

Support of Sleep

Elder Friendly Care in Acute Care

Seniors Health Strategic Clinical Network



People with dementia have trouble sleeping

Poor sleep can contribute to responsive behaviours

Responsive behaviours may lead to use of antipsychotics and other inappropriate medications.

Medications can interfere with sleep.

Medication side effects and inadequate sleep can result in responsive behaviours and delirium.

Supporting sleep is an important way to break this cycle and improve outcomes for patients, staff and the system.

Supplemental Information:

Antipsychotics are often prescribed for sleep – as are other sedatives, despite lack of clinical evidence. Voyer et al 2015 found that many behaviours last between 1 and 2 ½ months. They also found that as needed (PRN) antipsychotics are most often given for verbal or physical agitation in the evening – likely in hopes that residents would settle and let others sleep – even though antipsychotics are not effective for these behaviours

If we can improve sleep and prevent delirium, we can also reduce our use of antipsychotics for aggression and responsive behaviours.

It's important to remember there are appropriate uses for antipsychotics such as:

PSYCHIATRIC DIAGNOSIS such as schizophrenia, bipolar, delusional disorder, and major depression.

HALLUCINATIONS, DELUSIONS that are bothersome or disturbing to the person, for which non-pharmacologic approaches aren't effective.

PHYSICAL AGGRESSION: Sometimes a low dose of antipsychotics may reduce aggressive behaviours that put the resident or others at risk of injury (though antipsychotics may also worsen aggressive behaviours).

References:

Voyer et al 2015 Behavioral and Psychological Symptoms of Dementia; How Long Does Every Behavior Last, and Are Particular behaviors Associated With PRN Antipsychotic Agent Use? SLACK Incorporated.

How do you feel when you haven't slept well?

Poor sleep can lead to:

- Irritability, aggression
- Depression, anxiety
- Confusion
- Falls
- Pain, medical problems



Think about how you feel when you've had a poor sleep. How does it affect your mood, outlook on life, ability to deal with stress, health and immunity? E.g. You may be grumpy, stressed, have a headache, be irritable, overly negative or depressed, tend to catch viruses...

Frail older adults are not at their best without sleep either. Sleep is crucial for mental well-being and physical health. Even blood pressure goes up with lack of sleep!

Supplemental Information

Other medical problems include: Increased heart disease, strokes, problems with circulation to the brain and delayed wound healing. How many medications are prescribed for medical problems, that might be improved by a good night's sleep?

References:

[Immunol Allergy Clin North Am.](#) 2011 Feb;31(1):81-93. doi: 10.1016/j.iac.2010.09.010. The impact of psychological stress on wound healing: methods and mechanisms. [Gouin JP](#)¹, [Kiecolt-Glaser JK](#). <http://www.ncbi.nlm.nih.gov/pubmed/21094925>

Stages of Sleep

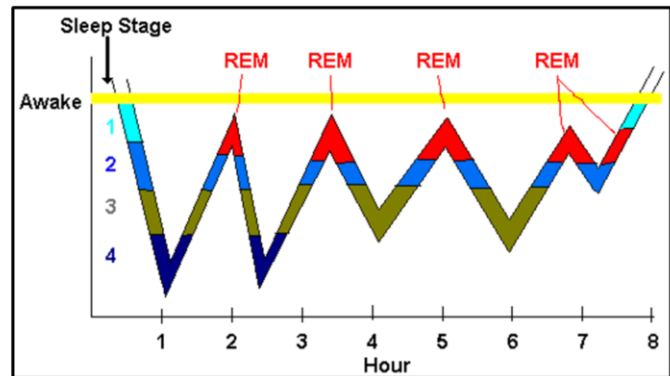
90 minute sleep cycles

REM sleep

⇒ memory, brain health

Stage 3 & 4

⇒ cell healing and repair



Sleep acts as the brain's "dishwasher", cleaning the brain so it is ready to return to optimal functioning when the person wakes up.



The Stages of Sleep ©University of Washington
Morley, Sleep and the Nursing Home, 2015

To understand how to improve sleep, we have to understand a little about the physiology of sleep.

