties contact a healthcare professional or the emergency services immediately.

Maintain a healthy respiratory system

There are many things a person can do to maintain a healthy respiratory system, as described below.

You can work towards and help others to have a healthy respiratory system by:

- ▶ encouraging people to maintain a healthy weight
- ▶ encouraging people to exercise
- ▶ helping others keep their living environment and clothing free from dust, which can cause breathing difficulties
- ▶ encouraging people to quit smoking and to avoid areas where they are likely to inhale smoke
- ▶ ensuring that people have access to prescribed preventative and relief medications
- ▶ ensuring that people have access to and are using prescribed anti-inflammatory medications and/or bronchodilators
- ▶ helping people with their breathing exercises
- ▶ reporting changes in lung function/breathing.

Indications of overactive or underactive glands

There are many indications to be alert to that someone may have overactive or underactive glands, as described here.

If glands in the endocrine system are overactive or underactive, the person may suffer from:

- ▶ a slowed or racing heart
- ▶ trembling
- ▶ changes in temperature that don't relate to external temperature
- ▶ anxiety
- ▶ depression
- ▶ reduced quality of life
- ▶ weight gain or weight loss unrelated to food intake and/or levels of exercise
- ▶ diminished interest in sex.

The digestive system

The digestive system helps to break down and process food. This system distributes nutrients throughout the body and excretes waste products.

Components of the digestive system include the:

- ▶ mouth
- ▶ teeth
- ▶ oesophagus
- ▶ stomach
- ▶ pancreas
- ▶ liver
- ▶ bile duct
- ▶ intestines
- ▶ rectum
- ▶ anus.



Digestive system terminology

Here are some terms associated with the digestive system.

Digestive system terminology

Cirrhosis: a disease of the liver causing a change in bowel habits, nausea, vomiting and stomach pain

Constipation: difficulty expelling faeces

Dysphagia: difficulty swallowing

Faecal incontinence: difficulty maintaining bowel control

Gastroenteritis: inflammation of the gastrointestinal tract resulting in diarrhoea

Gingivitis: diseased, damaged or inflamed gums

Reflux: heartburn/vomiting

Urethra

The urethra connects the bladder to an external opening that allows the urine to be passed from the body. The structure of the body varies slightly between men and women. A man's urethra is located in his penis while the opening to a woman's urethra is located in front of the vaginal opening.

Urinary system terminology

Here are terms relating to the urinary system.

Acute incontinence

Acute incontinence (loss of control of the bladder or bowel) may occur as a result of an injury or illness; it can be cured.

Chronic incontinence

Chronic incontinence develops over time and can be managed by following a toileting regime and assisting a person to use toileting and incontinence aids.

Cystitis

Cystitis is an infection of the urinary tract that may be caused by sexual activity or poor hygiene.

Dialysis

Dialysis is a process involving removing blood from the body, removing waste from the blood and then returning the blood to the body. You may help a person requiring support by transporting them to and from a medical centre for dialysis.

Enuresis

Enuresis means bedwetting. People with dementia may begin to wet their beds as their cognitive ability declines. People with physical disabilities may wet their beds as they are unable to get to a toilet in time.

Haematuria

Haematuria occurs when there is blood in the urine.

Incontinence

Incontinence is when a person cannot control their bowel or bladder.

Renal

The word 'renal' is used in relation to the kidneys (patients with kidney problems will see a doctor at a renal clinic).

Urologist

A urologist is a doctor who specialises in the illness and disease related to the urinary tract.

Here are the parts of the female reproductive system.

External structures

- ▶ Labia majora – the outer lips of the vagina, they contain sweat and oil glands and after puberty are covered with hair
- ▶ Labia minora – the inner lips of the vagina that surround the opening to the vagina and urethra
- ▶ Clitoris – covered by a fold of skin and consists of erectile tissue

Internal structures

- ▶ Vagina – the canal that joins the cervix to the outside of the body, or birth canal
- ▶ Cervix – the opening to the uterus
- ▶ Uterus – a hollow pear-shaped organ that stretches to hold a developing foetus
- ▶ Ovaries – small oval shaped glands that produce the ova (eggs) and female hormones
- ▶ Fallopian tubes – the passage through which the ova travel to the uterus and within which fertilisation takes place

Location of the male reproductive system

The functions of the male reproductive are to:

- ▶ produce and transport sperm and the protective fluid, semen
- ▶ to eject the sperm into the female reproductive tract
- ▶ produce and secrete the male reproductive hormones.

