

THE ALZHEIMER'S Project

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LIVE WELL
SAN DIEGO

Physician Guidelines for the Screening, Evaluation, and Management of Alzheimer's Disease and Related Dementias

Created By
THE ALZHEIMER'S PROJECT
CLINICAL ROUNDTABLE
December 2018
Second Edition

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The members of the Alzheimer's Project Clinical Roundtable wish to acknowledge, first and foremost, the members of the San Diego County Board of Supervisors who, in May 2014, unanimously voted to launch the Alzheimer's Project. The five-year plan's goals include raising research funds to enhance drug development, implementing standardized guidelines for physicians to diagnose and treat patients, providing support to family and professional caregivers, and increasing the knowledge and understanding of the disease throughout the community. The Alzheimer's Project is an ambitious and nationally unique effort, and has placed our County at the vanguard of the fight against this global problem. Alzheimer's disease

and related dementias currently impacts the lives of 150,000 family members who are caring for the region's approximately 60,000 individuals living with Alzheimer's and related dementias and is the number three cause of death in our County.

The Clinical Roundtable would not have been able to accomplish the development and adoption of countywide standards of care without the dedication of many clinical practitioners and care community members affiliated with various health systems in San Diego County. We would like to thank the leadership of our respective organizations for their support as we have diverted time and energy to this effort.

Alzheimer's Disease Clinical Roundtable Chairs: Michael Lobatz, MD and Nick Yphantides, MD

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The Alzheimer's Project is a regional initiative established by the San Diego County Board of Supervisors to address the toll of Alzheimer's and related dementias on families, communities and our healthcare systems. The Clinical Roundtable is one of four groups to address these issues. The Clinical Roundtable brought together neurologists, geriatricians, geriatric psychiatrists, and geriatric psychologists in 2015 to begin to assess current clinical practices, and develop best practices standards for primary care physicians, internists, psychiatrists, nurse practitioners, and physician assistants caring for older adults in their practices.

Focus of the Clinical Roundtable

- Development of standards for screening, evaluation and diagnosis of Alzheimer's disease and related dementias.
- Development of guidelines for the management of the behavioral and psychological symptoms and issues experienced by those afflicted.
- Education of primary care practitioners and their staff on standards and guidelines leading to countywide achievement of best practices.
- Identification of resources for physicians and their staff, as well as family caregivers.
- Dissemination of tools for effective communication with patients and their caregiver

These tools have been created to assist primary care physicians for managing patients with memory loss and dementia, as well as family members and caregivers affected by this disease. Primary care physicians practicing internal and family medicine significantly outnumber specialists including neurologists, geriatricians and psychiatrists combined. Therefore, as the incidence and prevalence for memory disorders continue to rise to unprecedented, monumental levels, it is inevitable that screening, evaluation, diagnosis, and treatment of many patients with Alzheimer's disease will be managed by primary care physicians. The Clinical Roundtable encourages the use of these tools to facilitate a more uniform approach among San Diego healthcare providers. The goal is to establish clinical standards of practice to improve patient care and outcomes.

The majority of patients living with dementia can be effectively managed by primary care providers. These tools and additional training are offered to increase the capacity of primary care providers in that regard.

However, when the clinical presentation suggests a condition other than uncomplicated Alzheimer's disease or if the presentation of a particular patient is concerning to the practitioner, referral to a specialist is recommended.

These guidelines are intended to be a living document that will change as advances are made in the field. It is planned that the Clinical Roundtable will convene for periodic review of research literature and assessment of practice in the community to update these guidelines. Further, practitioners will be asked for their feedback on the algorithms, specific screening and evaluation instruments, and their impression of the impact on their increased capacity due to use the guidelines. This is the second edition (December 2018) of the Guidelines. ■

Background

Cognitive impairment and dementia are under-diagnosed in older individuals. This can lead to safety and health consequences, and also delays adequate evaluation and potential treatment. In addition to supporting a diagnosis of cognitive impairment, screening and evaluation of cognition may identify reversible conditions contributing to cognitive changes, or may help to reassure someone with cognitive concerns whose cognition in fact is normal.

The terms dementia, MCI, Major Neurocognitive Impairment and Mild Neurocognitive Impairment are used here with some interchangeability. The current DSM-V terminology is not uniformly used.

Dementia is an acquired decline in memory and/or other areas of cognition or behavior of sufficient magnitude to cause impairment of social or occupational functioning. DSM V has developed the term Major Neurocognitive Decline (MNCD), used with a variety of billing codes to describe dementia and related conditions. Major Neurocognitive Disorder (Dementia) as defined by the DSM-V includes:

- Cognitive deficits in one or more areas of cognition, such as memory, language, visuospatial abilities (apraxia, aphasia, agnosia), or executive function),
- Cognitive defects must impair social or occupational functioning,
- Gradual onset and progressive cognitive decline,
- Not due to other CNS cause of dementia, substance abuse, or systemic conditions that can cause dementia,
- Not due to delirium,
- Not accounted for by another Axis 1 disorder.

Mild Cognitive Impairment (MCI), or Mild Neurocognitive Disorder, is marked by focal or multifocal cognitive impairment with minimal impairment of instrumental activities of daily living

(IADL) that does not cross the threshold for a dementia diagnosis. MCI can be the first cognitive expression of Alzheimer disease (AD), or may be secondary to other disease processes (i.e., other neurologic, neurodegenerative, systemic, or psychiatric disorders) that can cause cognitive deficits. Caveat: brief screening tests such as the MiniCog are less sensitive for detection of MCI than for dementia.

Starting the Conversation

When to Begin Discussion of Cognition in an Older Adult:

- **Annual Wellness Visit,**
- **Warning Signs expressed by patient and/or family member,**
- **Patient who forgets appointments or is noncompliant with medications,**
- **Upon observation by a healthcare professional during a scheduled office visit.**

Annual Wellness Visit

Medicare beneficiaries are eligible for an Annual Wellness Visit (AWV), which is separate from the Initial Preventive Physical Examination or other routine physical checkups. The CMS-prescribed components of an AWV includes a review of the beneficiary's potential risk factor for depression, using an appropriate screen such as the PHQ-2 or PHQ-9, as well as a check for cognitive impairment, as follows:

“Detect any cognitive impairment the beneficiary may have: Assess the beneficiary's cognitive function by direct observation, with due consideration of information obtained via beneficiary reports and concerns raised by family members, friends, caretakers, or others.”

The Annual Wellness Visit includes a Health Risk Assessment (HRA), and physician discretion will guide the implementation and use of the HRA questionnaire. Each insurance payer may specify their own HRA

questionnaire. While Medicare does not identify or prescribe a particular cognitive screening test, many practitioners use the Mini-Cog test.

Having the Conversation

Recommended initial questions to ask older patients regarding their concerns about their memory or cognition are:

- Are you worried about your memory?
- Have you noticed a change in your memory that concerns you?
- During the past few months, have you had any increasing problems with your memory?

It is important to focus on change in function or abilities over the past six months to two years. When the practitioner detects any cognitive impairment in either an AWV, a routine physical checkup, or other appointment, s/he may find it an appropriate opportunity to either begin a discussion, or suggest a follow-up appointment to discuss concerns of the patient, family member or physician.

The Gerontological Society of America's KAER Toolkit suggests, “By raising this topic, PCPs will communicate to their older adult patients that brain health and changes in memory and cognition that may occur in aging are important aspects of their overall health. Raising the topic will also help to normalize attention to cognition in primary care and encourage older adults to be aware of changes in their cognition and to tell their PCP about cognition-related concerns, if any. Many older adults are reluctant to express such concerns to their PCP, in part because of fear and stigma often associated with dementia. A frank yet sensitive introduction to the topic by the PCP is a highly appropriate first step to kickstart the cognition conversation. This approach can open the way for older adults to reveal any cognition-related concerns they may have.”

The K in KAER stands for Kick Starting the conversation about cognitive impairment. This may include questions about cognition-related function, such as difficulty paying bills or directions to a familiar place. Practitioners can refer to the 10 Warning Signs to direct the conversation. Tools, including short videos on suggested interactions, are available on the website <https://championsforhealth.org/alzheimers>.

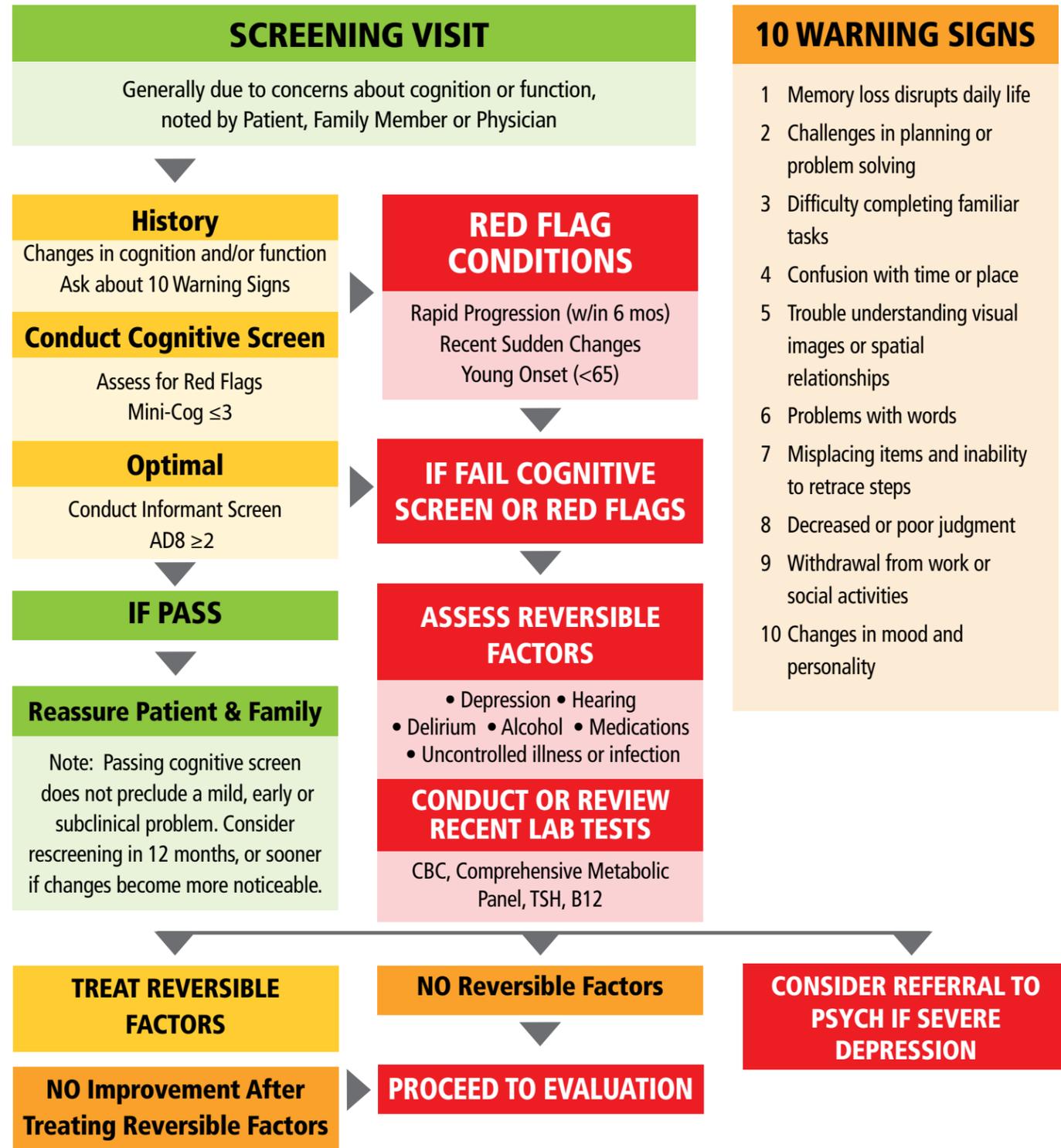
Listening and acknowledging concerns of a patient's family member or caregiver is usually most informative as the individuals with cognitive decline often do not recognize their deficits. The use of an informant survey such as the AD8 or IQCODE is very helpful as part of the follow-up appointment. Family members can be handed the survey at check-out, and asked to complete it prior to the next, more comprehensive visit. By completing the survey outside of the medical office the family member has more time to recall specific concerns, and can provide this valuable information to the provider without disclosing too much in front of their loved one.

Some key messages to impart to older adults include:

- The brain ages, just like other parts of the body.
- Cognitive aging is not a disease, and is not the same as Alzheimer's disease or other dementia. It is a natural, lifelong process that occurs for everyone, and is different for each person.
- Some cognitive functions improve with age.
- There are steps individuals can do that may promote and support their cognitive health.

Individuals concerned about their memory may be among the “Worried Well” and need reassurance that their experience is part of normal aging. Tracking concerns over time will give the practitioner information regarding changes in cognitive function.

NOTE: Cognitive screening may be a part of a regular annual physical exam.



10 WARNING SIGNS

- 1 Memory loss disrupts daily life
- 2 Challenges in planning or problem solving
- 3 Difficulty completing familiar tasks
- 4 Confusion with time or place
- 5 Trouble understanding visual images or spatial relationships
- 6 Problems with words
- 7 Misplacing items and inability to retrace steps
- 8 Decreased or poor judgment
- 9 Withdrawal from work or social activities
- 10 Changes in mood and personality

Screening for Dementia

An algorithm for screening

An algorithm for screening was created by clinicians with expertise in Neurology, Geriatric Medicine, Geriatric Psychiatry, Psychiatry and Geriatric Psychology representing different San Diego health care systems. The members reviewed guidelines and studies of different screening tests and questionnaires, as well as screening algorithms proposed by organizations across the country, including major universities and the Alzheimer's Association.

The goal was to develop an algorithm of when screening should be considered, and what brief instruments have reasonable evidence for use. Additional goals were to define a brief workup and focused management that should follow a positive screen, and to determine whether there are potentially treatable factors that should be addressed before undertaking or referring the patient for a more detailed evaluation.

Intended use

Primary care physicians, internists, psychiatrists, nurse practitioners, and physician assistants caring for older adults in their practices, as well as psychiatrists and geriatric psychiatrists can use the algorithm to carry out a focused screening. This algorithm was developed for use with older patients where cognitive decline is suspected or has been observed. This type of screening could potentially be used in other settings, for example in an Emergency Room or preoperatively to rule out other conditions presenting as disorientation or dementia. Other medical assistants (MA, CNA) in the practice can assist the screening by conducting portions of the algorithm, including the MiniCog and collecting informant information while rooming the patient.

Efficacy

The screening instruments selected are the MiniCog, a brief direct test of cognition; and the AD8, a questionnaire for an informant. These may be used separately or together. Studies suggest that a combination of direct cognitive testing and informant

assessment is more accurate in detecting cognitive decline than either one alone.

Studies of the MiniCog suggest that it has sensitivity of over 80% and specificity ranging from 60 – 80% to detect dementia. Studies of the AD8 suggest that it has sensitivity and specificity that both exceed 80% to detect dementia. These results compare favorably with other widely used tests such as the Mini-Mental State Examination (MMSE).

Mild cognitive impairment (MCI) or mild neurocognitive disorder (MNCD) refers to a lesser degree of cognitive decline than dementia. These conditions may be caused by many different factors. Brief screening tests or questionnaires are less sensitive for MCI or MNCD than for dementia.

How to utilize the tool

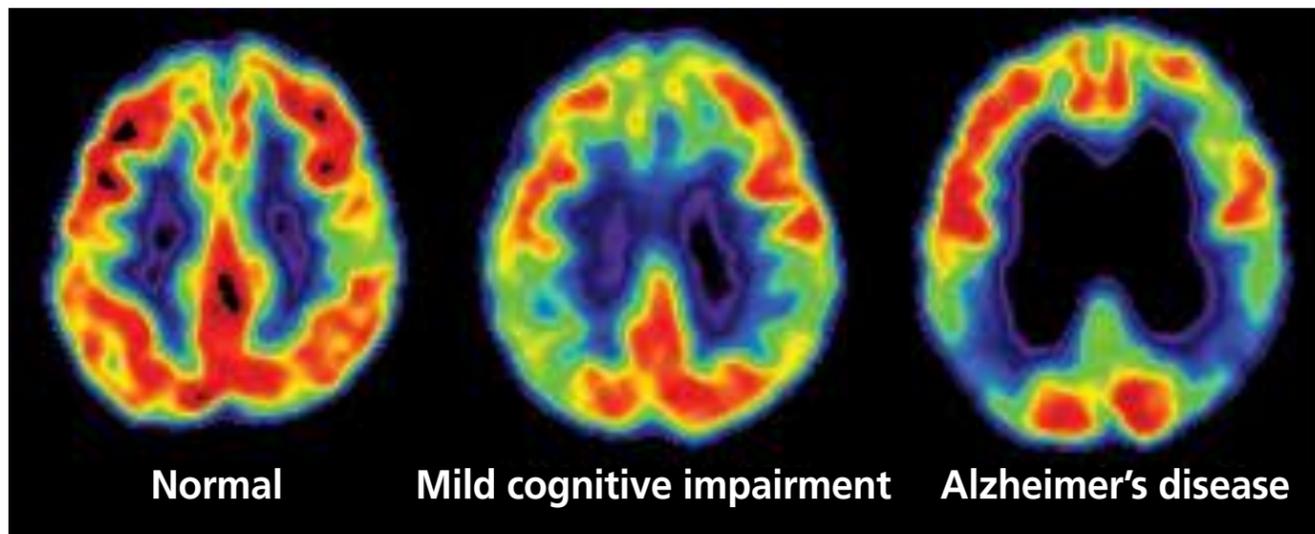
An algorithm for cognitive screening indicates the types of symptoms that may trigger a screen, and the process of using the MiniCog and/or AD8. The MiniCog and AD8 instruments and scoring keys are included in this document, and are available online.

Scoring cut-offs for these instruments are listed. If a screen is positive, medical factors, depressive symptoms and a brief panel of laboratory tests should be considered, to determine if there may be treatable factors. Hearing and vision should also be considered as factors to address.

If a screen is negative, there is a decreased chance that dementia is present but does not rule out MCI. The clinician may decide to pursue a more detailed evaluation anyway, for example if there are issues such as decisions about driving, work or finances. If the screen is negative, the clinician may decide to rescreen the patient during follow-up at six months or one year.

Several RED FLAG symptoms or features are listed, as examples of situations where a more detailed evaluation should be considered, regardless of the results of the screening. A positive screen, with or without an attempt to determine and correct reversible factors, should lead to an evaluation.

FDG PET Scans are Abnormal in AD



Recommended Screening Instruments

Mini-Cog

http://www.alz.org/documents_custom/minicog.pdf

Spanish: <http://mini-cog.com/wp-content/uploads/2015/12/Mini-Cog-Spanish.pdf>

Normal range: ≥ 4

Informant/Family Questionnaire

AD8 http://www.alz.org/documents_custom/ad8.pdf

Normal Range: 0 - 1

Patient Health Questionnaire for Depression (PHQ-9)

(source) http://www.cqaimh.org/pdf/tool_phq9.pdf

PHQ-2 are the first two questions of the PHQ-9

(see page 51)

Optional: Geriatric Depression Scale

http://geriatrictoolkit.missouri.edu/cog/GDS_SHORT_FORM.PDF

Reproducible copies are included in the back of this booklet.

Mild Cognitive Impairment

Mild Cognitive Impairment (MCI) is marked by focal or multifocal cognitive impairment with minimal impairment of instrumental activities of daily living (IADL) that does not cross the threshold for a dementia diagnosis. MCI can be the first cognitive expression of Alzheimer disease (AD), or may be secondary to other disease processes (i.e., other neurologic, neurodegenerative, systemic, or psychiatric disorders) that can cause cognitive deficits. While MCI can lead to major neurocognitive disorders in the future, it can also stay stable in its presentation, or it can improve.

Mild Neurocognitive Disorder is a term developed by DSM-V that overlaps with the description of MCI. The following information is excerpted from a consensus statement by the American Academy of Neurology regarding MCI:

“Amnesic MCI (aMCI) is a syndrome in which memory dysfunction predominates; Nonamnesic MCI refers to impairment primarily in other cognitive domains (e.g., language, visuospatial, executive). The ‘narrow’ definition of MCI includes amnesic, and the ‘broader’

definition also includes nonamnesic MCI. The general prevalence rate for narrow criteria varied from 3.2% to 25% of individuals 65 years of age and older across studies conducted. The prevalence rate for the broader criteria varied between 13.4% and 42%.”