- In a typical 8 hour sleep period, healthy adults have 4 or 5 REM cycles.
- Stages 1 and 2 are light sleep
- In the stages of deeper sleep (3 and 4) cell repair and healing occurs.
- The REM part of the cycle is important for memory, brain health and cognition

Supplemental Information:



During sleep, brain cells shrink, allowing cerebrospinal fluid to bathe the cells and wash away toxins, including amyloid-beta protein. This prevents, repairs and reduces damage to the brain (Morley)

Consider: How might sleep cycles and stages be affected by safety rounds, positioning and continence care?

References:

John E. Morley MG, BCh, Sleep and the Nursing Home Editorial, JAMDA 16(2015) 539-543

Healthy Sleep: Brain Chemistry and Mood

| | |
|---|---|
|  | Day time |
| | <p>Increased Serotonin ⇨ calm and happy</p> <p>Increased Cortisol ⇨ energetic & motivated (too much cortisol = on edge)</p> <p>Decreased melatonin ⇨ more awake</p> |
|  | Night time |
| | <p>Increased Melatonin ⇨ relaxed and sleepy</p> <p>Increased GABA ⇨ deep sleep and good dreams, sense of well-being, relaxed muscles and nerves</p> <p>Decreased serotonin & cortisol ⇨ better sleep</p> |

Sleep is regulated by brain chemistry, in response to light and darkness.

Serotonin is a calming neurotransmitter in the brain. You need serotonin for cognition, memory, sleep, temperature regulation, word finding and many other functions. As we're exposed to morning light, melatonin converts to serotonin, so melatonin levels go down and serotonin levels go up. We feel awake, calm and happy!

Cortisol is a stimulating neurotransmitter: it peaks first thing in the morning providing an initial boost of energy and motivation. It's also involved in "fight or flight" – it becomes elevated with stress. If cortisol goes up, serotonin goes down.

Melatonin: helps us feel relaxed and sleepy. It begins to rise in the evening (as the lights dim) and falls in the morning (as we're exposed to light) Melatonin decline is associated with unhealthy aging. Melatonin peaks about 4 hours after lights out

GABA: Without it, we don't get a deep sleep, we can have restless legs, nightmares. It's the principal neurotransmitter of the circadian system; is lower in those with insomnia. GABA peaks during deep sleep.

References:

The Rhythmic GABAergic System. Cardinali and Golombek *Neurochemical Research*, Vol 23, No5, 1009, pp607-614 [Am J Med](#). 1999 Nov;107(5):432-6.

Zeitzer, Daniels, Duffy, Klerman, Shanahan, Kijk, Czeisler. Do plasma melatonin concentrations decline with age? (No differences between Healthy Subjects)

Similar findings in this longitudinal study published in the New York Academy of Sciences: **NG, Kin, Nair, Schwarz, Thavundayil and Annable. Secretion of Melatonin in Healthy Elderly Subjects: A Longitudinal Study.** Article first published online: 12 JAN 2006

Spreng M. Possible health effects of noise induced cortisol increase. [Noise Health](#). 2000;2(7):59-64.

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



Darkness

Less than 30-40 Lux

Quiet

< 35 Decibels (dB)

Temperature

Cooler at night. Body temperature drops slightly during sleep



This fluctuation in brain chemistry is also known as circadian rhythm. The most important regulator is light. Lux is a measure of light.

Lux meter demo if available

- Under fluorescent lights
- Facing a window
- Full spectrum light (e.g. 1260 lumens)
- Blue light

Being active is another signal we send to our brains that it's time to be awake. Body temperature also fluctuates with circadian rhythm, and with day time and night time temperatures.

Just as light sends a message to the brain about how active and awake we should be, darkness sends a message it's time to sleep.

