Level 2 Award in Stroke Awareness and Acquired Brain Injury Course Handbook
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Introduction

This qualification is made up of a set of learning outcomes and assessment criteria that describe what you need to be able to do, and the things you need to know, to achieve your qualification. The qualification consists of the following two units:

- **Unit 01** Stroke awareness
- **Unit 02** Understand the impact of Acquired Brain Injury on individuals

To achieve this qualification you must provide evidence to show that you meet all the learning outcomes and assessment criteria defined in the unit.

<table>
<thead>
<tr>
<th>Unit Reference Number</th>
<th>Name of unit</th>
<th>Level</th>
<th>Credits</th>
<th>Guided learning hours</th>
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<tbody>
<tr>
<td>F/503/7150</td>
<td>Unit 01 Stroke awareness</td>
<td>2</td>
<td>3</td>
<td>28</td>
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<tr>
<td>J/601/5824</td>
<td>Unit 02 Understand the impact of Acquired Brain Injury on individuals</td>
<td>2</td>
<td>3</td>
<td>25</td>
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**Candidates’ requirements at Level 2.**

Achievement at Level 2 reflects the ability to select and use relevant knowledge, ideas, skills and procedures to complete well-defined tasks and address straightforward problems. It includes taking responsibility for completing tasks and procedures and exercising autonomy and judgement subject to overall direction or guidance.

**Knowledge and understanding** Use understanding of facts, procedures and ideas to complete well-defined tasks and address straightforward problems. Interpret relevant information and ideas. Be aware of the types of information that are relevant to the area of study or work.

**Application and action** Complete well-defined, generally routine tasks and address straightforward problems. Select and use relevant skills and procedures. Identify, gather and use relevant information to inform actions. Identify how effective actions have been.

**Autonomy and accountability** Take responsibility for completing tasks and procedures. Exercise autonomy and judgement subject to overall direction or guidance.
Explanation of terms we may use

To help you, here is an explanation of the terms the tutors will use in the Workbook or when we assess your knowledge and understanding of each unit.

<table>
<thead>
<tr>
<th>Term</th>
<th>What you should provide us with</th>
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<tbody>
<tr>
<td>Describe</td>
<td>Give a detailed account in words of.</td>
</tr>
<tr>
<td>Define</td>
<td>Give the meaning of a word or phrase</td>
</tr>
<tr>
<td>Explain</td>
<td>To offer reasons for or a cause of; to justify; to make plain.</td>
</tr>
<tr>
<td>Identify</td>
<td><em>i.e. identify reasons for Establish the identity of someone or something, name it.</em></td>
</tr>
<tr>
<td>List</td>
<td>Make a list of.</td>
</tr>
<tr>
<td>Outline</td>
<td>Identify briefly the main points</td>
</tr>
<tr>
<td>State</td>
<td>Give brief information about the topic</td>
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Overview

During your course your Tutor/Assessor will ask you to carry out work either in the classroom, in your workplace or at home, which you’ll keep as evidence of your learning.

The work you produce (evidence) will be assessed by your Tutor/Assessor to make sure you’ve covered everything in sufficient detail. Your evidence could be made up of a combination of:

- written work or class notes
- products or samples of practical work
- case studies
- work placement diaries
- learning logs
- video or audio recordings
- other appropriate formats agreed by your Tutor/Assessor

When all your evidence is gathered together in a file or folder, this becomes your portfolio.
Unit 1

Stroke Awareness
What is a stroke?

For your brain to function, it needs a constant blood supply, which provides vital nutrients and oxygen to the brain cells. A stroke happens when the blood supply to part of the brain is cut off and brain cells are damaged or die. Key points about stroke:

• Damage to part of the brain
• Caused by a problem with its blood supply
• Blood is supplied through arteries
• There is a 'blockage' or 'bleed'

Usually happens quickly and strikes suddenly - brain attack
There are two main types of stroke: ischaemic and haemorrhagic

Types of stroke

Ischaemic strokes happen when something blocks an artery that carries blood to the brain. This type of stroke is responsible for approximately 85% of strokes.

Can be caused by:
• Cerebral thrombosis, in which a clot of blood develops at the site of the blockage, in an artery supplying the brain.
• Cerebral embolism, in which the clot or other substance (fat or cholesterol,) develops elsewhere – the heart being a common site - and then travels through the blood stream and blocks an artery in the brain.

Distinguishing between thrombosis and embolism is important, as embolism tends to recur but can be prevented by treatment with anticoagulant drugs or, to a lesser degree, by aspirin.

Haemorrhagic strokes happen when a blood vessel bursts and bleeds into the brain (a haemorrhage). This type of stroke is responsible for approximately 15% of strokes. The haemorrhage may be due to:
• a vessel bursting within the brain itself, or a
• blood vessel on the surface of the brain bleeding into the area between the brain and the skull
Stroke mimics

There are many other conditions that can mimic the effects of a stroke, for example facial weakness, difficulty with speech and visual disturbance. A diagnosis of stroke can only be established by a CT or MRI scan which provide a view of the brain. Examples of stroke mimics include:

• Blood poisoning (sepsis)
• Somatisation (weakness on one side with no explanation)
• Faintness (syncope)
• Loss of consciousness
• Migraine
• Bell’s Palsy
• Seizure
• Tumour
• Excessive fatigue
• Transient global amnesia
• Isolated vertigo
• Falls without losing consciousness (drop attacks)

Transient ischaemic attack (TIA)

Transient ischaemic attack (TIA) is often called a mini-stroke. The symptoms are very similar to those of a full-blown stroke, but they only last for a short time, anything from few minutes up to 24 hours.

If you have had a TIA you will recover completely within a day. If your symptoms have lasted longer than 24 hours you have not had a TIA, you may have had a stroke. A TIA is a sign that part of the brain is not getting enough blood and that there is a risk of a more serious stroke in the future. Each year approximately 46,000 people have a first TIA. There is no way of telling whether a TIA or stroke is occurring during the first few hours, so a TIA should be treated as an emergency and you should seek urgent medical attention for assessment.
Remember – Act FAST

Stroke is a Medical Emergency... If you suspect someone is having a stroke Act FAST and check for:

The symptoms of stroke

- Sudden weakness or numbness on the face, arm or leg on one side of the body
- Sudden difficulty speaking or understanding spoken language
- Sudden loss or blurring of vision in one or both eyes
- Sudden confusion
- Dizziness, unsteadiness or a sudden fall, especially with any of the other signs
- Sudden severe headache with no apparent cause

The Face, Arm, Speech Test (FAST) can help you recognise the symptoms of a stroke

FAST

Facial weakness
Can the person smile?
Has their mouth or eye drooped?