Age breakdown estimates of prevalence rates are:

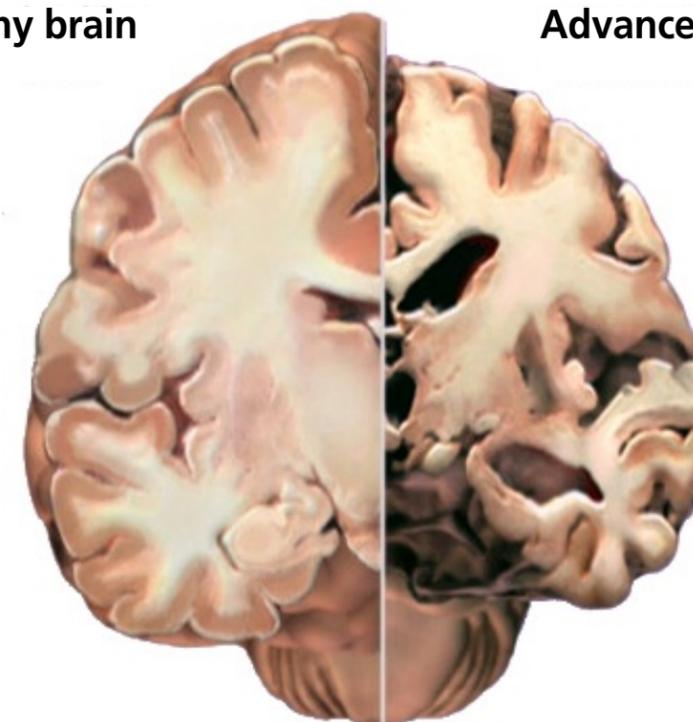
- Ages 60 to 64 years, 6.7% (95% CI 3.4%–12.7%, I211.0)
- Ages 65 to 69 years, 8.4% (95% CI 5.2%–13.4%, I20)
- Ages 70 to 74 years, 10.1% (95% CI 7.5%–13.5%, I25.2)
- Ages 75 to 79 years, 14.8% (95% CI 10.1%–21.1%, I260.7)
- Ages 80 to 84 years, 25.2% (95% CI 16.5%–36.5%, I20)

Persons with MCI are at higher risk of progressing to dementia than age-matched controls (high confidence, multiple concordant Class I studies, meta-analysis). But it is important to acknowledge that MCI does not necessarily lead to Alzheimer's disease or related dementia. In individuals with MCI older than age 65 years followed for 2 years, the cumulative incidence for the development of dementia is 14.9%. Persons diagnosed with MCI may remain stable, return to neurologically intact, or progress to dementia (multiple Class I studies, 14.4%–55.6% reverting to normal).

Assessing MCI

Clinicians should assess for MCI and not assume that reported cognitive concerns are related to normal aging. Clinicians should not rely on historical report of subjective memory concerns alone, and should use validated assessment tools as recommended in the

Healthy brain



Advanced Alzheimer's

screening section, including identification of reversible conditions or factors. For patients who test positive for MCI, clinicians should perform a more formal clinical assessment, and assess for the presence of functional impairment related to cognition before giving a diagnosis of dementia. Serial assessments over time help monitor for changes in cognitive status.

Whenever it is possible to safely do so, patients should be weaned from medications that can contribute to cognitive impairment. They may be counseled that there are currently no pharmacologic or dietary agents shown through scientific research to provide symptomatic cognitive benefits. Regular exercise, minimum of twice per week, has shown benefit in MCI and is recommended as part of an overall approach to management. Individuals with MCI are encouraged to practice the same behaviors as individuals without MCI: eat a healthy diet, stop smoking, use alcohol in moderation, remain physically active, and maintain social connections.

Interested patients may be directed to clinical research focused on long-term brain health, biomarker research, or other clinical trials to assess their condition over time. The participation of individuals with MCI in clinical research is crucial to finding effective treatments for dementia.

Pharmacologic treatments for patients diagnosed with MCI

A number of studies have concluded that the use of cholinesterase inhibitors, memantine, vitamins, and other supplements have proven not to be effective for individuals with MCI. Further, the use of cholinesterase inhibitors and memantine are not FDA approved for MCI, and would be off-label prescriptions. There are a number of studies to support this finding on the American Academy of Neurology (<https://aan.com>).

Nonpharmacologic treatments effective for patients diagnosed with MCI

Studies have shown that for patients with MCI, treatment with exercise training for 6 months is likely to improve cognitive measures (moderate confidence in the evidence based on 2 Class II studies). Individuals with MCI are encouraged to practice the same behaviors as individuals without MCI: eat a healthy diet, stop smoking, use alcohol in moderation, remain physically active, challenge their brain on a regular basis and maintain, and possibly expand, social connections. ■

Background

Alzheimer's disease (AD) is the most common cause of dementia in older individuals. Other common causes are vascular cognitive impairment, Dementia with Lewy Bodies (DLB) and Fronto-Temporal Lobar Degeneration (FTLD). Many other conditions may cause or contribute to dementia, including medically treatable conditions.

Evaluation is more detailed and time-consuming than screening. The clinician performing an evaluation should have a thorough knowledge of diagnoses of cognitive disorders such as Alzheimer's disease and other types of dementia, and should also be comfortable disclosing a diagnosis of Alzheimer's disease or other dementia to patient and family.

There are many guidelines for the evaluation of dementia. Recent guidelines for Alzheimer's disease, Mild Cognitive Impairment (MCI) due to AD, as well as prodromal AD emphasize biomarkers for amyloid and neurodegeneration in addition to clinical evaluation. Because these biomarkers are not yet available for routine clinical use, we have emphasized clinical evaluation.

Diagnostic criteria also exist for vascular dementia, DLB, FTLD, and other disorders.

An accurate diagnosis of cognitive impairment, dementia and its etiology can help to guide the patient and family regarding planning, accessing family and community resources, and appropriate use of symptomatic treatment.

An algorithm for diagnostic evaluation

An algorithm for diagnostic evaluation was created by a group of clinicians with expertise in Neurology, Geriatric Medicine and Psychiatry, representing different San Diego health care systems. The members reviewed guidelines and studies of evaluation, as well as published diagnostic criteria. The goal was to develop

an outline of the elements of evaluation of dementia or cognitive loss, to help to guide clinicians and improve the quality of care.

Who should carry out an evaluation?

Physicians, Physician Assistants, Nurse Practitioners, or a clinical team member with adequate training can use the algorithm to carry out an evaluation.

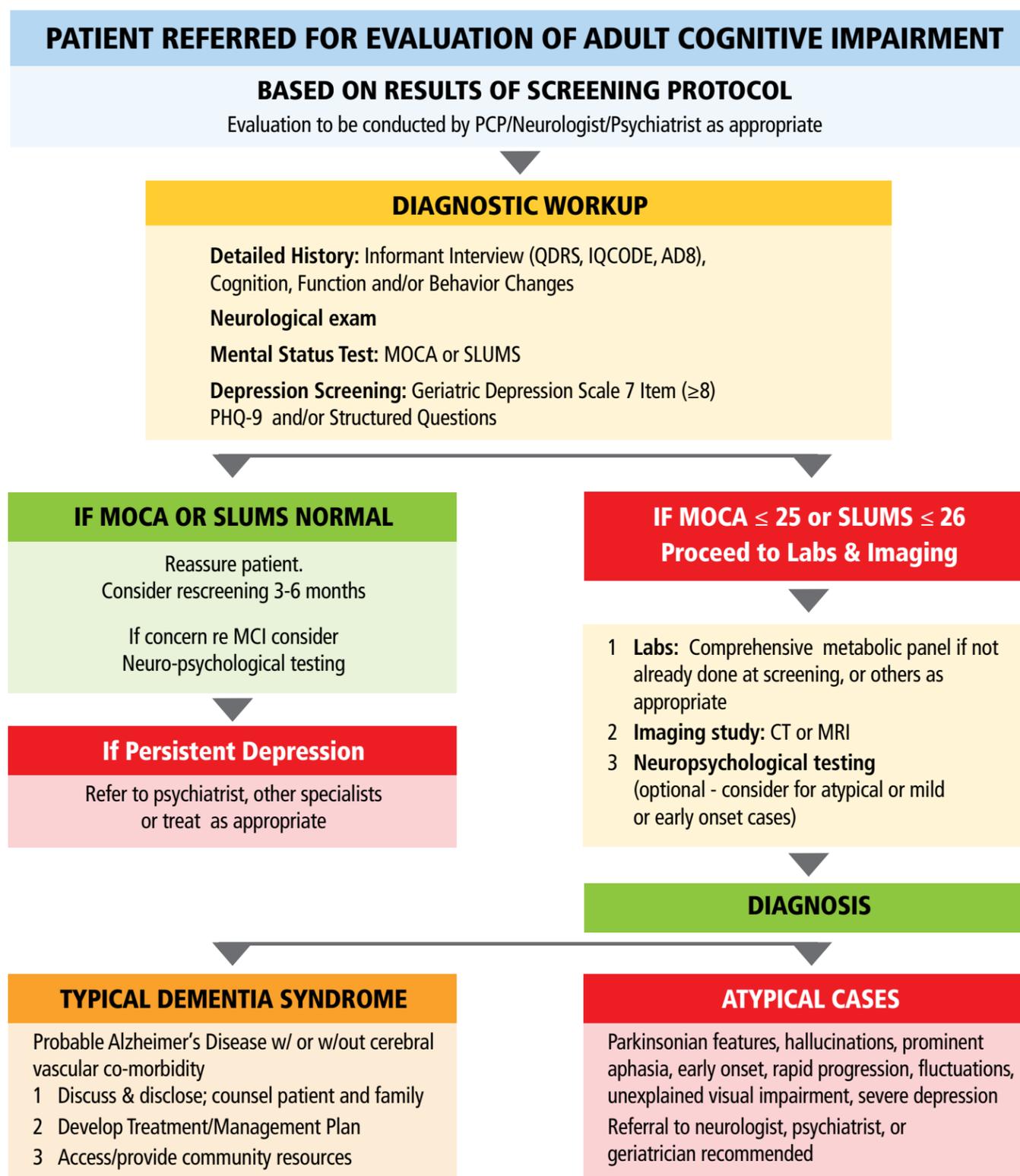
The clinician or team member should have a strong knowledge base concerning cognition, aging and different types of dementia, and also experience in how to disclose the diagnosis, develop a management plan, and make appropriate use of community resources.

For patients with unusual or uncommon disorders, referral to a subspecialty dementia clinic is advisable. Unusual clinical pictures, including progressive aphasia, progressive visuo-perceptual impairment, apraxia; early movement disorder features, young onset of cognitive impairment (before age 65) and rapidly progressive dementia are often best evaluated in a subspecialty dementia clinic. The presence of a strong family history of dementia may often require assessment by a subspecialty clinic.

The evaluation process

An evaluation typically will consist of at least one detailed visit to obtain the necessary elements of history, examination, cognitive assessment, and to determine appropriate laboratory testing, neuroimaging and other consultation or tests as appropriate.

- 1) Obtaining collateral history from an informant to document cognitive, functional and behavioral symptoms is strongly recommended whenever possible.
- 2) Discussion of the results of the evaluation, disclosure of the likely diagnosis, the prognosis, and an outline.
- 3) Referrals and additional testing as a result of the evaluation require clinical judgment.



Additional testing may include:

- Psychiatric assessment,
- Neuropsychological testing,
- Additional medical evaluation,
- Genetic counseling,
- Neuroimaging testing, e.g., Fluorodeoxyglucose (FDG) PET scan, Amyloid PET scan, Cerebrospinal Fluid (CSF) testing for AD, laboratory testing for rapidly progressive dementia.

When to evaluate

The decision to evaluate could follow a screening assessment. In some situations, for example concerns about mild cognitive impairment, or cognitive problems that could affect work, driving or finances, an evaluation is appropriate.

Efficacy

Clinical guidelines and criteria for Alzheimer's disease (AD) have high sensitivity, in excess of 80-90%, but lower specificity – i.e., they sometimes misdiagnose AD when other etiologies are present.

Biomarkers such as amyloid testing in CSF or amyloid imaging have high specificity, i.e., if they are negative, AD is highly unlikely.

Clinical criteria for other disorders have been less thoroughly evaluated, and were mainly assessed in tertiary referral settings. Sensitivity greater than 80% has been noted for FTD and 70-80% for DLB. Vascular cognitive impairment (VCI) often accompanies AD, and many people with late life dementia show mixed pathology. Vascular risk factors and CT or MRI imaging help to evaluate the likelihood of VCI.

Recommended Evaluation Instruments

Informant surveys may be sent out to caregivers prior to the evaluation appointment. Reproducible copies are included in the back of this booklet.

Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE)

(source) http://www.alz.org/documents_custom/shortiqcode_english.pdf

(other languages) <http://crahw.anu.edu.au/risk-assessment-tools/informant-questionnaire-cognitive-decline-elderly>

Quick Dementia Rating Survey (QDRS)

<http://www.dadm.alzdem.com/article/S2352-8729%2815%2900049-4/pdf>

The Montreal Cognitive Assessment (MOCA)

Public domain: www.mocatest.org/

Normal Range: 26 – 30, for people with < HS education, add 1 point to the total score

The MOCA is a cognitive test that briefly assesses executive/visuospatial function, memory, language, attention, calculation and orientation. Cut-off scores have been developed and it has been tested in the diagnosis of AD, DLB and PD-related disorders. Translated versions are available, in many languages, and there are 3 alternative versions in English.

Although the MOCA may be used as a stand-alone test, and has relatively high sensitivity for the diagnosis of dementia, it is less sensitive for MCI or mild dementia. In that setting, additional testing, either office-based if the clinician has appropriate knowledge or skills, or by a neuropsychologist, is strongly recommended.

St. Louis University Mental Status (SLUMS)

Public domain: http://medschool.slu.edu/agingsuccessfully/pdfsurveys/slumsexam_05.pdf
Normal Range: 27 – 30; MCI: 21 – 26;
Dementia: 1 - 20

30-point questionnaire that tests for orientation, memory, attention and executive function. Better at detecting mild neurocognitive disorder than MMSE.

Cutoff scores on the MOCA and SLUMS should be treated cautiously - beyond simply looking at the total score, it is often helpful to review the areas where a patient loses points to try to identify a cognitive profile (e.g., Impairment of memory and orientation would point to an amnesic disorder).

Measure/Assess IADLs

The Functional Activities Questionnaire (FAQ) is a validated instrument that assesses level of performance of 10 different complex (instrumental) activities of daily living. It should be given as an Informant questionnaire. <http://consultgeri.org/try-this/dementia/issue-d13.pdf>

Definitions of Specific Cognitive Impairment Types

As detailed earlier, the latest DSM-5 manual uses the term “Major Neurocognitive Disorder” for dementia and “Mild Neurocognitive Disorder” for mild cognitive impairment. This Guidelines booklet on Alzheimer’s resources uses the more familiar terminology, as the new terms have yet to be universally adopted.

Mild Cognitive Impairment

Mild deficit in one (single domain) or more than one (multi-domain) cognitive domains: memory, executive function, visuospatial, language, and/or attention. Intact instrumental ADLs (IADLs) and basic ADLs does not meet criteria for dementia.

Alzheimer’s Disease

Most common type of dementia (60–80% of cases).

Gradual onset and progression of memory loss, disorientation, impaired judgment/problem solving, and language. Behavioral changes may include apathy/depression, and delusions. Social skills are typically preserved.

Dementia with Lewy Body Disease or Parkinson’s Dementia

Second most common type of neurodegenerative dementia (up to 20% of cases).

Hallmark symptoms include visual hallucinations, REM sleep disorder, parkinsonism, and significant fluctuations in cognition.

Fronto-Temporal Dementia

Third most common type of neurodegenerative dementia primarily affecting individuals in their 50s and 60s. Defined by EITHER marked changes in behavior/personality OR language variant (difficulty with speech production or loss of understanding of word meaning). More recently, the term Fronto-temporal Lobar Degeneration has been used to include behavioral variant FTD, Progressive Aphasia, and movement disorders with a prominent cognitive component, namely Corticobasal Syndrome (CBS) and Progressive Supranuclear Palsy (PSP)

Vascular Dementia

Although relatively rare in pure form (10% of cases), vascular changes often coexist with Alzheimer’s disease, and mixed dementia (Alzheimer’s plus vascular) or multiple etiology dementia is often found in elderly individuals.

Symptoms often overlap with those of AD; history or physical exam findings may suggest stroke(s).

Disclosing a Diagnosis

Once an evaluation is completed, the practitioner should be prepared to speak with the patient and caregiver or family members as a unit. Often, the disclosure of a diagnosis is the maximum amount of information the patient can handle at the first post-diagnosis appointment, and the provider may want to schedule a longer, follow-up appointment to fully orient the patient and caregivers of important first steps.

Physicians may be reluctant to disclose a specific diagnosis of dementia and to mention Alzheimer’s disease as such a diagnosis may change the physician-patient relationship. Disclosure has been widely studied, and provided that it is done sensitively and with knowledge of the social and family dynamics, it is generally a helpful part of the process. Many families are relieved at obtaining closure regarding a diagnosis and explanation for the problems that they have noted. Disclosure should also include the review, assessment and discussion of medical, personal and social factors that may be impacted by dementia.

Initial discussion and disclosure may cover:

- The primary diagnosis.
- Contributing factors to the diagnosis (e.g., medical, neurological or psychiatric factors). Examples include depression, vascular risk factors, sleep disorders, medical comorbidity that may affect the brain, medications that may have cognitive side effects.
- Recommendations regarding questions such as work, driving, managing finances.
- Personal and home safety.

At the time of disclosure, impress upon the caregiver that the patient should not be left alone for the first 72 hours as he/she processes the information. Inform the caregiver how to reach you during this critical

period. Acknowledge that the discussion carries with it significant impact as the patient and caregivers attempt to normalize their reaction and link response to expected needs. You may want to explain the stages of the grief process upon receiving a diagnosis of dementia: **Denial, Anger, Bargaining, Depression, and Acceptance.**

The most critical topics to cover as soon as possible include:

- Medication options:
 - o Primary and proven treatment options; disclose those that are evidence based and sufficiently studied, and explain these as standards of practice.
 - o Less well established; explain the warnings regarding research or lack thereof, the fact that these medications are chemicals whether natural or man-made.
- Driving – physician assessment of the patient’s capacity to continue to drive, and when that should be re-evaluated. Physicians have a legal obligation to report patients with diminished capacity. If uncomfortable making this disclosure, this would be an appropriate referral to a specialist.
- Finances and Legal Issues.

Other important topics to cover during the first year include:

- Community resources for both the individual and caregivers,
- Social resources,
- Housing: home modifications, long-term care options,
- Treatment of cognitive and behavioral symptoms,
- Management of vascular risk factors,
- Lifestyle factors such as diet, exercise, sleep, alcohol, etc.

- Discussion of caregiving and of resources,
- Prognosis,
- Genetic questions (more appropriate for younger onset of dementia),
- Research options, enrollment in clinical trials (see Resources for Clinical Trials).

Five Action Steps Family Caregivers Should Take

- 1) Establish legal responsibility and create legal documents that will be helpful to you and to your loved one.
- 2) Understand the diagnostic process, symptoms, and course of memory loss and dementia.
- 3) Care for yourself; a healthy, rested caregiver is a more effective caregiver.
- 4) Join a support group.
- 5) Plan for the future. Do research and know what lies ahead to plan accordingly.

Initial Use of FDA Approved Medications for Cognitive Symptoms of Alzheimer's

After a diagnosis and disclosure of Alzheimer's disease, many patients and caregivers may be looking for therapeutic options. Cholinesterase inhibitors have been extensively studied for symptomatic effects on cognition in Alzheimer's disease. Clinical trials and studies show statistically significant improvement on MOCA scores but small benefits vs. placebo among individuals with mild through severe Alzheimer's. Overall, they may stabilize cognition or slow its progression but do not slow the progression of the underlying disease. The most common of the cholinesterase inhibitors are: donepezil (Aricept®), rivastigmine (Exelon®) available in patch form, and

galantamine (Razadyne®). These medications can be continued as long as no negative side effects occur. Different doses of cholinesterase inhibitors are available, and usual practice is to start a patient on a low dose, and titrate to a higher dose as tolerated.

Memantine (Namenda®) has been shown to have small benefits on cognition and behavior in people with moderate to severe AD, either alone or added to a cholinesterase inhibitor. Memantine did not show benefit in mild AD. Memantine does not slow progress of the underlying disease; however, it is generally well tolerated.

While there are combination pharmaceuticals available, e.g., Namzeric, which combines donepezil and memantine, monotherapy is likely as efficacious as combination therapy with fewer side effects and lower cost. It is possible to combine a cholinesterase inhibitor and memantine in patients with mild AD, but randomized clinical trials have not shown the efficacy of this combination.

There is FDA acceptable evidence that while these medications may alter several measures of dementia, many clinicians remain unsure of their benefits or impact on long term course. In addition to any benefits for function or behavior, prescribing medications can offer hope to the family at a time of great distress. Practitioners should discuss and weigh risks/side effects vs benefits with patients and caregivers, and discontinue use of these medications should side effects persist.