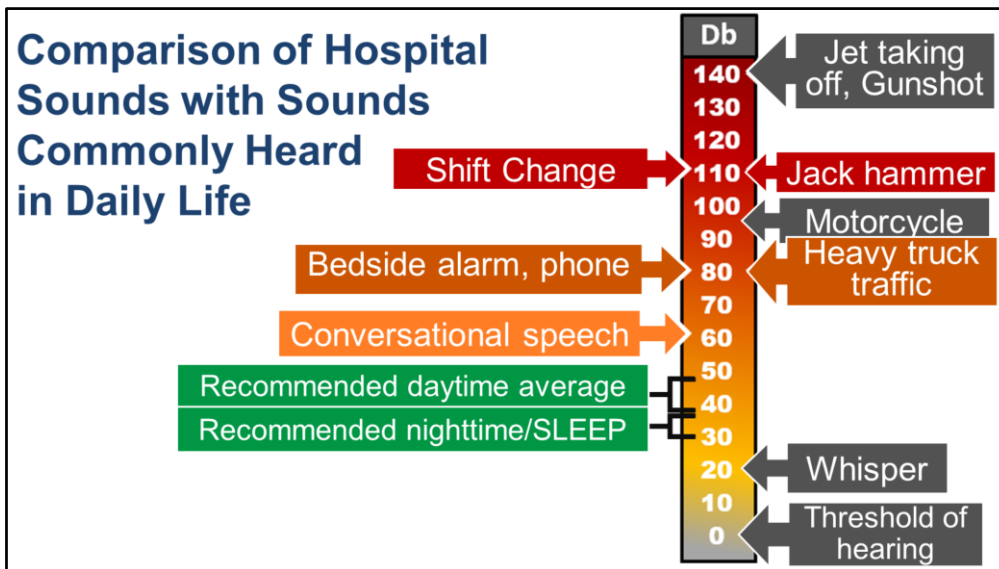
A good sleep also requires quietness and a cooler temperature, which allows core temperature to drop during the night.

One way to feel sleepy is to raise body temperature before bed (e.g. warm bath, warm blanket). As body temperature cools, we feel sleepy.

If you've worked nights: When is body temperature the lowest?

Have you also noticed that you wake up if it's too warm?

Consider the implications for the elderly, who have decreased body fat and a slower metabolism



This scale shows the level of noise from perfect quiet to a jumbo jet. Less than 30-35 dB is recommended for sleep – whispering is 20 dB. Many sounds are too loud for sleep, including normal conversational speech which is 60 dB. The noise during shift change can be as loud as a jack hammer!

Sudden or loud noises trigger cortisol elevation: awake, alert, on edge. This can lead to immunosuppression, insulin resistance, hypertension, arteriosclerosis, osteoporosis, stress ulcers, disturbed hormone balance and reduced serotonin levels. The auditory system is permanently open – even during sleep.

References:

Gordon AL and Gladman JRF, Sleep in care homes, Reviews in Clinical Gerontology 2010 20;309-316 [Noise Health](#). 2000;2(7):59-64.
 Spreng M. Possible health effects of noise induced cortisol increase. Noise and Health, 04/2000, Vol 2, Issue 7

The auditory system is permanently open - even during sleep. Its quick and overshooting excitations caused by noise signals are subcortically connected via the amygdala to the hypothalamic-pituitary-adrenal-axis (HPA-axis). Thus noise causes the release of different stress hormones (e.g. corticotropin releasing hormone: CRH; adrenocorticotrophic hormone: ACTH) especially in sleeping persons during the vagotropic night/early morning phase. These effects occur below the waking threshold of noise and are mainly without mental control... Increased cortisol levels have been found in humans when exposed to aircraft noise or road traffic noise during sleep. The effects of longer-lasting activation of the HPA-axis, especially long term increase of cortisol, are manifold: immuno suppression (e.g. eosinopenia), insulin resistance (e.g. diabetes), cardiovascular diseases (e.g. hypertension and arteriosclerosis), catabolism (e.g. osteoporosis), intestinal problems (e.g. stress ulcer) etc. Even worse may be the widespread extrahypothalamical effects of CRH/and/or ACTH which have the potential to influence nearly all regulatory systems, causing for example stress-dysmenorrhea etc. as signs of disturbed hormonal balance.

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

Hospital environments and care facilities frequently interfere with signals the brain depends on to regulate circadian rhythms.

In the day time, the lights are too dim, and people are too inactive. Aging eyes have a reduced ability to admit light. Older adults nap frequently and go to bed early – often right after the evening meal.

