Short Clinical Guidelines:
Dementia, Diagnosis and Management

Definition
Dementia is a syndrome of acquired cognitive defects sufficient to interfere with social or occupational functioning that results from various central neurodegenerative and ischemic processes. The most common types of dementia include Alzheimer disease, vascular dementia, Lewy body dementia, and mixed dementia.

To diagnose dementia, there must be short-term and long-term memory loss, impairment of at least one other area of cognition, and decreased function in daily life which must constitute a decline from prior ability.

Stages of Dementia
1. Preclinical – physical changes are occurring within the brain, but significant clinical symptoms are not yet evident.

2. Mild Cognitive Impairment (MCI) – symptoms of memory problems enough to be noticed but not enough to compromise independence.

3. Alzheimer’s Dementia – in addition to increasing memory problems, a decline in cognition, visual/spatial issues and impaired reasoning and judgment.

Evaluation for Dementia
Evaluation should include solicited input from family/caregiver in addition to the patient.

1. Risk factors:
   a. Age
   b. Presence of apolipoprotein E_4_
   c. Cardiovascular disease
   d. Mild cognitive impairment
   e. History of head trauma or concussion
   f. Depression if presenting for the first time at an older age
   g. Diabetes (although this is controversial)

2. Patient history to include:
   a. History of present complaint/illness
   b. Past medical history
   c. Past psychiatric history
   d. Family history
   e. Social history
   f. Current/past medication

3. Mental status evaluation:
   a. Appearance
   b. Attitude toward examiner
   c. Mood
   d. Affect
   e. Speech
   f. Thought processes/content
   g. Insight

Adapted from the following resources by Riverside Physician Network Medical Practice Committee:
Alzheimer’s Foundation of America
National Guideline Clearinghouse, Department of Health and Human Resources

Review date: 9/2013, 9/2015
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h. Judgment
i. Impulsivity
j. Reliability

4. Cognitive testing (best indication occurs with sequential testing):
   a. Mini-cog (attachment 1)
   b. Mini-Mental State Examination (attachment 2)
   c. Geriatric Depression Scale (attachment 3)

5. Medical testing:
   a. Lab tests (based on history/physical findings)
      i. CBC with differential
      ii. Urinalysis
      iii. Urine drug screen
      iv. TSH/Thyroid function
      v. HIV
      vi. Vitamin B12/Folate
      vii. PT/PTT/INR
      viii. Specific drug levels
      ix. Hepatitis panel
      x. Copper level
   b. Imaging studies (based on history/physical findings)
      i. CT scan
      ii. MRI
      iii. PET scan

Core clinical criteria for diagnosis of mild cognitive impairment (MCI)
Best assessed over a period of time and with sequential cognitive testing

1. Concern regarding a change in cognition in comparison to the person’s previous level as expressed by the patient, from an informant or the clinician

2. Impairment in one or more cognitive domains greater than would be expected for age and education level. These domains include:
   a. Memory
   b. Executive function
   c. Attention
   d. Language
   e. Visuospatial skills

3. Preservation of independence in functional abilities, although they may take more time, be less efficient, and make more errors at performance of these tasks

4. Cognitive changes are sufficiently mild that there is no impairment in social or occupational function
Core clinical criteria for diagnosis of Alzheimer’s Dementia
Alzheimer’s Dementia is diagnosed when there are cognitive or behavioral symptoms that:
1. Interfere with the ability to function at work or at usual activities
2. Represent a decline from previous levels of functioning and performing
3. Are not explained by delirium or major psychiatric disorder
4. Cognitive impairment is detected and diagnosed through a combination of the above listed evaluation measures
5. The cognitive or behavioral impairment involves a minimum of two of the following domains:
   a. Impaired ability to acquire and retain new information
   b. Impaired reasoning and handling of complex tasks, poor judgment
   c. Impaired visuospatial abilities
   d. Impaired language functions
   e. Changes in personality

Treatment Goals
1. Delay progression of syndrome
2. Improve/manage behavioral symptoms
3. Decrease burden of care

Treatment of MCI/Alzheimer’s Dementia:
1. Medication
   a. Acetyl cholinesterase inhibitor (ACIs)
      i. Aricept (Donepezil Hydrochloride) 5-23 mg daily
      ii. Razadyne (Galantamine hydrobromide) 4-24 mg daily
      iii. Exelon (Rivastigmine tartrate) 1.5-12 mg daily
   b. NMDA receptor antagonist
      i. Namenda (Memantine hcl) 5-28 mg daily
   c. SSRIs in appropriate geriatric dose for depression
2. Behavioral management
   a. Visual cues
   b. Simple commands
   c. Distraction and diversion
   d. Comfort measures
   e. Establish and keep routines

