Appropriate Use of Antipsychotics Project
Responsive Behaviours and Sleep

Seniors Health Strategic Clinical Network (SCN)
In collaboration with Addiction & Mental Health SCN
Alberta LTC Reduction of Antipsychotics
Q1 2015-16 (CIHI) Provincial average 19.8%

Percentage of Residents on Antipsychotics as per CIHI definition

North Zone: 34.7%, Edmonton Zone: 29.1%, Central Zone: 34.8%, Calgary Zone: 26.7%, South Zone: 28.8%, Alberta: 25.7%

You’ve accomplished so much!
Team Introductions

• Introduce your team/family member
  o Names and roles

• Provide a quick overview
  o Current antipsychotic use
  o Successes/Stories/Ideas
  o Challenges
  o Confidentiality
Resources to Support Sustainability

Continue Monthly Antipsychotic Reviews

- Trial new AUA worksheets or continue current processes
- Send feedback on drafts to aua@albertahealthservices by November 30, 2015
Resources to Support Sustainability

Continue Monthly Antipsychotic Reviews

- Enter data on the new Excel tracking tool (optional) and share graphs with staff
- Discuss expectations for reporting with your organization, area or zone leaders
AUA Toolkit

Google AUA Toolkit or search on AHS

External Web

http://www.albertahealthservices.ca/auatoolkit.asp
Let’s take a 15 minute break
Why Focus on Sleep?

- Responsive behaviours may be caused by poor sleep
- People with dementia often sleep poorly
- Antipsychotics are often prescribed for sleep
- There are better solutions
How do you feel when you haven’t slept well?

What does it affect your…

- Mood?
- Outlook on life?
- Ability to deal with stress?
- Health and immunity?
Poor Sleep can Lead to …

- Personality changes
- Delirium / hallucinations
- Decreased immunity
- High blood pressure
- More medical instability
- Increased heart disease, strokes, problems with circulation to the brain
Poor Sleep can Cause ...

- Irritability, aggression, anxiety, inability to cope with stress (which could lead to antipsychotic use)
- Increased depression
- Increased loss of independence
- Confusion, new cognitive difficulties
- Falls (which could lead to increased restraint use)
- Pain e.g. headaches
- Delayed wound healing
What can we do?

- Understand the basics (physiology) of sleep
- Support sleep: know what helps, what doesn’t
Sleep acts as the brain’s “dishwasher”, cleaning the brain so it is ready to return to optimal functioning when the person wakes up.

Morley, Sleep and the Nursing Home, 2015
Stages of Sleep: Younger vs Older Adults
Healthy Sleep, Mood and Brain Chemistry

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
Sleep and Circadian Rhythm is Regulated by:

- **Light**: Lux 2000 for more than 1 hour (e.g. outside in sun), or 1000 for more than 3 hours
  
  Melatonin is converted to Serotonin as our eyes are exposed to light (then we feel more awake in the day)

- **Activity**: work and exercise

- **Temperature**: warmer during the day, cooler at night
Sleep and Circadian Rhythm is also Regulated by:

- **Darkness**: Less than 30-40 Lux
  Serotonin converts to melatonin
  - we feel relaxed and sleepy

- **Quiet**: < 35 Decibels (dB)

- **Temperature**: should be cooler than day time
  Body temperature drops slightly during sleep
Sleep in a Care Facility

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

**Night time**
- **Light is too bright.** Melatonin suppressed with light greater than 30-40 Lux
- **Noise**: Each resident hears 32 noises per night louder than 60 dB. Less than 30 dB is required for sleep
- **Interruptions**: 76% of all incontinence care practices resulted in awakenings
- **Temperature**: too warm
**Noise**

Excessive or unexpected noise interrupts sleep and increases cortisol and adrenalin (fight or flight)

- Shift change = Jack hammer
- Bedside alarm, phone, locker room door = heavy truck traffic
- Conversational speech is twice the recommended night time noise level
- Threshold of hearing
Noise Awareness Activity

What sounds in your facility would affect sleep?

