

Amnesia

Amnesia is a general term that describes memory loss. The loss can be temporary or permanent, but 'amnesia' usually refers to the temporary variety. Causes include head and brain injuries, certain drugs, alcohol, traumatic events, or conditions such as Alzheimer's disease. Anterograde amnesia means that the person can't learn anything new, while retrograde amnesia means the person forgets events from their past. In many mild cases, such as those caused by concussion, the person can't recall the blow to the head or their recovery time, but the rest of their memory is intact. Infantile amnesia, or the inability to remember anything at all from the first few months or years of life, is universal. It is thought that the memory processes of the brain take time to develop.

Symptoms

The symptoms of amnesia depend on the cause, but generally include:

- Memory loss
- Confusion
- Inability to recognise familiar faces or places
- Once the person recovers, they typically have no memory of their amnesia episode.

A range of causes

Memory loss can be caused by a wide range of conditions, including:

- Head injury
- Severe illness
- High fever
- Seizures
- Emotional shock or hysteria
- Alcohol-related brain damage
- Certain drugs, such as barbiturates or heroin
- General anaesthetics
- Electroconvulsive therapy
- Stroke
- Transient ischaemic attack (a 'mini stroke')
- Alzheimer's disease
- Brain surgery.

Memory is mysterious

The way the brain codes and stores information remains a mystery. Current and often conflicting theories include:

- Widespread distribution of memories across the outermost layer of the brain (cortex)
- Widespread distribution of memories, with certain structures (such as the hippocampus) playing important roles
- Localised memory areas in certain structures of the brain only
- Memory storage in brain molecules
- Memory storage in clusters of nerve cells (neurones).

Different types of memory

It seems that the brain has a number of different memory forms, including:

- **Short term** - new information is stored for a brief time. If the information isn't further processed, it will soon be forgotten.
- **Long term** - information from the short term memory is shifted to the long term memory.

- **Declarative** - conscious memories of information and events.
- **Non-declarative** - once learned, habits such as driving a car are ingrained and automatic.

The severity varies

The severity of amnesia depends on the cause. Concussion, seizures and electroconvulsive therapy seem to temporarily disrupt the electrical activity of the brain and prevent the short term memory from working properly. The stress of a traumatic event may also interfere with the processing of short term memories. These episodes of amnesia are usually temporary. In more severe cases, memory loss may be permanent. Brain trauma or some types of brain surgery, may damage vital memory structures. The type of memory loss experienced depends on which parts of the brain are affected. In Alzheimer's disease, the person typically remembers past events, but experiences memory losses dating from the onset of their condition.

Diagnosis methods

Diagnosing the cause of amnesia involves a range of tests, including:

- Medical history
- General examination
- Tests for short and long term memory recall
- Other tests related to thought processing
- Head x-ray
- Blood tests
- Computed tomography (CT) scan
- Cerebral angiography (scans taken after a special dye is injected).

Treatment options

Treatment depends on the cause. For example, a person who has suffered a traumatic event may benefit from sedation, plenty of love and care, and (perhaps) psychiatric treatment. Concussion needs rest, once complications have been ruled out. If alcoholism is the cause, then abstinence, emotional support and addressing dietary deficiencies are recommended. In the case of Alzheimer's disease, a range of new medications that enhance the cholinergic function of the brain are now available; however, nursing homes or other extended care options may eventually be needed as the person becomes less able to look after themselves.

Where to get help

- Your doctor
- Always call an ambulance in an emergency, Tel. 000

Things to remember

- Amnesia is a general term describing memory loss.
- Symptoms include memory loss, confusion and the inability to recognise familiar faces or places.
- Some of the causes of temporary amnesia include concussion, severe illness and high fever, emotional stress, some drugs and electroconvulsive therapy.

This page has been produced in consultation with, and approved by:

North East Valley Division of General Practice

Copyright © 1999/2009 State of Victoria. Reproduced from the Better Health Channel (www.betterhealth.vic.gov.au) at no cost with permission of the Victorian Minister for Health. Unauthorised reproduction and other uses comprised in the copyright are prohibited without permission.

- This Better Health Channel fact sheet has passed through a rigorous approval process. For the latest updates and more information visit www.betterhealth.vic.gov.au.