Assisting caregivers:
1. Provide education about the disease
2. Review safety issues
   a. Fall prevention
   b. Burn prevention
   c. Wandering
   d. Medication control
3. Discuss available resources both inside and outside of immediate family
4. Discuss financial, legal and long-term care planning issues
5. Discuss how to avoid burnout
Short Clinical Guidelines:
Dementia, Diagnosis and Management

a. Join support groups
b. Exercise
c. Good diet
d. Making time for self

6. Review how to access care when needed
7. Encourage open communication between patient/caregiver/clinician

Attached samples of testing tools are provided for your reference/use

More information and tips are available at www.alzfdn.org
Short Clinical Guidelines:
Dementia, Diagnosis and Management

GPCOG Screening Test

**Step 1: Patient Examination**
*Unless specified, each question should only be asked once*

**Name and Address for subsequent recall test**

1. “I am going to give you a name and address. After I have said it, I want you to repeat it. Remember this name and address because I am going to ask you to tell it to me again in a few minutes: John Brown, 42 West Street, Kensington.” (allow a maximum of 4 attempts)

2. **Time Orientation**
   - What is the date? (exact only)
   - [ ] Correct
   - [ ] Incorrect

**Clock Drawing – use blank page**

3. Please mark in all the numbers to indicate the hours of a clock (correct spacing required)
   - [ ] Correct
   - [ ] Incorrect

4. Please mark in hands to show 10 minutes past eleven o’clock (11.10)
   - [ ] Correct
   - [ ] Incorrect

**Information**

5. Can you tell me something that happened in the news recently?
   - (Recently = in the last week. If a general answer is given, e.g. "war", "lot of rain", ask for details. Only specific answer scores)
   - [ ] Correct
   - [ ] Incorrect

**Recall**

6. What was the name and address I asked you to remember
   - John
     - [ ] Correct
     - [ ] Incorrect
   - Brown
     - [ ] Correct
     - [ ] Incorrect
   - 42
     - [ ] Correct
     - [ ] Incorrect
   - West (St)
     - [ ] Correct
     - [ ] Incorrect
   - Kensington
     - [ ] Correct
     - [ ] Incorrect

(To get a total score, add the number of items answered correctly)

Total correct (score out of 9) /9

If patient scores 9, no significant cognitive impairment and further testing not necessary
If patient scores 5-8, more information required. Proceed with Step 2, information section
If patient scores 0-4, cognitive impairment is indicated. Conduct standard investigations

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Review date: 9/2013, 9/2015
Effective date: October, 2011
Informant Interview

Informant’s Name: ______________________________________________________

Informant’s relationship to patient, i.e. informant is the patient’s: ____________________________

These six questions ask how the patient is compared to when s/he was well, say 5 – 10 years ago

Compared to a few years ago:

- Does the patient have more trouble remembering things that have happened recently than s/he used to?  
  - Yes  
  - No  
  - Don’t Know  
  - N/A

- Does he or she have more trouble recalling conversations a few days later?  
  - Yes  
  - No  
  - Don’t Know  
  - N/A

- When speaking, does the patient have more difficulty in finding the right word or tend to use the wrong words more often?  
  - Yes  
  - No  
  - Don’t Know  
  - N/A

- Is the patient less able to manage money and financial affairs (e.g. paying bills, budgeting)?  
  - Yes  
  - No  
  - Don’t Know  
  - N/A

- Is the patient less able to manage his or her medication independently?  
  - Yes  
  - No  
  - Don’t Know  
  - N/A

- Does the patient need more assistance with transport (either private or public)?  
  - Yes  
  - No  
  - Don’t Know  
  - N/A
  (if the patient has difficulties due only to physical problems, e.g. bad leg, tick ‘no’)

To get a total score, add the number of items answered ‘no’, don’t know or ‘N/A”

Total score (out of 6) _________

If patient scores 0-3, cognitive impairment is indicated. Conduct standard investigations.

Brodaty et al, JAGS 2002; 50:530-534
Short Clinical Guidelines:
Dementia, Diagnosis and Management

GPCOG Patient Examination
Unless specified, questions should be asked only once.