Arm weakness
Can the person raise both arms?

Speech problems
Can the person speak clearly and understand what you say?

Time
to call 999.

Why act FAST?

Stroke is a medical emergency. By calling 999, you can help someone reach hospital quickly and receive the early treatment they need. Prompt action can prevent further damage to the brain and help someone make a full recovery. Delay can result in death or long-term disabilities, such as paralysis, memory loss and communication problems. Ambulance crews use FAST and can act fast with hospital staff to identify a stroke quickly. If you see any one of these symptoms, it could be a stroke so act FAST.
There are 7 key stages of stroke, let’s take a look at each one in more detail

**Stage 1**
This is when the Clot or bleed happens

**Stage 2**
As a result of the clot or bleed, it the cell dies, referred to as Cell death

**Stage 3**
Because of the cell death you will start to see Symptoms such as those mentioned in FAST

**Stage 4**
Requires Urgent treatment, such as thrombolysis or surgery

**Stage 5**
Rehabilitation usually starts within the first day of being on a stroke ward

**Stage 6**
Is all about Reablement. Reablement is all the time you practice tasks (whatever they might be) without the support of a therapist. For example making a cup of tea, getting the bus or any activity that aids recovery.

**Stage 7**
Focuses on recovery. Recovery is a process that is different for every individual. Because it’s so individual the length of time it takes people to recover will vary, and can go on for years after the stroke.

Unfortunately 1 in every 5 strokes are fatal and therefore this does not fit every stroke survivor’s key stages of stroke. Behind cancer and heart disease, stroke is the 3rd largest cause of death in the UK and 2nd largest in the world.
The brain

The effects a stroke survivor will experience will depend on which part of the brain is damaged. The brain has two halves called the left and the right hemispheres. Different parts of the brain have different functions.

Left brain controls:
- Movement
- Vision
- Hearing
- Memory
- Logic
- Analysis
- Sequencing
- Mathematics
- Language
- Facts

Right brain controls:
- Movement
- Vision
- Hearing
- Memory
- Creativity
- Imagination
- Holistic Thinking
- Non-Verbal language
- Arts (Motor Skill)
- Rhythm

The brain controls everything you do, everything you think and feel, your personality, sense of humour, your behaviours and opinions. Stroke causes damage to your brain therefore the possible effects of stroke are endless.

Recovery

A stroke causes some brain cells to die, and others to become injured. The injured cells are often found around the main area of damage. The area of injured cells is known as the penumbra. In the first few days and weeks and as the brain swelling goes down, these injured cells may heal causing some spontaneous recovery.

Sadly, dead brain cells cannot start working again, but it is possible for the brain to reorganise itself and find new pathways to perform the lost functions. This process is known as neuroplasticity and is something that everyone’s brain does constantly throughout life in response to their experiences and environment. After a stroke it is vitally important for you to use the skills you have and to practice new ones as much as possible.
Risk factors

These are the factors which make it more likely that a person will have a stroke:

- **High blood pressure**
  - Blood pressure is a measure of the force with which blood presses on the walls of your arteries as it is pumped around your body. This pumping action is driven by your heart, which when you are at rest will normally beat between 60 and 90 times a minute and pumps the blood through the arteries out to various parts of your body.
  - If high blood pressure is not treated and kept under control, it puts you at much greater risk of a stroke. High blood pressure is the single most important risk factor for stroke. It causes about 50 per cent of ischaemic strokes and also increases the risk of strokes due to bleeding in the brain (haemorrhage). High blood pressure puts a strain on blood vessels all over the body, including vital arteries to the brain, and the heart has to work much harder to keep the blood circulation going. This strain can cause vessels to become clogged up or to weaken, and this in turn can lead to narrow blood vessels and blood clots. When a clot forms a blockage in an artery leading to the brain, or in a blood vessel inside the brain, it can result in a stroke or transient ischaemic attack (TIA). More rarely, this extra strain may cause a haemorrhagic stroke.

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What is high blood pressure?

Your blood pressure varies throughout the day. It can go down if you are asleep or sitting quietly, and can go up if you are rushing about or stressed. Hypertension, or high blood pressure, develops when the pressure of the blood running through the vessels is consistently too high.

You are usually considered to have high blood pressure if you have a measurement that is consistently above 140/90 mmHg.

If you have diabetes, treatment will usually be considered if your blood pressure is consistently above 130/80 mmHg. Drug treatment should be considered in this case. Before giving a diagnosis of high blood pressure, your doctor may take a few readings over a period of days or weeks to make sure that a higher reading is consistent, and not a reaction to being at the surgery or hospital (sometimes referred to as ‘white coat hypertension’). If your blood pressure is high, your doctor will discuss with you ways to reduce it, especially if you are at particular risk, for instance, if you have diabetes, circulatory problems, smoke or are overweight.

Heart conditions

Problems like heart valve disease and heart attacks can increase your risk of a stroke. Having treatment for your condition and regular check-ups will help to keep your risk as low as possible.

Atrial Fibrillation (AF) is the most common type of irregular heartbeat. It affects about 750,000 people in the UK and is more common in older people. AF affects how your heart works. If it isn’t pumping as efficiently as it should be, blood clots are more likely to form in your heart. These can then travel through your blood stream to your brain and cause a stroke. AF increases your risk of stroke by up to five times.

Age

Most people who have strokes are aged over 55, and the risk increases as you get older. Although most people who have a stroke are older, around a quarter of strokes happen in younger people. It is estimated that over 20,000 people under 65 have a stroke every year, and stroke also happens to children and babies.
Previous stroke and TIA

After any kind of stroke there is an increased risk of another one:

- Approximately 15% of ischaemic strokes are preceded by a TIA.
- 1 in 12 people will have a stroke within a week of having a TIA.
- The greatest risk of recurrent stroke is in the first 30 days.
- Approximately 30% of stroke survivors will experience a recurrent stroke or TIA.
- Most studies state between 25% and 33% of all strokes are recurrent strokes.