Here are the parts of the male reproductive system.

External structures

- ▶ Penis – consists of three parts, the base that is attached to the abdomen, the shaft or body of the penis and the glans or head of the penis; the glans is covered with a layer of skin called the foreskin
- ▶ Scrotum – a loose sac of skin that contains the testes (testicles), nerves and blood vessels; the scrotum controls the internal temperature of the testes

Internal structures

- ▶ Testes – two oval organs secured by the spermatic cord located within the scrotum; the testes produce testosterone – the male sex hormone – and contain many coiled tubes called the seminiferous tubules that produce the sperm cells
- ▶ Epididymis – a long coiled tube that transports and stores the sperm cells; the sperm cells mature within this structure
- ▶ Vas deferens – a tube that takes the sperm from the epididymis to the urethra
- ▶ Ejaculatory ducts – the fusion of the vas deferens and the seminal vesicles; they empty into the urethra
- ▶ Urethra – the tube that carries urine from the bladder to the outside of the body
- ▶ Seminal vesicles – little sacs that are attached to the vas deferens that produce a fluid that provides nutrients to the sperm cells
- ▶ Prostate gland – a gland located below the bladder that produces fluid to also nourish the sperm cells; the urethra runs through the prostate gland

Subcutaneous layer

- ▶ Consists of areolar connective tissue to allow the skin to stretch and move
- ▶ Connects the skin with the muscles and bones
- ▶ Contains fatty adipose tissue to store fat
- ▶ Provides insulation to the body

Sweat glands

- ▶ There are two types of sweat glands: eccrine sweat glands and apocrine sweat glands
- ▶ Eccrine sweat glands are found throughout the skin and produce fluid consisting of water and salt. This fluid is transported to the surface of the skin via a duct and cools the body when it evaporates.
- ▶ Apocrine sweat glands are found in the axilla and pubic regions of the body. They are inactive until puberty. The ducts empty into the hair follicle and produce an oily liquid that is used by the skin's bacteria. This produces body odour.

Functions of the integumentary system

The integumentary system undertakes many functions including protection, temperature, regulation, Vitamin D synthesis, sensation and excretion, as described here.

Keratinisation

- ▶ Keratinisation is the hardening of cells to provide protection from the external environment.

Temperature regulation

- ▶ If the body becomes too hot (hyperthermia) the temperature is reduced by sweating and vasodilation of the red blood vessels. The red blood cells enlarge letting heat out and giving the skin a flushed appearance that is warm to the touch.
- ▶ If the body becomes too cold (hypothermia) the skin assists to raise the body temperature through the contraction of arrector pili muscles (goose bumps) and vasoconstriction of the blood vessels. The red blood cells become smaller and the skin becomes pale and cool to the touch. The hair stands upright due to the contraction of the arrector pili muscles and traps the air around the body to insulate it.

Vitamin D synthesis

- ▶ When UV rays touch the skin, the skin converts it into Vitamin D for use by the body.

Protection

- ▶ Harmful bacteria cannot penetrate unbroken skin. Cells in the epidermis are constantly replicating to repair any damage to the skin. Specialised cells in the skin produce melanin that absorbs UV light to prevent cells of the body changing and forming cancerous cells.

The function of the lymphatic system

The lymphatic system collects fluid and particles that have moved into the tissue spaces. Initially the vessels are very thin with openings to allow fluid and material to enter. The vessels gradually change and the walls become thicker and vein-like with valves to keep the fluid moving in one direction. People with excess fluid in their tissue have oedema. Their tissue/limbs become swollen and sometimes, if severe, fluid can leak through the skin.

