

# The Person: Dementia Basics



# Objectives

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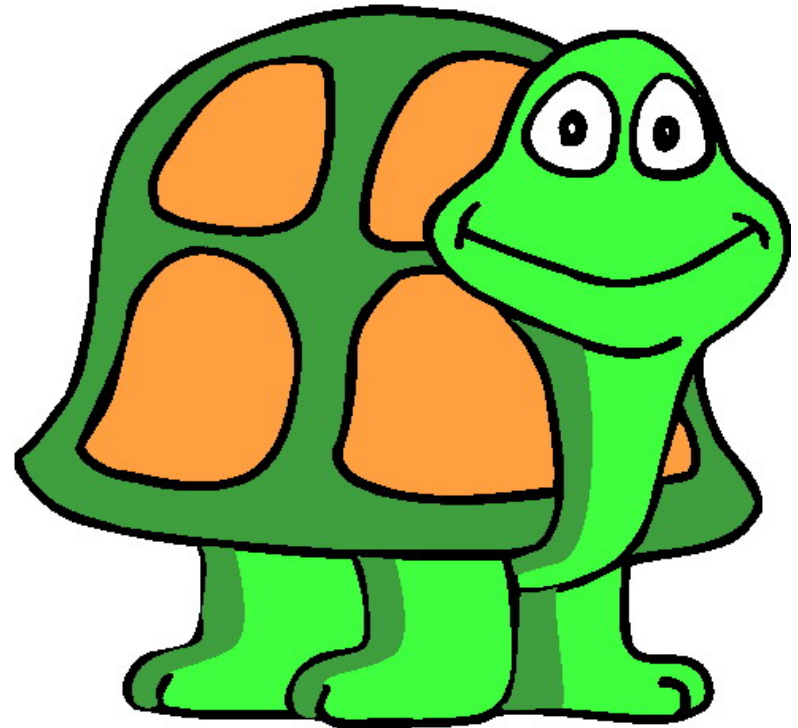
1. Discuss how expected age related changes in the brain might affect an individual's cognition and functioning
2. Discuss how changes in the brain due to Alzheimer's disease and related dementias (ADRD) might affect an individual's cognition and functioning
3. Identify factors, besides ADRD, that can affect an individual's behavior and ability to function
4. Discuss common causes of dementia, and associated symptoms
5. Discuss strategies for optimizing function and quality of life among individuals with ADRD

# As we age...

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It is normal for our brains, like our bodies to slow down.

However, our intelligence remains the same.



# Normal Age Related Changes in Cognitive Function

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- Speed of processing information
- Attention (can improve somewhat with good brain health)
- Memory (names, where we put things, retrieval may be prolonged, some details lost)
- Speech and language remains intact

# How can we keep our brain strong?

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- Maintain good physical health and exercise regularly
- Eat a nutritious diet
- Participate in cognitive activities
- Be socially engaged



# What are cognitive symptoms or changes in function that need further evaluation?

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- Memory loss that disrupts daily function
- Difficulty with planning or solving problems
- Challenges completing daily activities or tasks
- Disorientation with time and place
- Difficulty understanding visual images or spatial relationships
- New challenges in finding words or difficulty writing

# What are cognitive symptoms or changes in function that need further evaluation?

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- Decreased judgment
- Social withdrawal
- Frequently misplacing things and cannot retrace steps
- Changes in personality or mood

# What could be causing these more significant changes?

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- Depression
- Medication
- Vitamin and mineral deficiencies
- Infection, stroke, brain tumor
- Under-active thyroid
- Poorly controlled blood sugar
- Anemia
- Minor cognitive impairment
- Dementia



# Dementia Defined

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A general term for a group of disorders characterized by **at least two** of the following:

- Decline in memory (amnesia)
- Aphasia (language impairment; can be receptive and/or expressive)
- Apraxia (impairment/loss of learned motor skills)
- Agnosia (perceptual impairment)
- Disturbance in executive function (ability to organize, plan & carry out a set of tasks)

Results in a loss of independent functioning

Absence of delirium

- DSM 5

# Dementia causes changes in:

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- Cognition
- Function
- Behavior



What are some examples of Amnesia (memory loss)?

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What are some examples of Aphasia  
(language impairment)?