Diabetes

There are two main types of diabetes. In type 1 diabetes, the body produces no insulin. In type 2 diabetes, it produces insulin, but not enough. Common symptoms include thirst, passing a lot of urine at night, tiredness and blurred vision.

Diabetes is linked to stroke as it increases the risk of vascular disease – the hardening and narrowing of the arteries. People with diabetes are also more likely to have high blood pressure and a build-up of fatty deposits in the arteries (called atherosclerosis).

Obesity

Being overweight increases the stroke risk. This is associated with excessive intake of fats, especially saturated fats.

Physical inactivity

People who get little or no exercise have a greater chance of having a heart attack or stroke than people who stay active.

Moderate physical activity can reduce the risk of stroke by up to 27%

Being physically inactive increases your risk of ischaemic stroke by 1.5

Smoking

Tobacco smoke contains toxic chemicals which damage blood vessel walls, leading to atherosclerosis, or narrowing and furring of the arteries. Smoking also increases the stickiness of a type of blood cell called platelets, which increases the risk of blood clots forming in major arteries to the brain and heart. Smoking therefore increases even further the risk of heart disease or stroke in someone with high blood pressure.
Alcohol

In large amounts, alcohol increases blood pressure and can contribute to narrowing of the arteries. Heavy drinking increases the risk of all types of stroke. Binge drinking (over 8 units in a single session for men and 6 units in a single session for women) raises blood pressure dramatically and greatly increases the risk of haemorrhagic stroke, caused by bursting of a blood vessel.

The UK Chief Medical Officers’ guideline for both Men and Women is that it is safest to not regularly drink more than 14 units of alcohol per week.

The contraceptive pill and HRT

The contraceptive pill and patch carry a small risk of serious problems such as heart attacks, stroke and deep vein thrombosis (DVT). This is because they can increase the risk of blood clots forming.

A large analysis of research studies found that there was an increased risk of stroke associated with taking the contraceptive pill, although pills that contained smaller amounts of oestrogen were associated with less risk.

The risk of stroke and other complications, if you are taking the contraceptive pill or patch, are higher if you have other risk factors.

Cholesterol

If you have very high levels of cholesterol in your blood (known as hyperlipidemia) it can have an effect on your health by causing fatty deposits to build up in your arteries and restrict the flow of blood. It also increases the chance of a blood clot developing.
Why stroke needs to be treated as a medical emergency

Issues key to patient outcomes following a stroke are:
- What happens when someone shows the first signs of having a stroke
- How quickly they receive diagnosis and treatment
- You need to Act FAST

Immediately after an ischaemic stroke (top left), a core of irreversibly damaged brain tissue (red) is surrounded by an area of viable but at-risk tissue called the penumbra (green). Unless blood flow is restored quickly, the tissue within the penumbra will be lost (bottom right), leading to a greater area of damaged brain.
Positioning for airway management

If the person is unconscious you need to place them in the recovery position.

If the person is conscious you should leave them where they are and monitor closely, alerting 999 to any changes.

**Good practice in this situation:**
- Support weakened limbs if possible e.g. if the person is in a chair do not allow the arm to hang down beside it.
- Talk quietly to the individual to reassure them, even if they do not appear to understand you.
- Remove possible risks e.g. if they are in the middle of eating see if they can spit out the food remaining in their mouth.
- Do not give any food or liquids.
- Discourage the person from trying to stand up.
- Don’t panic.
- Ensure someone stays with them and reassures.
Reporting the incident

Do the FAST test

Note the time of onset of symptoms if possible. This is important information for the stroke team when they are assessing someone for thrombolysis treatment to try and stop more damage to the brain (thrombolysis is a ‘clot-busting’ drug)

Call 999 - explain you have done the FAST test, report which symptoms were positive and time of onset

Complete an incident report

How we move

The brain controls everything we do, including the way move. It is divided into two hemispheres, left and right. The left hand side of the brain is mainly concerned with language and movement on the right hand side of the body. The right hand side of the brain controls the left hand side of the body.

Nerve cells (sometimes called neurons) are stimulated by the brain and send electrical messages to our muscles to stimulate them to move.

If the brain cells controlling those nerve cells are damaged by a stroke, then the messages can’t be sent, and muscles can’t move.
What are the physical effects of stroke?

Muscles need some sort of tightness (called muscle tone) as without this they would be floppy and not able to work. Following a stroke, a muscle may have very low tone when it is very weak.

Weakness and paralysis

Weakness of an arm, leg or both is probably the most common and widely recognised effect caused by stroke, with 80% of stroke survivors experiencing problems with movement. Weakness can vary in its severity. Some people have very mild weakness in one part of their body, for example their arm, leg or face. But for many people it affects one whole side of their body. This is called hemiparesis.

Paralysis differs slightly from weakness as it describes the loss of the ability to move a part of your body. The term hemiplegia is used to describe paralysis of one whole side of the body. Having weak or paralysed muscles can affect movement. For example, weakness in the leg may make it difficult to get out of bed, to stand or to walk. Arm weakness can make it more difficult for the stroke survivor to do daily tasks such as washing and dressing.

Spasticity

Some weak and damaged muscles develop high tone. The muscle feels stiff and tight, and can become painful. This is called spasticity.

Spasticity occurs after the stroke because the muscles do not obey the nervous system’s instruction to relax and remains abnormally contracted for long periods. For example in the arm the bicep and triceps will contract at the same time when one should be relaxing causing it to bend at the elbow.

Shoulder problems are a particular ‘pitfall’ of abnormal tone

- Increased muscle tone can cause the shoulder joint to become fixed, thus restricting movement.
- Decreased muscle tone can cause the joint to ‘drop’.