Along the pathway, the fluid passes through lymph nodes, which filter the lymphatic fluid. The main cells found in the lymphatic fluid are lymphocytes, which are white blood cells dedicated to fighting infection. In the node, special cells (lymphocytes and macrophages) collect and destroy harmful matter, such as bacteria. When an infection is present the lymph nodes become swollen as more of the special cells are required to collect the bacteria.

Some body organs also form part of the lymphatic system. These organs are the tonsils, adenoids, spleen and thymus. Other lymphatic tissue is found throughout the body.

The lymphatic fluid is eventually returned to the circulatory system emptying into the large venous vessels of the neck.

Spleen

- ▶ The spleen is located on the left side of the body above the kidneys. It filters the blood and removes old red blood cells. It creates white blood cells called lymphocytes to produce antibodies to kill foreign microorganisms such as bacteria. You can live without a spleen.

Thymus

- ▶ The thymus is located in the chest above the heart. It stores immature lymphocytes until they mature to specialised cells (T cells) that destroy infected or cancerous cells. The thymus is only active in childhood. At puberty it becomes inactive and is replaced by fatty tissue.

Tonsils

- ▶ The tonsils are made up of lymphatic tissue and are the first defence against harmful microorganisms that enter through the mouth and nose.

Lymph

- ▶ Lymph is a clear fluid containing white blood cells called lymphocytes.

Oedema

- ▶ Oedema occurs when tissues of the body fill with excess fluid. This results in swelling of the tissue and limbs.

Here is some more information.

Immune system first line of defence

- ▶ Physical or mechanical barriers to infection
- ▶ The skin
- ▶ The cornea of the eye
- ▶ Membranes lining the respiratory, digestive, urinary and reproductive tracts

Immune system second line of defence

- ▶ Innate immunity – through breastfeeding or having had the disease
- ▶ Acquired immunity – through immunisation

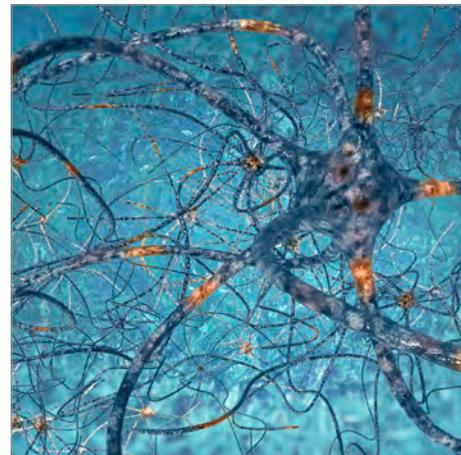
The nervous system

The nervous system is responsible for communicating information received by the senses (sight, smell, touch, hearing and taste) to the brain. It processes information and communicates required responses to the muscles and bones of the body.

The nervous system is divided into two parts:

- ▶ The central nervous system is made up of the brain, spinal cord and nerves. These structures are protected by bone, the skull and vertebral bones of the spine, and cerebrospinal fluid that cushions the brain and spinal cord.
- ▶ The peripheral nervous system is made up of the sensory neurons, ganglia and nerves that connect to one another. The nerves are covered by a special insulating tissue called the myelin sheath.

These two parts enable communication between the body and the external environment, and also communication within the internal environment of the body. The way in which this communication takes place is through the transmission of signals fired by the neurons and transmitted along the nerve pathways of the body.



Location of the nervous system

The central nervous system comprises the brain and spinal cord is located within the bony structures of the skull and vertebral column. This provides good protection for these vital organs.

The peripheral nervous system consists of the sensory and motor nerves that reach each part of the body. There are 12 cranial nerves and 31 spinal nerves that are able to transmit information to and from the brain.

Two of the nerves that are very closely located to the brain are the optic nerve and the auditory nerve.

Nervous system disorders

Disorders of the nervous system are caused by conditions such as spina bifida or cerebral palsy.

Here are some ways you can support a person who may have one of these conditions.

Spina bifida

People with spina bifida experience pain sensations and difficulty moving. They also may experience incontinence, spinal deformities and learning difficulties. You can provide support by:

- ▶ assisting with toileting
- ▶ paying particular attention to any wounds or cuts on the person's extremities when providing personal care (the person may not realise that they have cuts due to impaired sensation, which can cause cuts to become infected)
- ▶ assisting with exercises designed to prevent further damage to, or control curvature of, the spine.

