Support of Sleep

Elder Friendly Care in Acute Care

Seniors Health Strategic Clinical Network
Why talk about sleep?

- Inappropriate Medications
- Poor Sleep
- Responsive Behaviours
- Dementia
- Delirium
How do you feel when you haven’t slept well?

Poor sleep can lead to:

- Irritability, aggression
- Depression, anxiety
- Confusion
- Falls
- Pain, medical problems
Sleep acts as the brain’s “dishwasher”, cleaning the brain so it is ready to return to optimal functioning when the person wakes up.
Stages of Sleep: Younger vs Older Adults
Healthy Sleep: Brain Chemistry and Mood

Day time

- **Increased Serotonin** ➞ calm and happy
- **Increased Cortisol** ➞ energetic & motivated
  (too much cortisol = on edge)
- **Decreased melatonin** ➞ more awake

Night time

- **Increased Melatonin** ➞ relaxed and sleepy
- **Increased GABA** ➞ deep sleep and good dreams,
  sense of well-being, relaxed muscles and nerves
- **Decreased serotonin & cortisol** ➞ better sleep
Regulation of Sleep and Circadian Rhythm

**Light**
2000 Lux for 1 hour (e.g. outside in sun), or 1000 Lux for 3 hours

**Activity**
Work and exercise

**Temperature**
Warmer during the day

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**Darkness**
Less than 30-40 Lux

**Quiet**
< 35 Decibels (dB)

**Temperature**
Cooler at night. Body temperature drops slightly during sleep

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Alberta Health Services
Comparison of Hospital Sounds with Sounds Commonly Heard in Daily Life

- Jet taking off, Gunshot (140 Db)
- Shift Change (130 Db)
- Jack hammer (120 Db)
- Motorcycle (110 Db)
- Heavy truck traffic (110 Db)
- Bedside alarm, phone (100 Db)
- Conversational speech (90 Db)
- Recommended daytime average (80 Db)
- Recommended nighttime/SLEEP (70 Db)
- Whisper (60 Db)
- Threshold of hearing (0 Db)
What keeps patients awake at night?

**Day time**

- **Inactivity:** 83.5% of time sitting or lying flat, up to 17 hours a day in bed
- **Light too dim** to convert melatonin to serotonin
- **Daytime napping**
- **Early bedtimes**

**Night time**

- **Light too bright**
- **Temperature** too warm/cold
- **Noise:** 32 noises per night louder than 60 dB
- **Interruptions:** 76% of all incontinence care resulted in awakenings
Sleep and Responsive Behaviours in a Nutshell

- The elderly sleep lightly; those with dementia sleep poorly
- Still only need ~ 8 hours sleep or less
- Good sleep: Day time light & activity, night time dark & quiet
- Poor sleep leads to responsive behaviours, aggression and increased use of antipsychotics & sleeping pills
Medications that May Affect Sleep

**Acetylcholinesterase inhibitors** (memantine)
- Insomnia, disturbing dreams

**Histamine H2 Blockers** (Zantac, Tagamet)
- Confusion, anxiety, hallucinations

**Anticholinergics** (hundreds of drugs)
- Daytime sedation

**Statins**
- Muscle Pain

**Proton Pump Inhibitors** (Losec)
- Rebound acid reflux

**Blood pressure** (B-Blockers)
- Altered sleep physiology, nightmares

**Diuretics**
- Nocturia – avoid late in the day

**Levodopa, carbidopa**
- Nightmares, insomnia

**Antidepressants / SSRIs**
- Insomnia

**Corticosteroids**
- Agitation

**Theophylline, decongestants**
- Stimulant effects
Why do we call them “Sleeping Pills”? 

Benzodiazepines:
• lorazepam (Ativan), temazepam (Restoril), zopiclone (Imovane)

Antipsychotics:
• quetiapine (Seroquel), olanzapine (Zyprexa)

Antihistamines:
• diphenhydramine (Benadryl), dimenhydrate (Gravol), Tylenol Night, Sleep Eze, ZzzQUIL
Benzodiazepines and “Z-drugs”

Minor improvement in first 2-4 weeks:
• Fall asleep 10-20 min sooner, ~ 25 minutes more sleep
• Increase in stage 2 (light sleep), decreased REM and deep sleep

Side effects
• Confusion, memory loss, falls, delirium.
• Occasional use usually leads to constant use/dependence
Antipsychotics

No improvement
• total sleep time, time to fall asleep, day time alertness or sleep satisfaction

Side effects
• dizziness, restlessness, nervousness, restless leg syndrome, falls

“Widespread use of quetiapine as a sleep aid is occurring in the absence of evidence for effectiveness or safety.” (Herper 2004)
Antihistamines

No improvement
Tolerance develops quickly (no further benefit to sleep).