In the night time, people are woken by light, interruptions, and noise. The temperature may be too warm to support a drop in core temperature that allows for a comfortable, restful sleep. Even dim room light of 30-40 lux can desynchronize rhythms and suppress sleep during the night time. Less than 30 dB is required for sleep

Researchers have measured an average of 32 noises per night at the volume of loud speech (60 decibels) or louder. 22% of waking episodes are with noise alone, 10% with light and noise, and 10% with incontinence care routines. 76% of all incontinence care practices resulted in awakenings. (Gordon)

How well do you think you would be able to sleep on your unit? What sounds are too loud for sleep at night?

References:

Cmiel, CA, Gasser DM, Neveau AJ. Noise Control: A Nursing Team's Approach to Sleep Promotion. AJN Feb 2004 Vol 104, No. 2

Gordon and Gladman. Sleep in care homes. Reviews in Clinical Gerontology 2010 20;3-9-316.

Residents spent up to 17 hours per day in bed to achieve only 8 hours total sleep time, were awake for at least 14 minutes every hour of the night; 83.5% of time spent sitting or lying flat

Koch, Haesler, Tiziani and Wilson. Effectiveness of sleep management strategies for residents of aged care facilities: findings of a systematic review. Journal of Clinical Nursing 15, 1267-1275.



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




The elderly already sleep lightly, and those with dementia sleep poorly – we wake them with light, noise and activity

Older adults still only need ~ 8 hours sleep – if they nap 1-2 hours, and go to bed at 7 – they will wake up around 0100

They need light and activity to regulate circadian rhythms – and are inactive in hallways and rooms away from windows

Disrupted sleep leads to responsive behaviours and aggression, and increased use of antipsychotics and other sedatives.



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 | Insomnia |
| Theophylline, decongestants | STIMULANT EFFECTS |

In this part of the presentation, we'll look at how medications and sleeping pills can actually make it harder to sleep well at night.

Many commonly used medications interfere with sleep – and since sleep is so important for mental and physical health, it's very important to **conduct a thorough medication review** to eliminate any medications that aren't absolutely necessary for comfort, health and quality of life.

E.g. Antidepressants: Can cause insomnia or daytime drowsiness. Timing of antidepressants is important – e.g. give in morning if it has more of a stimulating effect; give in the evening if it has more of a sedating effect.

References:

Wolkove, N. et al. CMAJ 2007; 176:1299-1305
 Choosing Wisely American Family Physician
 Health Canada Warnings

Why do we call them “Sleeping Pills”?

Benzodiazepines:

- lorazepam (Ativan), temazepam (Restoril), zopiclone (Imovane)

Antipsychotics:

- quetiapine (Seroquel), olanzapine (Zyprexa)

Antihistamines:

- diphenhydramine (Benadryl), dimenhydratate (Gravol), Tylenol Night, Sleep Eze, ZzzQUIL



Think of how you feel after taking Gravol or Benadryl. This is how older adults feel after taking sleeping pills: fuzzy, confused, drowsy, dizzy...

Do sleeping pills help people sleep?

Short term, sometimes. But long term – the benefits are minimal, and are offset by grogginess, falls and confusion.

Sleeping pills actually interfere with sleep because people nap throughout the day, and miss out on important sleep stages at night.

References:

Koch, Haesler, Tiziani, Wilson. Effectiveness of sleep management strategies for residents of aged care facilities: findings of a systematic review. *Older People*: 6 July 2005

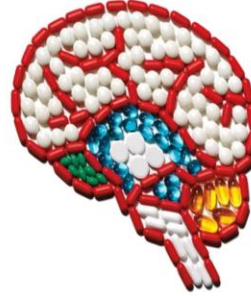
Benzodiazepines and “Z-drugs”

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



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Benzodiazepines are useful when used occasionally, short term. But people who use them regularly quickly develop dependence: no longer help with sleep, may have rebound insomnia without it. *Nurses don't see benzos as a problem; prn doses will almost always lead to chronic dependence (Antheirens)*

How Benzodiazepines work: enhance the action of the neurotransmitter GABA, whose function is to slow or calm things down. Over time, as GABA activity increases, the brain reduces its output of noradrenaline, serotonin, acetylcholine and dopamine. These are all necessary for normal alertness, muscle tone, memory, coordination, heart rate, blood pressure and emotional responses.