• Pill crusher
• Food cart
• Shift change/Team discussion
• One person talking/calling down hall
• Door closing
• Music playing
• Equipment (floor cleaner, vacuum)
• Ticking clock
• Other?

Remember:

• **Threshold of hearing:** Zero
• **Recommended level for sleep:** 35 Db or less
• **Recommended maximum for day time:** 35–45 dB
Why do we call them “Sleeping Pills”?

- Minimal or no improvement in sleep
- Day time grogginess / hangover
- Increased day time napping
- The pills stop helping within weeks
- Many side effects such as falls/confusion
- Interferes with important stages of sleep crucial for cognitive-emotional function (REM)
Antipsychotics

- Don’t improve total sleep time, time to fall asleep, day time alertness or sleep satisfaction
- Increased risk of dizziness, restlessness, nervousness, restless leg syndrome, falls
- Examples: quetiapine (Seroquel), olanzapine (Zyprexa)

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

- Risk of confusion, urine retention, delirium, constipation, day time drowsiness (highly anticholinergic)
- Increased restless leg syndrome
- Tolerance develops quickly (no further benefit to sleep)
- Shouldn’t be taken by older persons but widely used
- Examples include:
  - diphenhydramine (Benadryl), dimenhydrate (Gravol), Tylenol Night, Sleep Eze, ZzzQUIL
Antidepressants – Common Side Effects

- Should only be used to treat insomnia associated with clinical depression
- Can cause insomnia
- Side effects include:
  - increased day time sleepiness
  - falls
  - blurred vision
  - confusion
- Examples:
  - trazodone (Desyrel), mirtazapine (Remeron), amitriptyline (Elavil), nortriptyline (Aventyl HCL)
**Benzodiazepines and “Z-drugs”**

- **First 2-4 weeks:**
  - Fall asleep 10-20 min sooner, sleep ~ 25 min longer
  - Increase in stage 2 (light sleep), decreased REM and deep sleep

- **Occasional use usually leads to constant use/dependence**
  - Examples: lorazepam (Ativan) and temazepam (Restoril)

- **Another example:** zopiclone (Imovane)
  - Less addictive but similar side-effects including: confusion, memory loss, falls, delirium
Sleeping Pills: Not a Long Term Solution

Reminders:
✓ use low doses for as short a period of time as possible
✓ avoid if possible in the elderly
✓ use with caution and monitor for side-effects
✓ timing must be considered

Long term use of hs sedation can result in a ‘perpetual hangover’ - this reduces day time activity and increases day time napping, which further impairs night time sleep.
**Melatonin Might Help**

- At bedtime: may improve sleep, fall asleep faster, increase REM sleep
- In late afternoon: may help with agitation/confusion/sundowning
- May improve cognitive function and mood
- May slow progression of the damage to the brain in Alzheimer’s Disease
- Works best when combined with day time light and activity

**Other possible benefits:**

- Help taper off benzodiazepines
- Reduce tardive dyskinesia symptoms
- Help reduce agitation in delirium
- Reduce hypertension
- Anti-inflammatory
Key Message: It is crucial to develop a unit culture that supports the importance of sleep.
The elderly sleep lightly; those with dementia sleep poorly and are extra sensitive to light and noise at night.

Still only need ~ 8 hours sleep in 24 hours.

Day time light and activity, and night time darkness and quiet are required to regulate circadian rhythms.

Disrupted sleep leads to responsive behaviours/aggression and increased use of antipsychotics/other sedatives.
Table Discussion

What interferes with sleep in your facility?
What do families/residents notice?