Neuroplasticity

Neuroplasticity is the brain’s ability to reorganise itself by forming new neural connections throughout life. Neuroplasticity (remapping) allows the neurons (nerve cells) in the brain to compensate for injury and disease and to adjust their activities in response to new situation or to changes in their environment. “Plasticity” relates to learning by adding or removing connections, or adding cells.
Things to remember when promoting independence

- Use **verbal** facilitation - try explaining how to do a task first before doing it for them
- Focus on **how** to complete a task
- Be **consistent** and **persistent**
- **Motivate** and encourage
- Don’t do things people can do for themselves
- What we don’t use - we lose
- Observe **normal** movement in yourself
- How do **you** complete the movement?
- Break the movement down into stages
- Try to **promote ‘normal’ movement and posture**

**Good positioning**

- Inhibits abnormal muscle tone
- Prevents contractures and maintains soft tissue length
- Prevents pressure sores
- Supports and stabilises body segments
- Prevents aspiration and respiratory complications
- Provides sensory stimulation
- Increases spatial awareness
- Enhances comfort

**A swallowing problem - dysphagia**

The ability to swallow is a complex activity involving the co-ordination of many nerves and muscles. At least 40% of stroke survivors initially experience some difficulty swallowing although for many people it improves quite quickly. Dysphagia is the term used to describe any difficulties in eating, chewing, drinking or swallowing.

In the longer term, eating and drinking are a large part of daily life. They are pleasurable and social activities. People may feel they have lost the enjoyable experience of eating and interacting with others. This can also impact on the family.

**The signs of a swallowing problem**

**Common signs include:**
- Unable to swallow
- Difficulty chewing or swallowing
- Coughing or choking before, during or after swallowing
- Difficulty controlling food or fluid in the mouth
- Bringing food back up, sometimes through the nose
- Drooling
- A hoarse, gargly or wet sounding voice
- The sensation of food or drink ‘catching’ in the throat
- In the long term symptoms may include unexplained weight loss or frequent chest infections.
Hazards of a swallowing problem

There are several reasons why swallowing problems need to be managed properly:

- **Aspiration** – This is the medical term used to describe something ‘going down the wrong way’. The entrances to the airway and the stomach are very close together. Aspiration occurs when food, fluid and/or saliva enters the airway and lungs. Usually if this happens there will be a cough. However, the effects of the stroke may mean they are not aware something has gone down the ‘wrong way’ and the coughing reflex may not happen. Signs of aspiration can include coughing and a change in the voice. Sometimes people do not have any noticeable signs of aspiration – this is known as ‘silent aspiration’.

- **Aspiration pneumonia** – this is a chest infection that occurs when food or fluid get into the lungs then irritate and damage them. Symptoms of aspiration pneumonia include a cough, high temperature, chest pain and difficulty breathing.

- **Choking** – is the inability to breathe because the trachea (windpipe) is blocked, constricted or swollen shut. It is a medical emergency.

- **Dehydration** – It is important that we get enough water and remain hydrated. A swallowing problem may cause people to become dehydrated. The body’s level of hydration should be assessed on admission to hospital and then monitored to make sure it does not become dehydrated.

- **Malnutrition** – If people are not able to swallow properly, they may not be able to eat a balanced diet that includes all the nutrients they need and may develop malnutrition. Different screening tools for malnutrition may be used. Screening should be repeated weekly whilst they are in hospital or when malnourishment is a concern.

Next Steps...

- Complete your workbook & send it to your tutor.
- Log on to the eLearning course to start the Acquired Brain Injury unit.
Acquired brain injury
What is an Acquired Brain Injury?

An Acquired brain injury (ABI) includes all types of traumatic brain injuries and also brain injuries caused after birth by a loss of oxygen to the brain.

Types of ABI include

- Aneurysm
- Brain haemorrhage
- Encephalitis
- Hydrocephalus
- Stroke
- Infection
- Hypoxic/anoxic brain injury
- Brain tumour

“A non-progressive acquired injury to the brain with sudden onset.”
Aneurysm

Where the wall of an artery or blood vessel is weakened, it may swell in a blister-like shape and form what is known as an aneurysm. As aneurysms grow, symptoms can occur as they put pressure on the surrounding tissue. Sometimes, however, no symptoms will occur. An aneurysm can rupture at any time, causing serious bleeding into the surrounding tissue and damaging the brain. This is known as a haemorrhage.

Brain haemorrhage

A brain haemorrhage is bleeding in or around the brain, which may be caused by a traumatic brain injury (TBI). It may also happen spontaneously as a result of a ruptured aneurysm, which is a form of stroke, also known as a haemorrhagic stroke. Sometimes a brain haemorrhage can occur after a seemingly minor head injury. Symptoms can develop rapidly or can take a number of weeks to develop, and urgent investigation and treatment is required.

Brain tumour

A brain tumour is an abnormal mass of tissue inside the skull, which is caused by cells dividing at an increased speed.

There are two types of brain tumour:
• Malignant or cancerous
• Benign or non-cancerous

The effects of a brain tumour are dependent on the size and location of the tumour and how much it has spread.

Encephalitis

Encephalitis is an inflammation of the brain, most often caused by infections. In the UK, the cause in over 50% of cases is unknown, despite extensive testing. Where the cause is identified, it is most likely to be the Herpes-Simplex virus, but there are a number of other viruses or bacteria that can cause encephalitis.

In many cases, people will make a good recovery from encephalitis, but nerve cells in the brain may be damaged. This can lead to long-term effects, which are sometimes severe.
Hypoxic and anoxic brain injury

If the oxygen supply to the brain is interrupted, the functioning of the brain is disturbed immediately and irreversible damage can quickly follow.