So the side effects of benzodiazepines include confusion, memory loss, falls and delirium. One care manager told staff/families: “We don’t give Ativan unless we want people to fall.”

Benzodiazepine use is associated with an increased risk of Alzheimer’s disease. (BMJ 2014)

What about alcohol for sleep? Alcohol falls into the benzodiazepine effect category: alcohol stimulates the GABA receptors, helps fall asleep, but also reduces time in deep sleep.

References:

- Addis 2007 Sleep-promoting medications should be used with caution in elderly nursing home residents. *Drugs Ther Perspect* 2007 pVol 23, No 4
- Cuellar 2007 Assessment and Treatment of Sleep Disorders in the Older Adult. *Geriatric Nursing* Vol 28, No 4.
- Antheirens et al Perceptions of nurses in nursing homes on the usage of benzodiazepines, *Journal of Clinical Nursing* 2009; 18, 3098-3106

Benzodiazepine use and risk of Alzheimer’s disease: case-control study BMJ 2014;349:p5205

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)



There have been NO studies with the elderly and antipsychotics for sleep

A study on 14 healthy men showed improvements in sleep, sleep time, sleep efficiency and duration of **stage 2 sleep** (light, non-REM sleep). Higher dose (100 mg) increased restless leg movements and decreased REM sleep. 2 out of 14 HEALTHY MEN dropped out because of symptomatic orthostatic hypotension.

A study with 25 patients on 25 mg or placebo didn't improve total sleep time, time to fall asleep, daytime alertness or sleep satisfaction.

References:

<http://www.rxfiles.ca/rxfiles/uploads/documents/Insomnia-Older-Adults-QandA.pdf>

Herper M. Antipsychotic prescribed as sleeping pill. Forbes.com 2004.
<http://www.ti.ubc.ca/letter79>

Is use of quetiapine for sleep evidence-based?
Therapeutics Letter Issue 79 / Sep - Dec 2010 <http://www.ti.ubc.ca/letter79>

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



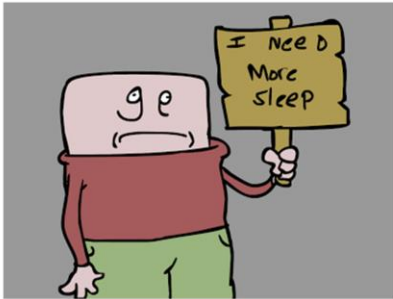
Gravol should NOT be used for sleep or nausea in the elderly due to its anticholinergic effects

Story from Central zone mental health outreach nurse: She was called to consult about an impossible resident who had many behaviours. This resident was on 6 medications with anticholinergic effects. Once these medications were discontinued, she became a different person and her behaviours stabilized.

References:

<http://www.rxfiles.ca/rxfiles/uploads/documents/Psych-BPSD-Newsletter.pdf>

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*”



Long term use of sleeping pills can result in a ‘perpetual hangover’: reduced day time activity, increased day time napping, decreased sleep at night.

Older adults using hypnotics [sleeping pills] may experience decreased total sleep time, an increase in early morning awakening, an increase in day time lethargy and report reduced sleep quality. Koch 2006

*We discovered a distinct lack of evidence to help guide drug treatment of sleep problems in Alzheimers Disease. **In particular, we found no RCTs of many drugs that are widely prescribed for sleep problems in AD, including the benzodiazepine and non-benzodiazepine hypnotics, although there is considerable uncertainty about the balance of benefits and risks associated with these common treatments.** (McCleery 2014)*

References

McCleery J, Cohen DA, Sharpley AL. *Pharmacotherapies for sleep disturbances in Alzheimer's disease.* Cochrane Database Syst Rev. 2014;3:009178.

Melatonin Might Help

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)



QUESTION: Has anyone tried melatonin?