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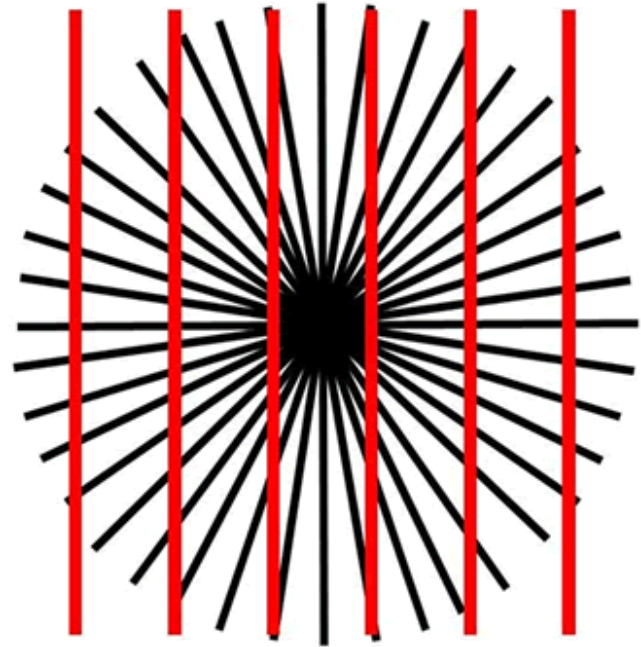
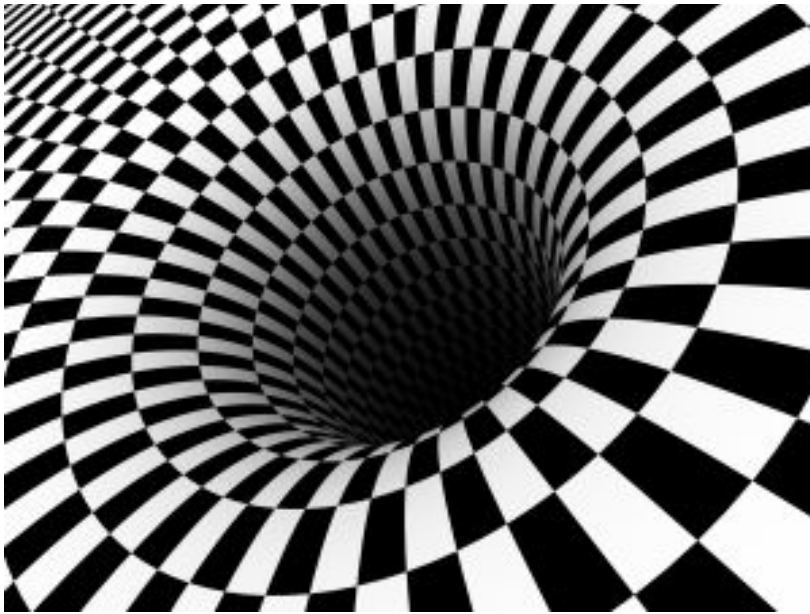
What are some examples of Apraxia  
(impairment/loss of motor skills)?

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What are some examples of Agnosia (perceptual impairment)?

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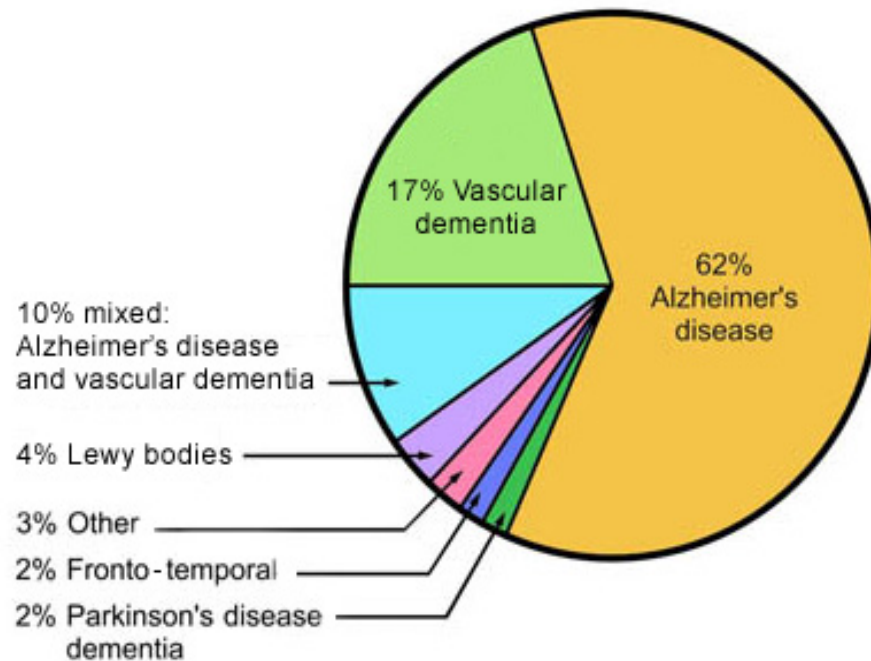
# How Common is Dementia?

