

# Stroke (Cerebrovascular Accident – CVA)

## Definition

**A sudden attack of weakness affecting one side of the body due to an interruption of blood flow to part of the brain.**

There are two types of stroke. The most common is caused by the presence of an atheromatous plaque or less commonly a blood clot, which blocks one of the blood vessels supplying part of the brain, which results in the death of the area of the brain the blood vessel supplies. The second cause is less frequent and occurs when a blood vessel in the brain ruptures, resulting in a haemorrhage which causes an area of the brain to become 'squashed' by the pressure of the blood. In either type of stroke, the signs and symptoms are very similar and an area of the brain will die. A stroke can happen at any age, is the third largest cause of death, and the single biggest cause of severe adult disability in the UK.

The prognosis for stroke patients is variable, but the mortality rate is around 30% when the stroke is caused by a plaque, or blood clot, and as high as 80% when caused by a haemorrhage.

A Transient Ischaemic Attack (TIA) or mini-stroke is caused by a temporary disruption of blood flow to part of the brain. Symptoms may be similar to a cerebrovascular accident (CVA) but recovery occurs within 24 hours. However, 20% of people who experience a TIA will suffer a full CVA within a few weeks, therefore TIAs should be regarded as a warning sign that further TIAs or a complete stroke may occur in the future.

There are several predisposing factors that can increase the chance of a CVA and these include:

- Hypertension
- Diabetes
- Heart Disease
- Renal Disease
- Obesity
- Atrial fibrillation
- Smoking
- Excess alcohol consumption
- Previous TIA/CVA

## Possible signs and symptoms

The clinical features of a stroke can vary considerably and are dependent on the area of the brain which has been affected. The onset is sudden and rapidly progresses and can consist from mild confusion or difficulty in speaking to major symptoms including cardiac arrest.

The signs and symptoms can include one or more of the following:

- Paralysis of one side of the face
- Paralysis of the limbs on one side
- Confusion
- Inability to speak clearly, or at all
- Visual disturbances
- Tingling down one side of the body
- Numbness down one side
- Seizures
- Severe headache (sudden onset)
- Coma

When a person presents with any of the symptoms described above it is essential that a CVA is considered as a possible cause and the emergency services called as quickly as possible.

If you suspect a stroke you should carry out the 'FAST' test:

- F Face drooping** – can the person smile? Has their mouth or eye drooped?
- A Arm weakness** – can the person raise BOTH arms?
- S Speech problems** – can the person speak clearly and understand what you say?
- T Test and time** - as soon as the person fails any test, it's time to dial 999

## Remember

To test all three, but as soon as the person fails one of the tests send a colleague to telephone for a paramedic, because speed is important.

## Management

The dental management of a person who has had a CVA is restricted to assessing and monitoring ABCDE (airway, breathing, circulation, disability, exposure) and provision of low-flow oxygen, together with an immediate call for a paramedic.

If the casualty is conscious then place them into a position with head and shoulders raised. High flow oxygen should be administered via the face mask. It is worth remembering that although they may not be able to speak they will probably be able to understand what is happening and they will be extremely frightened. A calm management approach is essential.

If the casualty is unconscious but breathing then they must be placed into the recovery position, also receiving high-flow oxygen via the non-rebreathing face mask. If they are not breathing, not breathing normally, or you are unsure then cardiopulmonary resuscitation (CPR) must be started immediately.

The dental team can do little to prevent a CVA or TIA from happening. The medical history is an essential tool to help identify predisposing factors in patients who may have an increased risk from a CVA, as well as recording details if the patient has had either event in the past 6 months as there is a greater risk of having another CVA or TIA if this is the case. If so, it will be necessary to carry out a risk assessment to decide if treatment should be carried out, or possibly deferred by another 6 months as there would be a lesser risk then.

