

Clinical practice guideline for the

# Diagnosis and management of dementia



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## Limitations:

The Clinical Practice Guideline Committee (CPGC) provides this product for the educational benefit of the contracted practitioners of the Fallon Community Health Plan. **This document is a guideline, and is not meant to replace any practices based on clinical judgment, experience or specific aspects of individual patient situations.**

## Goals:

- Provide effective and efficient screening criteria for all patients with dementia.
- Accurate identification of dementia and management of dementia patient.

## Timetable:

Date final draft approved by Clinical Practice Guidelines Committee: April 12, 2002

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## Introduction

Dementia is a common disorder in the elderly, involving as many as 10% of those over the age of 65, with the prevalence increasing to over 45% at age 85 and above.

The quality standards subcommittee of the American Academy of Neurology (AAN) has developed practice parameters for physicians. That evidence-based review addresses major issues in the diagnosis and management of dementia. We have relied heavily on the AAN document for this guideline.

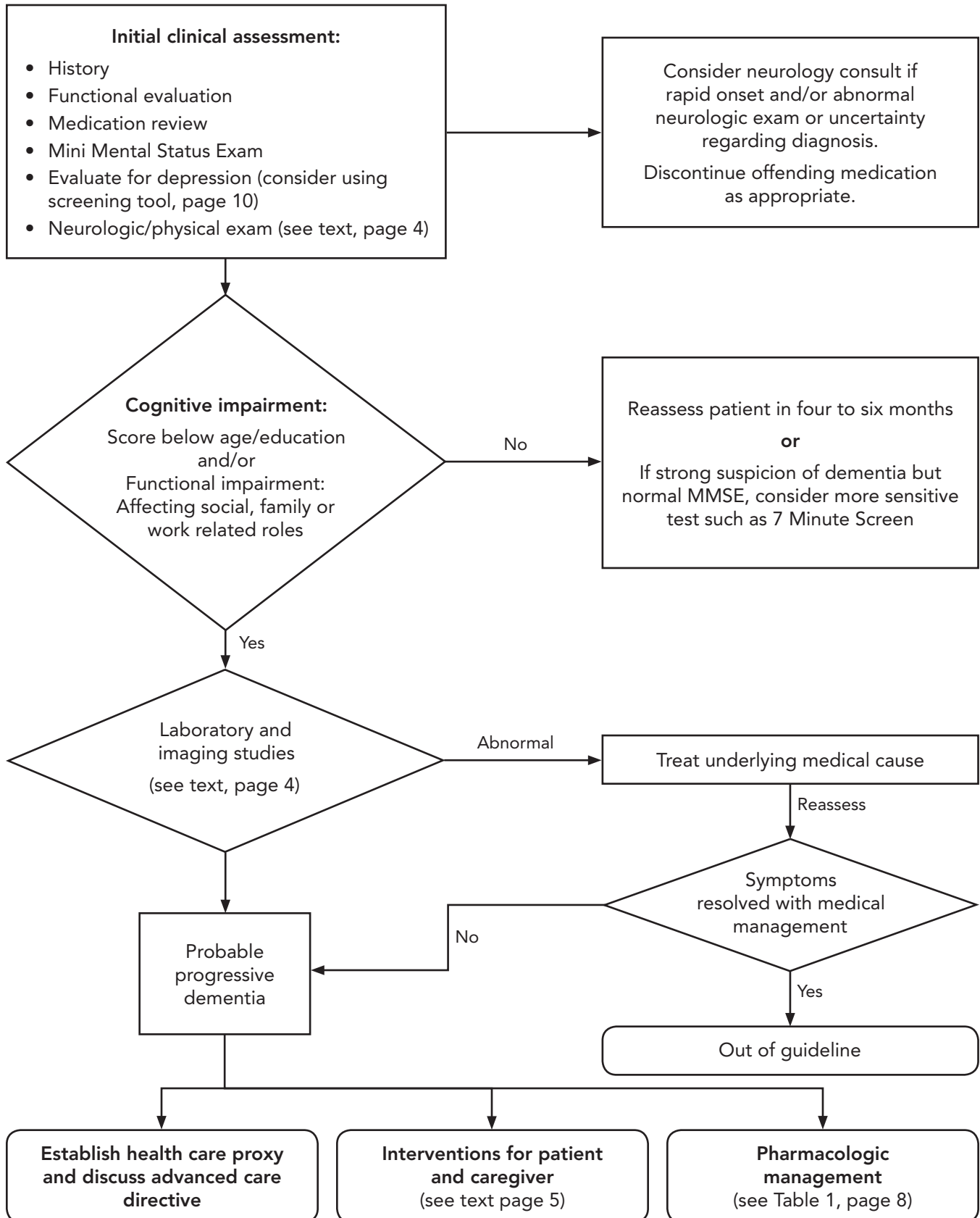
As the United States population ages, the incidence and prevalence of various dementias will increase in the absence of new methods for preventing or reversing dementia. The NIH estimates that there will be 8.5 million Americans with Alzheimer's disease by the year 2030, and an unknown number of people with other dementias. There are additional considerations concerning quality of life, caregiver burden, health service utilization, institutionalization and mortality that must be addressed.

