How can triage nurses spot a patient with posterior stroke?

Posterior stroke can be difficult to spot, but nurses can use the BEFAST acronym to save lives.

About 20% of ischaemic strokes in the UK affect the posterior circulation, however it can be more difficult to recognise compared to other stroke types and if not identified, a delayed or misdiagnosis could result in preventable death or disability (Merwick and Werring 2014).

By understanding key signs and symptoms to look out for, nurses in emergency departments (EDs) can play a pivotal role in rapidly identifying patients presenting with signs suggestive of a posterior circulation stroke to help save lives.

Signs and symptoms of a posterior circulation stroke include vertigo and gait disturbance, nausea and vomiting, diplopia, visual field defects, unilateral limb weakness, ataxia, dysarthria and swallowing difficulties.

The vertebral, basilar and posterior cerebral arteries with the vertebral arteries in the neck form the brain’s posterior circulation. Posterior stroke occurs when blood flow in one of the vessels of the posterior circulation is interrupted and is mainly caused by atherosclerosis but can also be caused by embolism or dissection (Nouh et al 2014).

The posterior circulation supplies key areas of the brain, such as the brainstem, cerebellum and occipital regions, and circulation to the inner ear. Symptoms can include dizziness, double vision, defects with visual fields, speech and swallowing difficulties, and ataxic gait.

**Think BEFAST**

Patients often present with dizziness, nausea and vomiting and this can appear similar to non-life-threatening conditions affecting the inner ear such as vestibular neuritis, labyrinthitis or benign paroxysmal positional vertigo.

Delays in recognition and diagnosis of posterior circulation strokes in EDs can occur as symptoms vary due to the posterior circulation supplying several different regions of the brain and vast amounts of brain tissue (Hoyer and Szabo 2021). This means not all patients with posterior strokes present with the classic ‘Face Arm Speech Time Test’ (FAST). Recent studies have shown that FAST identified 69% to 90% of strokes but missed up to 40% of those with posterior circulation events (Aroor et al 2017).

Emergency nurses will be familiar with the acronym FAST. However, by also being familiar with BEFAST, nurses could consider balance and eyesight in addition to FAST to help identify posterior strokes (Kuybu et al 2022).

Balance – is there a sudden loss of coordination? Eyesight – is there visual disturbance such as double vision, blurred vision or loss of visual fields? If so, your patient may have signs of stroke, and this is a medical emergency.

The phrase ‘time equals brain’ remains relevant and relates to the fact that the longer treatment for stroke is delayed, the worse the outcomes for the patient can be, so prompt recognition is required (National Institute for Health and Care Excellence 2019). If stroke symptoms are suspected, arrange an urgent medical review.

What nurses should do if posterior circulation stroke is suspected:

- Assess mental status and level of consciousness – assess Glasgow Coma Scale.
- Perform vital sign observations and accurately calculate NEWS2.
- Perform ECG.
- Gain IV access and obtain blood tests for haematology and biochemistry as per local guidelines.
- Check blood sugar.
- Assess functions such as speech, memory and cognition.
- Maintain patient safety.
- Ensure appropriate urgent review by a senior clinician who can assess and manage patients with signs of stroke.

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Further information

Aroor A, Singh R, Goldstein L (2017) BE-FAST (balance, eyes, face, arm, speech, time): reducing the proportion of strokes missed using the FAST mnemonic. Stroke. 48, 2, 479-481.


Learn how to recognize stroke:

- Balance
- Eyes
- Face
- Arms
- Speech
- Time

Balance – loss of balance, trouble with walking.
Eyes – blurred vision, one side of the face drooping.
Face – hand or leg weakness.
Arms – speech difficulty.
Time – time is of the essence.