It helps some people and doesn't help others; some seniors are using melatonin but it's not on the formulary, so families have to bring it in. Needs to be combined with non-pharm options (light, physical and social activity etc. Zhou 2012)

Supplemental information:


May not have an immediate effect. Improvements in night time awakening frequency, increase in subjective rating of sleep quality - did not reach significance until day 19 of the 21-day trial period. (Fainstein et al 1998)

May help with sundowning/agitated behaviour in patients with dementia – may also help reduce agitation in delirium (de Jonghe 2010)

May slow progression of cognitive impairment. Data from clinical trials indicate that melatonin supplementation improves sleep, ameliorates sundowning and slows down the progression of cognitive impairment in AD patients. Melatonin efficiently protects neuronal cells from Abeta-mediated toxicity via antioxidant and anti-amyloid properties. (Lin et al 2013)

References

- de Jonghe A, Korevaar JC, van Munster BC, de Rooij SE. Effectiveness of melatonin treatment on circadian rhythm disturbances in dementia. are there implications for delirium? A systematic review. *Int J Geriatr Psychiatry*. 2010;25(12):1201-1208.
- Lin L, Huang QX, Yang SS, Chu J, Wang JZ, Tian Q. Melatonin in Alzheimer's disease. *Int J Mol Sci*. 2013;14(7):14575-14593.
- Zhou QP, Jung L, Richards KC. The management of sleep and circadian disturbance in patients with dementia. *Curr Neurol Neurosci Rep*. 2012;12(2):193-204.
<http://umm.edu/health/medical/altmed/supplement/melatonin>



Story #1 – OUTCOMES:

- People slept more!!
- HCA's 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)

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Bethany Care Society,
1998-2001
Dr. Susan Slaughter

Has anyone tried to improve sleep for older adults living in hospitals or care facilities?

Yes! At the **Bethany Care Society in Calgary**, here's what happened before they tried to improve sleep: night sedation was given with supper; supper began at 16:45 and residents were assisted to bed shortly thereafter; residents were turned and changed routinely at night (e.g. everyone at 3 am); caffeinated coffee; noise on all shifts; residents were awake at night

Here's what they changed:

Instead of turning and changing everyone at 3 am, they:

- encouraged everyone to go to bed later (provided more evening activities)
- Reduced night time noise, lighting, everyone whispered
- identified the residents who didn't move at all in bed (approximately 10%)
- Identified "heavy wetters" and ordered extra-absorbent incontinence products for them alone (approximately 10%)
- Woke no one for incontinence care.
- Examined beliefs - Waking up "soaked" is a sign of a good night's sleep not a sign of poor care

Background: "sleep-wake project" at Bethany Care Society started in late 1998 and was completed sometime in 2001. What is reported on this slide was focused work with *one unit* where the manager **and** the full time night RN were motivated and fully supportive of change. It could not have happened without their commitment and leadership. Susan Slaughter was the facilitator that supported their leadership. This too was an essential ingredient. This work took place in the context of facility-wide (8 units) with attention to improving sleep. All units participated in focus groups and eventually posted the "Guidelines for a good night sleep". The Director of Care was the initiator of this effort and constantly promoted the work with the unit managers over a 2 year period.



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



Medicine Hat Hospital
Dementia Unit,
Heather Hart RN

The next case study happened on a dementia unit at Medicine Hat Hospital.

Background: At a staff meeting, concern over aggression was voiced. A HCA suggested improved sleep might help. Research information was made available for staff to read. It was decided to measure verbal and physical aggression and also the sleep/wake patterns of patients at night. For 8 nights, they kept a record of whether they woke on their own, or because of staff, medication or care. During the 8 nights before the changes, patients woke 112 times on their own and 148 times by nursing. Changes were then made:

Noise:

Change in shift responsibilities: e.g. stocking in pt rooms done when patients were awake, retrieval of commodes/ wheelchairs done on last evening round, so night staff could clean them. Collaboration between shifts to redistribute workload.

Addressograph used in closed room; Ice machine turned off at night

Garbage man asked to come in quietly (2 am)

Safety Rounds:

Curtains drawn, doors left ajar on last evening round for visual checks (the sound of the doors opening had been waking people up)

Flashlights instead of overhead lights

If awake: Assessed for needs e.g. bathroom/changed/repositioned/drink of water

Many benefits!