Cerebral palsy

People with cerebral palsy may have difficulty controlling the movement of their limbs and head and/or may experience tremors and shakiness. Support workers may need to:

- ▶ use augmentative and alternative communication
- ▶ assist the person to use and maintain aids such as braces and other walking aids
- ▶ provide straws so a person can drink without spilling their beverage.

Acquired brain injury

The nervous system can be damaged by an acquired brain injury (ABI), which may arise as a result of an accident or from exposure to toxins, such as excessive alcohol use. This can affect perception and sensation depending on the location and severity of the brain injury. Care requirements are influenced by the severity of injury.

Workers can support the person by:

- ▶ making the person aware of hot and cold substances due to loss of sensation
- ▶ assisting the person with mobility issues.

The special senses

The special senses include smell, taste, vision, hearing and equilibrium. These senses are used to detect changes and react appropriately to external stimuli. Examples of external stimuli include fumes, gases and temperature.

The nose, ears, eyes and mouth are responsible for sensing external stimuli. This stimulus (the smell, sound, image or taste) is interpreted by the brain. Damage to the brain or certain brain disorders may alter the way the smell, taste, aural or visual information is perceived. Sensation and perception are interlinked, but they are different processes.



Assist a person with diminished equilibrium

Balance can be affected by a range of illnesses, diseases and disorders, including Ménière's disease, stroke, ear infections, leakage in the ear and inflammation of the ear.

Some of ways people with diminished equilibrium may need assistance are listed below.

How others can help persons with balance problems

- ▶ Ensuring that the person adheres to any special dietary requirements
- ▶ Assisting with rehabilitation exercises designed to promote a person's sense of balance
- ▶ Ensuring that the floor surface is flat and free from hazards
- ▶ Asking for adaptive devices such as bars for walkways, and in bathrooms and toilets

Hearing

The ears are responsible for processing aural information (sound) as well as maintaining balance.

There are two main types of hearing impairment: conductive and sensorineural. These are outlined below.

Conductive

Conductive hearing loss is caused by:

- ▶ blockages within the ear canal
- ▶ damage to the ear canal
- ▶ problems with the eardrum.

Sensorineural

Sensorineural hearing loss may be a result of:

- ▶ damage to the cochlea or the hearing nerves
- ▶ being born with sensorineural hearing loss
- ▶ a normal part of the ageing process
- ▶ exposure to toxins and pathogens such as illness, disease and drugs.

Terminology related to hearing

Terminology that you need to understand regarding hearing includes the following:

- ▶ Audio – relating to sound
- ▶ Audiologist – a doctor specialising in the ear
- ▶ Aural – by ear



- ▶ Acts a storage receptacle for urine before it is eliminated from the body
- ▶ Can expand to accommodate the urine produced by the kidneys
- ▶ Holds 300–400 ml of urine (in an adult) before it needs to be emptied

Interrelationships between body systems

The body is a unified and complex assembly of functioning parts and body systems. Each of the body systems and the organs and structures that make up these systems, are designed to perform specific complex functions. All of the systems work together to ensure the healthy survival of the human body, and the immune system protects the body from disease, infection and illness.

The interrelationship between body systems becomes more obvious when a disease or illness affects one body system and other systems are also affected. While you are not expected to have a full understanding of how the body systems work together, it is important to have some knowledge of the interrelationships of the systems. You can learn about the body systems and how they interact below.

Note: information about the immune system is combined with the lymphatic system.

