



Geriatric Syndrome

# Sleep Disturbance



# Learning Objectives

## Sleep Disturbance

At the conclusion of the module on sleep disturbance and the older adult the learner should:

### KNOW

- Common types of sleep disturbance
- Risk factors contributing to the occurrence of a sleep disturbance
- Behavioral and therapeutic options for the treatment of a sleep disturbance

### DO

- Recognize the presence of a sleep disturbance
- Optimize therapeutic options for an individual



## Case

# Mr. Matthews

- Mark Matthews, is a 67-year old African-American male at his annual visit with his PCP, the physician assistant associated with the practice.
- Mr. Matthews is a retired high-school teacher who resides with his wife of 42 years in their family home.
- Mr. Matthews states that his health seems okay, but he has recently noticed that he can't get a good night's sleep.
- He asks if melatonin will help him sleep better.
- At today's visit, all vital signs are WNL.
- Mr. Matthews' medications include
  - fluticasone/salmeterol (Advair Diskus), tiotropium (Spiriva Handihaler), and albuterol (Proventil HFA) for COPD;
  - metformin (Glucophage) for T2DM;
  - hydrochlorothiazide (Esidrix) for HTN.
- Visit Summary: The PA replied, "OK, I will order your routine annual labs today."

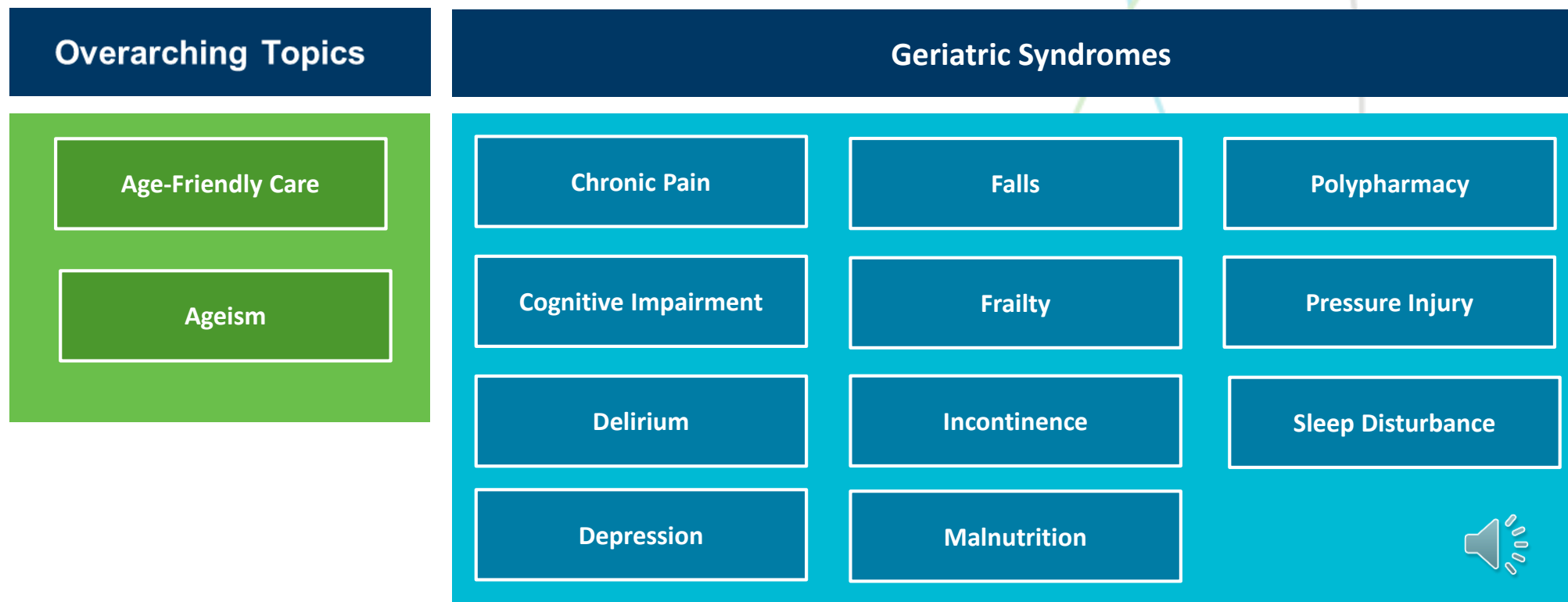




# Definitions

## ! Geriatric Syndrome

- A multifactorial condition prevalent in older adults that develops when an individual experiences accumulated impairments in multiple systems that compromise their compensatory abilities.



