DEMENTIA

AGS Geriatric Evaluation and Management Tools (Geriatrics E&M Tools) support clinicians and systems that are caring for older adults with common geriatric conditions.

From the AMERICAN GERIATRICS SOCIETY

Geriatrics Evaluation & Management Tools

SCREENING

- All vulnerable older adults should be evaluated annually for cognitive ability and functional status
- Validated screening tests for cognitive ability that can be used in the office setting:
  - Mini-Cog
  - Mini–Mental State Examination (MMSE) (adjusted for age and education)
  - Montreal Cognitive Assessment (MoCA)
- Validated screening tests for functional status that can be used in the office setting:
  - Physical Self-Maintenance Scale (Activities of Daily Living, or ADLs)
  - Instrumental Activities of Daily Living Scale (IADLs)

DIFFERENTIAL DIAGNOSIS

NORMAL AGING	MILD COGNITIVE IMPAIRMENT	**ALZHEIMER'S DEMENTIA (*DSM IV* DIAGNOSTIC CRITERIA)**
■ Decreased mental processing speed ■ Difficulty learning new material ■ Difficulty with word finding ■ Difficulty with divided attention ■ **No impairment in social and occupational functioning**	■ Subjective memory concerns **&** ■ Objective impairment in memory screening with validated tools **&** ■ **No impairment in social and occupational functioning &** ■ Delirium excluded	■ Memory impairment **&** ■ Aphasia (language disturbance) **or** ■ Apraxia (impaired motor ability despite normal motor function) **or** ■ Agnosia (failure to recognize or identify objects despite intact sensory function) **or** ■ Disturbed executive functioning (planning, organizing, sequencing, abstracting) **&** ■ **Causes significant impairment in social and occupational function &** ■ Other medical and psychiatric conditions, including delirium, have been excluded

	ALZHEIMER'S DISEASE	VASCULAR DEMENTIA	LEWY BODY DEMENTIA	FRONTOTEMPORAL DEMENTIA
% OF DEMENTIAS	60%–80%	10%–20%	5%–20%	3%–20%
ONSET	Gradual	Sudden	Gradual	Gradual (age <60)
COGNITIVE DOMAINS AND SYMPTOMS	Memory, language, visuospatial	Depends on location of ischemia	Memory, visuospatial, hallucinations, fluctuating symptoms	Executive dysfunction, personality changes, disinhibition, language, ± memory
MOTOR SYMPTOMS	Rare early Apraxia later	Correlates with ischemia	Parkinsonism	None
PROGRESSION	Gradual (over 8-10 yr)	Stepwise	Gradual, but faster than Alzheimer's disease	Gradual, but faster than Alzheimer's disease
IMAGING	Possible global atrophy	Cortical or subcortical changes on MRI	Possible global atrophy	Atrophy in frontal and temporal lobes

HPI

- Document cognitive domains affected
- Document time course of onset and progression of cognitive symptoms
- Document time course of onset and progression of impairment in social and occupational functioning
  - Impairment in social and occupational functioning may be evidenced by impairment in ADLs and IADLs
- Rule out depression (see *Screening,* AGS Geriatrics Evaluation and Management: Depression)
- Rule out delirium (see *Screening,* AGS Geriatrics Evaluation and Management: Delirium)

PAST MEDICAL HX

- Possible risk factors for Alzheimer's disease include advancing age, history of head trauma, depression, fewer years of formal education, and risk factors for cardiovascular disease.

FAMILY HX

- Most commonly Alzheimer's disease begins late in life
- Rare forms of familial Alzheimer's disease begin before age 60

SOCIAL HX

Document educational level and work history; substance abuse; caregiver stress

REVIEW OF SYSTEMS	If indicated, screen for dementia-related behavioral problems (see Screening, AGS Geriatrics Evaluation and Management: Dementia-Related Behavioral Problems)
MEDICATIONS	Thoroughly review medications and decrease or discontinue medications that increase cognitive, physical, or functional disability, such as anticholinergics (eg, diphenhydramine, hydroxyzine, oxybutynin, tricyclic antidepressants, benztropine, clozapine, thioridazine)
PHYSICAL EXAM	Comprehensive physical exam with focus on neurologic exam to characterize dementia subtype or rule out treatable conditions that cause or exacerbate cognitive impairment: ■ Gait (Lewy body dementia, normal-pressure hydrocephalus) ■ Motor function (vascular dementia) ■ Reflexes (vascular dementia) ■ Extrapyramidal signs: rigidity, tremor, bradykinesia (Lewy body dementia)

LABS AND IMAGING	■ Evaluate for potentially reversible causes of cognitive loss:
	  ■ Complete blood count
	  ■ Comprehensive metabolic panel
	  ■ Vitamin B12/Folate
	  ■ Thyroid-stimulating hormone
	  ■ If indicated, consider serologic tests for syphilis and HIV
	■ Neuroimaging for targeted patients:
	  ■ Onset age <60 years
	  ■ Focal (unexplained) neurologic signs or symptoms
	  ■ Abrupt onset or rapid decline (weeks to months)
	  ■ Predisposing conditions such as metastatic cancer or anticoagulants
	  ■ Suspicion of mass lesion, subdural hematoma, normal-pressure hydrocephalus, stroke, etc.