Body system	Interaction with other body systems
<p>Cardiovascular</p> <p>The cardiovascular system is responsible for transporting blood throughout the body. It works in conjunction with the respiratory system to help move oxygen throughout the body.</p>	<p>Respiratory – The cardiovascular system helps the respiratory system transport gases.</p> <p>Musculoskeletal – The cardiovascular system delivers and removes material to and from the musculoskeletal system.</p> <p>Endocrine – The cardiovascular system transports hormones for the endocrine system.</p> <p>Nervous – The cardiovascular system delivers oxygen and hormones to and from the brain and spinal cord.</p> <p>Digestive – The cardiovascular system transports nutrients for the digestive system.</p> <p>Urinary – The cardiovascular system helps maintain kidney function.</p> <p>Reproductive – The cardiovascular system helps with the blood flow needed to maintain and sustain an erection.</p> <p>Integumentary – The cardiovascular system controls sweat production.</p> <p>Lymphatic – The cardiovascular system provides the lymphocytes for the lymphatic system.</p>
<p>Respiratory</p> <p>The respiratory system is responsible for ensuring the body has sufficient oxygen intake to oxygenate the blood and that it expels carbon dioxide.</p>	<p>The respiratory system provides oxygen to the entire body and removes carbon dioxide from cells</p>

Body system	Interaction with other body systems
<p>Lymphatic</p> <p>The lymphatic system plays an important role in defending the body and its cells against pathogens. It filters, removes and reacts to pathogens. The lymphatic system forms part of the immune system.</p>	<p>Cardiovascular – The lymphatic system deals with pathogens in the blood.</p> <p>Respiratory – The lymphatic system removes waste from the lungs assisting the respiratory system.</p> <p>Musculoskeletal – The lymphatic system aids production and repair of muscles.</p> <p>Endocrine – The lymphatic system transports hormones used by the lymphatic system.</p> <p>Nervous – The lymphatic system works with the brain to stimulate defence mechanisms against infection.</p> <p>Digestive – The lymphatic system transports digested fats and aids waste.</p> <p>Urinary – The lymphatic system assists the kidneys to remove waste.</p> <p>Reproductive – Immunity is passed onto the baby via his or her mother’s milk.</p> <p>Integumentary – The integumentary system is responsible for changes in the composition and distribution of hair.</p>

Example

Ensure a person’s medical condition is understood

Marita works as a personal care worker at a low-care hostel and is interviewing Bill, a new resident. She asks Bill about his medical history. Bill tells her, ‘I had a bit of trouble with a hypa-active thyroid’. Marita questions Bill, ‘A hypoactive or hyperactive thyroid?’ Bill replies, ‘I’m not really sure. All I know is that it made me put on weight’. Marita responds, ‘It sounds like you had a hypoactive thyroid’. Marita notices that Bill appears to be a healthy weight. She says, ‘Are you currently taking any medication for your thyroid?’ Bill tells Marita that he is currently taking medication and Marita records this information on his admission form.



In this example, Marita used her knowledge of medical terms and the body’s functions. She used probing questions to help establish the correct term. Marita demonstrated knowledge of how problems with the thyroid affect the body and common treatments. She noted that Bill was a healthy weight and asked about medications. Other health professionals using the information will:

- ▶ continue to monitor the status of Bill’s thyroid
- ▶ take care not to prescribe or administer medications that will have adverse effects for his thyroid condition
- ▶ take care not to prescribe or administer medication that will interfere with the effectiveness of Bill’s thyroid medication.

Part B

Read the scenario, then answer the questions that follow.

Scenario

You are meeting someone new, Ms Anne Tepper, who you will be caring for in the future. The following is an excerpt from a health questionnaire that you asked her to complete.

Name: Ms Anne Tepper	Date: 19/08/2016
DOB: 5/07/1936	Gender: Female

Living arrangements

Who do you live with?	Alone	<input checked="" type="checkbox"/>	With a spouse	<input type="checkbox"/>	With others	<input type="checkbox"/>
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Medical history

Do you have or have you had in the past any of the following conditions?