There are many potential causes of cerebral anoxia including:
- Cardiac or respiratory arrest
- Irregular heart rhythm or poor function of the heart muscle after a heart attack, resulting in inefficient supply of blood to the brain
- Very low blood pressure (shock), resulting from blood loss (haemorrhage) or disturbed heart function
- Suffocation
- Choking
- Strangulation
- Very severe asthma attack
- Complication of general anaesthesia (where there has been inadequate oxygen supply or cardiac arrest)
- Near drowning
- Exposure to high altitudes
- Smoke inhalation
- Carbon monoxide inhalation
- Poisoning
- Drug overdose
- Electric shock

Stroke

Is also classed as an acquired brain injury.
For more information on stroke please refer to the information on the Stroke Awareness unit.
Areas of the brain and their functions

Frontal Lobe is at the front of the brain, in the forehead region. It is responsible for a range of different roles such as:
- Sequencing
- Decision making
- Attention
- Personality
- Problem solving
- Verbal expression
- Spontaneity
- Emotions
- Movement initiation

Temporal lobe is at the side of the brain. It is responsible for a range of different roles such as:
- Spoken word
- Selective Attention
- Inhibitions
- Aggression
- Identification
- Categorisation
- Facial recognition
- Locating objects

The Parietal lobe is at the top of the brain. It is responsible for a range of different roles such as:
- Object classification
- Tactile processing
- Academic skills
- Cognitive ability
- Directional understanding
- Hand eye coordination
- Spatial orientation
The Cerebellum is at the back of the brain. It is responsible for a range of different roles such as:
• Gross and fine motor skills
• Voluntary motor skills
• Balance
• Equilibrium
• Coordination
• Postural control
• Eye movement

Occipital lobe is at the back of the brain. It is responsible for a range of different roles such as:
• Vision
• Visual field
• Locating objects
• Colour identification
• Hallucinations
• Word blindness
• Movement perception
• Reading
• Writing
• Visual processing

The Brain Stem is at the back of the brain. It is responsible for:
• Body temperature
• Heart rate
• Breathing
• Balance
• Movement
• Swallowing
• Vertigo
• Nausea
Personality changes an individual may experience

Everyone who has had a brain injury can be left with some changes in emotional reaction and behaviour. These are more difficult to see than the more obvious problems such as those which affect movement and speech, for example, but can be the most difficult for the individual concerned and their family to deal with.

Emotional and behavioural effects can be divided into the following areas:

- Agitation
- Explosive anger and irritability
- Lack of awareness and insight
- Impulsivity and disinhibition
- Emotional lability
- Self-centredness
- Apathy and poor motivation
- Depression
- Anxiety
- Inflexibility and obsessionality
- Sexual problems

Agitation

For example, restlessness, pacing and pulling at intravenous tubes. This can be as a result of direct neurological damage, and frequently occurs at a very early stage after the accident. It can be a coping mechanism for the patient, who may be disorientated and very confused. It is a stage through which a person passes, rather than a permanent change.

Explosive anger and irritability

For example, exaggerated angry reaction to apparently minor annoyances. Direct damage to the frontal lobes, which is the part of the brain which controls emotional behaviour and tolerance of frustration, can create emotional lability. This means emotions can swing to extremes. The stress of coping with even minor crises, such as misplaced shoes or a noisy vacuum cleaner, can be too much and trigger an angry outburst. If these stresses can be identified, they may be able to be reduced.

Lack of Awareness and Insight

The mental ability to monitor personal behaviour and adjust it accordingly is a sophisticated skill contained in the frontal lobes of the brain. Damage to this area affects the ability to be self-aware, have insight into the effects of personal actions, show sensitivity or feel empathy. It also means that a person may not fully appreciate or understand the effect that the accident is having on their life, health or family. Involvement in a brain injury support group, such as one of Headway’s local groups & branches, can be very useful for meeting people at various stages of recovery who can help a person recognise difficulties they may also be experiencing.
**Impulsivity and Disinhibition**

For example, speaking your mind no matter what the circumstances, touching people inappropriately, and not considering the consequences of any action. This is the lack of ability to control either actions or speech, and is due to neurological damage to the frontal lobes. This problem often goes hand in hand with lack of awareness, and the person may not be aware of breaching any social rules or etiquette. A behavioural management system devised with the help of a neuro-psychologist can help improve the situation, and prevent a person developing unacceptable behaviour through habit.

**Emotional Lability**

This describes a person’s tendency to laugh and cry very easily and to move from one emotional state to another very quickly. Loss of control over emotions means the person has lost the ability to discriminate about when and how to express their feelings. This can be very tiring and embarrassing for family members to deal with, but in time a person can begin to re-learn emotional control.

**Self-Centredness**

For example, not showing any interest in family matters, and only being concerned with personal needs. This can be partly due to direct brain injury affecting a person’s ability to judge how another person is feeling, and may be partly due to a person becoming accustomed to the huge amount of attention focused on a head injury survivor while they were in hospital. The result can be very hard to cope with. It needs to be handled firmly to avoid a family feeling their effort and love are not appreciated.

**Apathy and Poor Motivation**

For example, no interest in hobbies enjoyed previously, or not being bothered to get out of a chair all day. Lack of motivation or spontaneity, or apathy, is a direct result of brain injury to frontal lobe structures that concern emotion, motivation or forward planning. Over time, lack of motivation can lead to social isolation and lack of pleasure. To help, activities can be broken down into small steps to avoid overwhelming the person.

**Depression**

For example, feeling there is no point in having survived the accident, or thinking that everything has changed for the worse. Depression is a very common emotional reaction which comes on in the later stages of rehabilitation, often when a person realises the full extent of the problems caused by the accident. This can be seen as a good sign, that a person is aware of the reality of the situation, and is coming to terms with the emotional consequences. ‘Healthy’ depression can be worked through in time, as adjustments are made. If a person feels emotionally blocked and unable to move on, professional counselling from someone who understands head injury may be helpful.
Anxiety

For example, panic attacks, nightmares, and feelings of insecurity. It is natural for people involved in a traumatic experience to feel anxious afterwards. Loss of confidence when faced with situations and tasks which are difficult to cope with is also a pretty normal reaction. However, long-standing problems can occur if difficult situations are continually avoided, or if carers encourage dependence rather than independence. Talking about fears and worries is very helpful, and adopting methods of staying calm under stress can reduce the effect of anxiety on everyday life.

Inflexibility and Obsessionality

For example, unreasonable stubbornness, obsessive patterns of behaviour such as washing or checking things, or fear of possessions being stolen. The ability to reason must not be taken for granted. The roots of this type of rigid behaviour are in cognitive difficulties resulting from damage to the frontal lobes. The person can lose the ability to jump from one idea to another, and becomes ‘stuck’ on one particular thought.