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- Affects 5-6 million Americans
- 6<sup>th</sup> leading cause of death in the US
- \$226 billion cost annually
- 1 in 9 people over 65 years of age have Alzheimer's disease (the most common cause of dementia)
- Age is the most significant risk factor for dementia
  - Alzheimer's Association, 2015

# Causes of Dementia

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# Definition of Dementia of the Alzheimer Type

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Development of multiple cognitive deficits manifested by memory impairment and 1 or more of the following:

- Aphasia (language impairment)
- Apraxia (impairment/loss of learned motor skills)
- Agnosia (perceptual impairment)
- Loss of executive functioning (ability to organize, plan and carry out a set of tasks)

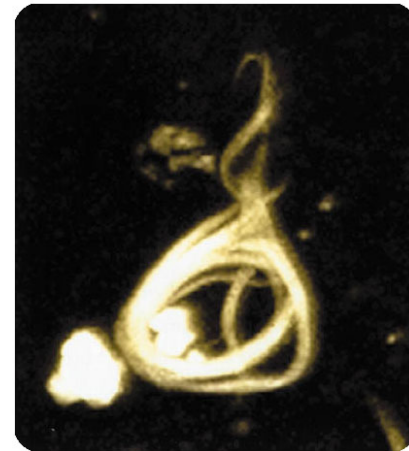
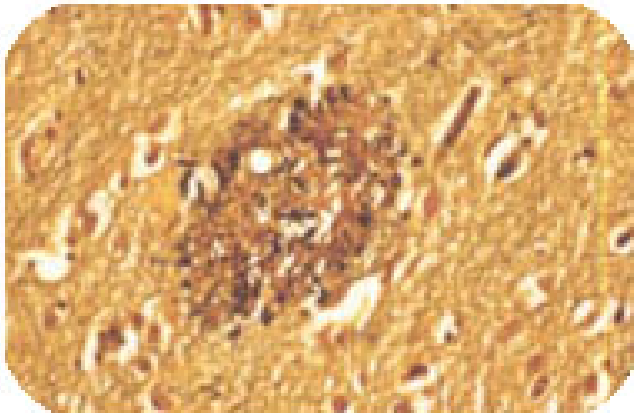
# Alzheimer's Disease: Changes in the Brain

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Senile plaques: Beta-amyloid protein deposits that build up outside and around the nerve cells