# Definitions

## Screening

- Screening tools are tests or measures to evaluate for diseases and health conditions before symptoms appear.
- Screenings allow for earlier management and referral to appropriate providers.
- An age-friendly provider conducts screenings for conditions that are prevalent in older adults.



# Definitions

## Assessment

- Assessment tools are tests and measures used to evaluate the patient's presenting problem, confirm a diagnosis, determine its severity, and aid in identifying specific treatment options.
- An age-friendly provider uses appropriate assessments, makes referrals, and communicates with the patient's care providers.



# Definitions

## Treatment

- An age-friendly care provider considers the 4Ms when making treatment recommendations so that **what matters** to the patient is always part of the plan of care.
- An age-friendly provider communicates with the patient, family, and interdisciplinary team.





# Definitions

## ★ Sleep Disturbance

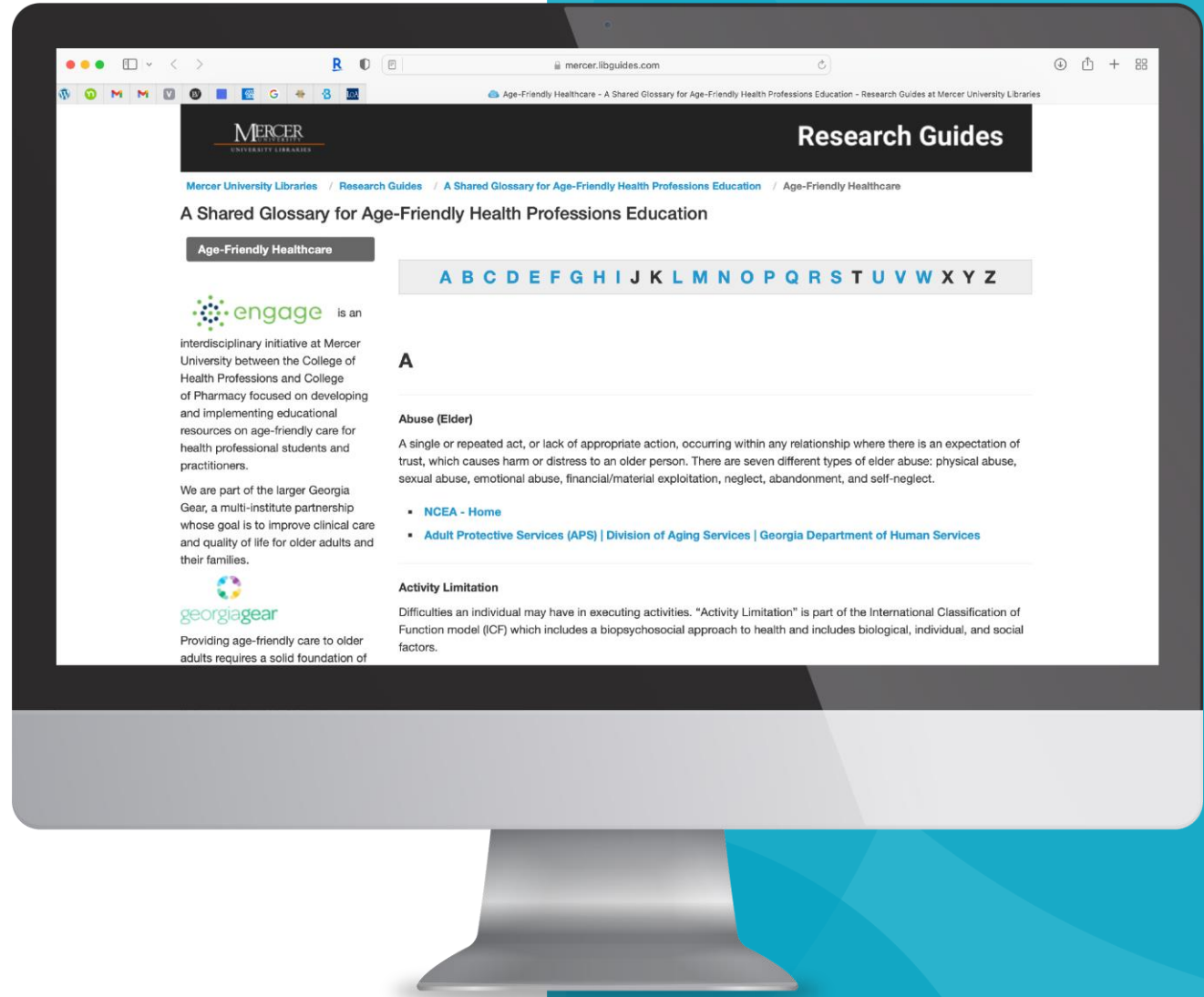
- Sleep Disturbance is a broad term that encompasses disorders of initiating and maintaining sleep, disorders of excessive somnolence, disorders of sleep–wake schedule, and dysfunctions associated with sleep, sleep stages, or partial arousals (parasomnias).





