

CLINICAL STAGES OF ALZHEIMER'S

7 Stages of Alzheimer's

The seven Clinical Stages of [Alzheimer's disease](#), also known as the Global Deterioration Scale (GDS), was developed by [Dr. Barry Reisberg](#), Director of the Fisher Alzheimer's Disease Education and Research program at NYU Grossman School of Medicine. This guideline is used by professionals and caregivers around the world to identify at what stage of the disease a person is in. Stages 1-3 are the pre-dementia stages; stages 4-7 are the dementia stages. Stage 5 is the point where a person can no longer live without assistance.



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STAGE 1: NO DEMENTIA SEEN



At any age, persons may be free of objective or subjective symptoms of cognitive and functional decline, as well as of associated behavioral and mood changes. We call these mentally healthy persons at any age, stage 1, or normal.

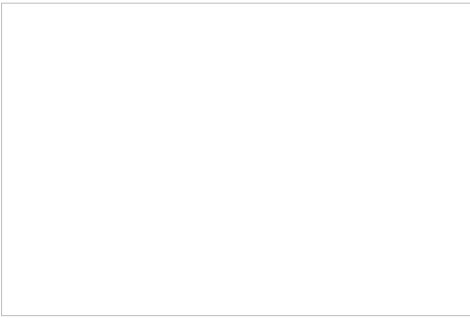
Just forgetful, or is it dementia?

Everyone is forgetful from time to time: misplacing the car keys, forgetting an item at the grocery store, momentarily thinking it's Wednesday when it's only Tuesday. But when does an ordinary memory lapse indicate something more serious?

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STAGE 2: SUBJECTIVE MEMORY LOSS

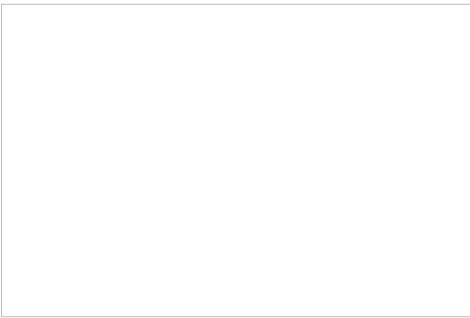
AGE RELATED FORGETFULNESS



Many people over the age of 65 complain of cognitive and/or functional difficulties. Elderly persons with these symptoms report that they can no longer remember names as easily as they could 5 or 10 years previously; they can also have trouble recalling where they have recently placed things.

Various terms have been suggested for this condition, but subjective cognitive decline is presently the widely accepted terminology. These symptoms by definition, are not notable to intimates or other external observers of the person with subjective cognitive decline. Persons with these symptoms decline at higher rates than similarly aged persons and similarly healthy persons who are free of subjective complaints. Research has shown that this stage of subjective cognitive decline lasts 15 years in otherwise healthy persons.

STAGE 3: MILD COGNITIVE IMPAIRMENT



Persons at this stage manifest deficits which are subtle, but which are noted by persons who are closely associated with the person with mild cognitive impairment. The subtle deficits may become manifest in diverse ways. For example, a person with [mild cognitive impairment \(MCI\)](#) may noticeably repeat queries. The capacity to perform executive functions also becomes compromised. Commonly, for persons who are still working in complex occupational settings, job performance may decline.

For those required to master new job skills, such as a computer or other machinery, decrements in these capacities may become evident.

MCI persons who are not employed, but who plan complex social events, such as dinner parties, may manifest declines in their ability to organize such events. This may be an early stage of Alzheimer's, however, it is important for the person to seek medical help as soon as possible, to determine if a broad variety of medical conditions may be causing or contributing to the person's difficulties. Blood tests and an MRI of the brain should be obtained to assist in determining if the individual has MCI due to Alzheimer's and whether there are other causes or contributing conditions to the person's cognitive decline.

Some MCI persons may manifest concentration deficits. Many persons with these symptoms begin to experience anxiety, which may be overtly evident.

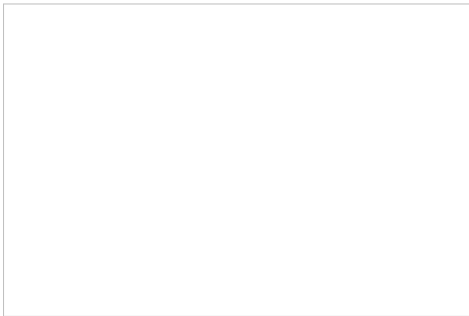
The prognosis for persons with these subtle symptoms of impairment is variable. The average total duration of the MCI stage in otherwise healthy persons is seven years. In persons who are not called upon to perform complex, occupational and or social tasks, symptoms in this MCI stage may not become evident to family members or friends until midway or near the end of this stage..