Heart disease	Now	<input type="checkbox"/>	Previously	<input type="checkbox"/>	Never	<input checked="" type="checkbox"/>
Cancer	Now	<input type="checkbox"/>	Previously	<input type="checkbox"/>	Never	<input checked="" type="checkbox"/>
Diabetes	Now	<input type="checkbox"/>	Previously	<input type="checkbox"/>	Never	<input checked="" type="checkbox"/>
Lung problem	Now	<input type="checkbox"/>	Previously	<input type="checkbox"/>	Never	<input checked="" type="checkbox"/>
Thyroid problem	Now	<input type="checkbox"/>	Previously	<input checked="" type="checkbox"/>	Never	<input type="checkbox"/>
Stomach problems	Now	<input checked="" type="checkbox"/>	Previously	<input type="checkbox"/>	Never	<input type="checkbox"/>
Asthma	Now	<input checked="" type="checkbox"/>	Previously	<input type="checkbox"/>	Never	<input type="checkbox"/>
High blood pressure	Now	<input type="checkbox"/>	Previously	<input type="checkbox"/>	Never	<input checked="" type="checkbox"/>
Depression	Now	<input checked="" type="checkbox"/>	Previously	<input type="checkbox"/>	Never	<input type="checkbox"/>

Comment:

Hyperactive thyroid treated with radioactive iodine. Current records (10 February 2016) show normal thyroid functioning.

Currently experiencing reflux and vomiting.

Asthma managed with Ventolin.

2A Review factors that contribute to maintenance of a healthy body

Many people wait until they are ill or unwell before seeking medical advice or help. Health care professionals recognise that it is easier and more cost effective to help a person maintain their good health than it is to cure a person who is already unwell. This is called primary health care. Primary health care is also called preventative health care.

Secondary health care (acute or emergency health care) usually occurs in hospitals and tertiary health care is provided by private specialists. Primary health care can be provided by:

- ▶ general practitioners (GPs) and nurses in medical clinics
- ▶ community educators
- ▶ aged care and home and community care supervisors
- ▶ allied health professionals such as physiotherapists, dietitians, psychologists and social welfare workers.



Maintain good health

Ideas about health and sickness have changed. Health and sickness were once seen as being separate: a person was either sick or they were well. Now ideas about health and sickness acknowledge there are different degrees of health ranging from death through to the highest possible levels of wellbeing. According to the World Health Organization, health is a state of complete physical, mental and social wellbeing and not just the absence of disease or infirmity.

Being free from illness and disease is not enough to make a person healthy; a person must also enjoy good physical, mental and social health. These three elements of health are interrelated.



Factors that may impact good health

People who have active social lives, participate in a range of activities, have a good diet, consume a moderate amount of alcohol and maintain a healthy weight are more likely to enjoy good health and less likely to become disabled.

Illness is more likely to occur if a person is depressed, as poor mental health can suppress the immune system. Depression is more likely to occur in people who are sedentary as they miss out on the mood-improving benefits of exercise. People with limited or no social lives may also be susceptible to mental health problems as they do not have the benefits of a social network.



Source: NSW Health

Processes, conditions and resources for a healthy body

Aged care and community care workers can play an active role in assisting a person to maintain a healthy body. To carry this out effectively, it is necessary to understand the principles of maintaining a healthy body and use this understanding to ensure the care plan addresses all of the person's needs.

The principles of maintaining a healthy body are outlined below.

Principles of maintaining a healthy body

- ▶ Smoking control
- ▶ Mind–body health
- ▶ Spiritual health
- ▶ Medical self-care
- ▶ Environmental health
- ▶ Nutrition
- ▶ Social health
- ▶ Weight maintenance

Source: Meiner SE & Lueckenotte A 2006, *Gerontology nursing*, 3rd edn, Mosby Elsevier, St Louis, p. 163

reach your supervisor, contact the emergency department of your local hospital, who will give you further instructions. If the person is unconscious or displaying a number of the signs that the body is not regulating itself, call emergency services by dialling 000.

Regardless of where you are working, you should always follow workplace policies and procedures, document all actions and report all actions.

Fluid balance

Approximately 60 per cent of the adult body consists of water; in babies it is as high as 78 per cent. The human body needs to maintain a healthy fluid balance level for survival.

One of the most important things a support worker can do to assist people to maintain body fluids is to ensure that the person's fluid intake is adequate. The care worker may need to monitor the food and fluid intake of the person. Special charts are used to record intake and output of fluids and food consumed by the person.

Here is some more information.

