

Section 1: Dementia awareness

What is meant by the term 'dementia'?

Please read the following as it will help you to answer question 1.

Time to think

What does the term 'dementia' mean to you?

The term 'dementia' is often misunderstood and some people use the terms 'senile', 'dementia' and 'Alzheimer's' interchangeably, thinking that they are one and the same thing.

What many people don't realise is that **dementia is not an illness or disease in itself, but is a broad term which is used to describe a range of signs and symptoms that occur when the brain is affected by certain diseases and conditions such as Alzheimer's disease and vascular dementia.** The result of which leads to chemical and structural changes in the brain.

The signs and symptoms that occur with dementia involve a progressive decline (gradual deterioration) in a person's mental abilities, namely the ability to:

- remember
- make rational judgments
- communicate

Furthermore, this is accompanied by changes in personality and behaviour, and will inevitably impact on a person's ability to carry out everyday activities such as cooking, cleaning, washing and dressing.

Key functions of the brain that are affected by dementia

Please read the following as it will help you to answer question 2.

Having a basic awareness of how the brain functions will enable you to understand some of the difficulties that an individual who has a form of dementia may encounter, and will also help you to appreciate why some people with dementia act or behave the way they do.

The brain, along with the spinal cord, makes up the central nervous system, and it is this that controls all of our body's functions. Like any other organ within the body, the brain is made up of cells. Within the brain there are billions of nerve cells that are known as neurons. These neurons communicate with each other and with other parts of the body by sending messages (impulses) via a system of nerve pathways.

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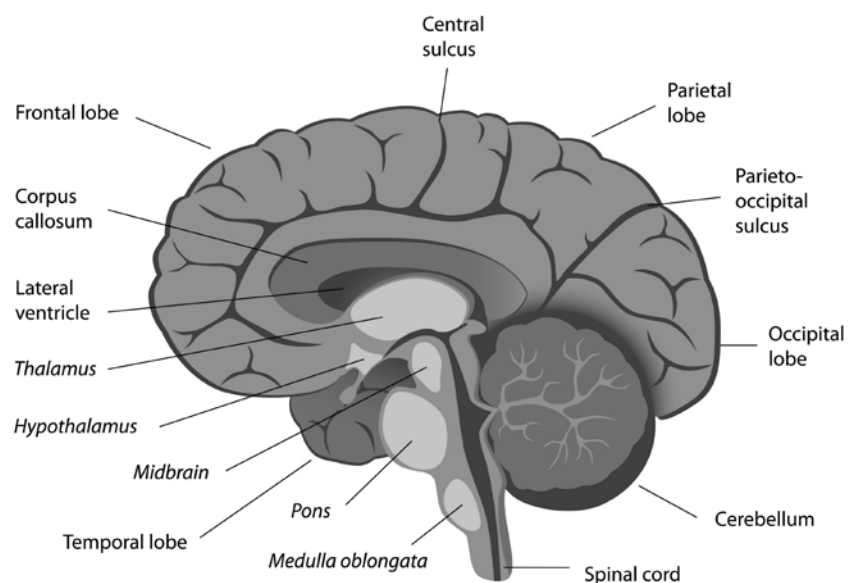
The brain sends signals to the body and to other parts of the brain in the form of electrical impulses. These signals travel along the neurons by jumping the gaps between them (synapses) with the help of neurotransmitters (chemical messengers).

These chemical and electrical signals are necessary in controlling our bodily functions – for example, language, decision-making, memory, personality, behaviour, sensing and interpreting our environment, and controlling muscle movements.

If the neurons and synapses of the brain become damaged by dementia they may have difficulty or be unable to carry the messages that tell the sections of the brain what to do. Depending on the area of the brain affected, this can result in changes to the way the individual thinks, or may result in physical impairments, personality and behavioural changes or the inability to perform certain functions.

You do not need to know the complexities of the brain to arrive at an understanding of dementia, but it is helpful to have a basic understanding of the main functions of each area. This is useful when considering that different conditions impact on different areas.

It is important to realise that the damage caused will vary from person to person and will also be dependent on the type of dementia and the area of the brain affected. We will be looking at the different types of dementia within Section 3, but here we will consider the key functions of the brain that can be affected by dementia.



Area of the brain	Key functions that could be affected by dementia
Frontal lobe	Movement, emotional behaviour, personality, interpretation and feeling
Parietal lobe	Language, spacial awareness and recognition
Temporal lobe	Long-term memory, speech and hearing
Occipital lobe	Vision
Cerebellum	Balance, posture, muscle coordination (movement)

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Area of brain	Key functions that could be affected by dementia
Hypothalamus	Regulates thirst, appetite, body temperature and also sleep cycles and patterns of sleep
Thalamus	Muscle movement and processing sensory information
Hippocampus	Processes recent memories into stored memory
Limbic system	Emotions and smell

Knowledge Activity 1: Think about a person with dementia that you have supported. What difficulties does this person experience as a result of their dementia?



Which part of the brain do you think has been affected by the dementia?

Is it dementia?

Please read the following as it will help you to answer question 3.

If a person starts to display signs of cognitive impairment, it should not automatically be assumed that the person has dementia. This is because there are other conditions that have similar symptoms to those of dementia. It is therefore important that the individual is carefully assessed by their GP, to ensure that other conditions such as depression, delirium and age-related memory impairment can be ruled out. These conditions also affect cognitive processes and so can easily be mistaken for dementia. We will now look at these in more detail.

Depression – a condition which can be triggered by life events and can be caused by chemical imbalances in the brain. **A person who is depressed can often show similar symptoms to a person who has dementia.**

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This is because depression effects:

- concentration
- motivation
- ability to manage everyday tasks

Delirium – you may sometimes hear delirium being referred to as a ‘toxic or acute confusional state’

A person who has delirium can often show similar symptoms to a person who has dementia.

Delirium often develops quickly and is usually reversible. It is a medical condition that can cause:

- hallucinations and delusions
- problems with thinking
- severe confusion

Possible causes of delirium include:

- anaemia
- low blood sugar, hormone imbalance
- diarrhoea/constipation
- intolerance to medication
- infection: chest/urinary tract
- a recent major operation
- dehydration
- pain