Management of persons in this stage includes counseling regarding the desirability of continuing in

a complex and demanding occupational role. Sometimes, a “strategic withdrawal” in the form of retirement, may alleviate psychological stress and reduce both personal and overtly manifest anxiety.

STAGE 4: MODERATE COGNITIVE DECLINE

MILD DEMENTIA



The [diagnosis of Alzheimer’s disease](#) can be made with considerable accuracy in this stage. The most common functioning deficit in these persons is a decreased ability to manage instrumental (complex) activities of daily life, which may hinder their ability to live independently. For the stage 4 person, this may become evident in the form of difficulties in paying rent and other bills, not being able to write out checks with the correct date or amount without assistance; the inability to market for personal items and groceries or order from a menu in a restaurant. Persons who previously prepared meals for family members and/or guests begin to manifest decreased performance in these skills.

Symptoms of memory loss also become evident in this stage. For example, seemingly major recent events, such as a holiday or visit with a relative may not be remembered. Obvious mistakes in remembering the day of the week, month or season of the year may occur.

Persons at this stage can still generally recall their

correct current address; they can usually correctly remember the weather conditions outside.

Significant current events, including the name of a prominent head of state, will likely be recalled easily. Despite the obvious deficits in cognition, persons at this stage can still potentially survive independently in community settings.

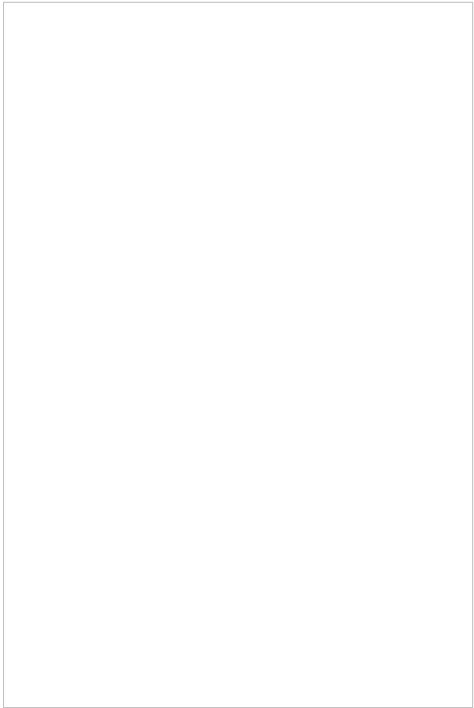
The dominant mood at this stage is frequently what psychiatrists term a flattening of affect and withdrawal. In other words, the person with mild Alzheimer's disease often seems less emotionally responsive than previously. This absence of emotional responsivity is related to the person's denial of their deficit, which is often also notable at this stage.

Although the person is aware of their shortcomings, this awareness of decreased intellectual capacity is painful for them. Hence, the psychological defense mechanism known as denial, whereby the person with Alzheimer's disease seeks to hide their deficit, even from themselves, becomes operative. Also, the person withdraws from participation in activities such as conversations.

In the absence of complicating medical pathology, the diagnosis of Alzheimer's disease (AD) can be made with considerable certainty from the beginning of this stage. Studies indicate that the duration of this stage of mild AD has a mean of approximately two years in otherwise healthy persons.

STAGE 5: MODERATELY SEVERE COGNITIVE DECLINE

MODERATE DEMENTIA



In this stage, deficits are of sufficient magnitude as to prevent catastrophe-free, independent community survival. The characteristic functional change in this stage is early deficits in basic activities of daily life. This is manifest in a decrement in the ability to choose the proper clothing to wear for the weather conditions or for everyday circumstances. Some persons with Alzheimer's disease begin to wear the same clothing day after day unless reminded to change. The mean duration of this stage is 1.5 years.

The person with Alzheimer's disease can no longer manage on their own. There is generally someone who is assisting in providing adequate and proper food, as well as assuring that the rent and utilities are paid and the finances are taken care of. For those who are not properly supervised, predatory strangers may become a problem. Very common reactions for persons at this stage who are not given adequate support are behavioral problems such as anger and suspiciousness.

Cognitively, persons at this stage frequently cannot recall major events and aspects of their current life such as the name of the current head of state, the weather conditions of the day, or their correct current

address. Characteristically, some of these important aspects of current life are recalled, but not others. Also, the information is loosely held, so, for example, the person with moderate Alzheimer's disease may recall their correct address on certain occasions, but not others.

Remote memory also suffers to the extent that persons may not recall the names of some of the schools which they attended for many years, and from which they graduated. Orientation may be compromised to the extent that the correct year may not be recalled. Calculation deficits may be of such magnitude that an educated person has difficulty correctly counting backward from 20 by 2s.