The diagnostic formulations of dementia that are most widely used in North America are based on the definitions contained in the National Institute of Neurological Communicative Disorders and Stroke/Alzheimer's Disease and Related Disorders Association (NINCDS-ADRDA) Work Group, and the *Diagnostic and Statistical Manual, 4th edition (DSM-IV)*. The DSM-IV states: "The essential feature of dementia is impairment in short and long term memory, associated with impairment in abstract thinking, impaired judgment, other disturbances of higher cortical function or personality change. The disturbance is severe enough to interfere significantly with work or usual social activities or relationships with others. The diagnosis of dementia is not made if these symptoms occur in delirium."

## Ten warning signs of dementia

- Memory loss that affects job skills
- Difficulty performing familiar tasks
- Problems with language
- Disorientation to time and place
- Poor or decreased judgment
- Problems with abstract thinking
- Misplacing things
- Changes in mood or behavior
- Changes in personality
- Loss of initiative

## Algorithm 1: Diagnosis and management of dementia



## Assessment and diagnosis

- **History:** Should establish chronic progressive time course of cognitive and/or personality changes as well as pertinent PMH including CVAs, gait disorder, incontinence or ETOH abuse.
- **Functional evaluation:** Focuses on social, family and work-related roles to identify significant changes as perceived by others.
- **Medication review:** Looking to discontinue drugs that can impair cognition, especially benzodiazepines, tricyclics, and anticholinergic agents.
- **Mini Mental State Exam:** Adjust for age and education (see page 9). The MMSE is available from its publisher, Psychological Assessment Resources. Call 1-800-331-8378 or visit [www.minimental.com](http://www.minimental.com) on the Web.
- **Evaluate for depression:** Patients with any clinical suspicion of depressed mood or vegetative symptoms should be assessed further with a screening tool such as the PHQ-9 survey, as shown on page 10. If depression is confirmed, the patient should receive antidepressant therapy before any trial of dementia-specific medication.
- **Physical exam:** A complete neurological exam should be performed, along with any general exam elements which have not been documented in the prior year. Abnormalities related to gait, motor control and tremor should be carefully noted since these findings may suggest specific etiologies for dementia.
- **Lab tests:** The American Academy of Neurology no longer recommends syphilis screening in the absence of clinical findings to suggest this disorder. Screening tests should be performed for B12 deficiency, hypothyroidism and electrolyte disorders. HIV screening should be requested for patients with clinical findings to suggest that disorder, and for patients with dementia before age 50.
- **Neurological imaging:** The Academy of Neurology currently recommends brain CT or MRI for all patients with confirmed dementia, including those without other neurological deficits, since patients with frontal tumors, NPH, bilateral subdurals and other dementing disorders may have no localizing findings.
- If a patient fails to respond to management/treatment of apparently reversible dementia, suggest return to step one of the evaluation algorithm.

## Dementia management

### Interventions for patient and caregiver

- Patients with clinically significant dementia should be counseled not to drive. Decisions regarding license restrictions for drivers with AD must be made in compliance with appropriate state laws and in consultation with the individual patient and family.
- Social services referral, including assessment of caregiver
- Consider social services and case management referrals for those patients who have cognitive dysfunction.
- Case management referral, to coordinate resources and care plan.
- Education intervention for patients and caregivers:
  - Changes in home environment
  - Specific training for caregivers
  - Development of bowel and bladder routines, importance of diet and hydration, and prevention of skin breakdown

### Pharmacologic interventions

- Cholinesterase inhibitors (see Table 1, page 8) should be discussed and offered for patients with mild or moderate dementia, even though the clinical benefit may be modest and temporary. Treated patients should be assessed within six months, including repeat MMSE to assess response to therapy. A favorable response can be characterized as stabilization or improvement of symptoms. Patients on cholinesterase inhibitors will eventually show deterioration but the drug may be continued until the patient's dementia has progressed to a severe category such that no further benefit can be expected.
- Memantine hydrochloride is currently approved for treating moderate to severe dementia. Dose adjustment may be required for patients with impaired renal function. Memantine may also be beneficial when used in combination with cholinesterase inhibitors in those with moderate to advanced dementia.
- Consider neurology consultation if patient does not respond to initial pharmacologic interventions.