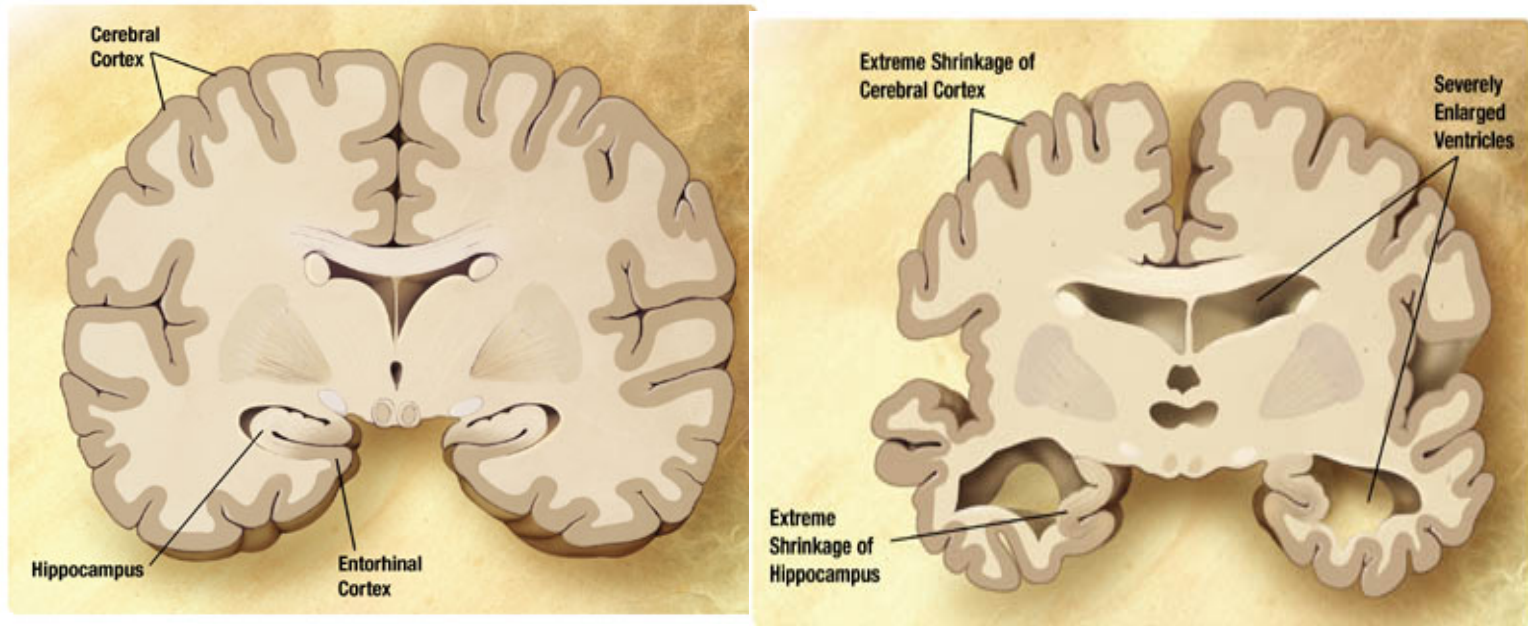
Neurofibrillary tangles: Twisted fibers of the tau protein that build up inside the nerve cell

- Alzheimer's Disease Education and Referral Center (ADEAR)



# Healthy Brain versus Brain Affected by Severe Alzheimer's Disease

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ADEAR Center (2006)

# Risk Factors for AD

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- Age
- Gender
- Education
- Family History
- Head trauma

# Progression of Alzheimer Disease: Mild Stage

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- MMSE (Mini-Mental State Exam) score  $\geq 21$
- Memory loss, difficulty finding words, getting lost in familiar places
- Personality change, irritability, anxiety, depression
- May be able to maintain activities of daily living (ADLs) with minimal assistance



# Progression of Alzheimer Disease: Moderate Stage

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- MMSE score of 10-20
- Increased confusion
- Needs assistance with IADLs and ADLs
- Behavior problems become more evident
- Close observation needed to maintain safety



# Progression of Alzheimer Disease: Severe Stage

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- MMSE  $\leq 9$
- Difficulty recognizing family or familiar faces
- Incontinence
- Gait disturbance
- Needs assist with all ADLs
- 24 hour care



# Other Causes of Dementia

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# Frontal Temporal Dementia (FTD)

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- 3-10% of dementias at autopsy
- Pick's Disease is a type of FTD
- Family history 42-50%
- Personality change, disinhibition, apathy
- Frontal and temporal lobes with neuronal loss and decreased blood flow
- Onset in mid 50s

# Lewy Body Dementia

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- Dementia, Parkinsonism and psychosis
- Levodopa often unhelpful
- Sensitive to antipsychotics
- Lewy bodies (intracellular inclusions usually found in the substantia nigra) found in cortex and brain stem

# Vascular Dementia

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- 10-15% of all dementias
- Stepwise progression
- Focal neurologic exam and/or gait disturbance
- Patchy cognitive deficits
- Stroke or lacunar infarcts on brain imaging
- CVA risk factors

# Parkinson's Disease

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- Tremor, rigidity and bradykinesia
- Postural disturbance
- Dementia in 20-25% (typically does not occur until motor symptoms are present for at least 5-7 years)
- Minor cognitive impairment in 50%
- Free recall impaired; recognition is good
- Depression is common
- Motor aspects of speech affected

# Besides dementia, what else can cause changes in:

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- Cognition?
- Function?
- Behavior?

# Factors that impact cognition, function and behavior

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- Physical and medical disorders
- The environment
- Caregiver approach and interaction

# What is the Individual Trying To Communicate?

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“I’m constipated”

“I’m in pain”.