Adverse Effects of Cholinesterase Inhibitors (listed in order of reported frequency):

- Nausea, vomiting
- Diarrhea
- Abdominal pain
- Constipation
- Fecal incontinence
- Dyspepsia
- Weight loss
- Peripheral edema
- Agitation
- Bradycardia
- Hypotension
- Heart failure
- Anemia
- Arthralgias
- Anxiety
- Tremor
- Vertigo
- Wandering
- Gait disturbance
- Falls
- Cough
- Rash
- Pruritis
- Conjunctivitis
- Blurred vision
- Urinary tract infections
- Flu-like syndrome

Adverse effects Memantine (listed in order of reported frequency)

- Fatigue
- Pain
- Hypertension
- Dizziness
- Headache
- Constipation
- Vomiting
- Cough
- Dyspnea
- Confusion
- Somnolence
- Hallucinations
- Anxiety
- Depression
- Aggression

To date, **no nutraceutical has been found to have clinical or statistical benefit** for dementia. Souvenaid, a medical food, (eicosapentaenoic acid, docosahexaenoic acid, phospholipids, choline, uridine, vitamin E, vitamin C, selenium, vitamin B12, vitamin B6, and folic acid) showed a statistical but not clinical benefit in neuropsychiatric inventory over 24 weeks. Axona is a powdered form of a ketogenic supplement that also is available as a medical food. It did not show benefits in multicenter clinical trials vs placebo, and its use can be associated with weight loss and diarrhea. Non-pharmacologic interventions likely have an impact on AD, although this is harder to study and quantify. Similarly to the treatment of many chronic conditions, healthy diet, physical activity, and social interaction have been proven to be the most effective therapies for Alzheimer's disease and related dementias. ■

Management of Symptoms of Alzheimer's Disease and Related Dementia

Although cognitive impairment is the clinical hallmark of dementia, behavioral and psychological signs and symptoms of dementia (BPSD), which are also known as non-cognitive neuropsychiatric symptoms (NPS), are extremely common and are responsible for the majority of pain and suffering experienced by the individuals living with dementia and those who love and care for them. In addition, BPSD is a primary factor responsible for the medical and other costs associated with caring for individuals living with dementia. BPSD accounts for at least 30% percent of the cost of caring for community dwelling individuals with dementia.

Research has found that BPSD is associated with:

- 1) Reduced quality of life for patients living with dementia,
- 2) Reduced quality of life for family members and caregivers,
- 3) Early nursing home placement,
- 4) Hospital admissions,
- 5) Avoidable morbidity and mortality,
- 6) Caregiver stress and depression,
- 7) Reduced caregiver employment income.

The assessment and treatment of BPSD is not simple. BPSD is the result of the interaction of numerous possible factors that are internal and external to the individual living with dementia, including the brain disease responsible for the dementia and the environment in which the individual is living.

Recently, a number of groups and organizations have developed and published excellent algorithms, treatment guidelines and other resources to help clinicians and family members accurately diagnose and treat BPSD. The goal of this section is to succinctly summarize previously developed information with references so that the treating provider can easily obtain additional and more detailed information when necessary, and so that the provider knows when to seek consultation from a specialist in this area. Specifically, this guide contains an assessment

and treatment algorithm, a number of guidelines for assessing and treating some of the most common forms of BPSD, and a form for caregivers to use when preparing to meet with a clinician in order to obtain help with BPSD.

DICE: Describe, Investigate, Create, Evaluate.

Over the past 15 years a number of publications have included excellent **algorithms for the assessment and treatment** of BPSD and many are included as references in these guidelines. Though the depth and detail of the recommendations vary across these publications, all contain the same basic steps and concepts as the DICE algorithm, authored by Helen Kales, MD, and her colleagues at the University of Michigan: accurate description of the behaviors, systematic investigation of their cause(s), use of the safest and most precisely targeted interventions possible, and the need for periodic reassessment to determine if the interventions are working and if they are still needed.

The Alzheimer's Project Clinical Roundtable recommends the use of the DICE algorithm in the assessment and management of behavioral and psychological signs and symptoms of dementia. DICE stands for Describe, Investigate, Create, and Evaluate. The algorithm diagrams created provide the practitioner with a snapshot for consult usage. This document also contains more detailed information on the use of the treatment options, as well as references and resources.

There are many factors that may make the investigation of the etiology of BPSD and its treatment difficult. While most dementia and associated behavioral symptoms are screened, diagnosed and treated by the primary care provider, it is always advised to refer the patient to a neurologist, psychiatrist or geriatric psychiatrist if the primary care practitioner is unsure or uncomfortable with evaluation or treatment.

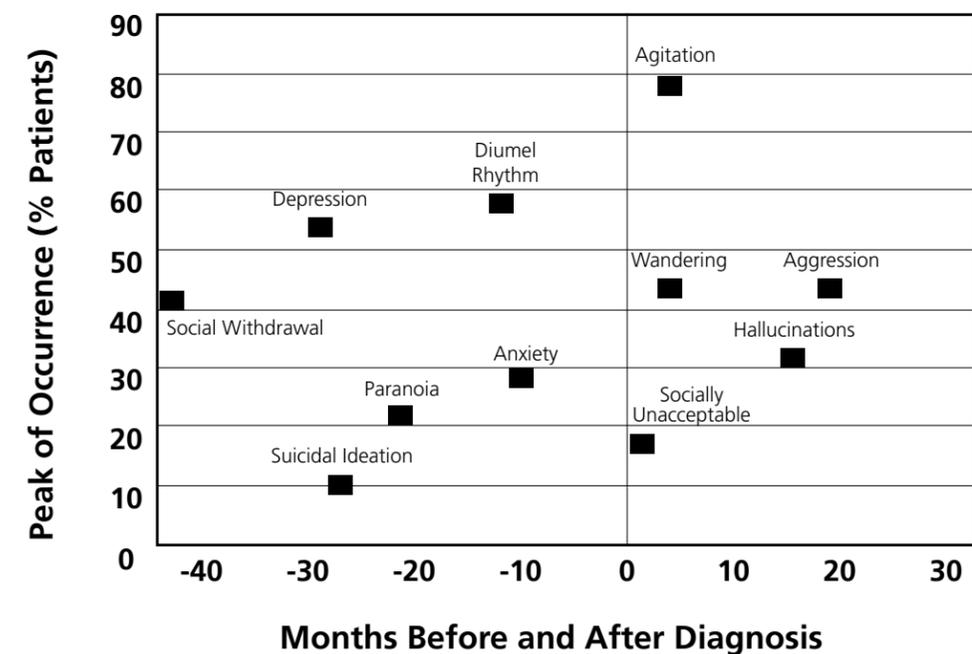
DESCRIBE

When an individual living with dementia develops behavioral symptoms, the clinician should guard against jumping to the conclusion that the symptoms are exclusively and intrinsically an expected outcome of the dementia illness. A somewhat liberal and yet compassionate and useful perspective is to view problem behavior or behaviors as a form of communication limited, perhaps, by the cognitive losses that are occurring as part of the dementia. This perspective mandates that the clinician assume the stance of a scientist or private investigator and begin to systematically collect information that will ultimately lead to an understanding of the causes and associated best remedies of the behavior(s). This is, in essence, the underlying premise of the DICE approach. Although this approach may consume more time and other resources up front, in the long run the benefits in terms of improved quality of life for all involved and decreased healthcare expenditures, will far surpass these costs.

Common Behavioral Problems:

- Food Refusal
- Restlessness
- Combativeness
- Hypersexuality
- Depression
- ADL refusal
- Medication refusal
- Agitation
- Wandering
- Sleep disturbances
- Disinhibition
- Irritability
- Psychosis
- Social withdrawal
- Anxiety
- Aggression

Disease stages and symptoms. In patients living with Alzheimer's dementia, research has demonstrated that certain symptoms are most likely to occur at certain stages of the illness. Knowing this is very helpful because if a symptom like physical aggression occurs early in the course this strongly suggests that the symptom may be related to medical illness or some other psychiatric illness other than the dementia. Below is a table of symptoms created from data collected and analyzed by Jost BC, et al.



Source: Jost BC, et al. *J Am Geriatr Soc.* 1996;44:1078-1081

INVESTIGATE

Critical to the effective management of behavioral issues or symptoms is the thorough investigation of the underlying causes of these behaviors.

Ten Key Points to Consider:

- 1) New or rapidly worsening behavioral symptoms in a patient with dementia should be considered a sign of an underlying medical illness until proven otherwise.
- 2) Assess whether a new or recurrent underlying medical factor may be involved.
- 3) Problem behaviors are often triggered by anticholinergic meds and suboptimal prescribing.
- 4) Obtain a careful history focused on any changes in the patient's medical status and medications.
- 5) There are differences between the psychotic symptoms typically seen in patients with dementia versus the psychosis seen other conditions.
- 6) The concept "psychobehavioral metaphor" may help with selecting a class of medication with the highest probability of being helpful.
- 7) In spite of the recent FDA warnings, in certain situations a risk-to-benefit analysis may still favor the use of antipsychotic medications.
- 8) There are emerging other possibly helpful strategies: prazosin (Minipress®) and dextromethorphan-quinidine (Nuedexta®).
- 9) The use of both pharmacological and behavioral strategies leads to the best results.
- 10) Remember that symptoms evolve over the stages of dementia and may decrease or disappear.

Differential Diagnosis of Behavioral Symptoms in a Patient with Dementia

Types of differential diagnosis include:

Medical: suboptimal prescribing, uncorrected sensory deficits, hypoglycemia, pain

Psychiatric: depression, anxiety, paranoia

Psychological: frustration, boredom, TV violence, loneliness, abandonment anxiety

Other: thirst, hunger, fatigue, noise, movement restriction

These can be caused by:

- Suboptimal communication between individual and caregivers,
- Toxic or inappropriate environment,
- Delirium,
- Exacerbation of pre-existing medical illness,
- Onset of new medical problem,
- Medication toxicity (e.g. polypharmacy or suboptimal prescribing),
- Drug or alcohol intoxication or withdrawal,
- Exacerbation of pre-existing psychiatric illness,
- Onset of a new psychiatric illness.

Medical illnesses are often overlooked in older patients, especially those with psychiatric diagnoses or dementia prominently highlighted in their records!

Common "Delusions" in Patients with Dementia

Delusions are a common behavioral issue among individuals with dementia. The most frequent delusions are:

- Accusations of infidelity,
- Persons or images from TV are real,
- Fear of abandonment,
- Accusations of theft of one's property,
- Claims of impersonation (spouse is imposter),

- Current residence is not one's home,
- Misidentification of familiar persons.

How to Recognize Delirium

Begin by having a high index of suspicion and then ask:

- Have there been any recent medication changes?
- Does the patient look physically ill or physically uncomfortable?
- Are the patient's vital signs reasonable?
- Are the patient's vital signs around their usual baseline?
- Are the patient's lab values reasonable?
- Has the patient's mental status changed rather suddenly or dramatically?
- Is the patient suddenly behaving in ways that have never been characteristic for the patient?
- Is the patient's level of alertness and/or attention waxing and waning?

Watch for "Stealth" Anticholinergic Medications:

All sorts of medications can cause delirium but be especially vigilant about those with anticholinergic properties.

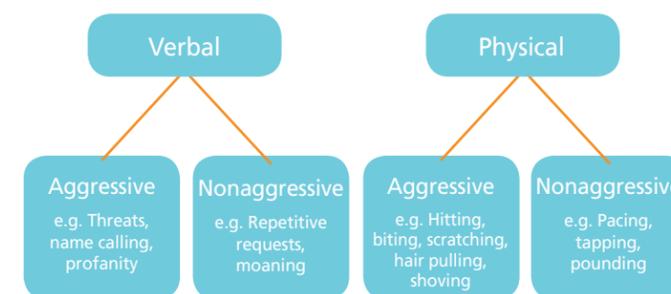
Assessment and Treatment of Depression

- Remember that an episode of major depressive disorder in older individuals may not look the same as in younger patients.
- Remember that diagnosing an episode of major depressive disorder through the veil of dementia is difficult and it may be impossible to identify all of the signs and symptoms usually required to make a definite diagnosis. For example, a patient with dementia may have such severe aphasia that they are unable to answer questions about self-esteem or anhedonia.
- Consider using the concept, psychobehavioral metaphor, first described by Pierre Tariot, when attempting to discern the most likely common psychiatric syndrome occurring in a patient who

is living with dementia. In essence, the concept invites the clinician to ask him or herself, "if I did not know that this patient had dementia, what common psychiatric syndrome or diagnosis would the signs and symptoms this patient has most resemble?" A concept closely related to the psychobehavioral metaphor which has been described by Lawlor and Bhriain (2001) has been called "BPSD clusters." These clusters include: Depression, Apathy, Aggression, Psychomotor Agitation and Psychosis.

Assessment and Treatment of Agitation

All agitation is not the same and, therefore, should not be treated the same. The algorithm provides examples of four types of agitation that have different triggers and, as a result, have different optimal treatments.



Source: Cohen-Mansfield J, Marx MS, Rosenthal AS. A description of agitation in a nursing home. *Journal of Gerontology: Medical Sciences* 1989;44(3):M77-M84.

In spite of the FDA black box warnings, antipsychotics may still be the best pharmacologic treatment option in patients with BPSD, especially in patients whose behavioral symptoms seem to be triggered by delusions or in patients who have a clear history of a psychiatric disorder that included psychotic symptoms and preceded the onset of dementia illness (e.g. a mood disorder with psychotic features or schizophrenia).

Management of Symptoms of Alzheimer's Disease and Related Dementia

Whenever possible, medication changes should occur one at a time and sufficient time should occur to evaluate the impact of the medication addition prior to another medication change being made.

Factors influencing investigation. There are many factors that may make the investigation of the etiology of BPSD, and its subsequent treatment, difficult. These factors include but are not limited to:

- The **limited time** that many healthcare systems allot for outpatient clinical appointments.
- The **extra time and resources needed** to properly examine a patient with BPSD. For example, severe constipation (obstipation) has been identified as a common trigger of BPSD and yet accurately diagnosing constipation in a patient living with dementia is more challenging for a variety of reasons.

Often the patient with BPSD is unwilling or unable to cooperate with key components of the evaluation including a digital rectal examination and extra personnel may be needed to assist with the physical examination in order to ensure patient and examiner comfort and safety.
- The **difficulty** that many patients living with dementia have in **providing clear, concise accurate** historical information.
- The **difficulty** that many caregivers, especially family caregivers who are exhausted by the demands of caregiving, have in **providing clear, concise, accurate** historical information.
- The lack of optimal training experiences of many of the clinicians who are on the frontlines in the assessment and treatment of BPSD.
- An insufficient number of well-trained experts who are prepared to diagnose and treat patients with BPSD.

The use of rating scales to assess the severity of symptoms, to provide documentation to justify the costs of care and to monitor more objectively the

impact of interventions is recommended. The rating scales recommended by Tampi et al. have been included in Appendix 4.

The importance of **searching for medical triggers** cannot be overemphasized. Published research including the work by Woo et al., have found that a significant subset of older individuals, including those who may be living with dementia, are experiencing the problem behaviors due to previously undiagnosed (and therefore untreated medical problems) or due to medical problems that have not been optimally treated.

CREATE a Care Management Plan

Disease Management: General Concepts

- Define and document target symptoms.
- Identify and optimally treat all medical conditions.
- Identify and remove triggers (e.g. pain, noise, boredom, hunger...).
- Use all possibly helpful tools.
- Depending on acuity of behavior, use behavioral interventions first.
- There is no US FDA-approved treatment for behavioral disturbance associated with dementia.
- Combine behavioral and medication interventions.
- Use the psychobehavioral metaphor (defined in the algorithm chart on page 27 and in the text on page 19) to select initial class of medication.

Behavioral and Environmental Management of BPSD

It is advised to develop behavioral intervention strategies with the family members and caregivers prior to utilization of pharmacological management. The algorithms included in this document offer a variety of treatment suggestions to caregivers. Educate and advise them of these essentials:

Create a safe, comfortable environment:

- Assess the residence for soothing colors, differentiation of surface levels, i.e., rugs, chair seats.
- Assure adequate lighting, comfortable temperature, furniture with strong arm rests and seats at a comfortable height.
- Increase or decrease the amount of stimulation.
- Turn on lights in home, or take the patient outdoors with appropriate solar protection, in late afternoon to avoid sun downing.
- Provide access to photographs, music to stimulate calming memories.

Improve suboptimal communication in order to achieve desired behavioral results. Examples of suboptimal communications include:

- Making more than one request at a time,
- Speaking too fast or with poor diction,
- Not allowing time for the person living with dementia to respond,
- Not using more than one sensory modality,
- Not maintaining eye contact,
- Not assuming a comfortable, relaxed posture,
- Not identifying and verbalizing the patient's affect,
- Not using simple, direct statements.

Redirection helps to improve communications, and helps the patient refocus in order to be calmer, cooperative, content, and safe. Physicians can refer caregivers to the Redirection Tip Sheet in the back of this book.

See *the Resources for Caregivers for additional resources.*

Care Refusal

The caregivers should be coached on dealing with difficult behaviors including the refusal of care when it is occurring. Many factors may be involved

in these situations, including anger, stubbornness, uncooperativeness, anxiety, and verbal or physical agitation or aggression. The most common forms of care which are refused are medications, eating, bathing, and clinical appointments.

Caregivers should be encouraged to:

- Communicate that the request and refusal is understood,
- Remember who the patient was previous to dementia,
- Avoid arguments,
- Focus on pleasant experiences.

Refer the caregiver to resources to assist with these behaviors. See Resource Sheet.

Pharmacologic Management of BPSD

FDA Approved use of cholinesterase inhibitors and memantine may have a role to play in the treatment of BPSD. They may also contribute to the development of BPSD. If a patient presents with BPSD and is currently taking a cognitive enhancer and/or memantine, efforts should be made to determine if there may be a temporal association between the initiation of treatment and the emergence of BPSD. If a patient with BPSD is not yet taking a cognitive enhancer or memantine, then the addition of a cognitive enhancer or memantine should occur as one of the final steps in symptom management and only after the most pressing behavioral symptoms have been successfully addressed. A cognitive enhancer or memantine should be added sequentially and only after it has been confirmed that the addition of the first medication has not caused problems. See page 24 for more information on these medications.

Psychotropic Medication Management. It is important for clinicians involved with the assessment and treatment of BPSD to remember that with only rare exceptions, most types of dementia are

Management of Symptoms of Alzheimer's Disease and Related Dementia

progressive neurocognitive illnesses which means that the underlying disease process leads to ever increasing damage to the afflicted individual's brain. This reality sometimes leads to worsening behavioral challenges but sometimes leads to improvement in problem behaviors whenever the brain tissue centrally involved in triggering the behavior is damaged and no longer able to play a causal role in the behavior's occurrence. **Once a patient with BPSD has been stable for 3-6 months, if psychotropic medication has been required to manage the behavior, it is then important to initiate a cautious, incremental reduction in psychotropic medication and monitor the patient closely.** If the problem behavior(s) does (do) not reappear after several weeks, then another reduction should occur. On the other hand, if at any point a reduction leads to the return of a problem behavior, then the patient should be returned to the dose at which the problem behavior remained in remission.

Pharmacologic Treatment: General Principles

- Use medications better tolerated by older adults (often these are renally excreted),
- Older adults often need lower dosage,
- Check the timing of medication dose against other issues, i.e., diuretics at bedtime should be avoided,
- Start low, go slow and determine lowest effective dose or,
- Start low, increase relatively swiftly and then be prepared for the need to back off in order to determine lowest effective dose,
- Withdraw after an appropriate period and observe for relapse,
- Reduce long-term use of opioid medications,
- Behavioral symptoms vary according to stage of illness and may remit as the illness progresses,
- Refer to the PDR or comparable reference for information on introducing/titrating medication.

Categories of Medications Which May be Helpful:

- Alpha adrenergic blockers
- Antipsychotics
- Antidepressants
- Anxiolytics
- Beta blockers
- Cholinesterase inhibitors
- Dextromethorphan-quinidine
- Hormones
- Memantine
- Mood stabilizers
- Pain medications especially routine acetaminophen

Benzodiazepines

Benzodiazepine is rarely helpful for older patients and should generally be used in a time-limited manner for situational symptoms; it may be helpful for acute agitation. Look for short-acting, renally excreted meds with intermediate half-life and/or rapidly disintegrating formulation. The preferred medications are:

- Lorazepam (Ativan®)
- Oxazepam (Serax®)

Trazodone (Desyrel®) – there is no good data for the use of this medication based on Cochran Reports. Practitioners have found this medication may treat both acute agitation and prevent further episodes, and may be a good choice for insomnia. Dose range is 25–100mg; complete response may take two to four weeks. Sedation is common, and priapism is very rare in older adults.