Functionally, persons at this stage commonly have incipient difficulties with basic activities of daily life. The characteristic deficit of this type is decreased ability to independently choose proper clothing to wear, in accordance with the weather conditions and the events of the day. In otherwise healthy persons this stage lasts an average of approximately 1.5 years.

STAGE 6: SEVERE COGNITIVE DECLINE

MODERATELY SEVERE DEMENTIA

Stage 6a

At this stage, the ability to perform basic activities of daily life becomes compromised. Functionally, five successive substages are identifiable. Persons initially

in stage 6a, in addition to having lost the ability to choose their clothing without assistance, begin to require assistance in putting on their clothing properly. Unless supervised, the person with Alzheimer's disease may put their clothing on backward, they may have difficulty putting their arm in the correct sleeve, or they may dress in the wrong sequence.

The total duration of the stage of moderately severe Alzheimer's disease (stage 6a through 6e) is approximately 2.5 years in otherwise healthy persons.

Stage 6b

At approximately the same point in the evolution of AD, but generally just a little later in the temporal sequence, AD persons lose the ability to bathe without assistance (stage 6b). Characteristically, the earliest and most common deficit in bathing is difficulty adjusting the temperature of the bath water. Once the caregiver adjusts the temperature of the bath water, the AD person can still potentially otherwise bathe independently. As this stage evolves, additional deficits occur in bathing and dressing independently. In this 6b substage, AD persons generally develop deficits in other modalities of daily hygiene such as properly brushing their teeth.

Stages 6c, 6d, 6e

With the further evolution of AD, persons lose the ability to manage independently the mechanics of toileting (stage 6c). Unless supervised, the person

with AD may place the toilet tissue in the wrong place. The AD person may also forget to flush the toilet properly. As the disease evolves in this stage, AD person subsequently become incontinent. Generally, urinary incontinence occurs first (stage 6d), then fecal incontinence occurs (stage 6e). The incontinence can be treated, or even initially prevented entirely in many cases, by frequent toileting. Subsequently, strategies for managing incontinence, including appropriate bedding, absorbent undergarments, etc., become necessary.

In this sixth stage cognitive deficits are generally so severe that persons will display little or no knowledge when queried regarding such major aspects of their current life circumstances as their current address or the weather conditions of the day.

In this stage, the AD person's cognitive deficits are generally of such magnitude that the person with AD may, at times, confuse their wife with their mother or otherwise misidentify or be uncertain of the identity of close family members. At the end of this sixth stage, the ability to speak begins to break down.

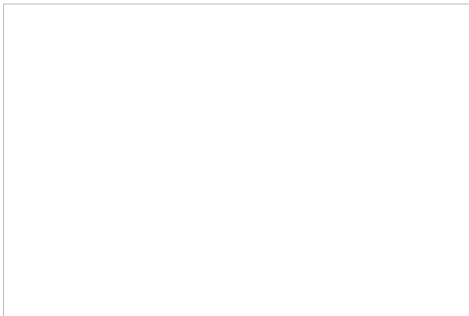
Recall of current events in this 6th moderately severe stage of AD is generally deficient to the extent that the AD person frequently cannot name the current national head of state or other, similarly prominent newsworthy figures. Persons at this sixth stage will most often not be able to recall the names of any of the schools which they attended. They may or may not recall such basic life events as the names of their

parents, their former occupation or the country in which they were born. They still have some knowledge of their own names; however, persons in this stage may mistake the identity of persons, even close family members. Calculation ability is frequently so severely compromised at this stage that even well-educated persons with AD have difficulty counting backward consecutively from 10 by 1s.

Emotional changes generally become most overt and disturbing in this sixth stage of AD. Although these emotional changes may, in part, have a neurochemical basis, they are also clearly related to the AD person's psychological reaction to their circumstances. For example, because of their cognitive deficits, persons at this stage can no longer channel their energies into productive activities. Consequently, persons may begin to fidget, to pace, to move objects around, or to manifest other forms of purposeless or inappropriate activities. Because of their fear, frustration and shame regarding their circumstances, these persons frequently develop verbal outbursts and also threatening, even violent behavior. Because these AD persons can no longer survive independently, they commonly develop a fear of being left alone. Treatment of these and other behavioral and psychological symptoms involves counseling regarding appropriate activities and the psychological impact of the illness on the person with AD frequently in combination with pharmacological interventions.

The mean duration of this sixth stage of AD is approximately 2.5 years. As this stage comes to an end, the AD person, who is doubly incontinent and needs assistance with dressing and bathing, begins to manifest overt breakdown in the ability to articulate sentences and words. Stuttering (verbigeration), neologisms, making up nonexistent words, and/or an increased paucity of speech, become manifest.