“You’re rushing me”.

“I don’t understand you.”

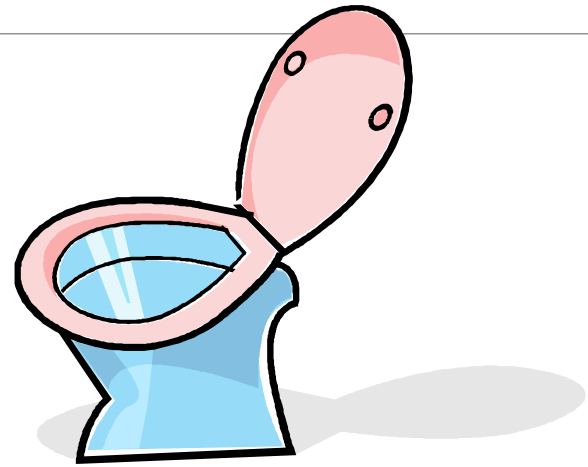
“It’s too noisy”.



# Cognitive Impairment

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- Resident uses the call bell constantly to ask for someone to take her home. Complains: “No one is helping me.”
- “He urinated in the trash can, and not the commode.”
- “He pushes me away when I try and take him to the bathroom!”





# Interventions for Cognitive Impairment

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- Adjust expectations to abilities
- Simplify communication
- Cue and role model
- Minimize objects that may be misperceived
- Optimize sensory input
- You almost always get a “do over”

# Environmental Factors

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- Temperature
- Noise
- Over and under stimulation
- Too much or too little space
- Familiarity, routine

# Environmental Factors

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- “He goes off when the bed alarm is sounding.”
- “She hits him when he pushes her in the wheelchair.”
- “She threw the fork, plate and glass of milk!”



# Interventions for the Environment

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- Adapt environmental stimuli (noise, temperature, lighting, peers, staff, etc.)
- Keep routines and caregivers consistent as much as possible
- Provide opportunities for activity to prevent boredom
- Redirect and distract as needed, making sure there are activities and items available to help redirect and distract

# We know that...

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Residents with dementia exhibit behavioral symptoms most commonly during care activities, such as:

- Bathing
- Oral care
- Dressing
- Transfers and mobility
- Toileting
- Mealtime

# Caregiver Approach

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## Older adults with dementia

- Have difficulty understanding verbal directions
- Misinterpret touch that occurs during care activities
- Care becomes a perceived threat and results in fear, fight/flight response

# Therapeutic Communication

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- Listen and show empathy (acknowledge the fear, worry, anger, etc.)
- Validate their feelings and reassure them
- Then redirect, distract

# Use a Functional Approach to Decrease Resistiveness to Care

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- Use cueing, gesturing, pantomime
- He washes one area and you another
- Hand over hand technique
- Minimize verbal speech
- Use deeper voice if resident is hard of hearing
- Remain calm
- Limit the number of caregivers
- Wait for the “best time” for the resident



# Physical Medical Disorders

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- Pain
- Constipation
- Infection
- Medication
- Delirium

# Physical/Medical Disorders

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- “He’s so sleepy, it’s hard to get him to eat. The food runs out of his mouth.”
- “He cries when we get him up to transfer to the commode.”
- “She’s up at night asking to go to the bathroom every 30 minutes.”

# Delirium

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Syndrome characterized by the acute onset of cerebral dysfunction with:

- A change or fluctuation in baseline mental status
- Inattention
- Disorganized thinking or an altered level of consciousness

# Delirium is under-recognized

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Nurses identify delirium only 31% of the time (Inouye et al., 2001)

Risk Factors for under-recognition:

- Hypoactive “quiet” form
- Resident age 80 or above
- Visual impairment
- Dementia

# Subtypes of Delirium

	Hypoactive	Hyperactive	Mixed
Level of Alertness	Drowsy, lethargic, distractible	Vigilant, hyper-alert	Alternates
Motor activity	Slow, less coordinated	Active/restless, but disorganized	Alternates
Ability to follow commands	Passively cooperative, follows 1 step command	Combative, resistant	Alternates
Thinking	Quiet, disorganized	Distractible, rambles	Alternates

# Physical/Medical Disorders

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- Give vigilant medical care
- Recognize and treat delirium early
- Consider the impact of pain...