Because of this change - 12 trays for a cold breakfast were delivered daily for those who slept in. Quiet time was from 1pm to 2pm. Hallway lights were turned off and naps were only 1 hour.

| Night | Day | Evening |
|--|--|--|
| Reposition: those who can't move on their own Incontinence Care: avoid waking, use night products Quiet safety rounds Quiet staff & routines  |  Bright light exposure Activity and exercise |  Dim lights Reduced noise Calm evening activities Bed time routines |

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Repositioning: Research shows best prevention for pressure ulcers is natural muscle contraction when nerves and muscles are communicating. If people are not paralyzed and move even a little in bed, risk of pressure ulcers is much lower.

Who does/doesn't need to be repositioned: Doesn't move at all? History of pressure wounds? What is the most effective and least disruptive way to reposition?

Incontinence Care: Is incontinence care person-centred (e.g. only for those with skin breakdown or those upset if wake up wet) or is it routine/for staff convenience?

Safety Rounds: Make sure breathing, in bed, catheter not kinked... Most effective/least disruptive way to do safety rounds? (without waking out of light sleep)

Night activities: Avoid bright lights; reschedule or re-think nighttime stocking and cleaning and staff-generated noise. What night activities (e.g. cleaning, stocking) may be disruptive to sleep? What are your options to re-distribute activities?

Daytime routines: What can you do to expose older adults to bright light and keep them active?

Evening routines: Blue spectrum light at bedtime can delay melatonin onset and shorten sleep duration by as much as 90 minutes (Gooley et al 2011). Sources of blue spectrum light include televisions (50-150 Lux), overhead lighting (400 lux), lamp (200 Lux for 100 watt bulb). What stimulation can be reduced to support relaxation? E.g. overhead paging, call bells, bed alarms, TV

Bedtime preparation: what routines help signal it's time for bed? E.g. light snack (no sugar or caffeine), wash face, mouth care, warm blanket ½ hour before bed, on toilet or commode to allow to fully empty bladder, slow stroke back massage, white noise

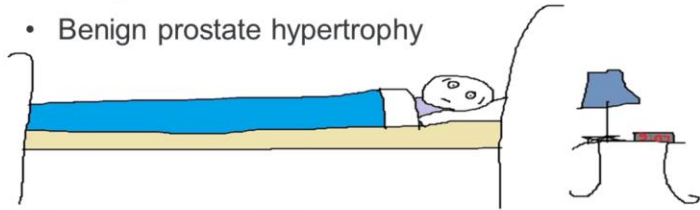
References:

Curtis, Chong, Kornelson, Uwiera, Seres and Mushahwar. The Effects of Intermittent Electrical Stimulation on the Prevention of Deep Tissue Injury: Varying Loads and Stimulation Paradigms. *Artificial Organs* 2011. 35(3):226-236.

Gooley, Joshua J; et al. Exposure to Room Light before Bedtime Suppresses Melatonin Onset and Shortens Melatonin Duration in Humans. *Clinical Endocrinology and Metabolism Issue: Volume 96(3)*, March 2011

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



More thoughts on why someone may not be sleeping You'll need to be a good detective!!

Strategies to Support Sleep

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Strategies to Support Sleep

Unit Interventions: Choose priorities from each category that would most improve sleep in your facility/unit

| | |
|---|---|
| Identify and Address Sleep Disruptions | <input type="checkbox"/> Night time Rounds: what would be a less disruptive way to check on the safety of patients? Continence Care: identify those who don't like to be walled or are at risk for skin breakdown. Who needs a naper absorbent or night time product? What time should it go on? Repositioning: identify patients who move by themselves, even a little. Turn only those who don't move at all ("wedgie" don't "tip") <input type="checkbox"/> Noise: identify staff-generated noise and strategies to reduce (quietly carts, night cleaning and stocking routines, staff paperwork and communication) <input type="checkbox"/> Light: identify light sources that may disrupt sleep (TV, alarm lights, hall or bathroom light, computer) <input type="checkbox"/> Stimulation: identify sources of evening stimulation (light, noise, caffeine) and strategies to reduce <input type="checkbox"/> Medication routine: reschedule medication administration times to avoid waking patients Other: |
| Promote Sleep | <input type="checkbox"/> Increase day time light exposure e.g. during meals (sunlit window, full blue spectrum light) <input type="checkbox"/> Accommodate individual bed time routines <input type="checkbox"/> Telet patients: bedtime sleep <input type="checkbox"/> Decrease night time light exposure (nightlights for safety rounds (and lifts), dim hall lighting) <input type="checkbox"/> Increase day time activity e.g. walking, exercise <input type="checkbox"/> Minimize day time naps (no more than 1 hour) <input type="checkbox"/> Warm patients before sleep (soft, warm blankets) <input type="checkbox"/> Reduce overheating during sleep (number of blankets, facility temperature if possible) <input type="checkbox"/> Re-evaluate need for and timing of labwork and assessments Other: |
| Support Patient Night time Needs | <input type="checkbox"/> Night time cues: e.g. unit is quiet, staff in fuzzy housecoats <input type="checkbox"/> Routines for when patients wake up: toilet, offer drink and/or snack, pain relief if required, warm blanket and back to bed, or with them for a brief time if that comforts them <input type="checkbox"/> Night snacks available <input type="checkbox"/> Safe place to wander or do quiet activity Other: |