This type of behaviour is often made worse by anxiety or insecurity, so reassurance is helpful, as is trying to redirect attention to more constructive ideas and behaviour. This type of behaviour can be very irritating to family and friends, and often leads to social isolation.

Sexual Problems

For example, increased sex drive, promiscuity, or misinterpreting other people’s behaviour as a ‘come on’. The sexuality of a person who has experienced a head injury can be either increased or decreased as a result of the physical damage for a variety of psychological reasons. Damage to the hypothalamus, a small nerve centre in the middle of the brain, affects sex drive and the release of testosterone.

Ability to communicate

Communication problems are one of the most common effects of stroke. About a third of stroke survivors have some difficulty with speaking or understanding what others say, and this can be frightening and frustrating.

A stroke is an injury to the brain. The brain controls everything we do including everything we interpret and understand. A stroke can cause problems with communicating if there is damage to the parts of the brain responsible for language. These functions are controlled by the left side of the brain in most people.
Communication problems

Communication is more complex than just being about speech.

The range of communication problems someone has will depend on where in the brain the stroke happened and how large an area was damaged. Stroke can also cause communication problems if muscles of the face, tongue or throat are affected.

A stroke can affect communication in different ways. The main conditions that can happen after stroke are:
• Dysphasia
• Dysarthria
• Dyspraxia

Dysphasia (sometimes known as Aphasia) is the name for the most common language disorder caused by stroke or acquired brain injury. Dysphasia can affect how someone speaks, their ability to understand what is being said, reading or writing skills. It does not affect intelligence, although sometimes people think it does. Dysphasia can be very mild, and sometimes only affects one form of communication, such as reading. However, it is more common for several aspects of communication to be affected at the same time.

There are different types of Dysphasia

• If your problems are mainly with understanding what is being said, this is called receptive aphasia.
• If the person mostly understands others, but has difficulties expressing what they want to say, this is called expressive aphasia.
• A combination of problems that changes all or most of your communication may be referred to as mixed aphasia, or global aphasia if the effects are severe.
Receptive Dysphasia - a person with receptive Dysphasia may:

- Not understand much of what other people say and feel as though others are talking in an unknown foreign language
- Not understand when people speak in long, complex sentences and may forget the start of what they said
- Not understand others if there is background noise or if different people are talking in a group
- Not understand written language
- Be able to read newspaper headlines, but not understand the rest of the text
- Be able to write but unable to read back what they’ve written
- Have difficulty in processing numbers (addition and subtraction) and also problems caused by no longer being able to recognise numbers (this could affect being able to use the telephone, tell the time and use money).

Expressive Dysphasia - a person with expressive Dysphasia may:

- Have difficulty finding the words they want to use, or not be able to speak at all; they may communicate by making sounds but not be able to form words
- Have difficulty speaking in normal sentences (they may say only single words or very short sentences, missing out crucial words; they may write in a similar way)
- Speak with frequent pauses and be unable to find the word they want to say – yet it may be on the tip of their tongue
- Answer ‘yes’ or ‘no’, but mean the opposite so their answers are not reliable
- Think of the word they want to say, but another word comes out – for example, ‘milk’ instead of ‘water’
- Speak at a normal rate, but much of what they say is unrecognisable and has limited meaning (they may not realise this and others may wrongly think they are confused)
- Describe or refer to objects and places, but not be able to name them, and may miss out the words they can’t think of
- Say only a few set words in answer to any question, which may be emotional words, such as swear words
- Have difficulty writing or be unable to write
- Be able to write single words, to help convey their message
- Get stuck on a single word or sound and keep repeating it
**Dysarthria**

Dysarthria happens when a stroke causes weakness of the muscles involved in speech. This may affect the muscles used to move the tongue, lips or mouth, control breathing or produce voice. Dysarthria does not affect someone’s ability to find the words they want to say or to understand others, unless they have other communication problems at the same time.

**The person may:**
- Have difficulty in articulating speech
- Have slurred, unclear speech
- Sound different
- Sound drunk
- Have difficulty controlling breathing when speaking or producing voice (they may need to speak in short bursts rather than in complete sentences)
- Find their voice sounds slurred, strained, quiet or slow
- Find their voice is flat/monotone.

**Dyspraxia**

Dyspraxia is a condition that affects movement and co-ordination. Dyspraxia of speech happens when a person cannot move muscles in the correct order and sequence to make the sounds needed for clear speech. The individual muscles used to produce clear speech may be working well and they may have no weakness or paralysis, but they cannot move them as and when they want to in the right order and in a consistent way.

**The person may:**
- have difficulty initiating or sequencing speech
- be searching or fumbling to say a sound or word
- not be able to pronounce words clearly and at times may be unable to make any sound at all.
- Speech can be variable, on some occasions the person will be able to get out words quite clearly - on others they may not and will struggle to articulate (i.e. may be able to lick their lips, but unable to stick out their tongue when requested). They may have very little difficulty with ‘automatic’ speech (i.e. counting by rote, greetings, swear words).
Supported conversation

Supported conversation involves using a range of methods to support understanding and communication. Through conversation, people can engage in life. Supported conversation techniques can enable some people with communication barriers to engage in conversation. Getting to know the person you are working with will help you both to understand what works for them. Communication is a joint responsibility and to make it successful the methods have to work for both parties. However, what helps one person may actually hinder another. Adapt the techniques, the topic and the time that you have the conversation to suit the individual.

How to help support communication

- Drawing
- Listening
- Gesturing
- Technology
- Communication book
- Maps
- Pointing
- Talking
- Body Language
- Facial expressions
- Writing and using key words
Writing, Drawing and using key words

Even someone who is no longer able to read may be able to recognise single words by their shape (whole word recognition). Writing down key words in clear handwriting in lower case and not underlining, leaving spaces between words will allow you to recap the conversation should it break down.

For example: “Are we talking about the physiotherapist?” – “Yes” – (write down physiotherapist).

“Are you going to see the physiotherapist this week?”
The person answers or points to “Yes/No”.

If they respond “Yes”,
ask “Can you show me which day?”,
or: “Is it Monday, is it Tuesday?” etc.