### Pharmacologic management of behavioral symptoms

- Use antipsychotics to treat agitation or psychosis in patients with dementia when environmental manipulation fails. Starting doses should be low (see Table 1, page 8). The risks and benefits of pharmacologic management for agitation and psychosis should be discussed with the caregiver.
- SSRIs are the preferred agents for treatment of comorbid depression because of their favorable side effect profiles and safety.

## Prevalent dementias

Dementia is a syndrome with many causes. Approximately 10% of all persons over the age of 65 have significant memory loss; in more than half the cases the cause is Alzheimer’s disease. In the early stages of the disease, the memory loss may go unrecognized or may be ascribed to benign forgetfulness. Slowly, the cognitive problems begin to interfere with daily activities, such as keeping track of finances, following instructions on the job, driving, shopping and housekeeping. Early in the disease course, other etiologies of dementia should be excluded.

<p><b>Alzheimer’s disease (AD)</b> (Cause of at least 60%* of dementia cases)</p>	<p>AD should be detected and treated early. Patients with mild cognitive impairment should be identified and monitored for progression to AD. The clinical criteria for diagnosing AD are reliable and valid. Although AD is not curable, there are treatment and care options available that can manage symptoms, improve quality of life and delay time to nursing home placement.</p>
<p><b>Vascular dementia (VAD)</b> (Cause of 10-20%* of dementia cases; however, diagnostic criteria are not well defined)</p>	<p>Dementia due to the cognitive impact of one or more strokes. The cumulative burden of cerebrovascular disease is documented by history, focal neurological signs and symptoms, and/or imaging studies. The degree to which strokes alone are responsible for dementia is unclear. One study estimated that 8% of individuals over 60 who have a stroke develop dementia within the following year, compared to 1% of age-matched individuals without a history of stroke. Vascular dementia as a unique entity may be less frequent than previously thought.</p>
<p><b>Dementia with Lewy bodies (DLB)*</b> (Cause of substantial proportion of dementia cases, exact percentage unknown)</p>	<p>Lewy body disease is a disorder that has been defined clinically by the presence of dementia, gait/balance disorder, prominent hallucinations and delusions, sensitivity to traditional antipsychotics, fluctuations in alertness and spontaneous motor features of parkinsonism.</p>
<p><b>Prion diseases</b></p>	<p>Prion disorders such as Creutzfeldt-Jakob Disease (CJD) are rare conditions. CJD is a rapidly progressive disease associated with a slow virus or a prion (protein infectious particle). CJD is characterized by rapid progression of dementia, rigidity and myoclonus, and the affected individual is usually under the age of 50.</p>
<p><b>Frontotemporal dementia (FTD)</b></p>	<p>Frontal lobe dementias often present before age 60 and are characterized by changes in personality, executive dysfunction (planning, initiating, and regulating behavior), deterioration of social skills, emotional blunting, behavioral disinhibition, and prominent language abnormalities. Pick’s disease is an example of this type of dementia and can be difficult to differentiate from AD.</p>
<p><b>Pseudodementia</b> (severe depression)</p>	<p>There is often a past history of long-term depression. Unlike cortical dementias, memory and language are usually intact when carefully tested in depressed persons. The patient may feel confused and is unable to accomplish routine tasks. Vegetative symptoms such as insomnia, lack of energy, poor appetite and concern with bowel function are common.</p>

\*Numbers are approximations. Alzheimer’s disease, vascular dementia and dementia with Lewy bodies account for 90% of dementia cases.