- **Routines:**
  naps, bed times, rounds, continence care/turning?
- **Light:**
  day time, evening, night time?
- **Noise:**
  day time overstimulation, evening and night noise?
- **Understimulation:**
  how active are residents during the day?
- **Use of “sleeping pills” including antipsychotics?**
Report Back

What’s one thing that’s preventing good sleep in your facility?
Lunch
# Strategies to Support Sleep

## Support the Body’s Natural Circadian Rhythm

<table>
<thead>
<tr>
<th>Unit Interventions</th>
<th>Interventions for Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Identify and address sleep disruptions</td>
<td>• Decrease use of antipsychotics and other sedatives</td>
</tr>
<tr>
<td>• Promote sleep using light, activity and temperature</td>
<td>• Person-Centred strategies to enhance sleep</td>
</tr>
<tr>
<td>• Support resident night time needs</td>
<td>• Collaborate between all shifts</td>
</tr>
</tbody>
</table>
Unit Interventions

- What unit routines wake people up?
- How can you support circadian rhythms?
- How will you support/occupy residents who are awake and up during the late evening or night?

- Identify and address sleep disruptions
- Promote sleep using light, activity and temperature
- Support resident night time needs
Unit Level QI

- Replaced 3 AM rounds with individualized care: ~ 10% residents turned
- Incontinence care: resident-specific incontinence briefs applied on last round of evening shift
- Encouraged residents to go to bed later (more evening activities)
- Reduced noise at night, lights dimmed, everyone whispered

OUTCOMES:

- Residents slept more!!
- HCAs more available to respond to individual resident needs
- Night staff job satisfaction with less busy work, a more relaxed pace, more time for important care work (e.g. individualized palliative care)
- Unit budget savings (less laundry, less incontinence products)

Bethany Care Society, 1998-2001
Dr. Susan Slaughter
What are your Night Routines?

Repositioning
• What is the purpose of repositioning?
• Who does/doesn’t need to be repositioned?
• What is the most effective and least disruptive way to reposition?

Incontinence Care
• What is the purpose of incontinence care?
• Who needs to be woken for incontinence care?
• What is the most effective and least disruptive way to provide incontinence care?
OUTCOMES:

• Reduction of:
  o 43% in physical aggression
  o 42% in verbal aggression

• Residents were:
  o More rested in the morning
  o More tired/cooperative by bedtime
  o More alert in the evening
  o More pleasant to visit with

Unit Level QI

• Noise:
  o Change in shift responsibilities: stocking, retrieval of commodes/wheelchairs
  o Addressograph used in closed room
  o Ice machine turned off at night
  o Garbage man asked to come in quietly

• Safety Rounds:
  o Curtains drawn
  o Doors left ajar on last evening round for visual checks
  o Flashlights instead of overhead lights

• If awake:
  o Assessed for needs
e.g. bathroom/changed/repositioned

Medicine Hat Hospital
Dementia Unit,
Heather Hart RN
Other Night Routines/Tasks?

**Safety Rounds**
- What is the purpose of safety rounds?
- What is the most effective and least disruptive way to do safety rounds?

**Night Activities, Noise**
- What night activities (e.g. cleaning, stocking) may be disruptive to resident sleep?
- What are your options?
What are your day time Routines?

What could you do to expose residents to bright light during the day?
  • Face a sunny window
  • A blue light on the table at meals
  • Blinds open in the dining room
  • Other?

What opportunities do residents have for activity and exercise?
  • Walking
  • Sit to stand
  • Other?
What are your Evening Routines?

Light, Stimulation and Bedtime

• What lights could be dimmed in the evening to signal the brain to produce melatonin?

• What sources of stimulation could be reduced to avoid cortisol production?

• What could you do to help prepare residents for bed/sleep?