Prazosin (Minipress®)

The noradrenergic system is the brain "adrenalin" system for attention and arousal. Excessive noradrenergic reactivity produces anxiety and agitation, and contributes to agitation in AD. Prazosin is an alpha-1 receptor antagonist, and crosses the blood/brain barrier. It is non-sedating, does not cause

parkinsonism but may reduce BP. It is shown to have long-lasting benefits in PTSD. In AD, dosing is between one and six mg per day.

Dextromethorphan/quinidine

Dextromethorphan hydrobromide and quinidine sulfate (Nuedexta®) is approved for pseudobulbar affect (PBA) in the US and European Union. Dextromethorphan is most well-known as a cough suppressant. Its qualities include:

- a low low-affinity, uncompetitive NMDA receptor antagonist
- $\sigma 1$ (sigma 1) receptor agonist
- Serotonin and norepinephrine reuptake inhibitor
- Neuronal nicotinic $\alpha 3 \beta 4$ receptor antagonist

Quinidine is a Class 1 antiarrhythmic. When combined with dextromethorphan, quinidine works by increasing the amount of dextromethorphan in the body.

Dosing in PBA:

- Combination of dextromethorphan (20 mg) & quinidine (10 mg) comes as a capsule to be taken orally with or without food
- Starting dosage: 1x day for 7 days, then every 12 hours
- More than two doses should not be taking in a 24-hour period; medication should be taken around the same times each day
- Drug-Drug interactions: desipramine (levels increase 8-fold), paroxetine (2-fold increase), MAOIs and memantine

Avoiding Suboptimal Prescribing and Polypharmacy

For any indication, use the medicine most appropriate for an older patient and avoid:

- Polypharmacy (too many medications) and the prescribing cascade,
- Prescribing a medication from an essential category of medication that is not senior friendly,

- Prescribing a dose of an essential medication that is larger than needed,
- Prescribing a medication to be taken at a time of day that is not optimal (e.g. diuretics at bedtime),
- Not prescribing a needed medication (e.g. a pain medication),
- Long-term use of opiate pain medication in patients other than those with terminal cancer.

The Beers Criteria List

One of the two most widely used consensus criteria for safe medication use in older adults (the other is the Canadian criteria)

- PIMs = potentially inappropriate medications
- Composed of 53 medications or medication classes divided into 3 categories:
 - 1) PIMs and classes to avoid in older adults
 - 2) PIMs and classes to avoid in older adults with certain diseases that the drugs can exacerbate
 - 3) Medications to be used with caution in older adults (new)

These criteria included designations of the quality and strength of the evidence

- Quality of evidence is designated as high, moderate or low,
- Strength of the recommendation is designated as strong, weak or insufficient,
- Medications are organized according to organ system or therapeutic category or drug,
- The criteria also included rationale and recommendations,
- The 2015 update is not as extensive as the 2012 update, but has 2 additions:
 - o Drugs for which dose adjustment is required based on renal function,
 - o Drug-drug interactions information.



Antipsychotic Medications

Drug	Dose
Aripiprazole (Abilify)	4 forms including tablets (2, 5, 10, 15, 20, 30 mg), DiscMelt (10 and 15 mg), liquid and IM
Asenapine (Saphris)	2.5 mg & 5 mg sublingual; q12 hours
Cariprazine (Vraylar)	Capsules (1.5, 3, 4.5 and 6 mg)
Clozapine (Clozaril)	Refer to psychiatrist
Iloperidone (Fanapt)	Tablets (1, 2, 4, 6 mg); q 12 hours
Lurasidone (Latuda)	Tablets (20, 40, 60, 80 mg)
Olanzapine (Zyprexa)	4 forms including tablets (2.5, 5, 7.5, 10, 15, 20 mg) Zydis (5, 10, 15, 20 mg), IM, IM ER
Paliperidone (Invega)	Tablets (1.5, 3, 6 and 9 mg) Max = 12 mg, Renal = 3 mg
Pimavanserin (Nuplazid)	Tablet 17 mg (FDA for Parkinson’s disease psychosis)
Quetiapine (Seroquel)	Tabs (25, 50, 100, 200 mg) q 12 hours; Extended release tabs (50, 150, 200, 300, 400 mg)
Risperidone (Risperdal)	4 forms including tablets and M-Tabs (0.25, 0.5, 1, 2, 3, 4 mg), liquid, Risperdal Consta (q 2 weeks)

Antidepressant Medications

Drug	Dose
Citalopram	10, 20 and 40 mg tabs (20 and 40s are scored). Starting dose is 10 mg. Max dose = 40 mg. Doses above 40 mg not recommended due to QTc prolongation.
Escitalopram	5, 10 and 20 mg (10 and 20s are scored). Starting dose is 5 mg. Max dose = 20.
Sertraline	25, 50 100 tabs plus oral solution. Starting dose = 25 mg. Max dose = 200 mg.
Duloxetine	20, 30, 60 mg tabs. Starting dose 20 mg. Max dose = 60 mg.

NOTE:

- 1) These are generally considered the best choices for older adults but other factors like previous treatment history or family history may influence your choice.
- 2) If you prescribed any two antidepressant medications for a particular patient without success, then a referral to a psychiatrist is recommended.

Mood Stabilizing Medications

Drug	Dose
Divalproex	Sprinkles 125; , DR 125, 250 500 mg; ER 250 and 500 mg. Oral solution: 250 mg/5 ml. Starting dose = 125 to 250 mg. Dose is determined by clinical response and blood level of total valproic acid (50 to 100 µg/ml). When converting to ER, increase dose by 20%.
Lithium	Tablets, capsules, oral solution; and ER. 300 mg tabs. ER comes in 300 and 450s. Solution: 8 mEq/5 ml. Recommended trough serum range is 0.4 to 0.8 mmol/L. Starting dose = 300 mg.
Gabapentin	Capsules 150, 300, 400 mg; Tablets 600 and 800; liquid. Starting dose 150 to 300 mg; Max dose = 3600 mg in a divided dose.
Pregabalin	Caps: 25 mg, 50 mg, 75 mg, 100 mg, 150 mg, 200 mg, 225 mg, and 300 mg. Oral Solution: 20 mg/mL.

The risks of the interventions provided and the speed of their implementation should be in direct proportion to the pain and dangerousness of the behaviors. Sometimes, the use of less precise medication interventions is needed initially in order to facilitate the investigation for underlying causes. There are a number of practice patterns, regulations and policy issues to consider in the creation of a care plan.

Many insurance plans do not yet pay for services that would often help reduce the frequency and intensity of BPSD. For example, adult day healthcare programs that specialize in the care of patients living with dementia are often not affordable for many individuals living with dementia in spite of their proven benefits. These benefits include increasing the quality of life of individuals living with dementia, reducing rates of illness and burn out in family caregivers, reducing the rates of BPSD by providing meaningful and enjoyable activities for patients and the delaying or even prevention of placement in residential care, which is the most expensive method of caring for those living with dementia illnesses.

The emphasis on keeping the duration of hospitalizations as brief as possible which may sometimes tempt clinicians to make too any changes

in care at the same time, in some instances, makes it difficult to know precisely which intervention was responsible for improvement or, possibly, in worsening of the behaviors. This emphasis may also tempt prescribers to place patients on doses of medication larger than truly needed in order to reduce problem behaviors sufficiently to permit a patient to be discharged to a lower and less expensive level of care.

There is a lack of appropriate healthcare facilities that are designed to care for older patients who have concurrent medical and psychiatric problems that needs to be assessed and treated in tandem. For example, most inpatient psychiatric units are not able to care for patients who may require intravenous therapy, and most medical and surgical inpatient units are not designed to handle disruptive behaviors and so often must resort to cautious and judicious use of physical restraint that often becomes itself a trigger for problem behaviors.

There is a shortage of specialist trained clinicians.

Given the huge mismatch between the projected number of individuals who will be afflicted with dementia and the number of clinicians who have completed specialized training programs to prepare them to efficiently and safely diagnose and treat BPSD,

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most of this work will be undertaken by clinicians who will need resources like this manuscript in order to provide the care that these patients need.

In general, if the application of the information in this document does not result in acceptable clinical outcomes, then consider making a referral to a board-certified geriatric psychiatrist. The names and contact information for these colleagues is included on the website www.ChampionsForHealth.org/Alzheimers.

EVALUATE (Re-Evaluate)

It is important to review whether the interventions employed and implemented by caregivers have been safe and effective. Evaluation should be done within two to three weeks, and modifications made as needed. The practitioners should continue to look for possible underlying causes of behavioral factors. If the patient is stable for three to six months on psychotropic medication, initiate a cautious incremental reduction, and monitor the patient closely. If symptoms reappear after the dose reduction, then restore the dose to the level at which no symptoms were observed and wait another 3-6 months before re-attempting a dose reduction. If symptoms do not re-emerge after about 4 weeks, then make another reduction. If a variety of interventions are not effective, or if the patient or caregiver is in danger, consider referral to a geriatric neurologist or psychiatrist.

See information on prior pages regarding medication management for patients living with advanced AD.

DICE APPROACH TO BEHAVIORAL AND PSYCHOLOGICAL SIGNS AND SYMPTOMS OF DEMENTIA

DESCRIBE

Caregiver describes behavioral factors:

- Social & physical environment
- Patient perspective
- Degree of distress to patient and caregiver

Look for:

- Antecedents
- Context
- Patterns
- Co-occurring events

INVESTIGATE (ASSESS)

Investigate possible causes of behavior:

- Medication side effects
- Pain
- Functional limitations
- Medical conditions
- Psychiatric comorbidity
- Severity of cog impairment
- Degree of executive dysfunction
- Poor sleep
- Sensory changes
- Emotional triggers: ie.,fear, abandonment
- Lack of physical activity
- Suboptimal exposure to bright light

CREATE (TREATMENT)

Provider, caregivers, clinical team collaborate to create and implement a treatment plan

Address physical problems and medical issues first

Employ behavioral interventions

- Provide caregiver interventions
- Enhance communication
- Create meaningful activities
- Simplify tasks

Ensure that the environment is safe

Increase or decrease the amount of stimulation in the environment
If behavioral interventions not effective/partially effective, employ pharmacological management, selecting a class of psychotropic medication based on psychobehavioral “Assume/Assess/Align” model, as below

ASSUME patient does not have dementia

ASSESS psychiatric signs and symptoms

ALIGN symptoms to best fit psychiatric syndrome eg., major depression, paranoid psychosis, mania, etc.

EVALUATE (AND RE-EVALUATE)

Evaluate whether “CREATE” interventions implemented by caregiver(s) have been safe/effective

- Make modifications as needed and continue to look for possible underlying causes
- Re-evaluate periodically
- If intervention not effective or if patient or caregiver are in danger, consider referring to neurologist or psychiatrist

DICE APPROACH FOR BEHAVIORAL AND PHARMACOLOGIC TREATMENT OF DEPRESSION

DESCRIBE

Symptoms overlap with behavioral symptoms of dementia. Depressed mood may not be evident in older patients with major depression. Consider the following in older patients: anxiety, insomnia, anorexia, irritability, anger/hostility, insecurity, paranoia, etc.

Presenting symptoms: Depressed mood, tearfulness, anxiety, anhedonia, anorexia, weight loss, insomnia, hypersomnia, irritability, pessimism, suicidal ideation, somatic preoccupation, decreased concentration, psychomotor slowing, social isolation, psychosis.

INVESTIGATE (ASSESS)

- **Evaluate** underlying medical causes including medication side effects; work-up significant cognitive impairment/dementia.
- **Do not assume** cognitive impairment is solely due to depression.
- **Evaluate for the following:** social/family support, past psychiatric and substance abuse history, family mental health history.

CREATE (TREATMENT)

Educate - patient and family; provide psychosocial interventions to support both patient and caregivers.

Psychiatric consultation - consider in context of severe depression, failure to thrive, psychosis, suicidal ideation, history of major psychiatric illness (eg. bipolar disorder, schizophrenia, past suicidal attempts, severe agitation, etc.)

Medication - Antidepressant medication should be started at low dose and increased slowly. Preferred antidepressant in older adults include sertraline, citalopram, escitalopram

EVALUATE (AND RE-EVALUATE)

- Gather information** - from caregivers and patient; use rating scales to track response to treatment.
- Medication response** - Evaluate for side effects of medication within 2 weeks and efficacy within 3-4 weeks.
- Evaluate for consultation** - Worsening symptoms or adverse effects of treatment (worsening cognitive symptoms, increased agitation, worsening insomnia, new suicidal ideation, etc.) should lead to psychiatric consultation.

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DICE APPROACH FOR BEHAVIORAL AND PHARMACOLOGIC TREATMENT OF AGITATION & AGGRESSION

DESCRIBE

- Verbal Agitation**
- Aggressive vs Non-Aggressive

Physical Agitation

- Aggressive vs Non-Aggressive

INVESTIGATE (ASSESS)

Agitation Type

Verbal Non-aggressive

Verbal Aggressive

Physical Non-Aggressive

Physical Aggressive

Exhibits As

Loud Screaming or Moaning, Requests for Help

Threats, Name Calling

Pacing, Repetitive Pounding

Hitting/Kicking/Pushing

Potential Underlying Cause

Depression, Anxiety, Boredom

Paranoia

Disinhibition, Boredom, Need for Attention, Companionship

Pain disorder or physical discomfort associated with movement, or constipation

CREATE (TREATMENT)

Address physical problems and/or utilize behavioral modifications. For behavioral specific resources: www.alz.org/care

The 36 Hour Day by Nancy L. Mace & Peter V. Rabins

Ensure environment is safe with appropriate stimulation

If treatment of physical problems and/or behavioral modifications do not control behaviors consider pharmacologic treatment — Examples:

- Irritability/depression - antidepressant
- Fear/paranoia - antipsychotic
- Disinhibition/embarrassment - mood stabilizer
- Movement/pain - analgesic

EVALUATE (AND RE-EVALUATE)

- *If patient stable 3-6 months, and psychotropic medication has been required, initiate a cautious incremental reduction and monitor patient closely
- If symptoms are not fully resolved, look for other underlying causes
- If intervention not effective or if patient or caregiver are in danger, consider referring to neurologist or psychiatrist

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DICE APPROACH FOR ASSESSMENT AND TREATMENT OF SLEEP PROBLEMS

DESCRIBE	<p>Sundowning Daytime Sleeping Sleep Fragmentation</p> <p>Initial Insomnia Middle Insomnia</p>
INVESTIGATE (ASSESS)	<p>Pain Osteoarthritis Sleep Apnea or Orthopnea</p> <p>Boredom Poor Sleep Hygiene Suboptimal Prescribing</p>
CREATE (TREATMENT)	<p>Educate on good sleep hygiene practices</p> <p>Correct any potential medical problems</p> <p>If strict application of sleep hygiene practices and successful treatment of all medical co-morbidities has not resolved the insomnia problem, consider insomnia as potential symptoms of a psychiatric disorder and apply the psychobehavioral metaphor. If insomnia appears to be related to temporary/situational factors, consider use of very low dose FDA approved medication for insomnia.*</p>
EVALUATE (AND RE-EVALUATE)	<p>*If patient stable 3-6 months, and psychotropic medication has been required, initiate a cautious incremental reduction and monitor patient closely</p> <ul style="list-style-type: none"> • If symptoms are not fully resolved, look for other underlying causes • If intervention not effective or if patient or caregiver are in danger, consider referring to geriatric neurologist or psychiatrist

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DICE APPROACH FOR WANDERING

DESCRIBE	<p>Wandering May occur in indoor residential or commercial environments as well as outdoor areas with or without secured perimeter</p>
INVESTIGATE (ASSESS)	<p>Look for patterns, time of day/Sundowning</p> <p>Common triggers include:</p> <ul style="list-style-type: none"> • Boredom • Lack of physical activity • Searching for familiar/home • Dietary factors: sugar/caffeine • Medical factors: pain/constipation • Psychiatric issues: anxiety/mania
CREATE (TREATMENT)	<p>EMPLOY APPROPRIATE BEHAVIORAL AND SAFETY STRATEGIES. IF BEHAVIORAL INTERVENTIONS DO NOT RESOLVE BEHAVIORS: MEDICATION MAY BE NEEDED</p> <p>Mania - may need pharmacologic treatment: anti psychotics or mood stabilizers*</p>
EVALUATE (AND RE-EVALUATE)	<p>If wandering persists, look for other underlying causes</p> <ul style="list-style-type: none"> • *If patient stable 3-6 months, and psychotropic medication has been required, initiate a cautious incremental reduction and monitor patient closely • If intervention not effective or if patient or caregiver are in danger, consider referring to neurologist or psychiatrist

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End of Life Planning and Care

Alzheimer's Disease is a chronic, progressive, ultimately terminal illness. The time course is generally around 6-10 years from diagnosis to death, but can vary from 3-20 years. Of course, patients may die of other causes or comorbid illnesses during the progression of their dementia. Common causes of death directly related to Alzheimer's disease are aspiration pneumonia and hypovolemic shock related to cessation of eating and drinking. Alzheimer's patients may also develop and die from other infections, including UTIs, community- or facility-acquired pneumonias, and infected pressure ulcers. They may also suffer strokes, myocardial infarction, arrhythmias, pulmonary emboli, and other common geriatric conditions.

Advance care planning is very important for patients with Alzheimer's, and should be undertaken as early as possible after diagnosis—although it is prudent not to bring up that topic simultaneously with sharing the initial diagnosis. Patients who have already formulated advance health care directives (AHCDs) may want to update them, and those who have not completed an AHCD—and who still have decision-making capacity, as with most patients with early Alzheimer's—should be strongly encouraged to execute such a document immediately. While POLST forms are generally recommended for those in the last year or two of life, patients with early dementia who definitely do not want aggressive interventions like CPR, intubation, defibrillation or enteral feeding tubes may wish to complete these, and their physicians should assist in this process.

It is important to note that CPR is rarely successful in the frail elderly, and that there is good evidence that feeding tubes are an inappropriate intervention in advanced dementia patients. In spite of that, the 2016 Dartmouth Atlas reported that in San Diego County, we are worse than the national average with respect to placing these tubes inappropriately. References to studies can be found via the Choosing Wisely website (AMDA, AAHPM and AGS items at

<http://www.choosingwisely.org/?s=feeding+tube>), and a useful patient education pamphlet is available in multiple languages through the Coalition for Compassionate Care of California (<http://coalitionccc.org/tools-resources/decision-guides/>). In addition to the risks of aspiration pneumonia and complications directly related to the tube (such as intra-abdominal abscesses), feeding tubes are associated with higher rates of delirium and pressure ulcers, and have not been demonstrated to prolong life.

It is worth discussing tube feeding early on and actively discouraging consideration of a feeding tube in an advanced Alzheimer's patient—despite family concerns about “starvation” and the tendency to associate “food” (nutrition) with nurturing and love. Like all advance care planning discussions, these conversations can be deferred to palliative care specialists, but are meaningful and usually well accepted and appreciated when undertaken by the primary care physician who knows the patient and family best. Thickened liquids and pureed diets, while frequently ordered when dysphagia develops in dementia patient, may not always be appropriate as far as quality of life—risk of aspiration notwithstanding. Consider a palliative medicine referral if there are concerns about these issues.

Another important point to educate patients and families on is the notion of dying from dehydration. At the end of life, patients with dementia and most other illnesses lose interest in food and fluids. It is part of a natural dying process, and dying from dehydration—while it has an unpleasant reputation in the public eye—is actually one of the more benign ways to die. In fact, often no medication for symptom relief (such as opioids or benzodiazepines) is necessary; simple measures like moistening the inside of the mouth often suffice. Once all intake ceases, patients generally die in 7-14 days; these patients are usually on hospice. Reassuring patients and families that this process is natural and appears to be painless can be very helpful and appreciated.

Poor prognostic indicators for Alzheimer's patients—and a time that may signal appropriateness for a hospice referral—include significant weight loss (e.g., 10% in 6 months), significant (stage 3-4) pressure ulcer development, dysphagia, recurrent upper UTIs or lower respiratory tract infections, marked functional decline (e.g., becoming bedbound), and becoming nonverbal. But hospice can be consulted early; if hospice feels that the patient has more than a six-month life expectancy, they may defer admission but still provide some palliative care guidance.

Finally, the geriatric mantra of de-prescribing should be initiated early and continued diligently. There is little reason for a patient with moderate or severe dementia to be on a statin drug. Anticholinergics (including common drugs for overactive bladder) promote delirium. Sedatives and antidepressants increase the risk of falls. Running a seated blood pressure of 160/90 is probably safer than 110/60.

Consider stopping all non-essential drugs, especially those that require many years to show benefit. Antipsychotics are dangerous and should be used as a last resort for extreme behavioral or psychotic symptoms (such as frightening hallucinations). Benzodiazepines tend to disinhibit behavior, sometimes exaggerating rather than alleviating anxiety or agitation. They should be avoided whenever possible. As to cholinesterase inhibitors and memantine, they have their own side effects (especially nausea, anorexia and bradycardia for the cholinesterase inhibitors) and are certainly not hugely effective in treating dementia in most patients. Side effects in patients with advanced AD becomes severe, and when the patient is already institutionalized, strong consideration should be given to discontinuing these drugs.

