

# Dementia Overview

## INTRODUCTION

---

*Minor changes in cognitive function are a normal part of healthy aging; however, any cognitive impairments that significantly interfere with usual daily functioning or quality of life are caused by underlying pathological conditions. Nurses who provide care for older adults in any setting need to be knowledgeable about cognitive changes to accurately assess and address functioning and quality of life. This chapter presents information about normal cognitive aging and dementia and provides the foundation for incorporating a person-centered approach when you care for older adults who are cognitively compromised.*

In this chapter, you will learn:

1. Normal cognitive aging and mild cognitive impairment
2. Definition and types of dementia
3. Conditions that are closely associated with dementia
4. How dementia is diagnosed
5. Stages of dementia
6. Roles of nurses in identifying dementia

## NORMAL COGNITIVE AGING AND MILD COGNITIVE IMPAIRMENT

---

Cognitive changes that are an inherent part of aging do not significantly affect functioning, personality, or behavior. Moreover, not all

cognitive changes are negative. Cognitive changes that healthy older adults commonly experience by the time they are in their 70s or 80s include the following:

- Improved wisdom, creativity, common sense, coordination of facts and ideas, and breadth of knowledge
- Difficulty finding the right word quickly
- Slower processing of information
- Increased difficulty with abstraction, calculation, word fluency, verbal comprehension, spatial orientation, and inductive reasoning
- Decreased memory for details of events of the past but no change in short-term memory

**Mild cognitive impairment (MCI)** has been used since the mid-1990s to describe a **state of cognitive function that lies between normal aging changes and dementia**. Identification of MCI is determined by the presence of impairment of one or more of the listed cognitive domains: memory, attention, visuospatial abilities, and executive functioning without major declines in overall cognition or daily functioning. Initially, MCI was considered a precursor to Alzheimer's disease but is now considered a distinct syndrome with symptoms that can resolve, remain stable, or progress.

When older adults experience cognitive changes that affect daily functioning, encourage them to obtain an assessment by a geriatric practitioner who is knowledgeable about cognitive aging, MCI, and dementia. In addition, the following adaptations are suggested to improve communication during healthcare interactions with older adults who are experiencing MCI:

- Provide small amounts of information at one time.
- Allow enough time for information processing.
- Use simple written and visual materials.
- Reinforce information with repetition.
- Ask for feedback to ascertain the person's understanding.

### Fast Facts

Nurses can differentiate between normal and pathological cognitive changes by assessing the degree to which the changes affect functioning.

### Clinical Snapshot

Normal cognitive aging may cause older adults to have momentary difficulty remembering where they left their car, but older adults who have dementia may not remember that they drove a car.

## DEFINITION AND TYPES OF DEMENTIA

In the words of a person with dementia:

I noticed a difficulty in remembering names. . . . This is what I was most worried about . . . because it wasn't well. . . . It was my memory, which is the part of my body that I have been working the most with. (Larsson, Holmbom-Larsen, & Torisson, 2019, p. 5)

**Dementia** refers to a group of brain disorders characterized by a progressive decline in cognitive abilities and changes in personality and behavior. Dementia typically begins with a gradual onset of manifestations that are difficult to distinguish from MCI.

**Short-term memory impairment** is the most widely recognized manifestation of dementia, but many other signs and symptoms occur. For example, personality changes that commonly begin early and may progress include declines in self-discipline and competence, decreased energy and assertiveness, and increased vulnerability to stress (Islam et al., 2019). As dementia progresses, the manifestations gradually affect all aspects of functioning, and eventually the condition is considered terminal.

### Fast Facts

Rather than being a single disease, dementia is an umbrella term that indicates the presence of a constellation of manifestations indicative of a progressive neurodegenerative brain disease.

**Alzheimer's disease**, first described in medical literature in 1907, is the most common and widely recognized type of dementia. Alzheimer's disease is characterized by hallmark pathological changes that affect specific regions of the brain.

**Vascular dementia**, which was identified in the 1970s, is caused by the death of nerve cells in regions of the brain usually nourished

by the affected blood vessels. This type is associated with major strokes or cumulative effects of many minor strokes. When vascular dementia is caused by a major stroke, it has an acute onset, does not always progress, and often improves with therapies. This type, therefore, may not fit the characteristics of gradual, progressive, and irreversible.

