



Treating stroke as a medical emergency will save lives and reduce long-term levels of disability. HEMS have a part to play in the rapid transportation of stroke patients to appropriate receiving units, especially in rural areas, and in optimising treatment in the pre-hospital environment.

Stroke generally presents as a **sudden onset of new neurological symptoms**, classically unilateral limb weakness, difficulty speaking or understanding speech, loss of vision, clumsiness or altered sensation. More severe cases may present with medical collapse and unconsciousness.

The FAST test has been described to rapidly assess a suspected stroke:

F: Facial movements. Ask patient to smile look for new asymmetry.

A: Arm movements. Ask patient to lift arms together and hold. Look for drifting.

S: Speech. Look for new speech disturbance if patient attempts conversation.

T: Test all three of above and if one abnormal suspect a stroke.

Pre-hospital management

1. Perform primary survey and intervene as necessary. This may include providing RSI for patients unable to maintain their own airway, or with deteriorating GCS.
2. Encourage an informant to accompany the patient.
3. Give **oxygen**.
4. Measure glucose. Treat with 10% dextrose if $<3\text{mmol/L}$ (100ml bolus).
5. Actively manage hypotension by raising foot of trolley and giving 250ml boluses saline.
6. Perform **12-lead ECG** in all patients as acute MI is sometimes complicated by stroke. Manage as per chest pain protocol.
7. Patients should be transported to a facility with a specialist stroke unit and immediate availability of CT scan, and considered time-critical.

Management of transient ischemic attack (TIA)

Any patient seen with residual symptoms and signs at the time seen should be treated as acute stroke. If all symptoms and signs have completely resolved by assessment and have lasted for less than 24 hours, the diagnosis is TIA. Patients with 'hemispheric' TIAs, i.e. unilateral weakness and/or sensory symptoms, have a 30% chance of developing a full-blown stroke within 1 month. Admission to a specialist stroke unit is vital for patients with more than one TIA in seven days or who have three or more of the following: BP > 140/90, unilateral weakness or speech disturbance, symptoms lasting > 60 minutes, patients with diabetes.