Dementia

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Definitions (Merriam-Webster Dictionary):

- Mad, Insane
- Suffering from or exhibiting cognitive dementia

Connotation among many lay people is "wild, threatening, craziness"

Diagnostic criteria:

- DSM 5 – Replaces "dementia" with Major Neurocognitive Disorder
- DSM IV/IV–TR–no specific criteria for "dementia". Criteria buried in individual diagnostic codes such as those for Alzheimer's disease and vascular to match
- DSM III R Criteria –
  1. acquired short and long-term memory impairment
  2. …with at least one additional comment impairment (abstract thinking, judgment, etc.)
  3. …that interferes significantly with work, social activities or relationships with others
  4. …and does not occur exclusively in the setting of delivery.

DSM 5:

~~Dementia~~ = Major Neurocognitive Disorder

Criteria –

One or more acquired significant impairments (independence lost) in cognitive domains such as:

- Memory (amnesia)
- Language (aphasia)
- Execution of purposeful movement (apraxia)
- Recognition/familiarity (agnosia)
- Visuospatial function (topographical disorientation)
- Self control/management (executive functions impairment)
- Other examples:
  - Mathematics (dyscalculia)
  - Emotional expression/comprehension (dysprosody)
  - Writing (agraphia)

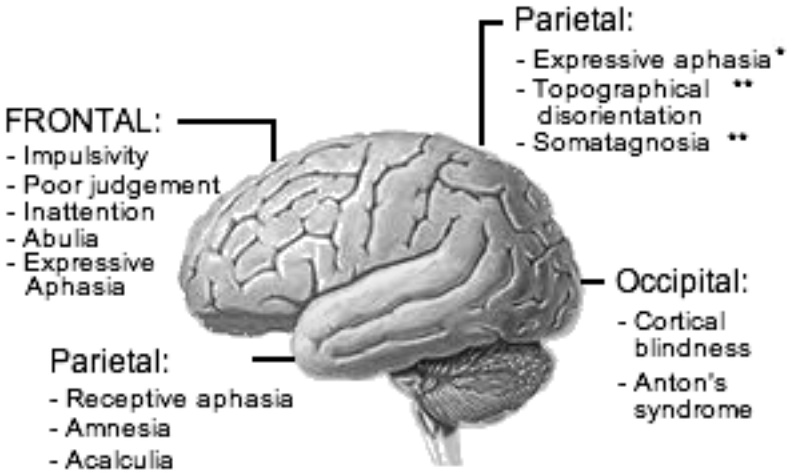
DSM 5's intent:

- Avoid "dementia's" negative connotation
- Better distinguish between disorders that have cognitive impairment as their primary feature and those that don't
- More accurately reflect the diagnostic process

Cognitive Impairments (How do they happen):

Injury to specific brain locations in the brain

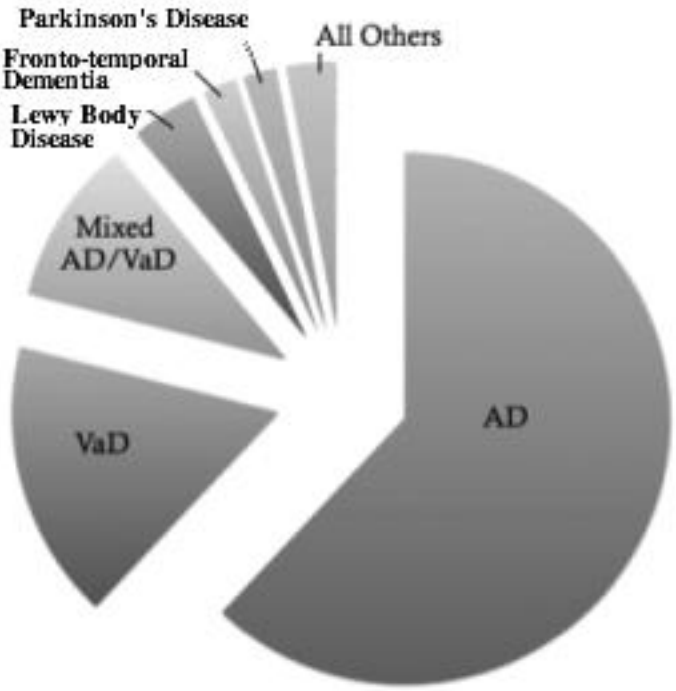
Examples:



* = Dominant hemisphere
** = Non-dominant hemisphere

- Where injury occurs depends on underlying disease

Common Causes:



Alzheimer's Disease:

- Accumulation of abnormal amyloid protein plaques & misshapen neurofibrillary tangles
- Cause or effect? (β-Amyloid toxic to neurons, tangles can't carry nutrients/waste)
- Some believe it may represent a form of diabetes

Vascular Dementia:

- Large vessel stroke = relatively large but localized injury on/near outer surface of brain leading to sudden onset of discrete cognitive impairments
- Small vessel stroke = tiny injuries deep in brain that accumulate over time leading to gradual cognitive decline, often with frontal lobe-like symptoms

Parkinson's Disease:

- Aggregates of α-Synuclein protein (Lewy Bodies) in upper brainstem (Substantia Nigra)
- Lewy bodies displace nerve cell structures leading to tremor, rigidity, and slowed movement
- In 25% of cases, Lewy bodies spread to cortical areas (especially frontal) and to Basal Nucleus to cause cognitive decline
- Cause unknown

Lewy Body Disease:

- Lewy bodies (see Parkinson's Disease) but starts in cortical areas
- Often also features β-Amyloid plaques (see Alzheimer's Disease)
- ? 2nd most common cause of dementia

Fronto-temporal Dementia:

- Aggregates of tangled Tau protein (Pick bodies) in anterior frontal and temporal lobes
- Brain shrinkage occurs in affected areas
- Pick's Disease (DSM-IV) is just one form of FTD
- Slightly more common in females

Other Causes Defined in DSM 5:

- HIV Dementia – Viral-induced toxins and opportunistic infectious/cancerous tumors
- Huntington's Disease – Autosomal dominant gene leads to degeneration in basal ganglia. 50% chance of passing to offspring
- Prion Disease: - DSM-IV described only one (Creutzfeld-Jacob Disease). Slowly infectious agent (prion) spreads in brain. Mad Cow Disease is an animal form or this disease
- Traumatic Brain Injury – Fibers (axons) connecting brain cells are snapped during impact and withdraw into "retraction balls". Frontal areas most vulnerable because axons are longer

- Substance-Induced (Alcohol) Major Cognitive Disorder –

    - Persisting Amnesia (aka Korsakoff's Dementia) – Thiamine deficiency develops in some chronic abusers and damages the brain's "mammillary bodies" leading to virtually discrete impairment in forming new memories and the manifestation of confabulation
    - Persisting Dementia (aka Alcoholic Dementia) - Chronic alcohol toxicity causes generalized shrinkage of brain. This disease (including shrinkage) may be reversible with abstinence.
    - DSM 5 does not distinguish between Persisting Amnesia and Persisting Dementia. However, Alcohol-Induced Major NCD can be embellished with written descriptions such as ICD-10's "Amnestic-confabulatory type" and "Non-amnestic type"

Clinical Features of Dementing Illnesses:

- Depend on underlying disease – Brain areas affected, widespread v. localized, and rapidity of advancement.
- Note: Even generalized disease may show only focal signs early on.
- Symptom Patterns:

Pattern	Examples	Most Common Causes
Mixed Diffuse Deficits	Aphasia with Visuospatial Impairment Amnesia with Dyscalculia Agnosia with apraxia	Alzheimer's Disease Vascular Dementia Lewy Body Disease Fronto-temporal Dementia Prion Disease HIV
Isolated Deficits	Aphasia alone Amnesia alone Agnosia along	Vascular Dementia HIV-related tumors Alcohol-Induced Amnesia Traumatic Brain Injury
Frontal Lobe Syndrome	Impulsivity Sexual Impropriety Inattention Low Motivation Aggression Poor Insight	Vascular Dementia Fronto-temporal Dementia Parkinson's Disease Huntington's Disease Traumatic Brain Injury
With Movement Abnormalities	Slowed Movement Tremors Jerks (chorea or myoclonus) Excessive Startle Response Seizures	Vascular Dementia Parkinson's Disease Lewy Body Disease Traumatic Brain Injury Huntington's Disease Prion Disease

Three-Step Evaluation:

Step	Who can do it?	What do they do?
Screening	Any Mental Health or Medical Provider	Note if client/patient is: • Odd or poor historian • Disheveled, inappropriately dressed, dirty • Repeatedly late for or misses appointments (e.g., wrong time/day) • Has unexplained weight loss or vague symptoms • Poorly adaptive to stress • Defers to family/caregiver to answer questions directed to him/her • Consider Family Questionnaire §
Assessment	Licensed Medical Provider	Conduct: • Standard Medical History • Physical Exam • Functional Status (FAQ) § • Mental Status (MMSE, GDS) • Labs (CBC, electrolytes, Glucose, BUN-Creatinine, TSH, Drug levels) • Caregiver Interview (personal strain, patient behavior changes)
Diagnosis	Specialist (Neurologist, Psychiatrist or Geriatrician + Neuropsychologist)	Diagnostic exam, testing, and formal neurocognitive testing

§ In addition to the attached Family Questionnaire and the Functional Activities Questionnaire several other helpful assessment tools are available from the Alzheimer's Disease Association website at:

alz.org/national/documents/brochure_toolsforidassesstreat.pdf

APPENDIX 1

Early Identification Tool 2
Family Questionnaire

We are trying to improve the care of older adults. Some older adults develop problems with memory or the ability to think clearly. When this occurs, it may not come to the attention of the physician. Family members or friends of an older person may be aware of problems that should prompt further evaluation by the physician. Please answer the following questions. This information will help us to provide better care for your family member.

alzheimer's association

National Chronic Care Consortium

In your opinion does _____ have problems with any of the following?
Please circle the answer.

1. Repeating or asking the same thing over and over?	*Not at all*	*Sometimes*	*Frequently*	*Does not apply*
2. Remembering appointments, family occasions, holidays?	*Not at all*	*Sometimes*	*Frequently*	*Does not apply*
3. Writing checks, paying bills, balancing the checkbook?	*Not at all*	*Sometimes*	*Frequently*	*Does not apply*
4. Shopping independently (e.g., for clothing or groceries)?	*Not at all*	*Sometimes*	*Frequently*	*Does not apply*
5. Taking medications according to instructions?	*Not at all*	*Sometimes*	*Frequently*	*Does not apply*
6. Getting lost while walking or driving in familiar places?	*Not at all*	*Sometimes*	*Frequently*	*Does not apply*

Relationship to patient _____
(spouse, son, daughter, brother, sister, grandchild, friend, etc.)

This information will be given to the patient's primary care provider. If any additional testing is appropriate, he or she will let you know. Thank you for your help.

APPENDIX 2

Initial Dementia Assessment

Attachment 3—Functional Activities Questionnaire (FAQ)

The FAQ is an informant-based measure of functional abilities. Informants provide performance ratings of the target person on ten complex higher-order activities.

Individual Items of the FAQ

1. ____Writing checks, paying bills, balancing checkbook
2. ____Assembling tax records, business affairs, or papers
3. ____Shopping alone for clothes, household necessities, or groceries
4. ____Playing a game of skill, working on a hobby
5. ____Heating water, making a cup of coffee, turning off stove
6. ____Preparing a balanced meal
7. ____Keeping track of current events
8. ____Paying attention to, understanding, discussing a TV show, book, magazine
9. ____Remembering appointments, family occasions, holidays, medications
10. ____Traveling out of neighborhood, driving, arranging to take buses

Total _____

The levels of performance assigned range from dependence to independence and are rated as follows.

- Dependent = 3
- Requires assistance = 2
- Has difficulty, but does by self = 1
- Normal = 0

Two other response options can also be scored.

- Never did (the activity), but could do now = 0
- Never did, and would have difficulty now = 1

A total score for the FAQ is computed by simply summing the scores across the 10 items. Scores range from 0 to 30. A cutpoint of 9 (dependent in 3 or more activities) is recommended.

Source:
Pfeffer, R., T. Kurosaki, C. Harrah, J. Chance, and S. Filos. 1982. "Measurement of Functional Activities of Older Adults in the Community." *Journal of Gerontology* 37 (May):323–9. Reprinted with permission of The Gerontological Society of America, 1030 15th Street NW, Suite 250, Washington, DC 20005. Reproduced by permission of the publisher via Copyright Clearance Center, Inc.