By June Cheong

A stroke is a medical emergency and early detection and treatment will improve the chances of recovery.

Not all stroke survivors end up severely disabled. Many have recovered well when medical attention is timely and treatment is sustained.

Anastasia Heng, 13, can attest to this. The Secondary 2 student suffered a stroke last December and lost the ability to perform daily activities like dressing herself as well as her language skills.

However, in less than a year, she has bounced back and can walk unaided and speak in full sentences again.

She said: 'I couldn't speak fluently at first.

'I found it difficult to understand what the teachers were saying when I went back to school in March. I had remedial lessons to help me adjust to school work.' (See 13-year-old stroke victim.)

A stroke is nevertheless a serious condition, being the fourth leading cause of death here and striking about 4 per cent of adults aged 50 years and above.

It is also the biggest cause of long-term disability in Singapore.

The risk of getting a stroke doubles for each decade of life after the age of 55. The risk is also greater if one's parent, grandparent or sibling has had a stroke.

A stroke occurs when blood fails to reach one or more parts of the brain, causing cells in the affected areas to die.

This in turn results in disability in that part of the body controlled by the affected part of the brain. Functions like motor skills, sensation, balance, and speech and language are susceptible.
Two kinds of strokes

There are ischemic as well as haemorrhagic strokes.

The former, accounting for 75 per cent of strokes here, is when arteries are blocked by blood clots or the gradual build-up of plaque and other fatty deposits.

The latter occurs when a blood vessel in the brain bursts, leaking blood into the brain.

Blood circulation is vital for brain function because it supplies the organ with oxygen. Brain tissue stops functioning if deprived of oxygen for longer than 60 to 90 seconds.

'If the lack of oxygen persists, the brain cells suffer irreversible injury, leading to death of the brain tissue,' said clinical Associate Professor Ong Hian Tat, a senior consultant of paediatric neurology at University Children's Medical Institute in National University Hospital.

But not all the cells in the affected part of the brain will die because some blood will still reach it through secondary channels.

This means part of the affected brain tissue may only be injured and can potentially recover.

But time is of the essence.

Dr Rajinder Singh, a consultant neurologist at the National Neuroscience Institute (NNI), said the warning signs of a stroke include sudden onset of weakness or numbness, dizziness and having difficulty speaking, swallowing or walking.

Associate Professor Lee Kim En, a senior consultant and head of the department of neurology at NNI, said that while strokes are more common in men, more than half of the total stroke deaths occur in women.

He added that women above the age of 30 who smoked or took high-oestrogen oral contraceptives are 22 times more at risk of getting a stroke than the average person.

Pregnant women also have a slightly increased risk of stroke.

Other risk factors include being overweight, a diet high in salt and saturated fat, a sedentary lifestyle, excessive consumption of alcohol, smoking and stress.

A study published online last month by the British Medical Journal found that people who suffer from severe migraines are twice as likely to have a stroke.

The commonest causes of stroke in adults are atherosclerosis (a disease in which plaque builds up inside the arteries), hypertension and complications of diabetes mellitus.

Causes of stroke in children

Most childhood strokes are caused by impaired blood flow in the arteries as a result of thrombosis or embolism. These are frequently associated with other conditions, many of which are genetic.

Prof Ong said that causes of stroke in children include vascular malformation (abnormal blood vessels in the brain), blood disorders, auto-immune disorders, infections within the brain like meningitis and encephalitis and trauma.

But he added that strokes in children are relatively uncommon.
Treatment for strokes include medication or surgery and rehabilitation.

In an ischemic stroke, drugs like tissue plasminogen activator (tPA) - which dissolve blood clots - may be given.

Prof Lee said: 'tPA dissolves the clot and restores blood flow to the brain. It is effective only if given promptly. For maximum benefit, the therapy must start within three hours of the onset of stroke symptoms.

'It is thus critical that medical professionals and the public recognise stroke as a medical emergency and respond immediately.'

In a haemorrhagic stroke, surgery may be needed to stop the bleeding in the brain.

After a stroke patient's condition has stabilised, rehabilitation is paramount to his recovery.

Prof Ong said that neuronal reconnections in the brain occur with recovery. This means that the physical disability a patient suffers often improves because of the reconnections. He added that regular physiotherapy prevents the immobile limbs from becoming too stiff, helping a patient regain their function.

Asked if a stroke patient can regain full function, Ms Victoria Lai, a speech therapist at the department of rehabilitation medicine at National University Hospital, said: 'The majority of patients do not regain full function but this does not mean that they cannot learn to compensate for impairments or use strategies to overcome difficulties that remain.

'Many can return to a good quality of life and live successfully.'

Prof Ong added that rehabilitation is essential but it takes time.

Prevention tips include refraining from smoking, maintaining a healthy weight, sticking to a diet low in fat, salt and sugar and high in fibre, and going for regular check-ups.

Prof Lee reiterated the need to get medical help should signs of a stroke appear. He said: 'Stroke is a medical emergency. Every second counts.'