Goals: Allow sleep to occur at night; optimize daytime functioning
Sleep Guidelines

- Does your facility or organization already have a policy or guideline on sleep?
- What do Continuing Care Standards say?
- Consider the Sleep Guideline handout and discussion questions to consult and involve staff at your facility
Unit Interventions

- Identify and address sleep disruptions
- Promote sleep using light, activity and temperature
- Support resident night time needs

Strategies to Support Sleep

<table>
<thead>
<tr>
<th>Identify and Address Sleep Disruptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Rounds: what would be a less intrusive way to check on the safety of residents?</td>
</tr>
<tr>
<td>Continence Care: Identify those who don’t like to be wet or dry for skin breakdown. Who needs a super absorbent nighttime product? What time should it go on?</td>
</tr>
<tr>
<td>Repositioning: Identify residents who move by themselves, even a little. Turn only those who don’t move at all. Vague “don’t move”</td>
</tr>
<tr>
<td>Noise: Identify staff generation noise and strategies to reduce it (e.g., earplugs, night cleaning and stocking routines, staff paperwork and communication)</td>
</tr>
<tr>
<td>Light: Identify light sources that may disrupt sleep (e.g., street lights, hall or bathroom lights, computer screens)</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Promote Sleep</th>
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</thead>
<tbody>
<tr>
<td>Increase daytime light exposure e.g. during meals (around window, for blue spectrum)</td>
</tr>
<tr>
<td>Accommodate individual bedtime routines</td>
</tr>
<tr>
<td>Tuck residents in before sleep</td>
</tr>
<tr>
<td>Decrease nighttime light exposure (e.g., for safety rounds, red filters, dimmable lighting)</td>
</tr>
<tr>
<td>Increase daytime activity e.g. walking, exercise, outdoor activities</td>
</tr>
<tr>
<td>Minimize daytime naps (no more than 1 hour)</td>
</tr>
<tr>
<td>Warm residents before sleep (e.g., warm blankets)</td>
</tr>
<tr>
<td>Reduce overheating during sleep (number of blankets, facility temperature if possible)</td>
</tr>
<tr>
<td>Group residents and roommates according to nighttime care needs (e.g., quiet turning, repositioning)</td>
</tr>
<tr>
<td>Other:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Support Resident Nighttime Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Night time cues: e.g. unit is quiet, dimly lit, staff in fuzzy housecoats</td>
</tr>
<tr>
<td>Routines for when residents wake up: shower, 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</td>
</tr>
<tr>
<td>Night snacks available</td>
</tr>
<tr>
<td>Safe place to wander or do quiet activity</td>
</tr>
<tr>
<td>Other:</td>
</tr>
</tbody>
</table>

Comments:
Person-Centred Interventions

- Decrease use of antipsychotics and other sedatives
- Person-Centred strategies to enhance sleep
- Collaborate between all shifts
Disorders that can Disrupt Sleep

- Circadian Rhythm Disorder
- Sleep Apnea
- Restless Leg Syndrome
- Periodic Limb Movement Disorder
- REM Behaviour Disorder
Other Things that Disrupt Sleep

- Itchiness
- Nocturnal cough
- Acid reflux
- Hot flashes
- Nightmares
- Untreated pain
- Too hot or cold
- Caffeine in the evening
- Unexpected noises: call bells, door snapping
- Confusing stimuli: flashing red light, reflections
- Uncomfortable bed
- Congestive heart failure
- Benign prostate hypertrophy
- Other?

[Diagram of a person in bed with a light and alarm clock]
Medications that May Affect Sleep

- **Anticholinesterase inhibitors** (memantine): *INSOMNIA, DISTURBING DREAMS*
- **Blood pressure** (B-Blockers): *altered sleep physiology, nightmares*
- **Anticholinergics** (hundreds of drugs): *DAY TIME SEDATION*
- **Antidepressants / SSRIs**: *INSOMNIA*  Statins: *MUSCLE PAIN*
- **Histamine H2 Blockers** (Zantac, Tagamet): *confusion, anxiety, hallucinations*  Corticosteroids: *AGITATION*
- **Proton Pump Inhibitors** (Losec): *Rebound acid reflux*
- **Diuretics**: *nocturia – avoid late in the day*
- **Levodopa, carbadopa**: *NIGHTMARES, INSOMNIA.*
- **Theophylline, decongestants**: *STIMULANT EFFECTS*
Relaxing Bedtime Routines

