

Dementia

What is dementia?

Dementia is a progressive brain disorder that affects a person's ability to function normally. The condition involves the degeneration of brain cells, with common symptoms including memory loss, particularly recent memory, confusion, personality change, withdrawal and a loss of ability to do everyday tasks.

While many conditions can lead to dementia, Alzheimer's Disease, in which the areas in the temporal lobe that control memory are initially and particularly affected, accounts for 50–70% of all dementia cases.

The at-risk population is estimated to include people aged 65 years and over (about 13% of the population). By 2051 this at-risk population could include as many as 12 million people.

Research at QBI

In 1992, QBI Director Professor Perry Bartlett and colleagues in Melbourne made a world-first discovery of a mechanism that may stimulate the production of new nerve cells in the adult brain.

The Bartlett-led team showed, for the first time, how stem cells in the brain were responsible for the production of new nerve cells, opening up a new field of discovery.

Stimulating the production of new nerve cells in the brain (also called neurogenesis) offers the hope that

normal brain function – such as memory formation – can one day be enhanced.

Frustratingly, only about 50 per cent of the new cells produced during neurogenesis appear to integrate into the brain, connecting with the neural network. However, it is this apparent ability to self-repair that continues to be the focus of extensive scientific investigation in neural stem cells.

The Queensland Brain Institute is among an elite international group of research centres dedicated to finding a way to regulate neurogenesis – an achievement which will lead to the development of therapeutic treatments for the many neurological conditions caused by brain damage or disease.

Regulation of neurogenesis would also allow for the replacement of nerve cells lost because of a stroke, trauma or neurodegenerative ailments such as dementia, Parkinson's Disease or Motor Neuron Disease.

It is envisaged that success in these areas will revolutionise the treatment of such conditions over the next decade.

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Fast facts

- It is estimated that more than 200,000 Australians currently suffer from dementia.
- There are more than 70 diseases that cause dementia.
- Alzheimer's Disease is the most common cause of dementia, accounting for 50–70% of all cases.
- Dementia ranks as the 4th leading cause of death among Australians aged 65 years and over.
- Dementia can also affect younger people – currently nearly 10,000 Australians under the age of 65 have early onset dementia.

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