MANAGEMENT STRATEGIES	■ Discontinue or decrease dosage of medications that affect cognition, then reevaluate for persistence of cognitive dysfunction
	■ Treat depression and delirium and reevaluate for persistence of cognitive dysfunction
	■ Treat potentially reversible causes of cognitive loss (see "Labs and Imaging" above) and reevaluate for persistence of cognitive dysfunction
	■ Provide patient and/or caregiver with information regarding:
	  ■ Dementia diagnosis, prognosis, and associated behavioral symptoms
	  ■ Home safety (fall prevention, firearm storage, wandering prevention, etc.)
	  ■ Adult day care and respite stays
	  ■ Support groups and classes for caregivers
	  ■ Resources for education and support:
	  ■ Alzheimer's Association, www.alz.org
	  ■ Family Caregiver Alliance, www.caregiver.org
	  ■ Alzheimer's Disease Education & Referral Center, www.nia.nih.gov/Alzheimers
	■ Discuss initiation of cholinesterase inhibitors for patients with mild to moderate Alzheimer's disease, vascular dementia, Lewy body dementia, or dementia associated with Parkinson's disease
	  ■ In controlled trials, modest symptomatic benefit for cognition, mood, behavioral symptoms, and daily function was seen in patients with Alzheimer's disease treated for 1 year with a cholinesterase inhibitor versus placebo; open trials demonstrated benefit for 3 years
	  ■ Initial studies have shown benefits of these medications for patients with dementia associated with Parkinson's disease, Lewy body dementia, or vascular dementia
	  ■ Only 10%–25% of patients taking a cholinesterase inhibitor may show modest global improvement, but greater percentages of patients may have less rapid cognitive decline
	■ Follow cognitive status, functional status, and behavior to determine progression of disease and efficacy of treatment:
	  ■ Elicit caregiver observations over time
	  ■ Obtain serial ratings on screening tests (MMSE, MoCA, ADLs, IADLs)
	■ Discuss initiation of stroke prophylaxis for patients with mild to moderate vascular dementia, as vascular risk factors can worsen cognitive impairment and increase mortality
	■ Refer patients with newly diagnosed dementia for a driving assessment or advise them not to drive, depending on severity of impairment
	■ Advise patient and family about advance directives, including establishing a surrogate decision-maker

REFERRAL	Consider neuropsychological testing for patients with normal screening test but continued suspicion of cognitive impairment

Sources: Pacala JT, Sullivan GM, eds. Geriatrics Review Syllabus: A Core Curriculum in Geriatric Medicine. 7th ed. New York, NY: American Geriatrics Society; 2010; and GRS Teaching Slides Web site http://www.frycomm.com/ags/teachingslides.

DEMENTIA-RELATED BEHAVIORAL PROBLEMS

AGS Geriatric Evaluation and Management Tools (Geriatrics E&M Tools) support clinicians and systems that are caring for older adults with common geriatric conditions.

From the AMERICAN GERIATRICS SOCIETY

Geriatrics Evaluation & Management Tools

BACKGROUND

All patients with dementia should be screened for behavioral symptoms of dementia, because these symptoms may increase caregiver stress, patient injury, institutionalization, and morbidity

SCREENING

"Have there been any bothersome behavioral problems since the last visit?"

EXAMPLES OF DEMENTIA-RELATED BEHAVIORAL PROBLEMS

- Repetitive vocalizations:
  - Constant unwarranted requests for attention or help
  - Repetitive sentences or questioning
- Psychomotor hyperactivity:
  - Inappropriate dressing or disrobing
  - Repetitive non-purposeful movements
  - Picking at self
  - Opening and closing cupboards
- Physical aggression:
  - Pushing
  - Grabbing
  - Spitting
  - Scratching
  - Hitting
  - Biting
  - Kicking
  - Throwing items
  - Destroying property
- Self-neglect
- Resisting help with personal care
- Anger and irritability:
  - Complaining
  - Cursing
  - Screaming
- Manic-like behavior:
  - Emotional lability
  - Disinhibition
  - Irritability
  - Psychomotor hyperactivity
  - Hypersexuality
- Disturbance of sleep cycle:
  - Sleeping throughout the day; awake throughout the night
  - Insomnia
- Psychosis:
  - Hallucinations
  - Delusions
  - Paranoia
- Depression
- Inappropriate sexual behavior
- Pacing or wandering

HPI

- Rule out delirium (see AGS Geriatrics Evaluation and Management: Delirium)
- Document the following information:
  - Specific problem behavior
  - Triggers for the behavior, circumstances surrounding the behavior
  - Timing, onset, frequency, and duration of the behavior
  - Severity/impact of the behavior—is the patient or caregiver at risk of harm?
  - Attempted nonpharmacologic and pharmacologic interventions and their outcomes
  - Previous successful treatment strategies
- Caregiver can be given tracking sheets to follow behavior for 3–7 days, to bring to the clinician for review