Date:  

Time:  

Name and address for subsequent recall test
1. I am going to give you a name and address. After I have said it, I want you to repeat it. Remember this name and address because I am going to ask you to tell it to me again in a few minutes. John Brown, 42 West St, Kensington. (Allow a maximum of 4 attempts but do not score yet)

<table>
<thead>
<tr>
<th>Time Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. What is the date? (Accept exact date only)</td>
</tr>
</tbody>
</table>

Correct  Incorrect

Clock drawing (visual-spatial functioning) – use page with printed circle
3. Please mark in all the numbers to indicate the hours of a clock (correct spacing required)
4. Please mark in the hands to show 10 minutes past eleven o’clock (11.10)

Information
5. Can you tell me something that happened in the news recently? (Recently = in the last week)

Recall
6. What was the name and address I asked you to remember?
   - John
   - Brown
   - 42
   - West (St)
   - Kensington

Score /9

9/9 = likely cognitively intact – no need for informant interview
5-8/9 = Uncertain – needs informant interview
4/9 or less = likely cognitively impaired, no need for informant interview – refer for follow up

GPCOG Informant Interview

Informant’s name: ........................................ Relationship to patient: ........................................

Ask the informant: “Compared to a few years ago…”

<table>
<thead>
<tr>
<th>Does the patient have more trouble remembering things that happened recently?</th>
<th>Yes</th>
<th>No</th>
<th>Don’t Know</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the patient have more trouble recalling conversations a few days later?</td>
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<td></td>
<td></td>
<td></td>
</tr>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is the patient less able to manage his or her medication independently?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the patient need more assistance with transport? (Either public or private)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To get a total score, add the numbers of items answered “no”, “don’t know” or “N/A”. Total score ___ / 6

3/6 or less: Cognitive impairment indicated. Refer for follow up


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Scoring Guidelines
Clock drawing. For a correct response to question 3, the numbers 12, 3, 6 & 9 should be in the correct quadrants of the circle and the other numbers approximately placed. For a correct response to question 4, the hands should be pointing to the 11 and the 2, but do not penalise if the respondent fails to distinguish between the long and the short hands.
Information: Respondents are not required to provide extensive details, as long as they demonstrate awareness of a recent news story. If a general answer is given such as “war” or “a lot of rain”, ask for details. If unable to give details, the answer should be scored as incorrect.

Name: ........................................ Signature: ..................................................


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Review date: 9/2013, 9/2015
Effective date: October, 2011
**Mini-Mental State Examination (MMSE)**

Patient's Name: ___________________________ Date: ______________

*Instructions: Ask the questions in the order listed. Score one point for each correct response within each question or activity.*

<table>
<thead>
<tr>
<th>Maximum Score</th>
<th>Patient’s Score</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
<td>“What is the year? Season? Date? Day of the week? Month?”</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>“Where are we now? State? County? Town/city? Hospital? Floor?”</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>The examiner names three unrelated objects clearly and slowly, then asks the patient to name all three of them. The patient’s response is used for scoring. The examiner repeats them until patient learns all of them, if possible. Number of trials: ____________</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>“I would like you to count backward from 100 by sevens.” (93, 86, 79, 72, 65, ...) Stop after five answers. Alternative: “Spell WORLD backwards.” (D-L-R-O-W)</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>“Earlier I told you the names of three things. Can you tell me what those were?”</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Show the patient two simple objects, such as a wristwatch and a pencil, and ask the patient to name them.</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>“Repeat the phrase: ‘No ifs, ands, or buts.’”</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>“Take the paper in your right hand, fold it in half, and put it on the floor.” (The examiner gives the patient a piece of blank paper.)</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>“Please read this and do what it says.” (Written instruction is “Close your eyes.”)</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>“Make up and write a sentence about anything.” (This sentence must contain a noun and a verb.)</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>“Please copy this picture.” (The examiner gives the patient a blank piece of paper and asks him/her to draw the symbol below. All 10 angles must be present and two must intersect.)</td>
</tr>
<tr>
<td>30</td>
<td>TOTAL</td>
<td>(Adapted from Rovner &amp; Folstein, 1987)</td>
</tr>
</tbody>
</table>

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Review date: 9/2013, 9/2015
Effective date: October, 2011
Instructions for administration and scoring of the MMSE

Orientation (10 points):
- Ask for the date. Then specifically ask for parts omitted (e.g., "Can you also tell me what season it is?"). One point for each correct answer.
- Ask in turn, "Can you tell me the name of this hospital (town, county, etc.)?" One point for each correct answer.