Comments:

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Interventions for Individual Patients: start with 1-2 patients

| | |
|---|---|
| Decrease Antipsychotics Used for Sleep, as well as Other Sedatives | <input type="checkbox"/> Identify antipsychotics prescribed for sleep; gradually reduce/discontinue <input type="checkbox"/> Identify use of other tra sedatives; gradually reduce/discontinue <input type="checkbox"/> Evaluate need for medications that may interfere with sleep such as: statins, acid blockers, anticholinergics, long-acting/short-acting benzodiazepines & barbiturates <input type="checkbox"/> Evaluate need for medications that may reduce melatonin levels such as: calcium channel blockers, SSRIs, theophylline, beta-blockers, NSAIDs <input type="checkbox"/> Discuss medication needs and proposed changes with prescriber, family/all decision maker |
| Identify Person-Centred Strategies to Enhance Sleep | <input type="checkbox"/> Discuss with family/caremate 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) <input type="checkbox"/> Identify what may disrupt patient sleep: itch, pain, restless legs, roommate, noise, intrathecal pump, caffeine in the evening, uncomfortable bed, nocturnal cough, hot flashes, nightmares, leg cramps, congestive heart failure, acid reflux <input type="checkbox"/> Modify care plan to maximize sleep: individualized bed time and nap requirements, continence care, need for timing, pain and its medications, white noise (e.g. fan), night light (treatment in a red bulb or nightlight) <input type="checkbox"/> Individualized routine if awake at night: toilet, offer drink and/or snack, pain relief if required, warm blanket and back to bed |
| Collaborate Between All Staff to Enhance Sleep | <input type="checkbox"/> For fluctuating sleep/wake cycles, discuss how they sleep at shift change <ul style="list-style-type: none"> • If they sleep poorly, they might need to sleep in, or rest in the afternoon • If they sleep poorly, evaluate if they napped too long the day before • Consider whether the patient requires more rest to support healing or health issues • Given how the day went, might the patient be ready to sleep earlier or later than usual? |

Patients who are priorities for person-centred interventions:

Comments:

Seniors Health Strategic Clinical Network May 2017

This is one of the resources you'll find on the EFC Toolkit website.




This resource can be used to discuss ways to improve sleep for individuals as well as unit-level interventions to support sleep.




How might you use this handout to engage co-workers in your facility?

How to use this resource

- One side looks at things happening on the unit, and the other side looks at concerns for individuals
- Notice some of the ideas; e.g. some night staff wear fuzzy warm housecoats when caring for persons with dementia

Ways to Improve YOUR Sleep

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

Screen brightness:   

It's challenging to sleep well while working different shifts. Here are some strategies for you!

Awake

Consider a blue light, or bright full spectrum light if you're going to miss seeing daylight. Stay active, hydrate and eat a wide variety of nutrient-dense whole foods.

Transition

- Wrap-around sunglasses on the way home from night shift
- Red filter glasses during the last couple of hours of evening or night shift
- Screen colour (avoid blue light/bright light) on TV, computer, laptop, phone...turn down screen brightness
- Avoid stimulating music and intense exercise in the hours before sleep

Asleep

- Use white noise to mask sounds e.g. fan, white noise app, white noise machine
- Turn off notifications and vibrations on your phone
- Unplug land line (or turn off ringer)