BILLING FOR SERVICES

Annual Wellness Visit

When you furnish a significant, separately identifiable, medically necessary Evaluation and Management (E/M) service along with the AWV, Medicare may pay for the additional service. Report the additional Current Procedural Terminology (CPT) code with modifier -25. That portion of the visit must be medically necessary to treat the beneficiary's illness or injury, or to improve the functioning of a malformed body member.

Cognitive Examination

Medicare has established a new code in 2018 for services aimed at improving detection, diagnosis, and care planning and coordination for patients with Alzheimer's disease and related dementias. CPT code 99483, which supersedes the older code G0505, provides reimbursement to physicians and other eligible billing practitioners for a comprehensive clinical visit that results in a written care plan. Code 99483 requires an independent historian; a multidimensional assessment that includes cognition, function, and safety; evaluation of neuropsychiatric and behavioral symptoms; review and reconciliation of medications; and assessment of the needs of the patient's caregiver. Eligible practitioners must provide documentation that supports a moderate-to-high level of complexity in medical decision making, as defined by E/M guidelines (with application as appropriate of the usual “incident-to” rules, consistent with other E/M services) The provider must also document the detailed care plan developed as a result of each required element covered by 99483. Typically, 50 minutes are spent face-to-face with the patient and/or family or caregiver.

The nine assessment elements of 99483 can be evaluated within the care planning visit or in one or more visits that precede it, using appropriate billing codes (most often an E/M code). Patients with complex medical, behavioral, psychosocial and/or caregiving needs may require a series of assessment visits, while those with well-defined or less complex problems may

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be fully assessed during the care plan visit. Results of assessments conducted prior to the care plan visit are allowed in care planning documentation provided they remain valid or are updated with any changes at the time of care planning. A single physician or other qualified health care professional should not report 99483 more than once every 180 days. (See the CPT 2018 manual for full details.)

Advance Care Planning

CPT 99497: Advance care planning including the explanation and discussion of advance directives such as standard forms (with completion of such forms, when performed), by the physician or other qualified health care professional; first 30 minutes, face-to-face with the patient, family member(s), and/or surrogate.

CPT 99498: Advance care planning including the explanation and discussion of advance directives such as standard forms (with completion of such forms, when performed), by the physician or other qualified health care professional; each additional 30 minutes (List separately in addition to code for primary procedure)

You must report a diagnosis code when submitting a claim for ACP as an optional element of an AWW. Since you are not required to document a specific diagnosis code for ACP as an optional element of an AWW, you may choose any diagnosis code consistent with a beneficiary's exam.

Medicare waives both the coinsurance and the Medicare Part B deductible for ACP when it is:

- Provided on the same day as the covered AWW,
- Furnished by the same provider as the covered AWW,
- Billed with modifier -33 (Preventive Service),
- Billed on the same claim as the AWW.

The deductible and coinsurance for ACP are waived only once per year, when it is billed with the AWW. If the AWW billed with ACP is denied for exceeding the once per year limit, the deductible and coinsurance will be applied to the ACP.

NOTE: The deductible and coinsurance apply when ACP is provided outside the covered AWW. ■

Resources and References Information

The Clinical Roundtable, along with The County of San Diego Aging and Independence Services Agency, has created a listing of resources which practitioners may provide patients and their caregivers. (See back page, freely copy)

Continuing Medical Education

Primary Care practitioners can take advantage of ongoing professional education on-demand webinars. The courses, provided in partnership with The Doctors Company, are available free of charge and are approved for AMA PRA Category 1 Credits™. The courses are meant to act as training tools, that can be taken at your own convenience in approximately 15-minute segments. You are encouraged to revisit as needed.

Mobile Application for Screening, Diagnosis and Management

The algorithms and instruments included in these guidelines are also available on a mobile application, AlzDxRx, available for free in San Diego for both iOS and Android phones. The app assists physicians to walk through screening and evaluation of patients with cognitive decline while maintaining eye-to-eye contact. Access scoring instruments: MiniCog, AD8, PHQ-9, QDRS, IQCODE, MOCA and SLUMS. Patient identified scores can be emailed for ease in adding to EHR.



Some useful general informational resources include:

Alzheimer's Association <http://alz.org>

Alzheimer's San Diego <http://alzsd.org>

Alzheimer's Disease Education and Referral (ADEAR) <https://www.nia.nih.gov/alzheimers>

Alzheimer's Drug Discovery Foundation (ADDF) information about risk factors. <https://www.alzdiscovery.org>

California Alzheimer's Disease Centers, California Department of Public Health. Assessment of Cognitive Complaints Toolkit. <http://www.fresno.ucsf.edu/wp-content/uploads/2018/09/ACCT-AD-Toolkit.pdf>

Gerontological Society of America, KAER Toolkit: 4-Step Process to Detecting Cognitive Impairment and Earlier Diagnosis of Dementia. <https://www.geron.org/programs-services/alliances-and-multi-stakeholder-collaborations/cognitive-impairment-detection-and-earlier-diagnosis>

American Academy of Neurology <https://aan.com>

Clinical trials:

Clinicaltrials.gov

<https://clinicaltrials.gov/ct2/results?cond=%22Alzheimer+Disease%22>

Alzheimer Association Trial finder

http://www.alz.org/research/clinical_trials/find_clinical_trials_trialmatch.asp

For non-AD disorders:

Lewy Body Dementia Association <http://www.LBDA.org>

Association for Frontotemporal Degeneration (AFTD) <http://www.theaftd.org>

Screening & Evaluation Instruments

AD8: https://www.alz.org/documents_custom/ad8.pdf

Mini-Cog: http://www.alz.org/documents_custom/minicog.pdf

MOCA In English and other languages: <http://www.MOCAtest.org>

PHQ-9 in English and other languages: <https://www.communitycarenc.org/provider-tools/conditions/depression/f>

SLUMS Examination in English and other languages: <http://www.elderguru.com/slums-dementia-test-available-in-various-languages/>

Screening in Chinese population http://sgec.stanford.edu/content/dam/sm/sgec/documents/video/2009-2010_Webinars/2010-01-web.pdf

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Instruments 1: Screening Instruments

Mini-Cog™

Instructions for Administration & Scoring

ID: _____ Date: _____

Step 1: Three Word Registration

Look directly at person and say, "Please listen carefully. I am going to say three words that I want you to repeat back to me now and try to remember. The words are [select a list of words from the versions below]. Please say them for me now." If the person is unable to repeat the words after three attempts, move on to Step 2 (clock drawing).

The following and other word lists have been used in one or more clinical studies.¹⁻³ For repeated administrations, use of an alternative word list is recommended.

Version 1	Version 2	Version 3	Version 4	Version 5	Version 6
Banana	Leader	Village	River	Captain	Daughter
Sunrise	Season	Kitchen	Nation	Garden	Heaven
Chair	Table	Baby	Finger	Picture	Mountain

Step 2: Clock Drawing

Say: "Next, I want you to draw a clock for me. First, put in all of the numbers where they go." When that is completed, say: "Now, set the hands to 10 past 11."

Use preprinted circle (see next page) for this exercise. Repeat instructions as needed as this is not a memory test. Move to Step 3 if the clock is not complete within three minutes.

Step 3: Three Word Recall

Ask the person to recall the three words you stated in Step 1. Say: "What were the three words I asked you to remember?" Record the word list version number and the person's answers below.

Word List Version: _____ Person's Answers: _____

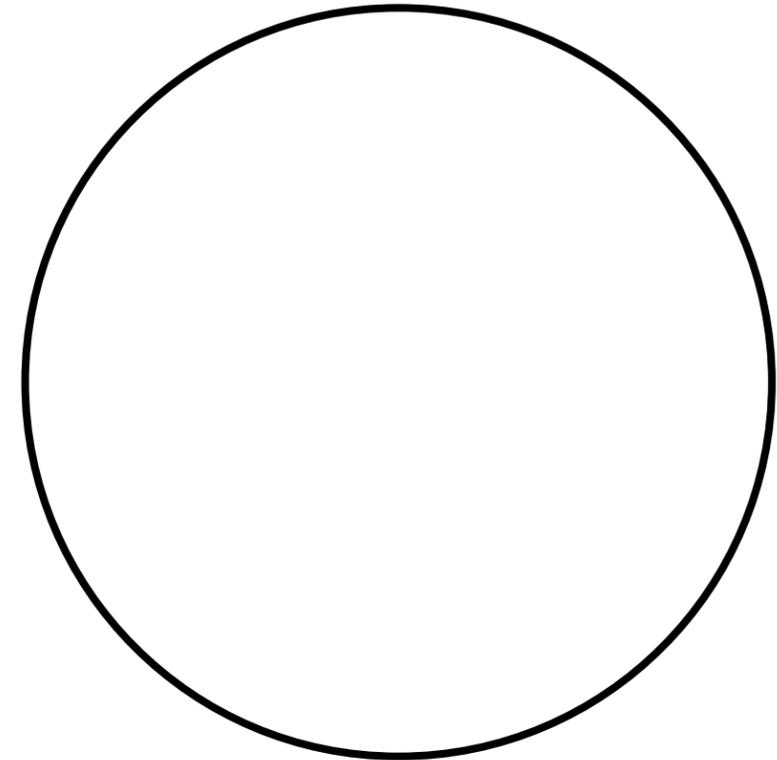
Scoring

Word Recall: _____ (0-3 points)	1 point for each word spontaneously recalled without cueing.
Clock Draw: _____ (0 or 2 points)	Normal clock = 2 points. A normal clock has all numbers placed in the correct sequence and approximately correct position (e.g., 12, 3, 6 and 9 are in anchor positions) with no missing or duplicate numbers. Hands are pointing to the 11 and 2 (11:10). Hand length is not scored. Inability or refusal to draw a clock (abnormal) = 0 points.
Total Score: _____ (0-5 points)	Total score = Word Recall score + Clock Draw score. A cut point of <3 on the Mini-Cog™ has been validated for dementia screening, but many individuals with clinically meaningful cognitive impairment will score higher. When greater sensitivity is desired, a cut point of <4 is recommended as it may indicate a need for further evaluation of cognitive status.

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Clock Drawing

ID: _____ Date: _____



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MINI-COG™ -Spanish

1) OBTENGA LA ATENCIÓN DEL PARTICIPANTE, Y DIGA:

“Le voy a decir tres palabras que quiero que usted recuerde ahora y más tarde. Las palabras son

Manzana Amanecer Silla

Por favor, dígamelas ahora.”

Intento 1 _____

Intento 2
(administre sólo si las 3 palabras no fueron repetidas en el Intento 1. Diga “Las palabras son **Manzana, Amanecer, Silla. Por favor, dígamelas ahora**”)

Intento 3
(administre sólo si las 3 palabras no fueron repetidas en el Intento 2. Diga “Las palabras son **Manzana, Amanecer, Silla. Por favor, dígamelas ahora**”)

(Indique con una marca de verificación [✓] cada palabra que es repetida correctamente. Dese 3 intentos para repetir las palabras al participante. Si es incapaz de repetir las palabras después de 3 intentos, continúe con el siguiente ítem.)

2) Dele al participante la Página 2 de este formulario y un lápiz/lapicero. DIGA LAS SIGUIENTES FRASES EN EL ORDEN CORESPONDIENTE: “Por favor, dibuje un reloj en este espacio. Comience dibujando un círculo grande.” (Cuando esto haya sido completado, diga) “Coloque todos los números en el círculo.” (Cuando esto haya sido completado, diga) “Ahora coloque las manecillas del reloj para que marquen las 11 y 10.” Si el participante no ha terminado de dibujar el reloj en 3 minutos, suspenda este ítem y pídale al participante que le diga las tres palabras que le pidió que recordara antes.

3) DIGA: “¿Cuáles fueron las tres palabras que le pedí que recordara?”

_____ (Puntúe 1 por cada una) Puntaje de las Palabras

Puntúe el reloj (según el formulario de Puntaje del Reloj):
Reloj Normal 2 puntos Puntaje del Reloj
Reloj Alterado 0 puntos

Puntaje Total = Puntaje de Palabras más Puntaje del Reloj 0, 1, o 2 posible trastorno cognitivo; 3, 4, o 5 indica que no hay trastorno cognitivo

Mini-Cog™, Derecho de autor S Borson. Permitido para uso educacional en el "AFA National Memory Screening Day" en el año 2012. No se puede modificar o usar para otro propósito sin permiso del autor (soob@uw.edu). Todos los derechos están reservados.

PUNTAJE DEL DIBUJO DEL RELOJ

RELOJ NORMAL



UN RELOJ NORMAL CONTIENE TODOS LOS SIGUIENTES ELEMENTOS:
Todos los números 1-12, cada uno solo una vez, están presentes en el orden y dirección correctas dentro del círculo. Dos manecillas están presentes, una apuntando al 11 y la otra al 2.

CUALQUIER RELOJ AL QUE LE FALTE ALGUNO DE ESTOS ELEMENTOS SE CONSIDERA ANORMAL. SI EL PARTICIPANTE SE REÚSA A DIBUJAR EL RELOJ, ENTONCES ÉSTE SE CONSIDERA ANORMAL.

ALGUNOS EJEMPLOS DE RELOJES ANORMALES (EXISTEN MUCHAS OTRAS CLASES)



Agujas Incorrectas



Faltan algunos números

AD8 Dementia Screening Interview

Patient ID#: _____

CS ID#: _____

Date: _____

Remember, “Yes, a change” indicates that there has been a change in the last several years caused by cognitive (thinking and memory) problems.	YES, A change	NO, No change	N/A, Don't know
1. Problems with judgment (e.g., problems making decisions, bad financial decisions, problems with thinking)			
2. Less interest in hobbies/activities			
3. Repeats the same things over and over (questions, stories, or statements)			
4. Trouble learning how to use a tool, appliance, or gadget (e.g., VCR, computer, microwave, remote control)			
5. Forgets correct month or year			
6. Trouble handling complicated financial affairs (e.g., balancing checkbook, income taxes, paying bills)			
7. Trouble remembering appointments			
8. Daily problems with thinking and/or memory			
TOTAL AD8 SCORE			

Adapted from Galvin JE et al, The AD8, a brief informant interview to detect dementia, Neurology 2005;65:559-564
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The AD8 Administration and Scoring Guidelines

A spontaneous self-correction is allowed for all responses without counting as an error.

The questions are given to the respondent on a clipboard for self-administration or can be read aloud to the respondent either in person or over the phone. It is preferable to administer the AD8 to an informant, if available. If an informant is not available, the AD8 may be administered to the patient.

When administered to an informant, specifically ask the respondent to rate change in the patient.

When administered to the patient, specifically ask the patient to rate changes in his/her ability for each of the items, **without** attributing causality.

If read aloud to the respondent, it is important for the clinician to carefully read the phrase as worded and give emphasis to note changes due to cognitive problems (not physical problems). There should be a one second delay between individual items.

No timeframe for change is required.

The final score is a sum of the number items marked "Yes, A change".

Interpretation of the AD8 (Adapted from Galvin JE et al, The AD8, a brief informant interview to detect dementia, Neurology 2005;65:559-564)

A screening test in itself is insufficient to diagnose a dementing disorder. The AD8 is, however, quite sensitive to detecting early cognitive changes associated with many common dementing illnesses including Alzheimer disease, vascular dementia, Lewy body dementia and frontotemporal dementia.

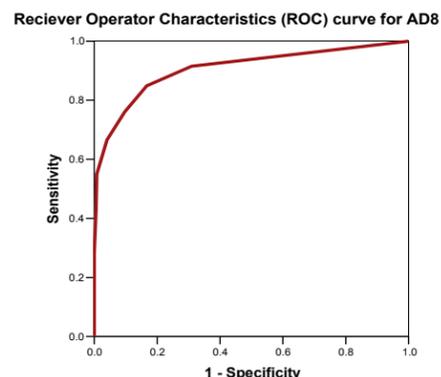
Scores in the impaired range (see below) indicate a need for further assessment. Scores in the "normal" range suggest that a dementing disorder is unlikely, but a very early disease process cannot be ruled out. More advanced assessment may be warranted in cases where other objective evidence of impairment exists.

Based on clinical research findings from 995 individuals included in the development and validation samples, the following cut points are provided:

- 0 – 1: Normal cognition
- 2 or greater: Cognitive impairment is likely to be present

Administered to either the informant (preferable) or the patient, the AD8 has the following properties:

- Sensitivity > 84%
- Specificity > 80%
- Positive Predictive Value > 85%
- Negative Predictive Value > 70%
- Area under the Curve: 0.908; 95%CI: 0.888-0.925



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AD8 Dementia Screening Interview

Patient ID#: _____

CS ID#: _____

Date: _____

Recuerde: "sí. Hay cambios." significa que ha habido un cambio en los últimos años debido a problemas cognitivos (pensamiento y memoria).	SÍ. Hay cambios 1 punto	NO. No hay cambios 0 punto	No aplicable. No sé.
1. Problemas de juicio (ejemplo: compra regalos inadecuados, ha sido estafado/a, toma malas decisiones en lo económico)			
2. Menor interés en realizar actividades o sus pasatiempos			
3. Repite las preguntas, historias			
4. Tiene dificultad para aprender a usar instrumentos tecnológicos, electrodomésticos (como el control remoto TV, computador, microondas, video grabadora)			
5. Olvida el mes o año			
6. Tiene dificultad en el manejo de asuntos financieros complejos (pagar las cuentas, llevar la chequera, pago de impuestos)			
7. Tiene dificultad para acordarse de los compromisos (citas al doctor etc.)			
8. Problema persistente de memoria y pensamiento (no ocasional)			
TOTAL AD8 SCORE			

INSTRUMENTAL ACTIVITIES OF DAILY LIVING SCALE (IADL) M.P. Lawton & E.M. Brody

A. Ability to use telephone

- 1. Operates telephone on own initiative; looks up and dials numbers, etc. 1
- 2. Dials a few well-known numbers 1
- 3. Answers telephone but does not dial 1
- 4. Does not use telephone at all. 0

B. Shopping

- 1. Takes care of all shopping needs independently 1
- 2. Shops independently for small purchases 0
- 3. Needs to be accompanied on any shopping trip. 0
- 4. Completely unable to shop. 0

C. Food Preparation

- 1. Plans, prepares and serves adequate meals independently 1
- 2. Prepares adequate meals if supplied with ingredients 0
- 3. Heats, serves and prepares meals or prepares meals but does not maintain adequate diet. 0
- 4. Needs to have meals prepared and served. 0

D. Housekeeping

- 1. Maintains house alone or with occasional assistance (e.g. "heavy work domestic help") 1
- 2. Performs light daily tasks such as dish-washing, bed making 1
- 3. Performs light daily tasks but cannot maintain acceptable level of cleanliness. 1
- 4. Needs help with all home maintenance tasks. 1
- 5. Does not participate in any housekeeping tasks. 0

E. Laundry

- 1. Does personal laundry completely 1
- 2. Launders small items; rinses stockings, etc. 1
- 3. All laundry must be done by others. 0

F. Mode of Transportation

- 1. Travels independently on public transportation or drives own car. 1
- 2. Arranges own travel via taxi, but does not otherwise use public transportation. 1
- 3. Travels on public transportation when accompanied by another. 1
- 4. Travel limited to taxi or automobile with assistance of another. 0
- 5. Does not travel at all. 0

G. Responsibility for own medications

- 1. Is responsible for taking medication in correct dosages at correct time. 1
- 2. Takes responsibility if medication is prepared in advance in separate dosage. 0
- 3. Is not capable of dispensing own medication. 0

H. Ability to Handle Finances

- 1. Manages financial matters independently (budgets, writes checks, pays rent, bills goes to bank), collects and keeps track of income. 1
- 2. Manages day-to-day purchases, but needs help with banking, major purchases, etc. 1
- 3. Incapable if handling money. 0

Source: Lawton, M.P., and Brody, E.M. "Assessment of older people: Self-maintaining and instrumental activities of daily living." Gerontologist 9:179-186, (1969).

