

Helping passengers with neurological symptoms

By Robb Leigh MD



Just a headache caused by tension or the first indication of something worse?

Neurological diseases are disorders of the brain, spinal cord and nerves. When something happens to your nervous system, you can have trouble moving, speaking, swallowing, breathing or learning. You can also have problems with your memory, senses or mood.

Inflight neurological symptoms such as fainting episodes, dizziness or severe headaches can be difficult to identify correctly – sometimes masquerading as an entirely different condition altogether.

Consider, for instance, the alarming incident of loss of consciousness. This neurological event can be the result of several underlying causes, which might be metabolic, such as low blood sugar (hypoglycaemia) or oxygen level; cardiac, such as irregular heart rhythm or inefficient pumping action; haemodynamic, such as dehydration or blood loss; or traumatic, from a head injury.

The loss of ability to speak in someone who used to speak normally can be the result of a stroke or metabolic disorder. Loss of motor function of a body part can be caused by a stroke or nerve root compression. Conversely,

neurological hyperactivity can cause its own set of problems in flight – resulting in seizures, involuntary movements or panic.

While neurological symptoms can vary from fainting episodes to body weakness and speech difficulties, the seriousness depends on the context of that person's medical history and recent activity. By understanding the processes behind the most common inflight neurological scenarios, crew can feel more confident in the initial management of such events until definitive help becomes available.

The most common inflight neurological scenarios are:

- weakness – generalised weakness is usually metabolic in origin (hypoglycaemia, hypoxia, dehydration), whereas focal weakness is neurological;
- dizziness – also described as lightheadedness, vertigo (a spinning, rocking sensation or feeling that the environment is moving), unsteadiness (gait problems) or even depression. May be caused by an endocrine disorder, inner ear inflammation, such as labyrinthitis, or stroke;
- confusion – causes can be metabolic (low blood sugar), toxic (drugs or medication toxicity/side effect) or stroke (depending on the location of stroke, the predominant symptom may be a change in mental status or a personality change);
- headache – an extremely common symptom. Can be the result of something as trivial as tension or as serious as a type of stroke called 'subarachnoid haemorrhage';
- seizure – not necessarily alarming in a passenger with a pre-existing seizure disorder but can be a new onset seizure from a metabolic derangement (hypoglycaemia, toxins) or stroke;
- stroke – the sudden onset of neurological deficits, such as the inability to move one side of the body, can result from compromised blood flow or haemorrhage (bleeding) in

the brain. This process may occur in passengers with pre-existing cardiovascular disease and in those passengers suffering from head trauma or a ruptured aneurysm;

- head injury – from a fall or falling objects from overhead bins. If serious, a head injury may cause loss of consciousness and/or bleeding in the brain tissue, and;
- hyperventilation (breathing unusually rapidly or deeply) – anxiety can cause numbness and tingling around the mouth and numbness in fingers and hands.

Managing a neurological incident

The recommended method of managing neurological incidents is to:

1. Assess the situation.
2. Ask the appropriate questions to the passenger or travelling companion: main symptoms/complaints; has this happened before?; other medical history; current medications and allergies; what has been done so far?
3. Give the passenger oxygen.
4. Stabilise injuries if present.
5. Initiate communication with land physicians and relay the gathered information.

The more information that telemedicine physicians have at their disposal, the faster they can determine how to stabilise the passenger and diminish the likelihood of complications. ■

As a practising emergency physician in metropolitan Phoenix, Arizona, and a medical advisor for MedAire, Robb Leigh is involved in handling medical emergencies daily in an urban emergency room as well as remotely via MedAire's venues.

The **Regional** International Medical Advisory is provided courtesy of ERA member MedAire Ltd.