Carry on capturing key words and recapping if the conversation breaks down. Keep the list of words to refer back to. Communication is more than just speech – a large majority of communication is non-verbal.

Someone may be able to draw what they want to convey or they may be able to better understand something if you draw it. Give it a try; it doesn’t have to be a work of art.

Supporting a person to express themselves

• Give plenty of time and ask if your help is needed before giving it.
• Look as well as listen - you will get a lot of information from natural gestures, facial expressions and body language, check these are consistent with their message.
• Encourage the person to give you extra help (i.e. ask if there is anything they can point to, gesture, write or draw to help you understand).
• Establish the general topic of their message by asking careful questions that only require a ‘Yes’ or ‘No’ answer.
• Don’t ask too many questions too quickly.
• Ask if the person would like you to guess what they want to say.
• Don’t pretend to understand. If you’re having difficulty, be honest and tell them: “I’m sorry, I don’t understand – let’s try again.” Or arrange another time to come back to the topic – and don’t forget.
• Verify – “Did you mean ...?”
Supporting a person to understand you

- Assume the person can hear and understand well in spite of any difficulties responding, unless you learn otherwise.
- Observe the person to assess their understanding.
- Don’t rush the conversation. Give the person time to take in what you say and to respond.
- Use adult language and don’t ‘talk down’ to the person with aphasia. Even if someone understands little or nothing remember they are not a child.
- Keep your own language clear and simple.
- Focus on just one topic and one person at a time. If the conversation does change subject, ensure that everyone is aware that it has done so.
- Avoid distractions (noises, other people, TV).
- Speak in a normal tone of voice.

If there is a breakdown anywhere in this chain, then the result will be a communication difficulty.

Go through the process in the brain – what challenges have you noticed with the stroke survivors that you have worked with?

The 30 second rule

giving someone enough time (30 seconds or more) to respond can help them to express what they want to say. Always remember;
Challenging behaviour

A person’s behaviour can be defined as “challenging” if it puts them or those around them (such as their carer), at risk or leads to poorer quality of life. It can also impact on their ability to join in everyday activities.

Challenging behaviour can include:
• aggression
• self-harm
• destructiveness
• disruptiveness

Challenging behaviour is often seen in people with conditions that affect the brain and the way we communicate.

Communication is the main way we interact and express our needs, likes and dislikes. If communication is a problem then it can be very frustrating for the person involved and may result in challenging behaviour. If this behaviour leads to a desired outcome, it may be repeated again and again.

If we can record events of challenging behaviours we can identify patterns. We can do this by documenting ABC’s:
• Antecedents
• Behaviour
• Consequence

Once we recognise patterns to establish known ABC’s we can react to their needs, which in turn;
• Enables an individual and effective care plan
• Enhances quality of life
• Improved long term outcome

The key is to try and understand why the person you look after is behaving in this way. For example, they might feel anxious, bored or in pain.
If you can recognise the early warning signs, you may be able to prevent behavioural outbursts. For example, if being in a large group of people makes the person you care for feel anxious and makes them become agitated, you could arrange for them to be in a smaller group or have one-to-one support.

Some people find that a distraction can focus a person’s energies elsewhere and prevent them from displaying challenging behaviour. Two golden rules for carers dealing with challenging behaviour are;

Never enter an argument
It’s not personal

The person you care for might behave in a challenging way to get your attention. If this is the case, consider not responding directly to their behaviour – although you shouldn’t ignore them completely. However, if their behaviour puts them or someone else at risk, you’ll need to intervene as calmly as possible.

Families may also be confrontational. It is important to remember that families may have had to battle to get this far. They may also be prepared for another battle every time they meet someone new, or see someone doing something different.
Impact of ABI on family

The long term effects of ABI on a family member will be vast and varied. Often it depends on how much of an impact the ABI has had.

If someone is minimally responsive, they may require all care and specialist equipment. They may have to go into a care facility to ensure all of their complex needs are met. This can have an impact on the family because the person they knew and loved has suddenly changed. There may also be a financial impact if they were the main breadwinner of the family, or if the family now need to contribute to the cost of their care. There may also be other related health concerns if they have an issue with swallowing, known as dysphagia, which could lead to aspiration pneumonia if not managed appropriately.

If someone is severely affected this could be physically or cognitively, or both. Like someone who is minimally responsive, they may require all care and specialist equipment and have to go in to a care facility to ensure all of their complex needs are met. Someone who is severely affected, may be able to live at home with the right support, and could have a good quality of life. Given they are severely affected but not minimally responsive they may pose a danger to themselves or to others if they have poor awareness of issues such as safety or sexuality.

Those who are mild to moderately affected again could have varied issues which may lead to safety issues, but sometimes a mild brain injury can go undiagnosed and lead to distress for the person involved and their families. If they have issues with processing, they may not understand and become very frustrated that they can no longer perform simple tasks – like making a cup of tea. This could in turn affect relationships with people close to them and lead to issues maintaining personal relationships.

There are many complex variables to consider with ABI and pre-existing personality traits. These multi-faceted issues all relating to each other can result in behaviour. Family members are crucial to understanding this as they can give insight into what the person was like before the ABI.

**They may also have discussed preferences in the past and can help make decisions which influence:**

- Individual care planning
- Behaviour management
- Goals
- Pre-existing elements of care
Monitoring and reporting challenging behaviour

To deal effectively with challenging behaviours we need to consider what is the cause. Often challenging behaviour is referred to as ‘responsive’ behaviour because there is usually a trigger that causes the behaviour.

For this reason it is essential that if we see someone demonstrate a challenging behaviour we are recording it appropriately.

Challenging behaviour report forms are designed to enable us to pick up on trends and patterns. Once we recognise this we can then respond accordingly and as part of a person centred plan for dealing with an individual’s needs.

An ABC chart is a nice simple effective method of reporting challenging behaviour. This allows people to identify what Antecedents (events leading up to the behaviour), the behaviour itself and the consequences of the behaviour.

<table>
<thead>
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<th>Time</th>
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<th>Behaviour</th>
<th>Consequences</th>
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Next Steps...