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Instruments 2: Evaluation Instruments

The QDRS, Quick Dementia Rating System

1. Memory and recall _____C

- 0 No obvious memory loss or inconsistent forgetfulness that does not interfere with function in everyday activities
- 0.5 Consistent mild forgetfulness or partial recollection of events that may interfere with performing everyday activities; repeats questions/statements, misplaces items, forgets appointments
- 1 Mild to moderate memory loss; more noticeable for recent events; interferes with performing everyday activities
- 2 Moderate to severe memory loss; only highly learned information remembered; new information rapidly forgotten
- 3 Severe memory loss, almost impossible to recall new information; long-term memory may be affected

2. Orientation _____C

- 0 Fully oriented to person, place, and time nearly all the time
- 0.5 Slight difficulty in keeping track of time; may forget day or date more frequently than in the past
- 1 Mild to moderate difficulty in keeping track of time and sequence of events; forgets month or year; oriented to familiar places but gets confused outside familiar areas; gets lost or wanders
- 2 Moderate to severe difficulty, usually disoriented to time and place (familiar and unfamiliar); frequently dwells in past
- 3 Only oriented to their name, although may recognize family members

3. Decision making and problem-solving abilities _____C

- 0 Solves everyday problems without difficulty; handles personal business and financial matters well; decision-making abilities consistent with past performance
- 0.5 Slight impairment or takes longer to solve problems; trouble with abstract concepts; decisions still sound
- 1 Moderate difficulty with handling problems and making decisions; defers many decisions to others; social judgment and behavior may be slightly impaired; loss of insight
- 2 Severely impaired in handling problems, making only simple personal decisions; social judgment and behavior often impaired; lacks insight
- 3 Unable to make decisions or solve problems; others make nearly all decisions for patient

4. Activities outside the home _____B

- 0 Independent in function at the usual level of performance in profession, shopping, community and religious activities, volunteering, or social groups
- 0.5 Slight impairment in these activities compared with previous performance; slight change in driving skills; still able to handle emergency situations
- 1 Unable to function independently but still may attend and be engaged; appears “normal” to others; notable changes in driving skills; concern about ability to handle emergency situations
- 2 No pretense of independent function outside the home; appears well enough to be taken to activities outside the family home but generally needs to be accompanied
- 3 No independent function or activities; appear too ill to be taken to activities outside the home

5. Function at home and hobby activities _____B

- 0 Chores at home, hobbies and personal interests are well maintained compared with past performance
- 0.5 Slight impairment or less interest in these activities; trouble operating appliances (particularly new purchases)
- 1 Mild but definite impairment in home and hobby function; more difficult chores or tasks abandoned; more complicated hobbies and interests given up
- 2 Only simple chores preserved, very restricted interest in hobbies which are poorly maintained
- 3 No meaningful function in household chores or with prior hobbies

6. Toileting and personal hygiene _____B

- 0 Fully capable of self-care (dressing, grooming, washing, bathing, toileting)
- 0.5 Slight changes in abilities and attention to these activities
- 1 Needs prompting to complete these activities but may still complete independently
- 2 Requires some assistance in dressing, hygiene, keeping of personal items; occasionally incontinent
- 3 Requires significant help with personal care and hygiene; frequent incontinence

7. Behavior and personality changes _____B

- 0 Socially appropriate behavior in public and private; no changes in personality
- 0.5 Questionable or very mild changes in behavior, personality, emotional control, appropriateness of choices
- 1 Mild changes in behavior or personality
- 2 Moderate behavior or personality changes, affects interactions with others; may be avoided by friends, neighbors, or distant relatives
- 3 Severe behavior or personality changes; making interactions with others often unpleasant or avoided

8. Language _____C

- 0 No language difficulty or occasional word searching; reads and writes as in the past
- 0.5 Consistent mild word finding difficulties, using descriptive terms or takes longer to get point across, mild problems with comprehension, decreased conversation; may affect reading and writing
- 1 Moderate word finding difficulty in speech, cannot name objects, marked reduction in work production; reduced comprehension, conversation, writing, and/or reading
- 2 Moderate to severe impairments in speech production or comprehension; has difficulty in communicating thoughts to others; limited ability to read or write
- 3 Severe deficits in language and communication; little to no understandable speech is produced

9. Mood _____B

- 0 No changes in mood, interest, or motivation level
- 0.5 Occasional sadness, depression, anxiety, nervousness, or loss of interest/motivation
- 1 Daily mild issues with sadness, depression, anxiety, nervousness, or loss of interest/motivation
- 2 Moderate issues with sadness, depression, anxiety, nervousness, or loss of interest/motivation
- 3 Severe issues with sadness, depression, anxiety, nervousness, or loss of interest/motivation

10. Attention and concentration _____B

- 0 Normal attention, concentration, and interaction with his or her environment and surroundings
- 0.5 Mild problems with attention, concentration, and interaction with environment and surroundings, may appear drowsy during day
- 1 Moderate problems with attention and concentration, may have staring spells or spend time with eyes closed, increased daytime sleepiness
- 2 Significant portion of the day is spent sleeping, not paying attention to environment, when having a conversation may say things that are illogical or not consistent with topic
- 3 Limited to no ability to pay attention to external environment or surroundings

Cognitive subtotal (questions 1, 2, 3, 8) **Total of C Scores** _____

Behavioral subtotal (questions 4, 5, 6, 7, 9, 10) **Total of B Scores** _____

Total QDRS score _____

A total score of ≥ 2 suggests a problem causing limitations or issues, and may need a detailed workup. Please return this instrument to your physician.

**Montreal Cognitive Assessment (MoCA)
Version 8.1**

Administration and Scoring Instructions

The Montreal Cognitive Assessment (MoCA) was designed as a rapid screening instrument for mild cognitive dysfunction. It assesses different cognitive domains: attention and concentration, executive functions, memory, language, visuoconstructional skills, conceptual thinking, calculations, and orientation. The MoCA may be administered by anyone who understands and follows the instructions, however, only a health professional with expertise in the cognitive field may interpret the results. Time to administer the MoCA is approximately 10 minutes. The total possible score is 30 points; a score of 26 or above is considered normal.

All instructions may be repeated once.

1. Alternating Trail Making:

Administration: The examiner instructs the subject: *"Please draw a line going from a number to a letter in ascending order. Begin here [point to (1)] and draw a line from 1 then to A then to 2 and so on. End here [point to (E)]."*

Scoring: One point is allocated if the subject successfully draws the following pattern: 1- A- 2- B- 3- C- 4- D- 5- E, without drawing any lines that cross. Any error that is not immediately self-corrected (meaning corrected before moving on to the Cube task) earns a score of 0. A point is not allocated if the subject draws a line to connect the end (E) to the beginning (1).

2. Visuoconstructional Skills (Cube):

Administration: The examiner gives the following instructions, pointing to the cube: *"Copy this drawing as accurately as you can."*

Scoring: One point is allocated for a correctly executed drawing.

- Drawing must be three-dimensional.
- All lines are drawn.
- All lines meet with little or no space.
- No line is added.
- Lines are relatively parallel and their length is similar (rectangular prisms are accepted).
- The cube's orientation in space must be preserved.

A point is not assigned if any of the above criteria is not met.

3. Visuoconstructional Skills (Clock):

Administration: The examiner must ensure that the subject does not look at his/her watch while performing the task and that no clocks are in sight. The examiner indicates the appropriate space and gives the following instructions: *"Draw a clock. Put in all the numbers and set the time to 10 past 11."*

Scoring: One point is allocated for each of the following three criteria:

- Contour (1 pt.): the clock contour must be drawn (either a circle or a square). Only minor distortions are acceptable (e.g., slight imperfection on closing the circle). If the numbers are arranged in a circular manner but the contour is not drawn the contour is scored as incorrect.
- Numbers (1 pt.): all clock numbers must be present with no additional numbers. Numbers must be in the correct order, upright and placed in the approximate quadrants on the clock face. Roman numerals are acceptable. The numbers must be arranged in a circular manner (even if the contour is a square). All numbers must either be placed inside or outside the clock contour. If the subject places some numbers inside the clock contour and some outside the clock contour, (s)he does not receive a point for Numbers.
- Hands (1 pt.): there must be two hands jointly indicating the correct time. The hour hand must be clearly shorter than the minute hand. Hands must be centered within the clock face with their junction close to the clock center.

4. Naming:

Administration: Beginning on the left, the examiner points to each figure and says: *"Tell me the name of this animal."*

Scoring: One point is given for each of the following responses: (1) lion (2) rhinoceros or rhino (3) camel or dromedary.

5. Memory:

Administration: The examiner reads a list of five words at a rate of one per second, giving the following instructions: *"This is a memory test. I am going to read a list of words that you will have to remember now and later on. Listen carefully. When I am through, tell me as many words as you can remember. It doesn't matter in what order you say them."* The examiner marks a check in the allocated space for each word the subject produces on this first trial. The examiner may not correct the subject if (s)he recalls a deformed word or a word that sounds like the target word. When the subject indicates that (s)he has finished (has recalled all words), or can recall no more words, the examiner reads the list a second time with the following instructions: *"I am going to read the same list for a second time. Try to remember and tell me as many words as you can, including words you said the first time."* The examiner puts a check in the allocated space for each word the subject recalls on the second trial. At the end of the second trial, the examiner informs the subject that (s)he will be asked to recall these words again by saying: *"I will ask you to recall those words again at the end of the test."*

Scoring: No points are given for Trials One and Two.

6. Attention:

Forward Digit Span: Administration: The examiner gives the following instructions: *"I am going to say some numbers and when I am through, repeat them to me exactly as I said them."* The examiner reads the five number sequence at a rate of one digit per second.

Backward Digit Span: Administration: The examiner gives the following instructions: *"Now I am going to say some more numbers, but when I am through you must repeat"*

them to me in the *backward order*.” The examiner reads the three number sequence at a rate of one digit per second. If the subject repeats the sequence in the forward order, the examiner may not ask the subject to repeat the sequence in backward order at this point.

Scoring: One point is allocated for each sequence correctly repeated (N.B.: the correct response for the backward trial is 2-4-7).

Vigilance: Administration: The examiner reads the list of letters at a rate of one per second, after giving the following instructions: “*I am going to read a sequence of letters. Every time I say the letter A, tap your hand once. If I say a different letter, do not tap your hand.*”

Scoring: One point is allocated if there is zero to one error (an error is a tap on a wrong letter or a failure to tap on letter A).

Serial 7s: Administration: The examiner gives the following instructions: “*Now, I will ask you to count by subtracting 7 from 100, and then, keep subtracting 7 from your answer until I tell you to stop.*” The subject must perform a mental calculation, therefore, (s)he may not use his/her fingers nor a pencil and paper to execute the task. The examiner may not repeat the subject’s answers. If the subject asks what her/his last given answer was or what number (s)he must subtract from his/her answer, the examiner responds by repeating the instructions if not already done so.

Scoring: This item is scored out of 3 points. Give no (0) points for no correct subtractions, 1 point for one correct subtraction, 2 points for two or three correct subtractions, and 3 points if the subject successfully makes four or five correct subtractions. Each subtraction is evaluated independently; that is, if the subject responds with an incorrect number but continues to correctly subtract 7 from it, each correct subtraction is counted. For example, a subject may respond “92 – 85 – 78 – 71 – 64” where the “92” is incorrect, but all subsequent numbers are subtracted correctly. This is one error and the task would be given a score of 3.

7. **Sentence repetition:**

Administration: The examiner gives the following instructions: “*I am going to read you a sentence. Repeat it after me, exactly as I say it [pause]: **I only know that John is the one to help today.***” Following the response, say: “*Now I am going to read you another sentence. Repeat it after me, exactly as I say it [pause]: **The cat always hid under the couch when dogs were in the room.***”

Scoring: One point is allocated for each sentence correctly repeated. Repetitions must be exact. Be alert for omissions (e.g., omitting “only”), substitutions/additions (e.g., substituting “only” for “always”), grammar errors/altering plurals (e.g. “hides” for “hid”), etc.

8. **Verbal fluency:**

Administration: The examiner gives the following instructions: “*Now, I want you to tell me as many words as you can think of that begin with the letter F. I will tell you to stop after one minute. Proper nouns, numbers, and different forms of a verb are not permitted. Are you ready?* [Pause] [Time for 60 sec.] *Stop.*” If the subject names two consecutive

words that begin with another letter of the alphabet, the examiner repeats the target letter if the instructions have not yet been repeated.

Scoring: One point is allocated if the subject generates 11 words or more in 60 seconds. The examiner records the subject’s responses in the margins or on the back of the test sheet.

9. **Abstraction:**

Administration: The examiner asks the subject to explain what each pair of words has in common, starting with the example: “*I will give you two words and I would like you to tell me to what category they belong to [pause]: an orange and a banana.*” If the subject responds correctly the examiner replies: “*Yes, both items are part of the category Fruits.*” If the subject answers in a concrete manner, the examiner gives one additional **prompt**: “*Tell me another category to which these items belong to.*” If the subject does not give the appropriate response (*fruits*), the examiner says: “*Yes, and they also both belong to the category Fruits.*” No additional instructions or clarifications are given. After the practice trial, the examiner says: “*Now, a train and a bicycle.*” Following the response, the examiner administers the second trial by saying: “*Now, a ruler and a watch.*” A **prompt** (one for the entire abstraction section) may be given if none was used during the example.

Scoring: Only the last two pairs are scored. One point is given for each pair correctly answered. The following responses are acceptable:

- train-bicycle = means of transportation, means of travelling, you take trips in both
- ruler-watch = measuring instruments, used to measure

The following responses are **not** acceptable:

- train-bicycle = they have wheels
- ruler-watch = they have numbers

10. **Delayed recall:**

Administration: The examiner gives the following instructions: “*I read some words to you earlier, which I asked you to remember. Tell me as many of those words as you can remember.*” The examiner makes a check mark (✓) for each of the words correctly recalled spontaneously without any cues, in the allocated space.

Scoring: One point is allocated for each word recalled freely **without any cues**.

Memory index score (MIS):

Administration: Following the delayed free recall trial, the examiner provides a category (semantic) cue for each word the subject was unable to recall. Example: “*I will give you some hints to see if it helps you remember the words, the first word was a body part.*” If the subject is unable to recall the word with the category cue, the examiner provides him/her with a multiple choice cue. Example: “*Which of the following words do you think it was, NOSE, FACE, or HAND?*” All non-recalled words are prompted in this manner. The examiner identifies the words the subject was able to recall with the help of a cue (category or multiple-choice) by placing a check mark (✓) in the appropriate space. The cues for each word are presented below:

Target Word	Category Cue	Multiple Choice
FACE	body part	nose, face, hand (shoulder, leg)
VELVET	type of fabric	denim, velvet, cotton (nylon, silk)
CHURCH	type of building	church, school, hospital (library, store)
DAISY	type of flower	rose, daisy, tulip (lily, daffodil)
RED	color	red, blue, green (yellow, purple)

* The words in parentheses are to be used if the subject mentions one or two of the multiple choice responses during the category cuing.

Scoring: To determine the MIS (which is a sub-score), the examiner attributes points according to the type of recall (see table below). The use of cues provides clinical information on the nature of the memory deficits. For memory deficits due to retrieval failures, performance can be improved with a cue. For memory deficits due to encoding failures, performance does not improve with a cue.

MIS scoring				Total
Number of words recalled spontaneously	...	multiplied by	3	...
Number of words recalled with a category cue	...	multiplied by	2	...
Number of words recalled with a multiple choice cue	...	multiplied by	1	...
Total MIS (add all points)				---/15

11. Orientation:

Administration: The examiner gives the following instructions: "Tell me today's date." If the subject does not give a complete answer, the examiner prompts accordingly by saying: "Tell me the [year, month, exact date, and day of the week]." Then the examiner says: "Now, tell me the name of this place, and which city it is in."

Scoring: One point is allocated for each item correctly answered. The date and place (name of hospital, clinic, office) must be exact. No points are allocated if the subject makes an error of one day for the day and date.

TOTAL SCORE: Sum all subscores listed on the right-hand side. Add one point for subject who has 12 years or fewer of formal education, for a possible maximum of 30 points. A final total score of 26 and above is considered normal.

Please refer to the MoCA website at www.mocatest.org for more information on the MoCA.

MONTREAL COGNITIVE ASSESSMENT (MoCA®)

Version 8.2 English

Name: _____
Education: _____ Date of birth: _____
Sex: _____ DATE: _____

VISUOSPATIAL / EXECUTIVE		DRAWING					POINTS
		Copy chair 					Draw CLOCK (Ten past nine) (3 points)
[]		[]	[]	[]	[]	[]	___/5
NAMING		DRAWING					POINTS
[]		[]	[]	[]	[]	[]	___/3
MEMORY		HAND NYLON PARK CARROT YELLOW					POINTS
Read list of words, subject must repeat them. Do 2 trials, even if 1st trial is successful. Do a recall after 5 minutes.		1st TRIAL [] [] [] [] [] [] 2nd TRIAL [] [] [] [] [] []					NO POINTS
ATTENTION		Read list of digits (1 digit/sec.). Subject has to repeat them in the forward order. [] 8 1 5 2 4 Subject has to repeat them in the backward order. [] 2 4 7					___/2
Read list of letters. The subject must tap with his hand at each letter A. No points if ≥ 2 errors.		[] F B A C M N A A J K L B A F A K D E A A A J A M O F A A B					___/1
Serial 7 subtraction starting at 70. [] 63 [] 56 [] 49 [] 42 [] 35		4 or 5 correct subtractions: 3 pts, 2 or 3 correct: 2 pts, 1 correct: 1 pt, 0 correct: 0 pt					___/3
LANGUAGE		Repeat: The robber of the gray car was stopped by the police. [] The student went back to school without his books and pencils. []					___/2
Language Fluency. Name maximum number of words in one minute that begin with the letter S. [] _____ (N ≥ 11 words)							___/1
ABSTRACTION		Similarity between e.g. banana - orange = fruit [] bed - table [] letter - telephone					___/2
DELAYED RECALL		(MIS) Has to recall words WITH NO CUE HAND NYLON PARK CARROT YELLOW Points for UNCUE recall only X3 [] [] [] [] [] X2 Category cue X1 Multiple choice cue					___/5
Memory Index Score (MIS)		MIS = ___/15					
ORIENTATION		[] Date [] Month [] Year [] Day [] Place [] City					___/6

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Administered by: _____

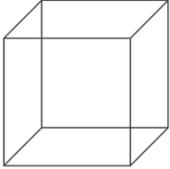
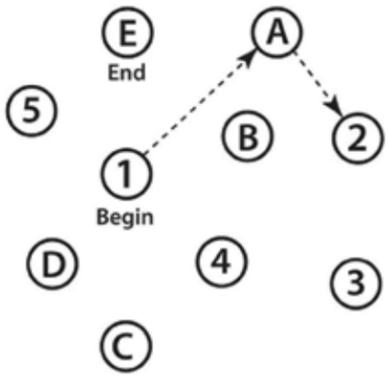
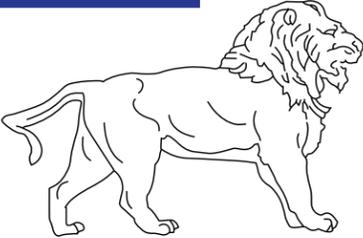
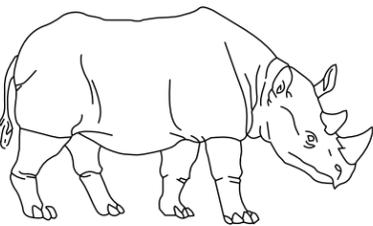
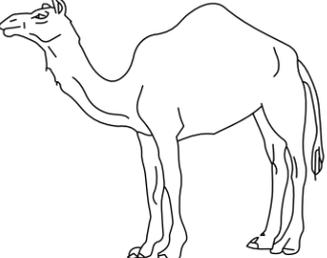
www.mocatest.org

MIS: / 15
(Normal ≥ 26/30)

Training and Certification are required to ensure accuracy.

Add 1 point if ≤ 12 yr education

TOTAL ___/30

VISUOSPATIAL / EXECUTIVE		 Copy cube	Draw CLOCK (Ten past eleven) (3 points)	POINTS		
 [] [] [] [] []		[] [] [] [] [] Contour Numbers Hands			___/5	
NAMING						
 []		 []		 []	___/3	
MEMORY		Read list of words, subject must repeat them. Do 2 trials, even if 1st trial is successful. Do a recall after 5 minutes.			NO POINTS	
		FACE	VELVET	CHURCH	DAISY	RED
		1 ST TRIAL				
		2 ND TRIAL				
ATTENTION		Read list of digits (1 digit/ sec.). Subject has to repeat them in the forward order. [] 2 1 8 5 4 Subject has to repeat them in the backward order. [] 7 4 2			___/2	
		Read list of letters. The subject must tap with his hand at each letter A. No points if ≥ 2 errors [] F B A C M N A A J K L B A F A K D E A A A J A M O F A A B			___/1	
		Serial 7 subtraction starting at 100. [] 93 [] 86 [] 79 [] 72 [] 65 4 or 5 correct subtractions: 3 pts, 2 or 3 correct: 2 pts, 1 correct: 1 pt, 0 correct: 0			___/3	
LANGUAGE		Repeat: I only know that John is the one to help today. [] The cat always hid under the couch when dogs were in the room. []			___/2	
		Fluency: Name maximum number of words in one minute that begin with the letter F. [] _____ (N ≥ 11 words)			___/1	
ABSTRACTION		Similarity between e.g. banana - orange = fruit [] train - bicycle [] watch - ruler			___/2	
DELAYED RECALL		(MIS) Has to recall words WITH NO CUE FACE VELVET CHURCH DAISY RED Points for UNCUED recall only X3 [] [] [] [] [] [] MIS = ___/15 X2 Category cue X1 Multiple choice cue			___/5	
ORIENTATION		[] Date [] Month [] Year [] Day [] Place [] City			___/6	

Montreal Cognitive Assessment [Evaluación Cognitiva Montreal] (MoCA) Versión 8.1

Instrucciones para la administración y puntuación de los resultados

La Evaluación Cognitiva Montreal (Montreal cognitive assessment / MoCA) ha sido concebida para evaluar las disfunciones cognitivas leves. Este instrumento examina las siguientes habilidades: atención, concentración, funciones ejecutivas (incluyendo la capacidad de abstracción), memoria, lenguaje, capacidades visuoconstructivas, cálculo y orientación. Cualquier persona que comprenda y siga sus instrucciones puede administrar el MoCA, si bien únicamente un profesional de la salud especialista en el ámbito cognitivo podrá interpretar sus resultados. El tiempo de administración requerido es de aproximadamente diez minutos. La puntuación máxima es de 30; una puntuación igual o superior a 26 se considera normal.