- Person-centred night routines: music, snack, special hand lotion
- Use white noise (e.g. fan)
- Darken room: block hall/street lights
- Slow stroke back massage
- Warm blanket ½ hour before bed
Person-Centred Interventions

- Decrease use of antipsychotics and other sedatives
- Person-Centred strategies to enhance sleep
- Collaborate between all shifts

- The above handout can be used to discuss ways to improve sleep for individual residents
- How might you use this handout to engage co-workers in your facility?
How will you shift your unit/facility culture?

Prepare yourself to

- Resources
- Sleep QI Project option/measurement
- Action Plan
**Get Started**

- Use the Sleep and Responsive Behaviours Action Plan to discuss your next steps

**Build Awareness**

**Create Desire for Change**

**Develop Knowledge & Ability**

**Reinforce Change**

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**Change Management Action Plan**

- Use the Sleep and Responsive Behaviours Action Plan to discuss your next steps.
- Be prepared to report at least one next step.

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**Spread**

- Share success stories with residents within the facility and within the community.
Resources to Support Sleep in LTC Residents

Change Management Resources
- Strategies to Support Sleep
- Sleep and Responsive Behaviours Action Plan
- Generic Letter
- Guidelines for a Good Night Sleep
- Sleep map

QI Board Resources
- Posters: light, activity, passive warming, sleep hygiene
- Articles
- PowerPoint slides
- Recommendations for family members

AUA Toolkit
- Sleep and Responsive Behaviours Section
- Medication Review Section

Noise/Sound Measurement
- Lux meter
- dB meter
Sleep QI Project (Optional)

- Separate tab in Excel Tracking Sheet
- Consider adopting facility or organizational sleep guidelines
- Consider RAI indicators for outcome measures Monitor for improvement as you implement your action plan

Examples include:
- Worsened Depressive Mood
- Index of Social Engagement
- Falls
- Aggressive Behaviour
- Restraint use
- Worsened physical functioning
- Sleep
- Other?

<table>
<thead>
<tr>
<th>Month</th>
<th>Number of residents on unit</th>
<th>Number of residents on HS sedation including any diazepam prescribed for sleep</th>
<th>Percent of residents receiving HS sedation</th>
<th>Looking at column B, record the number of residents who had Gradual Dose Reduction or Discontinued HS sedation</th>
<th>Looking at column C, record the number of residents with improved night sleep</th>
<th>Looking at column D, record the number of residents with improved verbal/physical aggression</th>
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<tbody>
<tr>
<td>Baseline (month/year)</td>
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<td>20</td>
<td>20%</td>
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<td>Jul-15</td>
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<td>18</td>
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<td>Aug-15</td>
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Goal
Team Planning and Report Back

Prepare yourself to change the world.

Strategies to Support Sleep:
• Priority Unit Intervention
• Priority Person-centred Intervention

Change Management Action Plan:
• Your Team’s Next Step
Next Workshop: Feb/March 2016

Come prepared to share:

- What you did and how it worked
- Success stories/challenges
- Percent of residents on antipsychotics without a diagnosis of psychosis (RAI 2.0)

If you have something to share in the AUA bulletin, please forward it to:
aua@albertahealthservices.ca

Don’t Forget
- Evaluations
- Turn in Sign-In Sheets
References

- [http://dem.sagepub.com/content/12/2/210.long](http://dem.sagepub.com/content/12/2/210.long)
- [http://www.sleep-dementia-resources.info/](http://www.sleep-dementia-resources.info/)
- Common Sleep Problems Affecting Older Adults
  [http://www.annalsoflongtermcare.com/article/8100](http://www.annalsoflongtermcare.com/article/8100)
- Improving Sleep Management in the Elderly
  [http://www.annalsoflongtermcare.com/article/8283](http://www.annalsoflongtermcare.com/article/8283)