STAGE 7: VERY SEVERE COGNITIVE DECLINE SEVERE DEMENTIA



At this stage, AD persons require continuous assistance with basic activities of daily life for survival. Six consecutive functional substages can be identified over the course of this final seventh stage. Early in this stage, speech has become so circumscribed, as to be limited to approximately a half-dozen intelligible words or fewer (stage 7a). As this stage progresses, speech becomes even more limited to, at most, a single intelligible word (stage 7b). Once intelligible speech is lost, the ability to ambulate independently (without assistance), is invariably lost. However, ambulatory ability may be compromised at the end of the sixth stage and in the early portion of the seventh stage by concomitant physical disability, poor care, medication side-effects or other factors. Conversely, superb care provided in

the early seventh stage, and particularly in stage 7b, can postpone the onset of loss of ambulation.

However, under ordinary circumstances, stage 7a has a mean duration of approximately 1 year, and stage 7b has a mean duration of approximately 1.5 years.

In persons with AD who remain alive, stage 7c lasts approximately 1 year, after which persons with AD lose the ability not only to ambulate independently but also to sit up independently (stage 7d). At this point in the evolution, the person will fall over when seated unless there are armrests to assist in sitting up in the chair.

This 7d substage lasts approximately 1 year. AD persons who survive subsequently lose the ability to smile (stage 7e). At this substage only grimacing facial movements are observed in place of smiles. This 7e substage lasts a mean of approximately 1.5 years. It is followed in survivors by a final 7f substage, in which AD persons additionally lose the ability to hold up their head independently.

Persons can survive in this final 7f substage indefinitely; however, most persons with AD succumb at various points during the course of stage 7 to pneumonia, infected ulcerations, or other conditions.

With the advent of the seventh stage of AD, certain physical and neurological changes become increasingly evident. One of these changes is physical rigidity. Evident rigidity upon examination of the passive range of motion of major joints, such as the

elbow, is present in the great majority of persons with AD throughout the course of the seventh stage.

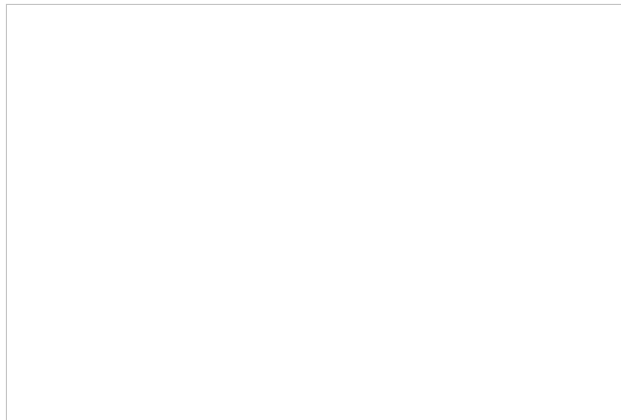


In many persons with AD, this rigidity appears to be a precursor to the appearance of overt physical deformities in the form of contractures. Contractures are irreversible deformities which prevent the passive or active range of motion of joints. In the early seventh stage (7a and 7b), approximately 40% of AD persons manifest these deformities. Later in the seventh stage, in immobile persons with AD (from stage 7d to 7f), nearly all AD persons manifest contractures in multiple extremities and joints.

Alzheimer's sucking reflex

Neurological reflex changes also become evident in stage 7 AD persons. Particularly notable is the emergence of so-called 'infantile', 'primitive' or 'developmental' reflexes which are present in the infant but which disappear in the toddler. These

reflexes, including the grasp reflex, the sucking reflex, and the Babinski plantar extensor reflex, are increasingly present as the stage 7 AD person's condition advances. Because of the greater physical size and strength of the AD person in comparison to an infant, these reflexes can be very strong and can impact both positively and negatively on the care provided to the person with AD. AD persons commonly die during the course of the seventh stage. The mean point of demise is when persons with AD lose the ability to ambulate and to sit up independently (stages 7c and 7d).



The most frequent proximate cause of death in persons with Alzheimer's is pneumonia. Aspiration is one common cause of terminal pneumonia. Another common cause of demise in AD is infected decubital ulcerations. AD persons in the seventh stage are also vulnerable to all of the common causes of mortality in the elderly including stroke, heart disease, and cancer. Some AD persons in this final stage appear to succumb to no identifiable condition other than AD.



Download our 7 Clinical Stages of Alzheimer's Brochure

Adapted in part from:

[Barry Reisberg, M.D.](#) and Emile H. Franssen in Clinical Stages of Alzheimer's Disease

An Atlas of Alzheimer's Disease, M.J. deLeon (Ed.)

The Encyclopedia of Visual Medicine Series

Parthenon, Carnforth (UK)

Resourceful Links:

[Top Ten Alzheimer's Signs & Symptoms](#)

[Clinical Trials](#)

[Dementia vs. Alzheimer's](#)

[Alzheimer's Diagnosis](#)