Side effects
Confusion, urine retention, delirium, constipation, restless leg syndrome, day time drowsiness (highly anticholinergic)

Shouldn’t be taken by older adults but are widely used
Sleeping Pills: Not a Long Term Solution

Reminders:
- Avoid if possible
- Low doses for as short a period of time as possible
- Use with caution, monitor for side-effects
- Timing must be considered

Long term use of sleeping pills can result in a “perpetual hangover”
Variable results, not on formulary

**At bedtime:** may improve sleep, cognitive function and mood. May fall asleep faster, have increase in REM sleep

**In late afternoon:** may help with agitation, confusion, sundowning

- Combine with day time light & activity
- May not have an immediate effect (3 weeks)
Story #1 – OUTCOMES:

People slept more!!

HCAs available to respond to individual needs

Night staff job satisfaction - less busy work, more relaxed pace, more time for individualized and palliative care

Budget savings (less laundry, fewer incontinence products)
Story #2 – OUTCOMES:

43% reduction in physical aggression
42% reduction in verbal aggression

Older adults were:

• More rested in the morning
• More alert in the evening
• More tired/cooperative by bedtime
• More pleasant to visit with
Night
- Reposition: those who can’t move on their own
- Incontinence Care: avoid waking, use night products
- Quiet safety rounds
- Quiet staff & routines

Day
- Bright light exposure
- Activity and exercise

Evening
- Dim lights
- Reduced noise
- Calm evening activities
- Bed time routines
Many Things Can Disrupt Sleep

- Itchiness
- Nocturnal cough
- Acid reflux
- Hot flashes
- Nightmares
- Untreated pain
- Too hot or cold
- Caffeine in the evening
- Sleep apnea

- Unexpected noises: call bells, door snapping
- Confusing stimuli: flashing red light, reflections
- Uncomfortable bed
- Restless legs
- Congestive heart failure
- Benign prostate hypertrophy
Strategies to Support Sleep

### Promote Sleep
- Increase day time light exposure e.g. during meals (sunlight window, full blue spectrum light)
- Accommodate individual bedtime routines
- Toilet patient; before sleep
- Decrease night time light exposure (nightlights for safety rounds, red filter, dim lighting)
- Increase day time activity e.g. walking exercises
- Minimize daytime naps (no more than 1 hour)
- Warm patients before sleep (both, warm blanket)
- Reduce overheating during sleep (humidity of blankets, facility temperature if possible)
- Re-evaluate need for and timing of nitroprusside and assessments

### Support Patient Night time Needs
- Night time care: e.g. unit is quiet, dimly lit, staff in fuzzy housecoats
- Routinely when patients wake up: tablet, offer drink and/or snack, pain relief if required, warm blanket and back to bed, sit with them for a brief time if that comforts them
- Night snacks available
- Safe place to wander or do quiet activity

### Comments:

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### Interventions for Individual Patients: start with 1-2 patients

- Identify antipsychotics prescribed for sleep; gradually reduce dose/discontinue
- Identify use of other h.s. sedatives; gradually reduce dose/discontinue
- Evaluate need for medications that may interfere with sleep such as: statins, acid blockers, antidepressants, anticholinergics, benzodiazepines, timing of antidepressants & anti-depressants & anti-cholinergics
- Evaluate need for medications that may reduce melatonin levels such as: calcium channel blockers, SSRIs (Serotonin), beta-blockers, MAOIs
- Discuss medication needs and proposed changes with prescriber, family/holy decisions

- Discuss with family/alternate decision maker: previous sleep patterns (what time they want to bed and get up); lifestyle habits and experiences, what helps patient relax e.g. music
- Identify what may disrupt patient sleep: itchy skin, restless legs, noise, noise, napping, sleep apneas, caffeine in the evening, uncomfortable bed, nocturnal cough, hot flashes, nightmares, leg cramps, congestive heart failure, and reflux
- Modify care plan to maximize sleep: individualized bed time and nap requirements, continence care, need for timing, use of medications, while noise (e.g. fan), light requirements (e.g. red light at night)
- Individualized routine if awake at night: tablet, offer drink and/or snack, pain relief if required, warm blanket and back to bed

### Collaborate Between All Shifts to Enhance Sleep

- For fluctuating sleep/wake cycles, discuss how they shift at shift change:
  - If they sleep poorly, they might need to sleep in, or rest in the afternoon.
  - If they rest poorly, evaluate if they napped too long the day before
  - Consider whether the patient requires more rest to support healing or health needs
  - Given how the day went, might the patient be ready to sleep earlier or later than usual?

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### Comments:

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Seniors Health Services Clinical Network

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# Ways to Improve YOUR Sleep

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- **Awake**: Bright light, Be active, Hydrate, Eat wide variety of whole foods
- **Transition**: Relax, Avoid intense exercise, Easy listening music, Reduce light exposure
- **Asleep**: Turn down heat, Block out light, Phone off, White noise