# Know and Use the Shared Language...

## we are all connected



# Statistics

**“Disturbed sleep” is one of the most common patient complaints**<sup>1</sup>

**50%**

In the U.S., sleep disorders are prevalent in about 50% of older adults.

**70%**

Of adults with sleep complaints never discuss the problem with their healthcare provider.

**80%**

Of patients with sleep disorders remain undiagnosed and untreated.

**\$400 billion**

Sleep disturbances are estimated to cost the U.S. economy over \$400 billion annually due to increased health care costs, lost productivity, accidents, and injuries.



# Types of Sleep Disturbance:<sup>1</sup> Difficulty Falling Asleep, Staying Asleep, or Nonrestorative Sleep

## Insomnia

- Evaluate associated situations or conditions; specifically pain, urinary frequency, and/or depression.
- Evaluate sleep hygiene practices.

## Circadian Rhythm Disorder

- Advanced sleep phase is most common form.
- Educate on sleep hygiene and age-associated changes in sleep.

## Sleep Disordered Breathing (Sleep Apnea)

- Undergo sleep studies as indicated.

## Restless Leg Syndrome

- Associated with anemia and chronic renal failure.

## Rapid Eye Movement (REM)\* Disorder

- Associated with neurodegenerative disorders and multiple system atrophy.
- Rare in the general population.



\*REM is considered restorative sleep

# Risk Factors

- ...for **Insomnia:**
  - Pain
  - Dementia
  - Depression
  - Anxiety
  - Urinary Frequency
  - Recent Psychologically Traumatic Event
- ...for **Circadian Rhythm Disorder:**
  - Advancing Age
- for **Sleep Apnea:**
  - Heart Failure
  - Stroke
  - and/or Obesity
- ... for **Restless Leg Syndrome:**
  - Anemia and/or
  - Renal Failure
- ...for **Rapid Eye Movement Sleep Disorder:**
  - Parkinson's Disease
  - Other neurologic disease



# Risk Factors

## Medications Contributing to Sleep Disturbance

- **Increase Urine Volume:** diuretics, alcohol
- **Stimulants:** decongestants, caffeine, nicotine, corticosteroids
- **Interrupt Sleep-Wake Cycle:** sedating medications, (some) antihypertensive agents, (some) antiseizure medications