In recent decades, the increasing availability of data based on longitudinal studies and newer brain imaging techniques has facilitated the identification of other types of dementia, such as Lewy body dementia and frontotemporal dementia. **Lewy body dementia** is part of a group of disorders, including Parkinson's disease, that are associated with the accumulation of abnormal proteins (i.e., Lewy bodies) in the brain. **Frontotemporal dementia** describes a spectrum of neurodegenerative disorders, such as Pick's disease, involving the frontal or temporal lobes, or both. Manifestations of frontotemporal dementia often begin before the person is 60 years old and may be misidentified as a psychiatric disease.

Table 1.1 outlines distinguishing features of these four most commonly diagnosed types.

Table 1.1

### Distinguishing Features of Four Major Types of Dementia

Type	Distinguishing Features
Alzheimer's disease	Slow onset with gradual progression over 5–10 or more years; loss of short-term memory is a prominent characteristic that begins early and progresses throughout the course; gradual effects on personality, behavior, and all aspects of functioning.
Vascular dementia	Gradual onset due to cumulative effects of small strokes or sudden onset if related to a major stroke; typically associated with cardiovascular risk factors such as strokes, atrial fibrillation, coronary artery disease, and high blood pressure; irregular course or possible improvement depending on causative factors and presence of other brain pathologies.
Lewy body dementia	Has many manifestations that overlap with those of Alzheimer's disease or Parkinson's disease; fluctuating levels of cognition and overall functioning; characterized by complex visual hallucinations, sleep disturbances, and spontaneous motor parkinsonism.

(continued)

Table 1.1

### Distinguishing Features of Four Major Types of Dementia (continued)

Frontotemporal dementia	Gradual onset between fifth and seventh decade with personality and behavioral changes (e.g., apathy, impulsivity, emotional lability, poor social skills); diminished concentration, attention, reasoning, and judgment; loss of speech and language skills; falls, gait changes, movement disorders, and muscle rigidity.
-------------------------	---

#### In the words of a person with dementia

Yes, it is called Lewy body dementia but I think that's so rotten. . . . If you tell colleagues then they will put a mark in your forehead, or joke or something funny. . . . You have to protect yourself . . . in your soul . . . against this dementia mark. (Larsson et al., 2019, p. 4)

## CONDITIONS THAT ARE CLOSELY ASSOCIATED WITH DEMENTIA

Some neurological conditions progress to the point that dementia develops in most patients with these diseases. For example, **dementia eventually develops in most patients with Parkinson's disease**, and conversely, Parkinson's-like motor disability commonly develops in patients with Lewy body or Alzheimer's dementia.

Other conditions that often progress to dementia:

- AIDS
- Multiple sclerosis
- Huntington's disease
- Creutzfeldt–Jakob disease
- Normal pressure hydrocephalus (NPH)
- Acute or chronic head trauma

These conditions typically impair some aspect of physical functioning prior to affecting cognition. Conditions that cause dementia-like symptoms and usually resolve when the underlying cause is treated are discussed in Chapter 2, Conditions That Affect Cognitive Function.

## HOW DEMENTIA IS DIAGNOSED

In the words of a person with dementia:

At the start of the test, I thought: Well, this is really a piece of cake. The questions and sums were so silly, so obvious! But at a certain point (*starts crying*) I noticed that it was not clear to me at all. (Van Wijngaarden, Alma, & The, 2019, p. 8)

There is **no single test for dementia**, and even the most skilled geriatric practitioners find that **it is challenging to diagnose dementia in its earliest stages**. Even upon diagnosis, it is difficult to identify the specific type because of overlapping or similar features. Moreover, an individual may have pathological changes and manifestations of two or more types of dementia at the same time. For example, studies suggest that more than half of the people with Lewy body dementia also have pathological changes associated with Alzheimer's disease (Chin, Teodorczuk, & Watson, 2019).

In general clinical settings, the **diagnosis of dementia is both retrospective and “rule-out.”** It is retrospective because, with the exception of stroke-associated dementia, manifestations develop over many years; it is a rule-out process because the workup is directed toward identifying any treatable condition that can cause similar manifestations. A major clinical implication of an accurate diagnosis of dementia is that all treatable causes are identified as early as possible so that they can be addressed. In research settings, such as university-affiliated medical centers, the use of specialized neuroimaging techniques and other diagnostic measurements is improving the diagnosis of dementia and differentiation among the types even in early stages (Mahalingam & Chen, 2019).

A comprehensive evaluation for dementia is warranted under the following combination of circumstances:

- The cognitive or behavioral symptoms interfere with the usual activities.
- The changes represent a decline from the person's usual level of functioning.
- The manifestations are not due to conditions such as stroke, delirium, head trauma, medical conditions, psychiatric disorders, or adverse medication effects.