Todas las instrucciones pueden repetirse una vez.

1. Alternancia conceptual:

Administración. El examinador da las instrucciones siguientes: “Me gustaría que dibujara una línea alternando entre cifras y letras, respetando el orden numérico y el orden alfabético. Comience aquí (señale el 1) y dibuje una línea desde el 1 hacia la letra A y, a continuación, de la A hacia el 2 y así sucesivamente. Termine aquí (señale la E)”.

Puntuación. Se asigna un punto si el paciente realiza la siguiente secuencia: 1 – A – 2 – B – 3 – C – 4 – D – 5 – E, sin que ninguna línea se cruce. Si la persona no se autocorrigie inmediatamente después de cometer un error, es decir, no lo corrige antes de pasar a la parte del cubo, la puntuación debe ser 0. No se asignará ningún punto si la persona dibuja una línea conectando el final (E) con el principio (1).

2. Capacidades visuoconstructivas (Cubo):

Administración. El examinador da las instrucciones siguientes, señalando el cubo: “Me gustaría que copiara este dibujo de la manera más precisa posible”.

Puntuación. Se asigna un punto si se realiza el dibujo correctamente.

- El dibujo debe ser tridimensional.
- Todas las líneas están presentes.
- Sin espacios o con poco espacio entre las líneas.
- No se añaden líneas.
- Las líneas son relativamente paralelas y aproximadamente de la misma longitud (los prismas rectangulares son aceptables)
- Debe mantenerse la orientación espacial del cubo.

No se asigna ningún punto si no se han cumplido todos los criterios anteriores.

3. Capacidades visuoconstructivas (Reloj):

Administración. El examinador debe asegurarse de que la persona no mira el reloj mientras realiza la tarea y de que no hay ningún reloj a la vista. El examinador señala el espacio adecuado y da las instrucciones siguientes: “Dibuje un reloj. Incluya todos los números y dibújelo señalando las 11 y 10 minutos”.

Puntuación. Se asigna un punto por cada uno de los tres criterios siguientes:

- Contorno (1 pt.): Debe dibujar el contorno del reloj, ya sea un círculo o un cuadrado,

solo se aceptarán leves deformaciones, por ejemplo, alguna imperfección al cerrar el círculo. Si los números están dispuestos en círculo pero no se ha dibujado el contorno, este se considerará incorrecto.

- **Números (1 pt.):** Todos los números deben estar presentes, sin añadir ninguno; Los números deben seguir el orden correcto, estar bien colocados y situados aproximadamente en su cuadrante del reloj. Se aceptarán los números romanos. Los números deben estar dispuestos en círculo, aunque el contorno sea cuadrado. Todos los números deben estar situados dentro o fuera del contorno del reloj. Si la persona sitúa algunos números dentro del contorno del reloj y algunos fuera del contorno, no se le asignará ningún punto por Números.
- **Agujas (1 pt.):** Las dos agujas deben indicar la hora correcta. La aguja de las horas debe ser claramente más corta que la de los minutos. Las agujas deben estar centradas dentro de la esfera del reloj y su punto de unión debe estar cerca del centro del reloj.

4. **Identificación:**

Administración. El examinador señala cada dibujo, empezando por la izquierda, y dice: "Dígame el nombre de este animal".

Puntuación. Se asigna un punto por cada una de las siguientes respuestas: (1) león (2) rinoceronte (3) camello o dromedario.

5. **Memoria:**

Administración. El examinador lee una lista de cinco palabras a un ritmo de una palabra por segundo, tras dar las siguientes instrucciones: "Esta es una prueba de memoria. Le voy a leer una lista de palabras que debe recordar. Escuche con atención. Cuando acabe, dígame todas las palabras que pueda recordar. No importa el orden en el que me las diga". El examinador deberá marcar con una cruz, en el espacio reservado a dicho efecto, todas las palabras que el paciente repita en este primer intento. El examinador no debe corregir al paciente si este recuerda mal una palabra o dice una palabra que se parece a la correcta. Cuando el paciente diga que ya ha terminado (se haya acordado de todas las palabras) o cuando no pueda acordarse de más palabras, el examinador volverá a leer la lista de palabras tras dar las instrucciones siguientes: "Ahora le voy a leer la misma lista de palabras una vez más. Intente acordarse del mayor número posible de palabras, incluyendo las que repitió en la primera ronda". El examinador marca con una cruz, en el espacio reservado a dicho efecto, todas las palabras que el paciente repita en el segundo intento. Al final del segundo intento, el examinador informará al paciente de que debe recordar estas palabras diciendo: "Le volveré a preguntar estas palabras al final de la prueba".

Puntuación. En los intentos 1 y 2 no se darán puntos.

6. **Atención:**

Administración de Serie de números hacia delante. El examinador dará las siguientes instrucciones: "Le voy a leer una serie de números y, cuando haya terminado, deberá repetirlos en el mismo orden en el que yo los he dicho". El examinador lee una secuencia de cinco números a un ritmo de uno por segundo.

Administración de Serie de números hacia atrás. El examinador dará las siguientes instrucciones: "Le voy a leer otra serie de números y, cuando haya terminado, deberá repetirlos hacia atrás". El examinador leerá la secuencia de tres números a un ritmo de

uno por segundo. Si el paciente repite la secuencia hacia delante, el examinador no podrá pedirle en ese mismo momento que repita la secuencia hacia atrás.

Puntuación. Se asigna un punto por cada una de las secuencias repetidas correctamente (nota: el orden exacto de la secuencia numérica inversa es 2-4-7).

Vigilancia y administración. El examinador leerá una serie de letras a un ritmo de una por segundo, tras dar las instrucciones siguientes: "Voy a leerle una serie de letras. Cada vez que diga la letra 'A', dé un golpecito con la mano. Cuando diga una letra que no sea la A, no dé ningún golpecito".

Puntuación. Se asigna un punto si no se comete ningún error o solo se comete uno (por ejemplo, la persona da el golpecito con una letra equivocada o no da el golpecito con la letra 'A').

Serie del 7, administración. El examinador dará las instrucciones siguientes: "Ahora me gustaría que restara 7 de 100 y que continuara restando 7 a la cifra de su respuesta anterior hasta que le pida que pare". El paciente debe realizar un cálculo mental y, por lo tanto, no puede recurrir a contar con los dedos o con un lápiz y papel para realizar esta actividad. El examinador no podrá repetir las respuestas del paciente. Si el paciente pregunta cuál ha sido su última respuesta o qué número debe restar de su respuesta, el examinador responderá repitiendo las instrucciones si no lo ha hecho ya.

Puntuación. Esta prueba obtiene tres puntos en total. No dé ningún punto (0) por las restas incorrectas, dé 1 punto por una resta correcta, 2 puntos por dos o tres restas correctas y 3 puntos si el paciente hace cuatro o cinco restas correctas. Cada resta se evaluará separadamente, es decir, si el paciente responde con un número incorrecto pero resta 7 de dicho número, se contará como una resta correcta. Por ejemplo, el paciente puede contar "92 - 85 - 78 -71 -64". "92" es incorrecto, pero todos los resultados de las restas siguientes son correctos. Esto cuenta como un error y la tarea debería puntuarse con un 3.

7. **Repetición de frases:**

Administración. El examinador dará las instrucciones siguientes: "Ahora le voy a leer una frase. Repítala exactamente cuando yo termine [pausa]: **Solo sé que le toca a Juan ayudar hoy**". Después de la respuesta, diga: "Ahora voy a leerle otra frase. Repítala exactamente cuando yo termine [pausa]: **El gato siempre se esconde debajo del sofá cuando hay perros en la habitación**".

Puntuación. Se asigna un punto por cada frase repetida correctamente. La repetición debe ser exacta. Se debe prestar atención a los errores de omisión (p.ej., olvidar "solo"), sustitución/adición (p.ej., sustituir "solo" por "siempre"), errores gramaticales/plurales incorrectos (p.ej. "se esconde" por "se escondía"), etc.

8. **Fluidez verbal:**

Administración. El examinador dará las instrucciones siguientes: "Ahora, diga el mayor número posible de palabras que comiencen por la letra F. Le pediré que pare al minuto. No se permiten nombres, números y las formas conjugadas de un verbo. ¿Está preparado? [Pausa] [Tiempo 60 seg.] Pare". Si el paciente nombra dos palabras seguidas que empiezan con otra letra del abecedario, deberá repetirle la letra correcta si aún no le ha repetido las instrucciones.

Puntuación. Se asigna un punto si el paciente dice 11 palabras o más en un minuto. El examinador anotará las respuestas del paciente en el margen o en el reverso de la hoja del test.

9. Abstracción:

Administración. El examinador pedirá al paciente que le explique qué tienen en común cada pareja de palabras, ilustrándolo con el ejemplo siguiente: “Le diré dos palabras y me gustaría que usted me dijera a qué categoría pertenecen [pausa]: una naranja y un plátano”. Si el paciente da la respuesta correcta, el examinador deberá decir: “Sí, las dos pertenecen a esta categoría de frutas”. Si el paciente responde de una manera concreta, el examinador deberá ofrecerle una pista adicional: “Dígame otra categoría a la que también puedan pertenecer estas cosas”. Si el paciente no da la respuesta correcta (frutas), el examinador deberá decir: “Sí y las dos pertenecen también a la categoría de frutas”. No dé otras instrucciones o explicaciones.

Tras el primer intento de prueba, el examinador deberá decir: “Ahora, un tren y una bicicleta”. Tras la respuesta, el examinador administrará el segundo intento diciendo: “Ahora, una regla y un reloj”. Podrá ofrecerse una pista (una sola para todo el apartado de abstracción) si no se ha dado ninguna en el primer ejemplo.

Puntuación. Solo se puntuarán los dos últimos pares. Se asigna un punto por cada par correcto. Se aceptan las siguientes respuestas:

- tren/bicicleta = medios de transporte, medios de locomoción, para viajar
- regla/reloj = instrumentos de medición, para medir

Las siguientes respuestas **no** son aceptables:

- tren/bicicleta = tienen ruedas
- regla/reloj = tienen números

10. Recuerdo diferido

Administración. El examinador dará las siguientes instrucciones: “Antes le he leído una serie de palabras y le he pedido que las recordase. Dígame ahora todas las palabras de las que se acuerde”. El examinador marca con una cruz las palabras que el paciente recuerde sin necesidad de pistas en el espacio reservado a dicho efecto.

Puntuación. Se asigna un punto por cada una de las palabras recordadas espontáneamente, sin pistas.

Puntuación de la escala de memoria (Memory Index Score, MIS):

Administración. Tras la prueba de recuerdo diferido, el examinador dará una pista de la categoría (semántica) correspondiente a cada palabra que el paciente no haya recordado. Ejemplo: “Le daré algunas pistas para ver si le ayudan a recordar las palabras. La primera palabra era una parte del cuerpo”. Si el paciente no puede recordar la palabra con ayuda de la pista sobre la categoría, el examinador deberá proporcionar una pista de elección múltiple. Ejemplo: “¿Cuál de estas palabras cree usted que era NARIZ, ROSTRO o MANO?” Se sugerirán de esta forma todas las palabras no recordadas. El examinador identificará las palabras que el paciente haya podido recordar con ayuda de una pista (de categoría o elección múltiple) marcando una cruz en el espacio apropiado. Las pistas para cada una de las palabras son las siguientes:

Palabra correcta	Pista de categoría	Elección múltiple
ROSTRO	parte del cuerpo	nariz, rostro, mano (hombro, pierna)
SEDA	tipo de tela	tela vaquera, seda, algodón (nylon, terciopelo)
TEMPLO	tipo de edificio	templo, escuela, hospital (biblioteca, tienda)
CLAVEL	tipo de flor	rosa, clavel, tulipán (azucena, margarita)
ROJO	color	rojo, azul, verde (amarillo, morado)

* Las palabras entre paréntesis se usarán si el paciente menciona una o dos de las respuestas de elección múltiple cuando se le dé la pista de la categoría.

Puntuación. Para determinar el MIS (que es una subpuntuación), el examinador asignará puntos según el tipo de recuerdo (véase tabla más abajo). El uso de las pistas proporciona información clínica sobre la naturaleza de los déficits de memoria. Cuando se trata de déficits de memoria a causa de un recuerdo fallido, el rendimiento puede mejorarse gracias a las pistas. Cuando se trata de déficits de memoria a causa de fallos de codificación, las pistas no mejoran el rendimiento.

Puntuación MIS				Total
Número de palabras recordadas espontáneamente	...	multiplicado por	3	...
Número de palabras recordadas con una pista de la categoría	...	multiplicado por	2	...
Número de palabras recordadas con pistas de elección múltiple	...	multiplicado por	1	...
Total MIS (sumar todos los puntos)				---/15

11. Orientación:

Administración. El examinador dará las siguientes instrucciones: “Dígame en qué fecha estamos hoy”. Si el paciente ofrece una respuesta incompleta, el examinador le apuntará de forma oportuna diciendo: “Dígame [el año, el mes, la fecha exacta y el día de la semana]”. A continuación, el examinador dirá: “Ahora, dígame cómo se llama este lugar y en qué localidad nos encontramos”.

Puntuación. Se asigna un punto por cada una de las respuestas correctas. La fecha y el lugar (nombre del hospital, clínica, consulta) deben ser exactos. No se asignará ningún punto si el paciente se equivoca por un día en el día del mes y de la semana.

PUNTUACIÓN TOTAL. Sume todos los puntos obtenidos en el margen derecho de la hoja. Añada un punto si el paciente tiene 12 años o menos de estudios, hasta un máximo de 30 puntos. Una puntuación igual o superior a 26 se considera normal.

Por favor, consulte la web del MoCA www.mocatest.org para más información sobre el MoCA.

VISUOESPACIAL / EJECUTIVA		Copiar el cubo	Dibujar un RELOJ (Once y diez) (3 puntos)	PUNTOS					
				[] [] [] [] [] Contorno Números Agujas	_ / 5				
IDENTIFICACIÓN									
				[] [] []	_ / 3				
MEMORIA		Lea la lista de palabras, el paciente debe repetirlas. Haga dos intentos. Recuérdelas 5 minutos más tarde.			NINGÚN PUNTO				
		1 ^{er} INTENTO	ROSTRO	SEDA	TEMPLO	CLAVEL	ROJO		
		2 ^o INTENTO							
ATENCIÓN		Lea la serie de números (1 número/seg.) El paciente debe repetirlos en el mismo orden. [] 2 1 8 5 4 El paciente debe repetirlos en orden inverso. [] 7 4 2			_ / 2				
		Lea la serie de letras. El paciente debe dar un golpecito con la mano cada vez que se diga la letra A. No se asignan puntos si ≥ 2 errores. [] F B A C M N A A J K L B A F A K D E A A A J A M O F A A B			_ / 1				
		Restar de 7 en 7 empezando desde 100. [] 93 [] 86 [] 79 [] 72 [] 65 4 o 5 restas correctas: 3 puntos, 2 o 3 restas correctas: 2 puntos, 1 resta correcta: 1 punto, 0 restas correctas: 0 puntos			_ / 3				
LENGUAJE		Repetir: Solo sé que le toca a Juan ayudar hoy. [] El gato siempre se esconde debajo del sofá cuando hay perros en la habitación. []			_ / 2				
		Fluidez del lenguaje. Decir el mayor número posible de palabras que comiencen por la letra "F" en 1 minuto. [] ____ (N ≥ 11 palabras)			_ / 1				
ABSTRACCIÓN		Semejanza entre p. ej. plátano-naranja = fruta [] tren-bicicleta [] reloj-regla			_ / 2				
RECUERDO DIFERIDO		Debe recordar las palabras SIN DARLE PISTAS			PUNTOS				
		(MIS) X3	ROSTRO	SEDA	TEMPLO	CLAVEL	ROJO	Puntos por recuerdos SIN PISTAS únicamente	
		X2							
		X1						MIS = ____ / 15	
ORIENTACIÓN		[] Fecha [] Mes [] Año [] Día de la semana [] Lugar [] Localidad			_ / 6				
© Z. Nasreddine MD www.mocatest.org		MIS: ____ / 15 (Normal ≥ 26/30)		TOTAL ____ / 30					

VAMC SLUMS Examination

Questions about this assessment tool? E-mail aging@slu.edu.

Name _____ Age _____
 Is patient alert? _____ Level of education _____

_ / 1	1. What day of the week is it?
_ / 1	2. What is the year?
_ / 1	3. What state are we in?
	4. Please remember these five objects. I will ask you what they are later. Apple Pen Tie House Car
	5. You have \$100 and you go to the store and buy a dozen apples for \$3 and a tricycle for \$20. 1 How much did you spend? 2 How much do you have left?
_ / 3	6. Please name as many animals as you can in one minute. 1 0-4 animals 2 5-9 animals 3 10-14 animals 4 15+ animals
_ / 3	7. What were the five objects I asked you to remember? 1 point for each one correct.
_ / 5	8. I am going to give you a series of numbers and I would like you to give them to me backwards. For example, if I say 42, you would say 24. 1 87 2 649 3 8537
_ / 2	9. This is a clock face. Please put in the hour markers and the time at ten minutes to eleven o'clock. 2 Hour markers okay 2 Time correct
_ / 4	10. Please place an X in the triangle.
_ / 2	1. Which of the above figures is largest?
_ / 8	11. I am going to tell you a story. Please listen carefully because afterwards, I'm going to ask you some questions about it. Jill was a very successful stockbroker. She made a lot of money on the stock market. She then met Jack, a devastatingly handsome man. She married him and had three children. They lived in Chicago. She then stopped work and stayed at home to bring up her children. When they were teenagers, she went back to work. She and Jack lived happily ever after. 2 What was the female's name? 2 What work did she do? 2 When did she go back to work? 2 What state did she live in?

TOTAL SCORE



HIGH SCHOOL EDUCATION	SCORING	LESS THAN HIGH SCHOOL EDUCATION
27-30	Normal	25-30
21-26	MNCd*	20-24
1-20	Dementia	1-19
* Mild Neurocognitive Disorder		

SH Tariq, N Tumosa, JT Chibnall, HM Perry III, and JE Morley. The Saint Louis University Mental Status (SLUMS) Examination for Detecting Mild Cognitive Impairment and Dementia is more sensitive than the Mini-Mental Status Examination (MMSE) - A pilot study. Am J Geriatr Psychiatry 14:900-910, 2006.



VAMC SLUMS Examination

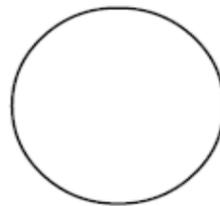


Name: _____ ID: _____ Age: _____
 Educ: _____ Alert? _____ Date Given: _____

- ____/1 ❶ 1. Qué día de la semana es hoy? _____
- ____/1 ❶ 2. En qué año estamos? _____
- ____/1 ❶ 3. En qué estado estamos? _____
4. Por favor, recuerde los cinco objetos que le voy a nombrar. Mas tarde, le preguntaré nuevamente por ellos.
 Manzana Lapiz Corbata Perro Casa
- ____/3 5. Usted tiene ciento dolares, y en la tienda compra una docena de manzanas por tres dolares y una bicicleta por veinte dolares.
 ❶ Cuánto dinero gastó? _____
 ❷ Cuánto dinero le queda? _____
- ____/3 6. Por favor en un minuto nombre todos los animales que pueda.
 ❶ 0-4 animals ❶ 5-9 animals ❷ 10-14 animals ❸ 15+ animals
- ____/5 7. Cuáles fueron los 5 objetos que le dije que recordara?
 Manzana Lapiz Corbata Perro Casa
- ____/2 8. Voy a decirle una serie de números. Me gustaría que usted me los dijera al revés. Por ejemplo, si yo digo 42, usted debe decir 24.
 ❶ 87 ❶ 649 ❶ 8537
- ____/4 9. Este círculo representa un reloj. Por favor escriba los números de las horas y las manecillas señalando las once menos diez.
 ❷ Hour markers correct?
 ❷ Time correct?
- ____/2 ❶ 10a. Por favor, señale el triángulo con una equis. 
- ❶ 10b. Cuál de estas figuras es la mas grande?
- ____/8 11. Voy a contarle una historia. Por favor, escuche cuidadosamente, porque al terminar le voy a hacer unas preguntas sobre esta historia.
 María era una abogada muy exitosa y ganaba mucho dinero en la compañía donde trabajaba. Ella conoció a Carlos, un hombre muy apuesto, y, al cabo del tiempo, se casaron, tuvieron 3 hijos y vivían en Chicago. Ella dejo de trabajar para criar a sus hijos, y cuando estos fueron adolescentes ella volvió al trabajo. Ella y Carlos vivieron felices por siempre.
 ❷ Cuál era el nombre de la mujer? ❷ Cuando volvió a trabaja?
 ❷ Que profesión tenía ella? ❷ En que estado vivía?

