Dementia and Delirium
In Geriatric Patients

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Disclosures

I have no relevant financial relationships or conflicts of interest to disclose.

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Objectives

- Review the definition and diagnostic criteria for dementia.
- Discuss screening tools for dementia and who should be screened.
- Support patients, families and caregivers who have been diagnosed with dementia.
- Review the definition and diagnostic criteria for delirium.
- Discuss ways to prevent and manage delirium.
- Prognosis for patients with delirium.

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DEMENTIA

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Dementia

- Gradual and progressive decline in mental processing affecting:
  - Short-term memory
  - Communication
  - Language
  - Judgment
  - Reasoning
  - Abstract thinking
- Dementia eventually affects long-term memory and the ability to perform familiar tasks.
- Sometimes there are changes in mood and behavior

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Types of Dementia

- **Alzheimer's Disease**: memory, language, visual-spacial disturbances, indifference, delusions, agitation
- **Vascular Dementia**: abrupt onset, prominent aphasia, stepwise deterioration, motor signs
- **Lewy Body Dementia**: visual hallucinations, delusions, EPS, fluctuations in mental status, sensitivity to anti-psychotic medications
- **Frontotemporal Dementia**: personality change, executive dysfunction, hyperorality, preservation of visual-special skills
- *Others: Mixed Dementia, Parkinson's Disease/Dementia, Creutzfeldt-Jakob Disease, Normal Pressure Hydrocephalus, Huntington's Disease, Korsakoff Syndrome*

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Alzheimer's Disease

- Affects 5 million in US; 17 million worldwide
- Affects > 30% of persons > 80 years old
- 6th leading cause of death in this country
- Only disease among the 10 deadliest that cannot be prevented, slowed, or cured
- By the year 2050 estimated to affect 13.5 million people in U.S.
- Accounts for 50% of cases of dementia in autopsy and clinical series
- Occurs naturally only in humans

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Who Should We Screen?

- Individuals with memory concerns or other cognitive complaints
- Non-memory triggers: personality change, depression, deterioration of chronic disease without explanation, and falls or balance issues
- Informant reports of cognitive impairment, with or without patient concurrence
- Medicare beneficiaries, as part of the **Annual Wellness Visit**

Borson S, Scanlan JM,Watanabe J, Tu S-P, Lessig M. "Improving Identification of Cognitive Impairment in Primary Care." Int J Geriatr Psychiatry. 2006;21:349–55

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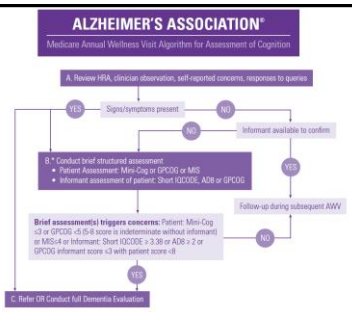

#POFPS44 https://www.alz.org/media/Documents/alzheimers-well-visit-algorithm.pdf

Cognitive Tests

- Mini-Cog
- General Practitioner Assessment of Cognition Screening Test (GPCOG)
- Animal Naming
- Memory Impairment Screen (MIS)
- Picture Based Memory Impairment Screen (PBMIS)
- Saint Louis University Mental Status Examination (SLUMS)
- Montreal Cognitive Assessment (MoCA)
- Mini Mental Status Exam (Folstein, MMSE)
- Clock Drawing Test (CDT)

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Informant Screening Tools

- Eight-item Informant Interview to Differentiate Aging and Dementia (AD8)
- General Practitioner Assessment of Cognition (GPCOG)
- Short Informant Questionnaire on Cognitive Decline in the Elderly (Short IQCODE)

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Dementia Diagnosis

- History from patient and informant
- Review medication list: benzodiazepines, opiates, anticholinergics
- Physical Exam including cognitive testing
- Screen for depression
- CBC, CMP, TSH, B12, Syphilis, HIV
- Brain imaging (if needed/indicated)

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Stage	Stage Name	Characteristic	Mental Age	MMSE Score	CDT	SLUMS	MoCA
1	Normal Aging	No deficits	Adult (18+)	29-30	3	27-30	29-30
2	Possible Mild Cognitive Impairment	Subjective deficits	Adult (18+)	28-29	3	27-30	28-29
3	Mild cognitive impairment	Objective functional deficit	12-18	24-28	2	21-26	26-28
4	Mild	IADLs become affected	8-12	19-20	2	1-20	1-26
5	Moderate dementia	Needs help selecting proper attire	5-7	15	1	1-20	1-26
6a	Moderately severe	Needs help putting on clothes	5	9	1	1-20	1-26
6b	Moderately severe	Needs help bathing	4	8	1	1-20	1-26
6c	Moderately severe	Needs help toileting	4	5	1	1-20	1-26
6d	Moderately severe	Urinary incontinence	3-4	3	1	1-20	1-26
6e	Moderately severe	Fecal incontinence	2-3	1	1	1-20	1-26
7a	Severe dementia	Speaks 5-6 words a day	1	0	0	0	0
7b	Severe dementia	Speaks only 1 word clearly	1	0	0	0	0
7c	Severe dementia	Can no longer walk	5-6 months	0	0	0	0
7d	Severe dementia	Can no longer sit up	3-4 months	0	0	0	0
7e	Severe dementia	Can no longer smile	2-4 months	0	0	0	0
7f	Severe dementia	Can no longer hold up head	0-2 months	0	0	0	0

Benefits of Early Detection

- A better chance of benefiting from treatment
- More time to plan for the future
- Lessened anxieties about unknown problems
- Increased chances of participating in clinical drug trials, helping advance research
- An opportunity to participate in decisions about care, transportation, living options, financial and legal matters
- Time to develop a relationship with doctors and care partners
- Benefit from care and support services, making it easier for them and their family to manage the disease