Exhibit 1.1 identifies the components of a comprehensive evaluation procedure for dementia in clinical settings.

---

## Exhibit 1.1

### Components of Dementia Evaluation

#### Dementia evaluation

- Is multidisciplinary, involving a team of geriatric healthcare professionals
- Considers changes that occur over months or years
- Is an ongoing process with intermittent reevaluations
- Includes direct observation and evaluations by healthcare professionals
- Includes appropriate inputs and observations from reliable family, friends, caregivers, and acquaintances

#### Essential components

- Comprehensive history of changes in cognition, personality, and behavior
- Complete physical examination to identify underlying medical conditions
- Functional assessment
- CT scan and MRI
- Neuropsychological testing

#### Components of neuropsychological testing

- Personality or behavioral changes, such as apathy, impulsivity, mood fluctuations, or socially inappropriate actions
- Memory skills
- Ability to acquire and remember new information
- Reasoning, judgment, or handling of complex tasks
- Visuospatial abilities
- Language and communication skills
- Affective changes, such as depression

#### Additional diagnostic tests used in specialized settings or for clinical research

- Fluorodeoxyglucose (FDG) PET
  - Amyloid PET scans
  - Tau PET scans
  - Cerebrospinal fluid analysis
  - Genetic testing
-

Dementia is a very complex diagnosis that requires comprehensive evaluations of all aspects of functioning and an overview of changes over time (Exhibit 1.1).

## STAGES OF DEMENTIA

Although specific characteristics are associated with each type of dementia, many characteristics are common to all types of dementia. Common characteristics of mild, moderate, and advanced stages of dementia are as follows:

### Mild Dementia

- Cognitive impairments that interfere with the performance of familiar tasks
- Impaired judgment, problem-solving, and decision-making skills
- Difficulty processing visual or spatial information
- Significant problems with speaking or writing
- Withdrawal from usual work or social activities
- Changes in mood or personality (e.g., increased anxiety, irritability, depression)

### Moderate Dementia

- Continued decline in all aspects of cognition
- Increasing confusion
- Need for some assistance or direction with usual activities
- Disorientation to time or place
- Frequent or intermittent occurrence of neuropsychological manifestations (e.g., delusions, hallucinations, agitation, depression, apathy)

### Advanced Dementia

- Major impairments in all aspects of cognition
- Inability to recognize familiar people or surroundings
- Need for assistance in all activities of daily living
- Disrupted sleep/wake cycle



- Significant personality changes and behavioral manifestations (e.g., agitation, repetitive behaviors, delusions, hallucinations)
- Diminished physical functioning, including incontinence and impaired mobility

Keep in mind that **dementia is a progressive condition** affected by numerous interacting conditions and circumstances, such as concomitant medical conditions, environmental and psychosocial influences, and caregiver factors. In addition, **dementia affects people in individualized** ways. People with dementia do not fit neatly into categories.

Stages of dementia describe the progression of the condition and its effects on the person's functioning and are not related in any way to the person's age. The typical age for onset of dementia is during the seventh decade or later, but dementia can occur in people in their 40s or 50s also. When dementia occurs before the age of 60, it is called early-onset disease.

### Fast Facts

Dementia progresses through mild, moderate, and advanced stages, and each stage is characterized by progressive changes in cognition, behavior, and functioning. However, the progression is not necessarily linear, and the person with dementia may experience fluctuations between the stages.

## ROLES OF NURSES IN IDENTIFYING DEMENTIA

Nurses are not responsible for diagnosing dementia, but they are responsible for assessing changes in mental status during the course of usual nursing care. They are also **responsible for suggesting referrals for further evaluation when mental status is compromised** in any way. Every clinical setting has mental status assessment forms that generally include criteria such as orientation, alertness, and contact with reality (e.g., hallucinations). In addition, some clinical settings use standardized mental status assessment forms, such as the mini-mental status examination or the Montreal Cognitive Assessment. No matter what assessment format is used, additional assessment skills are necessary because the assessment tools do not identify underlying conditions that affect mental status.

When caring for a person who has been diagnosed with dementia, **identify concomitant conditions that may be affecting behavior and mental status** rather than attributing the change to a manifestation of

dementia. Be on the alert for treatable components whenever the person with dementia experiences a change in functioning. For example, an infection or electrolyte imbalance can affect overall functioning and mental status in older adults, and nurses are in a key position to assess for these conditions and take appropriate action rather than attributing the changes to dementia. Chapter 2, Conditions That Affect Cognitive Function, and Chapter 3, Nursing Assessment of and Interventions for Delirium, discuss many of the conditions that affect people with dementia or those that are mistakenly attributed to dementia.