____ Total Score

HS Educ		No HS Educ
27 - 30	Normal	25 - 30
21 - 26	MNCD	20 - 24
1 - 20	Dementia	1 - 19



Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE) Short Form

Compared with 10 years ago how is this person at:

1. Remembering things about family and friends e.g. occupations, birthdays, addresses?	1 2 3 4 5
2. Remembering things that have happened recently?	1 2 3 4 5
3. Recalling conversations a few days later?	1 2 3 4 5
4. Remembering his/her address and telephone number?	1 2 3 4 5
5. Remembering what day and month it is?	1 2 3 4 5
6. Remembering where things are usually kept?	1 2 3 4 5
7. Remembering where to find things which have been put in a different place from usual?	1 2 3 4 5
8. Knowing how to work familiar machines around the house?	1 2 3 4 5
9. Learning to use a new gadget or machine around the house?	1 2 3 4 5
10. Learning new things in general?	1 2 3 4 5
11. Following a story in a book or on TV?	1 2 3 4 5
12. Making decisions on everyday matters?	1 2 3 4 5
13. Handling money for shopping?	1 2 3 4 5
14. Handling financial matters e.g. the pension, dealing with the bank?	1 2 3 4 5
15. Handling other everyday arithmetic problems e.g. knowing how much food to buy, knowing how long between visits from family or friends?	1 2 3 4 5
16. Using his/her intelligence to understand what's going on and to reason things through?	1 2 3 4 5
Total Score	

To score the IQCODE, add up the score for each question and divide by the number of questions. For the short IQCODE, divide by 16. The result is a score that ranges from 1 to 5. A score of 3 means that the subject is rated on average as 'no change'. A score of 4 means an average of 'a bit worse'. A score of 5 an average of 'much worse'. For the short IQCODE, a cutting point of 3.31/3.38 achieves a balance of sensitivity and specificity.

Nombre

Fecha

Unidad/Centro

Nº Historia

CRIBADO DE DEMENCIAS - TEST DEL INFORMADOR -

Población diana: Población informante clave de una persona con sospecha de deterioro cognitivo. Se trata de un test **autoadministrado**.

Instrucciones para el informante clave:

Recuerde, por favor, cómo era su familiar hace 5 ó 10 años y compare cómo es él en este momento. Conteste si ha habido algún cambio a lo largo de este tiempo en la capacidad de su familiar para cada uno de los aspectos que le preguntamos. Puntúe con los siguientes criterios:

ITEMS	Ha mejorado mucho	Ha mejorado un poco	Casi sin cambios	Ha empeorado un poco	Ha empeorado mucho
	1	2	3	4	5
Capacidad para reconocer las caras de sus personas más íntimas (parientes, amigos)					
Capacidad para recordar los nombres de estas mismas personas					
Recordar las cosas de esas personas (dónde viven, de qué viven, cuándo es su cumpleaños)					
Recordar cosas que han ocurrido recientemente, en los últimos 2 o 3 meses (noticias, cosas suyas o de sus familiares)					
Recordar lo que habló en una conversación unos días antes					
Olvidar lo que se ha dicho unos minutos antes, pararse a la mitad de una frase y no saber lo que iba a decir, repetir lo que ha dicho antes					
Recordar su propia dirección o número de teléfono					
Recordar la fecha en que vive					
Conocer el sitio exacto de los armarios de su casa y dónde se guardan las cosas					
Saber dónde se pone una cosa que se ha encontrado descolocada					
Adaptarse a la situación cuando su rutina diaria se ve alterada (ir de visita, en alguna celebración, de vacaciones)					
Saber manejar los aparatos de la casa (teléfono, coche, lavadora, máquina de afeitarse, etc.)					
Capacidad para aprender a manejar un aparato nuevo (lavadora, tocadiscos, radio, secador de pelo, etc.)					

ITEMS	Ha mejorado mucho	Ha mejorado un poco	Casi sin cambios	Ha empeorado un poco	Ha empeorado mucho
	1	2	3	4	5
Recordar las cosas que han sucedido recientemente (en general)					
Aprender cosas nuevas (en general)					
Capacidad para recordar cosas que ocurrieron o que aprendió cuando era joven					
Comprender el significado de palabras poco corrientes (del periódico, televisión, conversación)					
Entender artículos de periódicos o revistas en las que está interesado					
Seguir una historia del libro, la prensa, el cine, la radio o la televisión					
Redactar cartas a parientes o amigos o cartas de negocios					
Recordar gentes y hechos históricos del pasado (guerra civil, república, etc.)					
Tomar decisiones tanto en cuestiones cotidianas (qué traje ponerse, qué comida preparar) como en asuntos a más largo plazo (dónde ir de vacaciones o invertir el dinero)					
Manejar asuntos financieros (cobrar la pensión, pagar la renta o los impuestos, tratar con el banco)					
Manejar dinero para la compra (cuánto dinero dar, calcular el cambio)					
Manejar otros problemas aritméticos cotidianos (tiempo entre visitas de parientes, cuánta comida comprar y preparar, especialmente si hay invitados)					
¿Cree que su inteligencia (en general) ha cambiado en algo durante los últimos 10 años?					
PUNTUACIÓN TOTAL					

PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

NAME: _____ DATE: _____

Over the last 2 weeks, how often have you been bothered by any of the following problems?
(use "✓" to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or helpless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself	0	1	2	3

add columns + +

(Healthcare professional: For interpretation of TOTAL, please refer to accompanying scoring card). TOTAL:

10. If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?	Not difficult at all	_____
	Somewhat difficult	_____
	Very difficult	_____
	Extremely difficult	_____

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PHQ-9 Patient Depression Questionnaire

For initial diagnosis:

1. Patient completes PHQ-9 Quick Depression Assessment.
2. If there are at least 4 ✓s in the shaded section (including Questions #1 and #2), consider a depressive disorder. Add score to determine severity.

Consider Major Depressive Disorder

- if there are at least 5 ✓s in the shaded section (one of which corresponds to Question #1 or #2)

Consider Other Depressive Disorder

- if there are 2-4 ✓s in the shaded section (one of which corresponds to Question #1 or #2)

Note: Since the questionnaire relies on patient self-report, all responses should be verified by the clinician, and a definitive diagnosis is made on clinical grounds taking into account how well the patient understood the questionnaire, as well as other relevant information from the patient.

Diagnoses of Major Depressive Disorder or Other Depressive Disorder also require impairment of social, occupational, or other important areas of functioning (Question #10) and ruling out normal bereavement, a history of a Manic Episode (Bipolar Disorder), and a physical disorder, medication, or other drug as the biological cause of the depressive symptoms.

To monitor severity over time for newly diagnosed patients or patients in current treatment for depression:

1. Patients may complete questionnaires at baseline and at regular intervals (eg, every 2 weeks) at home and bring them in at their next appointment for scoring or they may complete the questionnaire during each scheduled appointment.
2. Add up ✓s by column. For every ✓: Several days = 1 More than half the days = 2 Nearly every day = 3
3. Add together column scores to get a TOTAL score.
4. Refer to the accompanying PHQ-9 Scoring Box to interpret the TOTAL score.
5. Results may be included in patient files to assist you in setting up a treatment goal, determining degree of response, as well as guiding treatment intervention.

Scoring: add up all checked boxes on PHQ-9

For every ✓ Not at all = 0; Several days = 1; More than half the days = 2; Nearly every day = 3

Interpretation of Total Score

Total Score	Depression Severity
1-4	Minimal depression
5-9	Mild depression
10-14	Moderate depression
15-19	Moderately severe depression
20-27	Severe depression

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A2662B 10-04-2005

CUESTIONARIO DE SALUD DEL PACIENTE (PHQ-9) + 3

Lista de los Nueve Síntomas para Revisión de la Depresión

Nombre del Paciente: _____ Fecha De Nacimiento: _____ Fecha: _____

¿En las últimas dos semanas, con qué frecuencia ha experimentado los siguientes síntomas?

PREGUNTAS	Nunca	Varios días	Más de la mitad de los días	Casi todos los días
Conteste las preguntas 1-9 inicialmente y después todos los Puntos de Decisión Crítica (PDC)	0	1	2	3
1. Poco interés o placer en hacer cosas	0	0	0	0
2. Sentirse desanimado, deprimido o sin esperanza	0	0	0	0
3. Tener problemas para dormir, mantenerse dormido o dormir demasiado	0	0	0	0
4. Sentirse cansado o tener poca energía	0	0	0	0
5. Poco apetito o comiendo demasiado	0	0	0	0
6. Sentir falta de amor propio o pensar que es un fracaso o fallarle a usted mismo o a su familia	0	0	0	0
7. Tener dificultad en concentrarse en cosas tales como leer el periódico o ver televisión	0	0	0	0
8. El moverse o hablar tan despacio que otras personas a su alrededor se dan cuenta; o todo lo contrario, que cuando está nervioso/a o inquieto/a usted se mueva muchísimo más de lo normal.	0	0	0	0
9. Pensamientos de que pudiera estar mejor muerto o hacerse daño a si mismo. (Si contestó afirmativamente, complete la Evaluación de Riesgo de Suicidio)	0	0	0	0
PHQ-9 Scoring Formula				
# Symptoms	___ X 0 =	___ X 1 =	___ X 2 =	___ X 3 =
Per Category	___ +	___ +	___ +	___ =
PHQ-9 Total Score: _____				
10. Si contestó afirmativamente a cualquiera de los problemas en el cuestionario, ¿cuánta dificultad le han causado estos problemas en el trabajo, al atender su hogar o llevarse bien con otras personas?				
<input type="checkbox"/> Ninguna Dificultad <input type="checkbox"/> Alguna Dificultad <input type="checkbox"/> Mucha Dificultad <input type="checkbox"/> Muchísima Dificultad				
COMPLETE LAS PREGUNTAS 11 Y 12 SOLAMENTE EN LA VISITA INICIAL				
11. ¿En los últimos dos años, se ha sentido deprimido/a o triste la mayoría de los días, a pesar de sentirse bien en otras ocasiones?				
<input type="checkbox"/> Si <input type="checkbox"/> No				
12. ¿Ha habido un período, de al menos cuatro días, en los que se sentía tan feliz, con demasiada energía o tan irritable que se metió en problemas, o su familia o amigos se preocuparon o el médico le dijo que se encontraba en un estado maniaco?				
<input type="checkbox"/> Si <input type="checkbox"/> No				
Número de Teléfono: _____ ¿Se puede dejar mensaje? SI or NO Nota: _____				
Medication: _____ Dose: _____ Frequency: _____				
1 st copy to Medical Record			2 nd copy to Initiate Phone Protocol	

Geriatric Depression Scale (short form)

Instructions: Circle the answer that best describes how you felt over the past week.

- | | | |
|---|-----|----|
| 1. Are you basically satisfied with your life? | yes | no |
| 2. Have you dropped many of your activities and interests? | yes | no |
| 3. Do you feel that your life is empty? | yes | no |
| 4. Do you often get bored? | yes | no |
| 5. Are you in good spirits most of the time? | yes | no |
| 6. Are you afraid that something bad is going to happen to you? | yes | no |
| 7. Do you feel happy most of the time? | yes | no |
| 8. Do you often feel helpless? | yes | no |
| 9. Do you prefer to stay at home, rather than going out and doing things? | yes | no |
| 10. Do you feel that you have more problems with memory than most? | yes | no |
| 11. Do you think it is wonderful to be alive now? | yes | no |
| 12. Do you feel worthless the way you are now? | yes | no |
| 13. Do you feel full of energy? | yes | no |
| 14. Do you feel that your situation is hopeless? | yes | no |
| 15. Do you think that most people are better off than you are? | yes | no |

Total Score _____

Common scales used in the assessment of BPSD (Adapted from Tampi et al. (2011)²¹)

SCALE	TIME FOR COMPLETION (MINUTES)	SCORE RANGE	HIGHER SCORE MEANS
GENERAL ASSESSMENT SCALES			
Behavioral Pathology in Alzheimer's Disease Rating Scale	20	0-75	Greater severity of behavioral symptoms
Columbia University Scale for Psychopathology in Alzheimer's Disease (CUSPAD)	25	0-51	Greater severity of behavioral symptoms
Consortium to Establish a Registry for Alzheimer's Disease Behavior Rating Scale for Dementia (CERAD-BRSD)	30	0-148	Greater severity of behavioral symptoms
Neuropsychiatric Inventory	20	1-144	Greater severity of behavioral symptoms
SPECIFIC ASSESSMENT SCALES			
Apathy Inventory (Clinician Version)	5	0-12	Greater apathy
Cohen-Mansfield Agitation Inventory (CMAI)	15	29-203	Greater severity of behavioral symptoms
Cornell Scale for Depression in Dementia	30	0-38	Greater severity of depression

Preparing for Your Doctor's Visit

Fill out the information below to the best of your ability. Share it with your doctor. Be open and honest in answering any questions your doctor may ask you about the changes you've been experiencing. It is recommended to bring someone with you, either a family member or someone who knows you well enough to contribute information and can take notes so you don't have to worry about remembering anything.

Has your health, memory or mood changed?

How did it change?

When did you first notice the change?

How often does it happen?

When does it happen? Is it always at a certain time of day?

What do you do when it happens?

What behaviors are the same?

Do you have problems with any of the following?

Please check the answer.

Repeating or asking the same thing over and over?

Not at all Sometimes Frequently Does not apply

Remembering appointments, family occasions, holidays?

Not at all Sometimes Frequently Does not apply

Writing checks, paying bills, balancing the checkbook?

Not at all Sometimes Frequently Does not apply

Shopping independently (e.g., for clothing or groceries)?

Not at all Sometimes Frequently Does not apply

Taking medications according to the instructions?

Not at all Sometimes Frequently Does not apply

Getting lost while walking or driving in familiar places?

Not at all Sometimes Frequently Does not apply

Medications and medical history

List of medications (dosage, frequency) including over-the-counter and prescription: (Bring all over-the-counter and prescription medications with you to your visit.)

List vitamins and herbal supplements:

List current medical conditions:

List past medical conditions:

What to bring with you to your doctor visit

Bring someone with you, either a family member or someone who knows you well enough to contribute information and can take notes so you don't have to worry about remembering everything.

Bring all over-the-counter and prescription medications.

Bring your Advance Directives if you have them.

Questions to ask the doctor

What are tests I need to take and how long will it take to get a diagnosis? Will you refer me to a specialist?

Could the medicines I'm taking be causing my symptoms?

Do I have any other conditions that could be causing my symptoms or making them worse?

What should I expect if it is Alzheimer's?

Which treatments are available for Alzheimer's? What are the risks and benefits and possible side effects?

What about participating in a clinical trial? What are the risks and benefits?

Is there anything else I should know?

When should I come back for another visit?

Where can I get information about Advance Directives if I don't have one yet?

This tool was amended from tools developed by the Alzheimer's Association. Some information in this tool was developed for the Chronic Care Networks for Alzheimer's Disease (CCN/AD) project and is the joint property of the Alzheimer's Association and the National Chronic Care Consortium.

Information and Resources for Caregivers

Information and Resource Lines

- 211: County-wide info/resources, <http://211sandiego.org>
- Aging & Independence Services: (800) 510-2020, specific info/resources for older adults, including Adult Protective Services, <http://sandiegocounty.gov/hhsa/programs/ais/>
- Alzheimer's Association: (800) 272-3900, Alzheimer's disease specific <http://info/resources; alz.org>
- Alzheimer's San Diego: (858) 492-4400, San Diego based resource organization; <http://alzsd.org>
- Southern Caregiver Resource Center: (800) 827-1008, Caregiver focused information and resources <http://caregivercenter.org/>

Alzheimer's-Specific Resources

- Alzheimer's Association: (800) 272-3900, Includes information on specific behavioral issues
- Alzheimer's San Diego: (858) 492-4400, <http://alzsd.org>
- Glenner Center: (619) 543-4700, <http://glenner.org>
- Southern Caregiver Resource Center: (800) 827-1008, <http://caregivercenter.org>
- UC San Diego Shiley-Marcos Alzheimer's Disease Research Center: (858) 822-4800, <http://adrc.ucsd.edu>

Common Needs Resources

- California Department of Aging, 916-322-5290, <http://www.aging.ca.gov>
- Caregiver Resources: Southern Caregiver Resource Center, (800) 827-1008, <http://caregivercenter.org>
- Health Insurance Resources: Health, Information, Counseling & Advocacy Program (HICAP), (858) 565-1392, <http://www.cahealthadvocates.org>

- In-Home Care Resources: In-Home Supportive Services, (800) 510-2020, <http://sandiegocounty.gov/hhsa/programs/ais/>
- Jewish Family Services Older Adult Helpline (858) 637-3040, <http://www.jfssd.org>
- Legal Resources: Elder Law & Advocacy, (858) 565-1392, <http://www.seniorlaw-sd.org>
- SeniorHelp.org Directory for assisted living communities, in-home caregivers, etc. (866) 333-5183
- US Department of Health and Human Services Administration on Aging, <http://www.aoa.gov>
- VA San Diego Healthcare System Caregiver Support. www.caregiver.va.gov (619) 497-8424
- Getting to Know Dementia: A Patient's Guide to Diagnosis, Treatment and Care, Fourth Edition, 2011. UBC eHealth Strategy Office, 855 W 10th Avenue, Vancouver, British Columbia, Canada, V5Z http://www.iconproject.org/dnn_icon/Portals/0/Docs/2011-06-08-GTKDEnglish-Web.pdf
- Mace, N. & Rabins, P. The 36-Hour Day: A Family Guide to Caring for People with Alzheimer's Disease, other Dementias, and Memory Loss in Later Life.

Conversation Project:

http://theconversationproject.org/wp-content/uploads/2016/05/TCP_StarterKit_Alzheimers.pdf

Safety Resources

- Alzheimer's Association "Safe Return" program using identification products such as necklaces and bracelets, wallet cards, clothing labels with toll free 800 numbers on them www.alz.org/SafeReturn
- Adult Protective Services: (800) 510-2020, for elder and disabled adult abuse reporting
- SD County Sheriff's "Take Me Home" Program and You Are Not Alone Program: www.sdsheriff.net/tmh (info on registering)

Effective Communication with Individual with Cognitive Issues

Tips for improved communications:

- Make just one request at a time.
- Speak slowly with good diction.
- Allow time for the individual to respond to your question or request.
- Use many of the five senses with the individual: sight, smell, touch, taste, sound.
- Maintain eye contact.
- Assume a comfortable, relaxed posture to make the individual at ease.
- Identify and reflect the individual's concerns, "I see you are uncomfortable..."
- Use simple, direct statements or requests.

Using Redirection to Improve Communications

Redirection is an intention method of refocusing the individual to remain calm, cooperative, content and safe. Often, individuals with cognitive issues may be frustrated or agitated due to their inability to effectively communicate or have their needs met. It is key to enter the individual's reality, approach in a calm manner, and communicate your desire to help.

- Present options: "Would you like this or this?"
- Compliment: "My that's a beautiful sweater!"
- Request Help: "Can you please help me fold these towels?"

- Helpful Distractions: Food, drink, reminiscent stories, music, humor
- Validate: "You look worried."
- Distract: "Let's look over there..." "Let's plan to do that later. In the meantime, ..."
- Redirect: "That coffee smells good. Do you want a cup?"

Common Delusions in Individuals with Dementia

- Accusations of infidelity,
- Persons or images from TV are real,
- Fear of abandonment,
- Accusations of theft of one's property,
- Claims of impersonation (spouse is imposter),
- Current residence is not one's home,
- Misidentification of familiar persons.

THE ALZHEIMER'S Project
San Diego unites for a cure and care



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SAN DIEGO

<https://championsforhealth.org/alzheimers>