# Medications Contributing to Sleep Disturbance <sup>1</sup>

Medication Class	Example Medications	Proposed Mechanism
Angiotensin-converting Enzyme Inhibitors (ACEI)	Lisinopril (Prinivil), Benazepril (Lotensin)	Increase bradykinin levels leading to chronic cough that disrupts sleep
Antiseizure Agents	First, Second and Third-generation agents	CNS depression and/or Unknown
Alpha-Adrenergic Blockers	Doxazosin (Cardura), Tamsulosin (Flomax)	Decrease REM sleep
Beta-Adrenergic Blockers	Atenolol (Tenormin), Carvedilol (Coreg), Metoprolol (Lopressor)	Inhibit nighttime secretion of melatonin
Corticosteroids	Methylprednisolone( Medrol), Prednisone (generic)	Enhanced effects of cortisol
Diuretics	Furosemide (Lasix), Hydrochlorothiazide (Esidrix)	Increase urine volume
Selective Serotonin Reuptake Inhibitors (SSRI)	Escitalopram (Lexapro), Paroxetine (Paxil), Sertraline (Zoloft)	Unknown
Stimulants	Caffeine, Nicotine, Decongestants	CNS Simulation
Central Nervous System (CNS) Depressants	Narcotic analgesics (Codeine, Hydrocodone), Diphenhydramine (Benadryl)	Excess sedation and interruption of sleep-wake cycle



# Age-Associated Changes in Sleep <sup>3</sup>

## Increased

- Nocturnal Awakenings
- Day Time Napping
- Nocturnal Sleep Latency
- Snoring

## Decreased

- Total Sleep Time
- Sleep Efficiency
- REM Latency
- Percentage of Time in REM
- Slow Wave Sleep
- Daytime Sleep Latency

## Other

- Phase Advance





**Screening**



**Assessment**



**Treatment**







## Sleep Disturbance Screening Questions <sup>2</sup>

- Do you have trouble sleeping?
  - If yes: Do you have trouble falling asleep or staying asleep?
- Do you feel sleepy during the day?
- Do you fall asleep at times you do not want to...such as watching a movie or reading a book?





## Sleep Disturbance: Assessment Questions

- Is the reported sleep disturbance pathologic or is it age-related?
- Is the sleep disturbance due to a common primary sleep condition?
- Is it difficult to keep your eyes open at times during the day?
- Do you struggle to stay away during the day?
- Do you take naps? How often and how long do you nap during the day?
- Is the sleep disturbance considered excessive daytime sleepiness (EDS)?
- Is the sleep disturbance due to other issues such as poor sleep hygiene, medication effect, a medical illness, pain, or the need to urinate during the night?
- Do you lack the energy to go about your daily activities? Do you tire easily?
- Do you feel physically or mentally exhausted?





## Sleep Disturbance: Additional Assessments<sup>2</sup>

- **Evaluate:** Contributing Medications and Substances
- **Undergo:** Complete Medical Workup, Including Labs
- **Undergo:** Sleep Study, if Appropriate





# Treatment Options to Manage Sleep Disturbance

## Good Sleep Hygiene:

Evaluate sleep hygiene habits and counsel to practice “good” sleep hygiene.

## Psycho-Social Intervention:

Referral to a counselor or psychologist for Cognitive Behavioral Therapy (CBT) assessment and treatment.

## Medication Therapy:

Referral to and counseling from a prescriber or pharmacist to identify and discontinue inappropriate medications or initiate appropriate patient-specific medications.





## Suggested Habits for Good Sleep Hygiene

- Limit time in bed during day
- If napping: keep short and early in the afternoon
- Maintain a regular sleep-wake cycle
- Minimal nighttime noise
- Avoid eating in bed
  - Keep regular mealtimes
- Avoid caffeinated food and beverages
- Keep bedroom as dark as safely possible
- Keep other environments brightly lit during the day
- Practice regular movement therapies
  - Tai Chi or Yoga
- Exercise during the daytime
- Avoid stimulating activities within an hour of bedtime
  - Engage in relaxing and enjoyable activities





## Medication Options to Manage Sleep Disturbance

- Activity at **benzodiazepine** receptors:
  - triazolam (Halcion), zolpidem (Ambien), eszopiclone (Lunesta)
- Activity at **histamine** receptors: diphenhydramine (Benadryl), doxylamine (Unisom), doxepin (Sinequan)
- Activity at **melatonin** receptors: ramelteon (Rozerem), melatonin
- Activity at **orexin** receptors: daridorexant (Quviviq)