POTENTIAL TRIGGERS

PHYSIOLOGIC TRIGGERS	ENVIRONMENTAL TRIGGERS	CAREGIVER COMMUNICATION TRIGGERS
■ Medications ■ Pain ■ Hunger or thirst ■ Dehydration ■ Sensory deficits ■ Constipation ■ Nausea ■ Urinary retention ■ Sleep disturbance ■ Lack of exercise ■ Dyspnea, hypoxia ■ Infections (UTI, pneumonia) ■ Cardiovascular disorders ■ Metabolic disorders	■ Disruption to routine ■ Unfamiliar or new environment ■ Unfamiliar or new caregiver ■ Understimulation ■ Overstimulation	■ Domineering communication style ■ Complex instructions ■ Frequent corrections ■ Tense or rushed body language

PAST MEDICAL HX

Investigate underlying medical or psychological disorders that could be contributing to behavior

SOCIAL HX

- Document alcohol and drug use that could be contributing to behavioral problems
- Assess caregiver stress levels
- Assess patient's risk for elder mistreatment

MEDICATIONS

Thoroughly review patient's medications (including over-the-counter); investigate if they trigger behavioral problems

PHYSICAL EXAM

Perform a comprehensive exam to identify physiologic triggers for behavioral problems

NONPHARMACOLOGIC MANAGEMENT

- **Nonpharmacologic interventions have been shown to be more effective than pharmacologic treatment for dementia-related behavioral problems and therefore should be attempted first**
- **Treat underlying physiologic, environmental, and caregiver communication triggers**
  - Free educational resources available online from Alzheimer's Disease Education and Referral Center (ADEAR) Web site: http://www.nia.nih.gov/alzheimers

PHARMACOLOGIC MANAGEMENT

- Treat underlying physiologic triggers *(see Potential Triggers)*
- Treat targeted behavior with recommended pharmacotherapy (outlined in table below) if behavior is unresponsive to documented attempts at nonpharmacologic management or if there are documented concerns for patient or caregiver safety
  - Wandering and repetitive vocalizations do not respond to pharmacotherapy
- Many medications for dementia-related behavioral problems are used off-label with serious side effects; therefore, document risk-benefit discussions before treating a vulnerable older adult with medications for behavioral symptoms
- For detailed information on medication dosages, benefits, adverse reactions, and monitoring please refer to *Geriatric Review Syllabus, 7th edition,* chapter 33

TARGET BEHAVIOR	MEDICATION CLASS	COMMENTS
■ Depression	Antidepressants (selective serotonin-reuptake inhibitors)	■ See AGS Geriatrics Evaluation and Management: Depression
■ Psychosis ■ Anger ■ Physical aggression	Antipsychotics ■ Haldol 0.25–6 mg/d ■ Olanzapine 2.5–10 mg/d ■ Quetiapine 25–200 mg/d ■ Risperidone 0.5–2 mg/d	■ Carry a Food and Drug Administration (FDA) black box warning of increased risk of mortality in patients with dementia (the rate of death was about 4.5% in drug-treated patients and about 2.6% in the placebo group). The FDA has indicated that risks/benefits of treatment should be reviewed and documented carefully with caregivers.
■ Manic-like behavior	Mood Stabilizers ■ Depakote 250–2000 mg/d ■ Carbamazepine 200–1000 mg/d	■ Depakote - can cause weight gain, tremor; monitor LFTs and platelets ■ Carbamazepine - drug interactions; monitor sodium, CBC
■ Disturbance of sleep cycle	Sleep Medications ■ Mirtazapine 7.5–45 mg/d ■ Trazodone 25–150 mg/d	■ Treatment of primary sleep disturbances when good sleep hygiene and increasing daytime activity level are not successful (see the "Nonpharmacologic Management" section of AGS Geriatrics Evaluation and Management: Insomnia) ■ Avoid use of benzodiazepines and antihistamines for sleep, due to risk of falls, fractures, disinhibition, and cognitive disturbance ■ There have been no controlled trials of zolpidem or zaleplon in sleep disturbances secondary to dementia
■ Dangerous inappropriate sexual behavior or physical aggression	Antiandrogens ■ Conjugated equine estrogens 0.625–1.25 mg/d ■ Medroxyprogesterone injectable 100 mg/wk IM	
■ **Use should be limited to emergency situations in which severe agitated behavior places the patient or others at risk of injury and has proven unresponsive to systematic trials of alternative medications**	Benzodiazepines ■ Lorazepam 0.25–1 mg po q8 hrs	■ These medications should be avoided whenever possible ■ When indicated, use a time-limited trial of a short-acting benzodiazepine (lorazepam): ■ Does not accumulate with repeated dosing ■ Metabolism is not affected by age and liver disease

Sources: Pacala JT, Sullivan GM, eds. Geriatrics Review Syllabus: A Core Curriculum in Geriatric Medicine. 7th ed. New York, NY: American Geriatrics Society; 2010; and GRS Teaching Slides Web site http://www.frycomm.com/ags/teachingslides.