☐ Hand in your ABI workbook to your personal tutor.
The Stroke Association is the only UK wide charity solely concerned with combating stroke in people of all ages. We:

- **Fund research** into prevention, treatment and better methods of rehabilitation
- Help stroke patients and their families directly through our **Life After Stroke Services**
- **Campaign, educate** and inform to increase knowledge of stroke at all levels of society
- Act as a voice for **everyone affected by stroke**.

The Stroke Association provides information about stroke, emotional support and details of local services and support groups.

**Helpline:** 0303 3033 100  
**Website:** www.stroke.org.uk  
**Email:** info@stroke.org.uk

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How your evidence is checked

After your Tutor/Assessor has assessed your work, another member of staff – the Internal Moderator – will review it. An External Moderator from NCFE will visit your centre. The External Moderator’s role is to make sure your work has been assessed to NCFE’s requirements. They’ll do this by checking a sample of candidates’ portfolios – which may include yours. They may also wish to talk to you about the content of the course and the work you’re doing.

How to get your certificate

Once you’ve built up your portfolio of evidence and your Tutor/Assessor and the Internal and External Moderators are satisfied it meets the standards, you’ll be awarded the NCFE Level 2 Award in Stroke Awareness.

Your centre will send us a signed certificate claim form when they and the External Moderator have signed off your completed portfolio. We will send your certificate to your centre within 10 working days of receiving the claim form. Your centre will either forward the certificate to your home address, or tell you that it’s available for you to collect.

Opportunities for further education and training

After successfully completing this qualification, you may like to go on to further study in the same or a similar subject. This might include:

- NCFE Level 3 Certificate in Stroke Care Management
- NCFE Level 2 Award in Awareness of Dementia
- NCFE Level 2 Award in Helping Skills
- NCFE Level 2 Certificate in Counselling Skills
- NCFE Level 2 Certificate in Preparing to Work in Adult Social Care
- NCFE Level 2 Diploma in Health and Social Care (Adults) for England
- NCFE Level 2 Certificate in Working in the Health Sector
- NCFE Level 2 Certificate in Healthcare Support Services
- NCFE Level 2 Diploma in Clinical Healthcare Support
Completing your Learner’s Evidence Tracking Log

This section of the log will help you keep track of the work you’ve done and the work you still need to do to finish your portfolio.

It will also help your Tutor/Assessor and Internal and External Moderators find their way around your portfolio so they can assess it or check it. Your Tutor/Assessor will make sure you’re completing your log correctly.

Overleaf is a sample page similar to the mandatory unit you’ll find in the rest of this log. Use the columns to write down what evidence you’ve put in your portfolio and to show your Tutor/Assessor and the Internal and External Moderators where it’s located.

Evidence requirements for this qualification

You and your Tutor/Assessor and/or an independent witness must sign and date the individual pieces of work in your portfolio. Once you’ve completed your portfolio, your Tutor/Assessor will sign the front of the log, to show that they’re satisfied you’ve completed it correctly.

Additional support requirements

NCFE recognises that you might require additional support in order to achieve your qualification. This might be if you’ve got a permanent or temporary disability, medical condition or specific learning need.

Your Tutor/Assessor will discuss the most appropriate method of support to meet your needs and may need to notify NCFE of the support they’re going to give you. This could include facilities to support reading or writing needs, hearing, visual or physical impairment; facilities to support a medical condition or temporary injury; or facilities to support you if your first language isn’t English.

For more information your Tutor/Assessor will be able to provide you with a full copy of NCFE’s Reasonable Adjustments and Special Considerations Policy, or you can download it from www.ncfe.org.uk.
**Appeals or complaints**

If you’ve got any queries or problems with your qualification you should first talk to your Tutor/Assessor, the Internal Moderator or another member of staff at your centre. If you’ve got a complaint about the way your work has been assessed, or the support you’ve been given, use your centre’s own appeals or grievance policy (ask your Tutor/Assessor for a copy).

For more information your Tutor/Assessor will be able to provide you with a full copy of NCFE’s Appeals and Enquiries about Results Policy, or you can download it from www.ncfe.org.uk.

**Malpractice**

‘Malpractice’ is used to describe something a person does when they intentionally mislead somebody – for example, if they copy somebody else’s work and pass it off as their own. If we’re notified about a suspected case of malpractice, we’ll work with the centre to find out if and why it’s happened and what we can do to sort it out.

If your centre suspects that you’ve been involved in malpractice, we won’t be able to issue your certificate during the investigation. If we prove that malpractice has happened, you may have part of your assessment disallowed or, in serious cases, your final results may be void. This means you won’t receive a certificate or, if we’ve already issued you one, we’ll ask that you return it straight away.

For more information your Tutor/Assessor will be able to provide you with a full copy of NCFE’s Malpractice Policy, or you can download it from www.ncfe.org.uk.

**Equal opportunities**

NCFE fully supports the principle of equal opportunities and opposes all unlawful or unfair discrimination on the grounds of ability, age, colour, culture, disability, domestic circumstances, employment status, gender, marital status, nationality, political orientation, racial origin, religious beliefs, sexual orientation and social background.

NCFE aims to ensure that equality of opportunity is promoted and that unlawful or unfair discrimination, whether direct or indirect, is eliminated both in its own employment practices and in access to its qualifications.

You can download a copy of NCFE’s Equal Opportunities Policy from www.ncfe.org.uk.

**Data protection**

NCFE is registered under the Data Protection Act and is committed to maintaining the highest possible standards when handling personal information.
NCFE Enquiries

Any enquiries relating to this qualification should be addressed to:

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Newcastle upon Tyne
NE1 4JE

Tel: 0191 239 8000
Fax: 0191 239 8001
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We are the Stroke Association

We believe in life after stroke. That’s why we support stroke survivors to make the best recovery they can. It’s why we campaign for better stroke care. And it’s why we fund research to develop new treatments and ways of preventing stroke.

We’re with you every step of the way, together we can conquer stroke.

Stroke Helpline: 0303 3033 100
Website: stroke.org.uk
Email: info@stroke.org.uk
From a textphone: 18001 0303 3033 100

We are a charity and we rely on your support to change the lives of people affected by stroke and reduce the number of people who are struck down by this devastating condition.

Please help us to make a difference today.

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Together we can conquer stroke

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