## Medication Options to Manage Sleep Disturbance

Medication Class	Medication	Proposed Mechanism	Comments and Cautions
Hypnotic Benzodiazepines*	Estazolam (Prosom), Temazepam (Restoril), Triazolam (Halcion)	Decrease sleep latency and number of awakenings, Increase total sleep time	AVOID as first-line treatment; Short course ONLY (<14 days) Associated with adverse effects; fall risk
Benzodiazepine-Receptor Agonists (Nonbenzodiazepines)*	Eszopiclone (Lunesta), Zaleplon (Sonata), Zolpidem (Ambien)	Decrease sleep latency and number of awakenings, Increase total sleep time, Improve sleep quality	Reports of complex adverse sleep-related behaviors; Recent data shows evidence of adverse effects similar to hypnotic benzodiazepines; fall risk
Melatonin	Melatonin (generic)	Increase melatonin levels to improve sleep latency and sleep efficiency	Only beneficial in melatonin-deficient patients
Melatonin-Receptor Agonists	Ramelteon (Rozerem)	Improves sleep latency and total sleep time	Can impair driving performance; Rare reports of anaphylaxis and angioedema
Histamine-1 Receptor Blockers*	Doxepin (Sinequan, Silenor)	Increase total sleep time, Decrease number of awakenings, Improve sleep quality and efficiency	Use lowest effective dose (3 mg or 6 mg); fall risk
Sedating Antidepressants*	Trazodone (Desyrel), Mirtazapine (Remeron)	Side effect of sedation	Reserve for treatment of insomnia with comorbid depression; fall risk
Histamine-1 Receptor Antagonists*	Diphenhydramine (Benadryl), Doxylamine (Unisom)	Increase total sleep time, Decrease number of awakenings, Improve sleep quality and efficiency	AVOID use due to high potential for anticholinergic effects, mental status changes, and excessive drowsiness; fall risk
Orexin Receptor Antagonists	Daridorexant (Quviviq)	Decrease sleep latency, Increase total sleep time	Use with caution in older adults due to increased risk of adverse reactions

\*On AGS Beers List of Medications Considered Potentially Inappropriate in Older Adults<sup>5</sup>



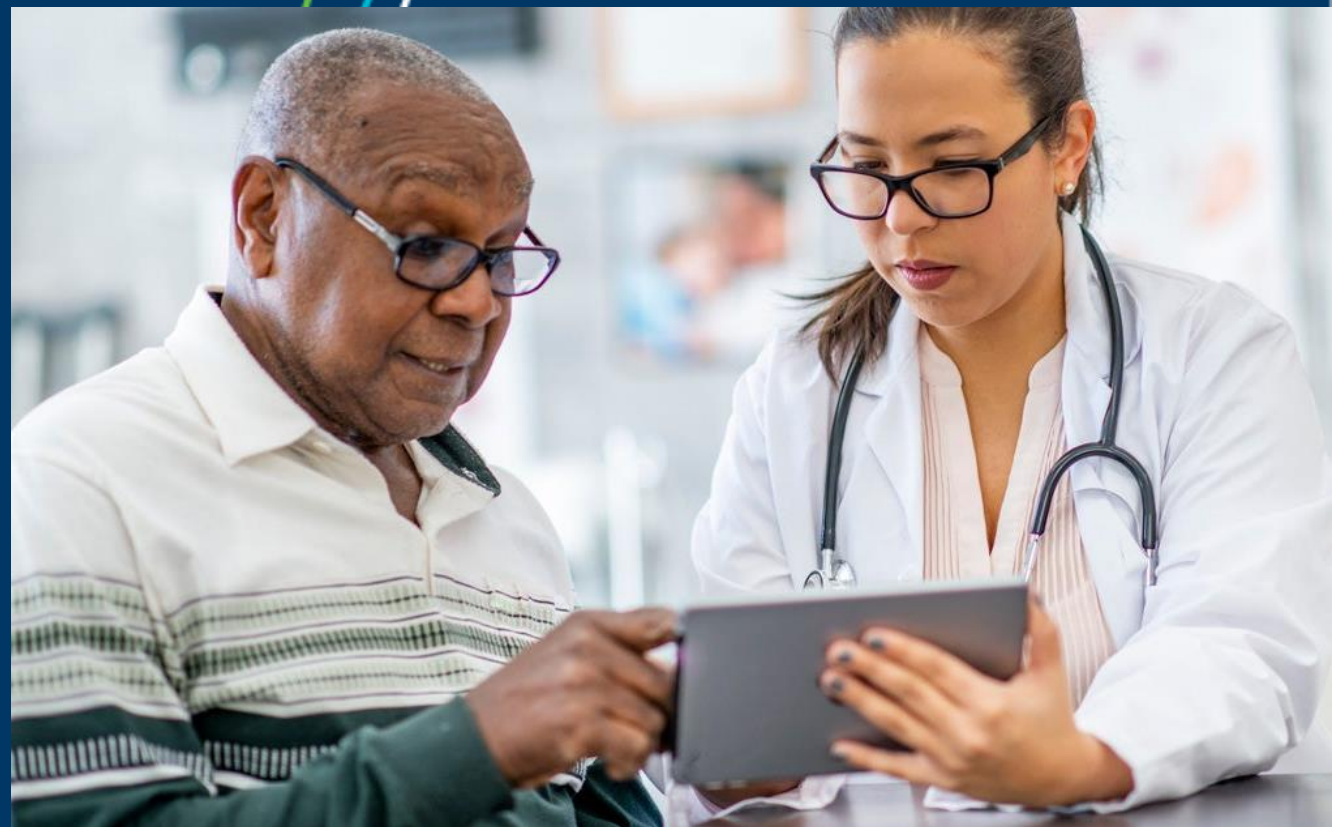
## Referral to Clinical and Community Support

