

## Focus on brain health

### What is dementia?

Dementia is an overall term that describes a group of symptoms associated with a decline in memory or other thinking skills, severe enough to reduce a person's ability to perform everyday activities.

People with dementia may have problems with short-term memory, keeping track of a purse or wallet, paying bills, planning and preparing meals, remembering appointments or travelling out of the neighbourhood.

### Symptoms and causes of dementia

Dementia is caused by damage to or loss of nerve cells and their connections in the brain, with different types of dementia being associated with particular types of brain cell damage in particular regions of the brain.

Depending on the area of the brain that's affected by the damage, dementia can affect people differently. Dementia symptoms can therefore vary greatly from patient to patient. The Alzheimer's Association explains that at least two of the following core mental functions must be significantly impaired to be indicative of dementia:

- Memory
- Communication and language
- Ability to focus and pay attention
- Reasoning and judgment
- Visual perception

### Prevalence of dementia

The World Health Organization estimates that a projected 50 million people around the globe are suffering from dementia. Every year, there are nearly 10 million new cases. As of 2013, there were an estimated 44.4 million people with dementia worldwide. This number will increase to a projected 75.6 million in 2030, and 135.5 million in 2050. According to South Africa's 2011 census, there are approximately 2.2 million people in South Africa with some form of dementia.

### The onset of dementia

Although age is the strongest known risk factor for dementia, it does not exclusively affect older people – early onset dementia (defined as the onset of symptoms before the age of 65 years) accounts for up to 9% of cases.

Preclinical dementia is a newly defined stage of the disease showing that changes in the brain may occur years before symptoms start to surface. More and more

Healthy lifestyle choices and a deliberate focus on brain health can help you to decrease your risk of contracting dementia in old age.



studies are suggesting that dementia is associated with individual risk factors, as opposed to merely with ageing.

### Controllable risk factors

Some risk factors, such as genetics, cannot be changed, but we can manage significant risk factors within our control.

Studies show that people can reduce their risk of dementia by getting exercise regularly, not smoking, avoiding excessive alcohol use, controlling their weight and maintaining healthy blood pressure, cholesterol and blood sugar levels.

Although not yet well-understood, late-life depression might have an influence on the development of dementia. Having diabetes may increase your risk of dementia, especially if it's poorly controlled. Low levels of particularly vitamin D, vitamin B6, vitamin B12 (which protects the myelin sheath housing your neurons) and folate may also increase your risk of dementia – also Vitamin E, zinc and magnesium.

What you eat may have the greatest impact on brain health through its effect on heart health, according to the Alzheimer's Association. The best current evidence suggests that heart-healthy eating patterns such as the Mediterranean diet may also help protect the brain. A Mediterranean diet includes relatively small amounts of red meat and emphasises wholegrains, fruits and vegetables, fish and shellfish, nuts, olive oil and other healthy fats.

Cognitive inactivity is a significant additional risk factor. When people keep their minds active, they:

- Reduce the extent of brain cell damage that happens with Alzheimer's.
- Support the growth of new nerve cells.
- Prompt nerve cells to send messages to each other.

It is important to keep your brain active and do challenging brain exercises. This prompts the brain to form new neural connections and preserve existing ones.

WebMD suggests trying these from any age – the earlier you start, the better:

- Learn something new, such as a second language or a musical instrument.
- Play board games. The bonus of activities like these is that social connections also stimulate your brain.
- Do puzzles such as crosswords or Sudoku.
- Download a brain exercise app on your smartphone.
- Read stimulating, non-fiction books.
- Sign up for local adult education classes.
- Participate in any exercise you enjoy. Remember to clear it with your doctor first.
- Meditate, pray or do yoga. Meditation or prayer can decrease stress, blood pressure, pain and inflammation – and

may increase healing. Yoga has all the same benefits of exercise but is often much gentler on the body.

### How is dementia diagnosed?

There is no one test to determine if someone has dementia. Doctors often diagnose it based on a careful medical history, a physical examination, laboratory tests, and the characteristic changes in thinking, day-to-day function and behaviour associated with each type.

Digital technology, apps and virtual reality simulators are transforming the development of early diagnosis and prevention. Wearable devices and unobtrusive sensors now help researchers collect multidimensional data as people go about their day. These devices capture subtle changes related to dementia long before the onset of the illness. At the forefront of technology, virtual reality is offering researchers the opportunity to glimpse into patients' brains in a complex – but safe – environment.

A blood test for a protein could identify people in the early stages of Alzheimer's disease a decade or more before symptoms emerge.

Many dementias are progressive, meaning symptoms start slowly and gradually get worse. However, early diagnosis allows a person to get the maximum benefit from available treatments or studies. If you or someone you know is experiencing

memory difficulties or other changes in thinking skills, don't ignore them.

All the encouraging research results make it clear that you can do a lot to protect your brain from decline. What you do today, influences your long-term health. Decide today to make healthy choices regarding your nutrition, exercise and challenging your brain so that you can reap the benefits in future. **é**

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