## Prevalent dementias, continued

<p><b>Normal pressure hydrocephalus (NPH)</b></p>	<p>Normal pressure hydrocephalus is frequently considered but difficult to diagnose with certainty. Clinically, a triad of memory loss, gait disturbance and bladder incontinence is typical. The gait abnormality is often the initial symptom, and the dementia is usually mild. Most confirmed cases have markedly enlarged ventricles on CT/MRI.</p>
<p><b>Alcohol-induced persistent dementia</b></p>	<p>Continuous heavy alcohol consumption is also associated with progressive and gradual development of multiple cognitive deficits characterized by memory impairment, apraxia, agnosia, or disturbances in executive functioning, and persists beyond the duration of alcohol intoxication and withdrawal. Continuous alcohol consumption exacerbates the dementia, whereas alcohol cessation is associated with improvement and even recovery of cognitive deficits.</p>
<p><b>Other degenerative dementias</b></p>	<p><b>HIV dementia</b> Between 20% and 30% of patients in the advanced stages of infection with HIV become demented. Cardinal features include psychomotor retardation, apathy and impaired memory.</p> <p><b>Parkinson's disease</b> It is estimated that 20% to 30% of Parkinson's patients develop dementia. The occurrence of dementia in Parkinson's disease is more likely with increasing age, increasing severity of extrapyramidal signs, and the presence of depression. These patients may also show cortical atrophy on brain imaging.</p> <p><b>Huntington's disease</b> Depression, apathy, social withdrawal, irritability and intermittent disinhibition are common, in combination with the characteristic movement disorder.</p> <p><b>Progressive supranuclear palsy</b> The dementia is considered to be of the subcortical type, with slowed thought processes, impaired verbal fluency, and difficulty with sequential actions and with shifting from one task to another.</p>

More than one dementing disorder may be present in a given patient, and it may be difficult to obtain a clear definition of the contributing etiologies in each case. A trial of a cholinesterase inhibitor for possible AD may therefore be appropriate even when the patient has clinical findings that suggest a component of vascular dementia, Parkinson's disease or Lewy body dementia.

Table 1

<b>Dementia medications</b>			
Physicians are encouraged to use the MMSE to assess therapeutic efficacy of medications.			
<b>Acetylcholinesterase inhibitors</b>			
<b>Medication</b>	<b>Titration doses</b>	<b>Target dose</b>	<b>Side-effects</b>
Donepezil (Aricept®)	5 mg q.d. x 4-6 weeks (titrate to target dose) 10 mg q.d. thereafter if tolerated	10 mg q.d.	Nausea, vomiting, diarrhea, insomnia, fatigue, muscle cramps, anorexia.
Rivastigmine (Exelon®)	1.5 mg b.i.d. x 2 weeks 3 mg b.i.d. x 2 weeks 4.5 mg b.i.d. x 2 weeks	6 mg b.i.d.	Nausea, vomiting, anorexia, dyspepsia, asthenia. <b>Prior authorization requirement.</b>
Rivastigmine transdermal system (Exelon Patch®)	4.6 mg/24 hours (9mg patch) x 4 weeks 9.5 mg/24 hours (18 mg patch) thereafter if tolerated	9.5 mg/24 hours	Nausea, vomiting, anorexia and weight loss. <b>Prior authorization requirement.</b>
Galantamine (Razadyne®)	4 mg b.i.d. x 4 weeks 8 mg b.i.d. x 4 weeks	12 mg b.i.d.	Nausea, vomiting, anorexia, dizziness, syncope
Galantamine ER (Razadyne ER®)	8 m.g. q.d. x 4 weeks 16 m.g. q.d. x 4 weeks 24 m.g. q.d.	16-24 m.g. q.d.	
<b>Low-affinity N-methyl-D-aspartate (NMDA) receptor antagonist</b>			
<b>Medication</b>	<b>Titration doses</b>	<b>Target dose</b>	<b>Side-effects</b>
Memantine hydrochloride (Namenda®)	5 mg q.d. x 1 week 5 mg b.i.d. x 1 week 15 mg q.d. (5 mg and 10 mg in separate doses) x 1 week 10 mg b.i.d. x 1 week	20 mg q.d. (10 mg b.i.d.) Adjust dose for renal dysfunction.	Dizziness, confusion, headache, constipation.
<b>Mood and behavior medications</b>			
<b>Antipsychotics</b>			
<b>Medication</b>	<b>Initial dose</b>	<b>Target dose</b>	<b>Side-effects</b>
Haloperidol (Haldol®)	0.25 mg q.d. to b.i.d.; titrate every 3-4 days by 0.25-0.5 mg/dose	5 mg q.d.	EPS (Extrapyramidal syndrome)
Risperidone (Risperdal®)*	0.25 mg q.d. to b.i.d. x 1 week, titrate by 1 mg weekly	1 mg b.i.d.	EPS, hypotension (above 6 mg/day, EPS same as with haloperidol)
Olanzapine (Zyprexa®)*	2.5 mg q.d.; titrate cautiously at 1-week intervals	10 mg q.d.	EPS, hypotension, weight gain
Quetiapine (Seroquel®)*	25 mg h.s.; titrating up to a target dose of 75 mg b.i.d.	75 mg b.i.d.	Somnolence, hepatic toxicity

\*In April 2005, the FDA issued a **black box warning** for antipsychotic drugs, alerting physicians to a higher death rate when the following medications are prescribed for atypical use in the treatment of dementia in elderly. The black box warning was issued because the FDA believes it is a class effect. The warning affects Zyprexa®, Symbyax®, Seroquel®, Risperdal®, Clozaril®, Geodon® and Abilify®.

