Memory loss is common in older people. Memory loss, especially delayed recall, can signal the onset of dementia and often leads to institutionalisation and a decrease in the quality of life.

Chronic conditions such as hypertension, diabetes, and depression can have an impact on memory loss. Diet plays a significant role in the development of memory loss and cognitive decline through its impact on chronic diseases. Many medications may cause memory loss, which is usually reversible upon cessation of the drug.

Prevalence
Most older people living in the community with memory loss do not have dementia. People with mild cognitive impairment are at increased risk of progressing to dementia, but many will never develop dementia.

Definitions
Memory is defined as the ability to store, retain and recall information. Memory is divided into three components:
- Short term memory
- Long term explicit memory
- Implicit memory

Working memory or short-term memory is defined as the temporary storage and processing of information. Short-term memory is the ability to remember information over a brief period of time, often seconds to minutes. The storage and processing functions of working memory are important for comprehension, learning and reasoning.

Working memory can be described as three distinct tasks:
- Visual
- Verbal
- Spatial

Working memory is sensitive to age-related decline, although visual, verbal and spatial memory may be affected to differing degrees.

Long term memory involves facts taken out of context or semantic memory, and information specific to a particular context, such as time and place (episodic memory).

Implicit memory or procedural memory is a type of memory in which previous experiences aid in the performance of a task without conscious awareness of these previous experiences.

Amnesia is a form of memory loss and can be divided into:
- Anterograde amnesia – when the person cannot memorise new information
- Retrograde amnesia – when the person is unable to recall events during any injury or episode

- Transient global amnesia – when a person experiences abrupt onset of severe anterograde amnesia from which the patient usually recovers within hours except for the memory gap for the duration of the episode

Amnesia can also be divided into long-term amnesia or short-term (or transient) amnesia.

Mild cognitive impairment (MCI) is a transitional zone between normal cognitive function and dementia. People with MCI convert to dementia at a greater rate than other older adults.

Causes of memory loss
Whilst normal ageing may lead to trouble learning new material or requiring a longer time to remember learned material, there are many causes of memory loss:
- Alcohol or illicit drug intoxication
- An event in which not enough oxygen was going to the brain (heart stopped, stopped breathing, complications from receiving anesthesia)
- Brain growths (caused by tumors or infection)
- Brain infections such as Lyme disease, syphilis, or HIV/AIDS
- Brain surgery, such as surgery to treat seizure disorders
- Cancer treatments, such as brain radiation, bone marrow transplant, or after chemotherapy
- Certain medications
- Certain types of seizures
- Dementia
- Depression, bipolar disorder, or schizophrenia when symptoms have not been well controlled
- Dissociative disorder (not being able to remember a major, traumatic event; the memory loss may be short-term or long-term)
- Electroconvulsive therapy (especially if it is long-term)
- Encephalitis of any type (infestation, autoimmune disease, chemical/drug induced)
- Epilepsy that is not well controlled with medications
- Head trauma or injury
- Heart bypass surgery
- Illness that results in the loss of, or damage to, nerve cells (neurodegenerative illness), such as Parkinson’s disease, Huntington’s disease, or multiple sclerosis
- Migraine headache
- Mild head injury or concussion
- Nutritional problems (vitamin deficiencies such as low vitamin B12)
- Permanent damage or injuries to the brain
- Transient ischaemic attack (TIA)

Older adults are particularly susceptible to dehydration. Severe dehydration can cause confusion, drowsiness, memory loss, and other symptoms that look like dementia.
Medication causes of memory loss

Medications most likely to cause memory loss include:

- Hypnotics
- Anticonvulsants
- Anxiolytics
- Antidepressants
- Analgesics
- Antipsychotic drugs

Analysis of a large French database over 10 years shows zolpidem (Stilnox), topiramate, zopiclone (Imovane), alprazolam (Xanax, Kalma), and bromazepam (Lexotan) are most often associated with memory disorders.

Alprazolam and zolpidem can produce anterograde amnesia, with the risk increasing with dosage.

Among the antidepressants amitriptyline (Endep) tends to produce more anticholinergic adverse effects more frequently. If a tricyclic antidepressant is indicated in an older person nortriptyline (Allergan) has the least anticholinergic activity, with similar efficacy.

Benzodiazepines (e.g. alprazolam, clonazepam) and anticholinergic agents are mainly responsible for short-term amnesia.

The newer anticonvulsants, such as gabapentin (Neurontin) and pregabalin (Lyrica), frequently cause amnesia and memory disorders. They are prescribed for seizures as well as for the treatment of neuropathic pain, post-herpetic neuralgia and diabetic neuropathy. Pregabalin has been associated with impairments in episodic memory of verbal and visual information. Topiramate alters short-term memory.

Other medications associated with memory loss include:

- Strontium (Protos)
- Statins (atorvastatin, simvastatin, rosuvastatin, fluvastatin, pravastatin)

Memory loss and statins

There are anecdotal reports of loss of memory and other cognitive functions with excessive cholesterol lowering. Some patients have trouble recalling words, or experience confusion and memory loss with cholesterol-lowering statins within days to months of starting therapy.

If a resident complains of memory loss soon after commencing on a statin, consider holding the statin for one to three months, and monitor for improvement. Withholding a statin for up to six weeks does not appear to increase the risk of cardiac events in stable patients.

Switching to another statin may be suggested if holding a statin is not an option (e.g. unstable heart disease, acute coronary syndrome). Alternatively, a non-statin lipid lowering agent such as fish oils or fibrates (fenofibrate, gemfibrozil) could be tried if appropriate.

Memory loss with diabetes

Diabetes appears to be a risk factor for developing mild to moderate cognitive dysfunction and all types of dementia. Cognitive decline appears to be associated with poor glycaemic control or resultant microvascular damage.