- A pharmacist may conduct a comprehensive medication review to identify medications that may be interfering with sleep quality.
- A consultation with a sleep specialist for evaluation and management.
- A physical therapist may recommend exercises to improve sleep quality.
- Local community senior centers may offer exercise programs of varying levels of intensity
- Exercise professionals may be an additional resource.





# Remember Mr. Matthews?



# Un-Age-Friendly Care (4Ms)

- Avoid consideration of patient's concerns regarding his sleep.
- Avoid screening and assessing for factors contributing to insomnia.
- Avoid a discussion and counseling on age-associated changes in sleep.

- Prescribe medication to manage insomnia, that also puts the patient at risk for a fall or daytime sedation (such as an OTC product with PM in the name).



- Avoid completing a comprehensive medication history to identify any that could contribute to insomnia.
- Avoid evaluation of the effectiveness of medications for his medical problems
- Prescribe inappropriate medication for the complaint of insomnia (such as an OTC product with PM in the name).

- Prescribe a medication to manage insomnia but that contributes to cognitive dysfunction and over sedation (such as suggest purchase of an OTC product with PM in the name).



# Age-Friendly Care (4Ms)

- LISTEN & VALIDATE
- Desire to experience restful and restorative sleep on a regular basis.
- Minimize daytime drowsiness.
- Practice good sleep hygiene habits.
- Rule out and/or treat comorbidities as indicated.

- SCREEN & REFER
- Avoid medications that negatively impact mobility (contribute to daytime sedation and/or risk for falls).
- Recommend therapies that allow for safe use of machinery and motor vehicles.
- Assure safe ambulation as desired.



- SCREEN & REFER
- Identify medications contributing to sleep disturbance and address.
- Consider nonpharmacologic options as first-line therapy.
- Avoid sedating medications with adverse effects on quality of life.
- Answer patient's melatonin question.

- SCREEN & REFER
- Screen for cognitive and mental health issues.
- Consider therapies that allow patient to remain alert during the day.
- Avoid medication that negatively affect cognitive function or cause daytime sedation.



# Clinical Pearls

## Evaluating Sleep Disturbance

- In the older adult, always consider age-associated changes in sleep.
- Identification of a specific type of sleep disturbance will allow for more appropriate treatment.

## Managing Sleep Disturbance

- Provide patient education and counseling, when appropriate.
- First line-treatment for most types of sleep disturbance involves behavioral/lifestyle changes which should be continued even if medication therapy is initiated.
- Caution older adults to avoid using nonprescription sleep remedies without first consulting a health care provider.



# About Engage

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ENGAGING FOR BETTER HEALTH

**Engage is part of Georgia Gear, a multi-institute partnership whose goal is to improve clinical care and quality of life for older adults and their families.**

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