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When to Refer

- Inconclusive diagnosis
- Atypical presentation
- Behavioral/psychiatric symptoms
- Younger-onset (< 65 years)
- Second opinion
- Patient/family preference
- Family dispute
- Caregiver support

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Resources

- The 36-Hour Day
- AAFP Cognitive Care Kit
  - http://www.aafp.org/patient-care/public-health/cognitive-care.html
- Alzheimer's Association
  - https://www.alz.org/professionals/healthcare-professionals

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Delirium

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Delirium

- Delirium is a **medical emergency** which is characterized by:
  - Acute and fluctuating onset of confusion
  - Disturbances in attention
  - Disorganized thinking
  - Decline in level of consciousness
- Delirium cannot be accounted for by a preexisting dementia; however, can co-exist with dementia.

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Risk Factors

TABLE 8 – INDEPENDENT VULNERABILITY AND PRECIPITATING FACTORS FOR DELIRIUM
Data from Inouye SK, Charpentier PAPrecipitaing factors for delirium in hospitalized elderly persons: Predictive model and interrelationship with baseline vulnerability. JAMA 275:852 857,7996.

Independent Vulnerability Factors for Delirium	Independent Precipitating Factors for Delirium—What's new?
Vision impairment acuity <20/70	Immobility: use of physical restraints or catheters
Severe admission illness apache II score >16	
	Intercurrent illness: malnutrition, dehydration, respiratory insufficiency
Cognitive impairment MMSE <24	
BUN: creatinine >18	>3 medications added
	Use of bladder catheter
	Any iatogenic event

BUN = blood urea nitrogen.

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Prediction of Development

- Physical Restraints
- >3 new medications
- Foley catheter
- Malnutrition
- Iatrogenic event

- 1 Point each
- Total:
  - 0 points: 4%
  - 1-2 points 20%
  - 3+ points: 35%

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Evaluation

- **Assume reversibility**
- Review medications (prescription, OTC) and alcohol usage
- Exclude infection and other medical causes:
  - CXR
  - Urinalysis
  - Oxygen saturation
  - EKG
  - Brain imaging
    - CT
    - MRI/MRA
  - EEG
- Lab studies:
  - CBC
  - Electrolytes
  - LFTs
  - Ammonia
  - Thyroid function
  - Renal function
  - Albumin
  - B12, folate
  - Calcium
  - Glucose
  - ABG
- Review previous level of functionality

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Delirium

- Confusion Assessment Method (CAM)
  - Presence of acute onset and fluctuating course
    AND
  - Inattention
    AND EITHER
  - Disorganized thinking
    OR
  - Altered level of consciousness
- 4AT
  - www.the4AT.com

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Causes

- Medications:
  - Anticholinergics
  - Anti-inflammatory agents, including prednisone
  - Benzodiazepines or alcohol-acute toxicity or withdrawal
  - Cardiovascular
  - Lithium
  - Opioids
- Infections
  - Urinary tract
  - Respiratory
  - Skin
  - CNS
- Metabolic disorders
  - Acute blood loss
  - Dehydration
  - Electrolyte imbalance
  - End-organ failure
  - Hyperglycemia
  - Hypoglycemia
  - Hypoxia
- Cardiovascular
  - Arrhythmia
  - Heart failure
  - MI
  - Cardiogenic shock
- Neurologic
  - Head trauma
  - Seizures
  - Stroke
  - Subdual hematoma
  - TIAs
  - Tumors
- Misc.
  - Fecal impaction
  - Postoperative state
  - Urinary retention
  - Sleep deprivation

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Prevention

Target	Intervention
Cognitive impairment	Orientation protocol: board with names, daily schedule, and reorienting communication
Sleep deprivation	Non-pharmacologic: warm milk or herbal tea, music, massage noise reduction, essential oils 0.5 mg melatonin or 8 mg ramelton
Immobility	Early mobilization: ambulation or ROM 3 times a day, minimal immobilizing equipment
Visual impairment	Visual aids, adaptive equipment
Hearing impairment	Amplification, cerumen removal, special communication techniques
Dehydration	Early recognition and volume repletion
Infection, HF, hypoxia, pain	Identify and treat underlying medical problems

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Management

- Environmental:
  - Brightly lit in daytime, dim at night; window bed if possible
  - Decreased stimuli in the room; private room if available
- Familiar Faces:
  - Spouse
  - Family members
- 1:1 Sitter if no family available
- Medications:
  - Antipsychotics: START LOW, GO SLOW
  - Benzodiazepines if antipsychotics are ineffective
- Restraints:
  - Only use if patient safety is at risk (soft restraints, mitts)

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Prognosis

- Weeks to months to resolve
- Waxing and waning mental status continues as patient improves
- Trend toward improvement
- Persistent symptoms:
  - At discharge: 44.7%
  - At 1 month: 32.8%
  - At 3 months: 25.6%
  - At 6 months: 21%
- Prolonged delirium associated with higher risk of death (2.5 times within 1 year vs those who delirium resolved)

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References

- Alzheimer's Association. 2019 Alzheimer's Disease Facts and Figures. Alzheimer's Dementia 2019;15(3):321-87.
- Reuben, David B., Keela A. Herr, James T. Pacala, Jane F. Potter, and Todd P. Semla. Geriatrics at Your Fingertips. New York: American Geriatrics Society, 2019.
- Medina-Walpole A, Pacala JT, Potter, JF, eds. Geriatrics Review Syllabus: A Core Curriculum in Geriatric Medicine. 10th ed. New York: American Geriatrics Society; 2019.

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Questions?

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