Water loss from the body

- ▶ The skin (approximately 500ml)
- ▶ When we breathe (approximately 500ml)
- ▶ Bowel actions (approximately 100ml)
- ▶ Urine (approximately 1500ml)

Dehydration

- ▶ A few common early signs of dehydration may include:
- ▶ headache
- ▶ tiredness
- ▶ loss of concentration
- ▶ urine output decreases and the urine becomes darker in colour.

Fluid replacement in the body

- ▶ Metabolic processes (approximately 250ml)
- ▶ Intake of food (approximately 750ml)
- ▶ Fluid intake (usual requirement is approximately 1500ml)

Electrolyte balance

In order to function efficiently, the human body relies on maintaining a stable balance of electrolytes. Electrolytes are electrically charged ions that transmit electrical impulses to our heart, muscle and nerves. Muscles rely on sodium, calcium and potassium to contract, if we do not have enough our muscles will not work. Electrolytes also assist in maintaining a healthy fluid balance. If we have too much sodium in our blood it may cause high blood pressure or fluid retention.

Electrolytes are found in food, especially fruit and vegetables, and fluids such as fruit juices and coconut water. Electrolytes are not replaced by drinking water.

Body temperature

The correct temperature of the human body is 36.0–37.2 °C. If a person is unable to maintain their correct body temperature, they may suffer serious consequences. These consequences can include organ failure and/or damage to any one of, or a combination of, the nervous system, the digestive system, the urinary system or the cardiovascular system.

Support workers can take steps to help a person avoid high body temperature.

High body temperature can be avoided if a person:

- ▶ drinks water
- ▶ wears appropriate clothing
- ▶ takes a cool shower or bath
- ▶ stays inside and performs only light exercise.

Systems and organs involved in maintaining body temperature

Here are the roles of each system and its responsibility in maintaining body temperature, body fluids, eliminating waste and fighting infection.

Skin

Integumentary system

- ▶ Senses cold or hot

Hypothalamus

Nervous system

- ▶ Acts as a thermostat
- ▶ Initiates heating or cooling

Muscles

Musculoskeletal system

- ▶ Shivers to increase body temperature if body too cold

Sweat glands

Integumentary system

- ▶ Produces sweat if the body is too hot

Nutrition

People eat for enjoyment; however, food plays a more important role in fuelling the body's systems. Individuals need to consume a wide range of grains, fruits, vegetables, dairy products, meats, fish and oils and fats to make sure that their nutritional needs are properly addressed.

The human body's needs are explained below.

Water

- ▶ Water maintains body temperature, transports nutrients throughout the body and helps process waste.

Carbohydrates

- ▶ Carbohydrates provide energy to the body's systems.

Example

How physical conditions can affect a psychosocial state

Sara provides home and community care support to Teresa, who is 80 years of age.

On one visit, Sara says to Teresa, 'How was theatre group?'

Teresa replies, 'Don't know, didn't go'.

Sara responds, 'Were you not feeling well?'

Teresa mutters, 'No – but I can't understand them'.

Sara gently clarifies, 'Could you not understand them or not hear them?'

Teresa replies, 'I can't hear them'.

Sara says, 'Teresa, perhaps we should get your hearing checked'.

Teresa agrees, so Sara arranges a hearing test. Teresa is provided with a hearing aid. Sara and Teresa's other support workers assist with maintenance of the hearing aid. The support workers also encourage Teresa continue to participate in the theatre outings. In this situation, Teresa's physical condition was impacting her psychosocial state.

Practice task 5

1. Identify two factors that assist in maintaining a healthy body.

2. List two ways that you can assist a person with social interactions.

Summary

1. As a support worker, it is important to recognise and support ways for people to maintain a healthy life.
2. Support workers who understand how the body works will be able to carry out a range of tasks more effectively and efficiently and assist the person in maintaining a healthy life.
3. The body's systems work together to ensure that the body has sufficient nutrients and oxygen, expels toxins, deals effectively with disease and other pathogens, and is in balance.
4. The body systems are the cardiovascular, respiratory, musculoskeletal, endocrine, digestive, urinary, reproductive, integumentary, lymphatic, nervous and immune systems.
5. The health of the body systems can be promoted through smoking control, mind-body health, spiritual health, medical self-care, environmental health, nutrition, social health and weight maintenance.