Table 2\*

**Mini-Mental Status Examination scores,  
stratified by age and education\***

As a clinical instrument, the MMSE has been used to detect impairment, follow the course of an illness and monitor response to treatment (see Table 1, page 8).

Cognitive performance as measured by the MMSE varies within the population by age and educational level. There is an inverse relationship between MMSE scores and age, ranging from a median of 29 for those 18 to 24 years of age, to 25 for individuals 80 years of age and older. The median MMSE score is 29 for individuals with at least nine years of schooling, 26 for those with five to eight years of schooling, and 22 for those with zero to four years of schooling.

The results in the following table can be used to compare your patient’s MMSE score based on age and educational level.

Age	Education					
	6-8	9-11	12	13-16	17-18	≥19
60-64	26	27	27	28	29	29
65-69	25	26	27	27	28	29
70-74	24	25	26	27	27	28
75-79	23	24	25	26	27	27
80-84	23	23	24	24	25	26
85-89	23	23	23	24	25	26
90-95	23	23	23	23	24	25

\* From Crum et al., 1993.

\*\* Scores less than or equal to those shown suggest that further evaluation for dementia is needed. (23 was adopted as a minimal cutoff score on the basis of sensitivity and specificity analyses.)

The MMSE is available from its publisher, Psychological Assessment Resources. Call 1-800-331-8378 or visit [www.minimental.com](http://www.minimental.com) on the Web.

**Other screening tools**

Other screenings to consider are the 7-Minute Screen and the Montreal Cognitive Assessment.

**Table 3**  
**Depression screening tool**

<b>Patient Health Questionnaire (PHQ-9)*</b>				
Name: _____		Date: _____		
Over the last two weeks, how often have you been bothered by any of the following problems? (Please circle your responses.)	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 hopeless	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 hurting yourself in some way	0	1	2	3
<b>Add columns:</b>		_____	+ _____	+ _____
<b>Total:</b>		_____	_____	_____
10. If you checked off any problems, how <i>difficult</i> 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	

\* The Patient Health Questionnaire (PHQ) was developed by Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke and colleagues, with an educational grant from Pfizer, Inc. For research information, contact Dr. Spitzer at rls@columbia.edu. Use of the PHQ-9 may only be made in accordance with the Terms of Use available at www.pfizer.com. Copyright ©1999 Pfizer, inc. All rights reserved.

## PHQ-9\* Quick Depression Assessment instructions for use

*for doctor or health care professional use only*

### For initial diagnosis:

1. Patient completes PHQ-9 Quick Depression Assessment.
2. If there are at least 4  $\sqrt{\text{}}$ s in the gray highlighted section (including Questions #1 and #2), consider a depressive disorder. Add score to determine severity.
3. Consider major depressive disorder:  
—If there are at least 5  $\sqrt{\text{}}$ s in the gray highlighted section (one of which corresponds to Question #1 or #2)  
Consider other depressive disorder:  
—If there are 2 to 4 3s in the gray highlighted 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 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 (e.g., 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  $\sqrt{\text{}}$ s by column. For every  $\sqrt{\text{}}$ :  
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 Card to interpret the **total** score.
5. Results may be included in patients' files to assist you in setting up a treatment goal, determining degree of response, as well as guiding treatment intervention.

### PHQ-9 scoring card for severity determination

*for doctor or health care professional use only*

**Scoring:** Add up all checked boxes on PHQ-9. For every  $\sqrt{\text{}}$ :

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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\* The Patient Health Questionnaire (PHQ) was developed by Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke and colleagues, with an educational grant from Pfizer, Inc. For research information, contact Dr. Spitzer at [rls@columbia.edu](mailto:rls@columbia.edu). Use of the PHQ-9 may only be made in accordance with the Terms of Use available at [www.pfizer.com](http://www.pfizer.com). Copyright ©1999 Pfizer, inc. All rights reserved.

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