### Fast Facts

In addition to using standard mental status assessment forms, assess for conditions that affect cognitive function, especially those that can be addressed through nursing interventions.

### Clinical Snapshot: Through the Stages of Dementia

#### Mild Dementia

During the past few years, Sophie D, a 73-year-old widow living alone, has become more and more forgetful about keeping appointments. In contrast to her previous meticulous mode of personal care, she no longer washes her hair and wears soiled and mismatched clothes. She has difficulty shopping for groceries and now walks to the nearby fast-food stores for most of her meals. The family has noticed that she no longer sends birthday cards to grandchildren as she has faithfully done for many years. She has little awareness of these changes and, in fact, is quite defensive when anyone questions her about memory problems.

#### Moderate Dementia

Sophie is now 76 years old and has recently moved to an assisted living facility because she did not take her medications for blood pressure and frequently fell and did not call for help when she could not get up. Staff members provide direction or assistance for all activities of daily living, including giving her medications, setting out her clothing every morning, and reminding her about using the toilet every few hours. She attends group activities a couple of times a day and especially enjoys the music events. She frequently asks about when her family will visit but does not

*(continued)*

(continued)

remember that she had visitors an hour ago. She spends much of her time looking for misplaced objects and sometimes takes things belonging to other residents and believes they are her own.

### Advanced Dementia

Sophie is 81 years old and has moved to a memory-care nursing facility because she needs full assistance with all activities of daily living. She has lost weight and complains about the mechanical soft diet that is prescribed because of her difficulty with chewing and swallowing. When her family visits, she usually does not recognize them, but she says they are “very nice people.” All cognitive skills are significantly impaired, and it is difficult to carry on a normal conversation. She has no memory for recent or remote events and often asks where her husband is, despite the fact that he has been dead for 16 years. She has difficulty walking and fallen a couple of times because she does not call for help when she needs to get out of bed.

## References

- Chin, K. S., Teodorczuk, A., & Watson, R. (2019). Dementia with Lewy bodies: Challenges in the diagnosis and management. *Australia and New Zealand Journal of Psychiatry*, 53(4), 291–303. doi:10.1177/0004867419835029
- Islam, M., Mazumder, M., Schwabe-Warf, D., Stephan, Y., Sutin, A. R., & Terracciano, A. (2019). Personality changes with dementia from the informant perspective: New data and meta-analysis. *Journal of the American Medical Directors Association*, 20(2), 131–137. doi:10.1016/j/jamda.2018.11.004
- Larsson, V., Holmbom-Larsen, A., Torisson, G., Strandberg, E. L., & Londos, E. (2019). Living with dementia with Lewy bodies: An interpretive phenomenological analysis. *BMJ Open*, 9(1), e024983. doi:10.1136/bmjopen-2018-024983
- Mahalingam, S., & Chen, M. K. (2019). Neuroimaging in dementias. *Seminars in Neurology*, 39(2), 188–199. doi:10.1055/s-0039-1678580
- Van Wijngaarden, E., Alma, M., & The, A-M. (2019). “The eyes of others” are what really matters: The experience of living with dementia from an insider perspective. *PLoS ONE*, 14(4), e0214724. doi:10.1371/journal.pone.0214724

## RESOURCES

### *Alzheimer’s Association*

[www.alz.org](http://www.alz.org)

- Alzheimer’s disease, including local resources for professionals and caregivers

**HelpGuide**

[www.helpguide.org](http://www.helpguide.org)

- Information about age-related memory loss, types of dementia, and other pertinent topics

**Lewy Body Dementia Association**

[www.lbda.org](http://www.lbda.org)

- Information and resources about Lewy body dementia for professionals and caregivers

**National Institute on Aging**

[www.nia.nih.gov/health/alzheimers](http://www.nia.nih.gov/health/alzheimers)

- Research and information about Alzheimer's disease and other dementias

**National Institutes of Neurological Disorders and Stroke**

[www.ninds.nih.gov/disorders](http://www.ninds.nih.gov/disorders)

- Information about stroke and types of dementia

**Veterans Administration**

[https://www.va.gov/GERIATRICS/Alzheimers\\_and\\_Dementia\\_Care.asp](https://www.va.gov/GERIATRICS/Alzheimers_and_Dementia_Care.asp)

- Information about dementia and resources for care