Registration (3 points):
- Say the names of three unrelated objects clearly and slowly, allowing approximately one second for each. After you have said all three, ask the patient to repeat them. The number of objects the patient names correctly upon the first repetition determines the score (0-3). If the patient does not repeat all three objects the first time, continue saying the names until the patient is able to repeat all three items, up to six trials. Record the number of trials it takes for the patient to learn the words. If the patient does not eventually learn all three, recall cannot be meaningfully tested.
- After completing this task, tell the patient, "Try to remember the words, as I will ask for them in a little while."

Attention and Calculation (5 points):
- Ask the patient to begin with 100 and count backward by sevens. Stop after five subtractions (93, 86, 79, 72, 65). Score the total number of correct answers.
- If the patient cannot or will not perform the subtraction task, ask the patient to spell the word "world" backwards. The score is the number of letters in correct order (e.g., dirow=5, dlrow=3).

Recall (3 points):
- Ask the patient if he or she can recall the three words you previously asked him or her to remember. Score the total number of correct answers (0-3).

Language and Praxis (9 points):
- Naming: Show the patient a wrist watch and ask the patient what it is. Repeat with a pencil. Score one point for each correct naming (0-2).
- Repetition: Ask the patient to repeat the sentence after you ("No ifs, ands, or buts."). Allow only one trial. Score 0 or 1.
- 3-Stage Command: Give the patient a piece of blank paper and say, "Take this paper in your right hand, fold it in half, and put it on the floor." Score one point for each part of the command correctly executed.
- Reading: On a blank piece of paper print the sentence, "Close your eyes," in letters large enough for the patient to see clearly. Ask the patient to read the sentence and do what it says. Score one point only if the patient actually closes his or her eyes. This is not a test of memory, so you may prompt the patient to "do what it says" after the patient reads the sentence.
- Writing: Give the patient a blank piece of paper and ask him or her to write a sentence for you. Do not dictate a sentence; it should be written spontaneously. The sentence must contain a subject and a verb and make sense. Correct grammar and punctuation are not necessary.
- Copying: Show the patient the picture of two intersecting pentagons and ask the patient to copy the figure exactly as it is. All ten angles must be present and two must intersect to score one point. Ignore tremor and rotation.

(Folstein, Folstein & McHugh, 1975)
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**Interpretation of the MMSE**

<table>
<thead>
<tr>
<th>Method</th>
<th>Score</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Cutoff</td>
<td>&lt;24</td>
<td>Abnormal</td>
</tr>
<tr>
<td>Range</td>
<td>&lt;21</td>
<td>Increased odds of dementia</td>
</tr>
<tr>
<td></td>
<td>&gt;25</td>
<td>Decreased odds of dementia</td>
</tr>
<tr>
<td>Education</td>
<td>21</td>
<td>Abnormal for 8th grade education</td>
</tr>
<tr>
<td></td>
<td>&lt;23</td>
<td>Abnormal for high school education</td>
</tr>
<tr>
<td></td>
<td>&lt;24</td>
<td>Abnormal for college education</td>
</tr>
<tr>
<td>Severity</td>
<td>24-30</td>
<td>No cognitive impairment</td>
</tr>
<tr>
<td></td>
<td>18-23</td>
<td>Mild cognitive impairment</td>
</tr>
<tr>
<td></td>
<td>0-17</td>
<td>Severe cognitive impairment</td>
</tr>
</tbody>
</table>

**Sources:**

Source: [www.medicine.uiowa.edu/igec/tools/cognitive/MMSE.pdf](http://www.medicine.uiowa.edu/igec/tools/cognitive/MMSE.pdf)  
Provided by NHCQF, 0106-410
Short Clinical Guidelines:  
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Geriatric Depression Scale (Short Form)

For each question, choose the best answer for how you felt over the past week.

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

The scale is scored as follows: 1 point for each response in capital letters. A score of 0 to 5 is normal; a score above 5 suggests depression.

Mini-Mental State. Adapted with permission form Sheikh JI, Yesavage JA. Geriatric Depression Scale (GDS); recent evidence and development of a shorter version. Clin Gerontol 1986; 5: 165-72

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