

How did YOU sleep last night?

Centers for Disease Control has declared sleep deprivation to be a national epidemic!



### After this session...



- Explain the science of sleep
- Identify contributing factors to sleep deprivation in elders
- List evidenced based interventions to enhance the quality of sleep

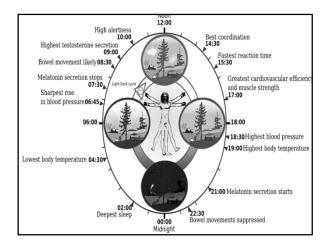
### How Did We Get Here?

- Consortium of <u>5</u> Minnesota long term care providers
- PIPP grant from the MN Dept. of Human Services (3 year)
- Success determined based on the QIs:
  - Pain
  - Antipsychotic use
  - Behaviors



- Increased light exposure during day
- Decreased light exposure at night
- Reduced napping
- Reduced nighttime disruptions
- Delayed bed time
- Less time spent in bed
- Increased natural wake up
- Improved sleep efficiency
- Eliminated ALARMS!





# Science of sleep... Serotonin (Light) Melatonin (Dark)

# Sleep Architecture

- Composed of 3 segments
  - Light sleep (stage 1 and 2)
  - Deep sleep (stage 3 and 4)
  - REM (Rapid eye movement)
  - Essential to get four hours of uninterrupted sleep
  - Sleep problems in the elderly are not a normal part of aging

(Kamel & Gammack, 2006)

### Stage 4 Sleep (pre-REM)



- Physical healing occurs during this stage:
  - Identified as the most restful stage
  - Increased growth hormone secretion and decreased metabolism levels
  - Higher arousal threshold
  - Accounts for 13-23% of total sleep time
  - Muscles and organs are regenerated

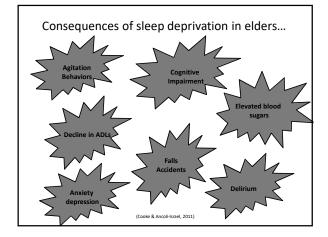
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### Rapid eye movement (REM) sleep

- Accounts for 20–25% of total sleep time in most human adults.
- Respirations become very rapid, irregular and shallow.
   The heart rate increases and the blood pressure rises.
- REM sleep includes rapid eye movements as well as a very rapid brain wave activity similar to being awake.
- Associated with healing the emotional and psychological health of the body. Episodic dreams and long stories, relieve stress, process emotions, detox our feelings of: fear, anger, happy and sad.
- · Cements memories.
- Muscular paralysis occurs to protect organisms from selfdamage.

# **Evidence-based Approaches**

- Eight hours sleep during the night
- · Four hours uninterrupted
- · Reduce light exposure during night
- Increase light exposure during am and afternoon
- · Limit napping
- Eliminate alarms



### The Pain Problem in long term care...

- 45-80% prevalence of chronic pain.
- Majority experience daily pain.
- 30% received **NO** pain medication.
- Results in muscle tension, fatigue, changes in appetite or sleep, depression, anxiety, or fear of re-injury.
- Increased when sleep deprivation is present.
- Sleep deprivation increases stress/anxiety levels
- Residents with dementia cannot report pain.

(Annals of Long Term Care, 2013)



## Non-Pharmacologic Management

- Lifestyle management:
  - Improve sleep
  - Eat a balanced diet
  - Drink plenty of fluids
  - Encourage daily physical activity
  - Range of motion
- Relaxation techniques spiritual care, hand massage, laughter, yoga (example)
- Cold packs/warm blankets
- Physical therapy

### Interventions for Pain

- · Medicate for pain AND quality sleep.
- \*Use <u>PAINAD Scale</u> for dementia residents.
- Start with non-opiod such as acetaminophen, NSAIDS OTC or Rx.
- Consider long acting pain medication.
- Schedule routine pain meds.
- Maintain therapeutic level same med consistently given.
- · PRNs are for breakthrough pain!
- Use visual pain scale consistent with MDS for asking about pain
- Educate nurses regarding pain management!

\* PAINAD Scale can be found at http://www.geriatricpain.org/Content/Assessment/Im paired/Pages/PAIDADTool.aspx





### Quiet on the Hall!

- There is no evidence to suggest that alarms reduce falls.
- There is evidence to suggest that alarms increase pain, anxiety, depression and result in serious declines.
- "Restraints in nursing homes were associated with continued, and increased, occurrence of serious fall-related injuries." (Tinetti, 1992)
- Massachusetts nursing homes reduce falls by 32% as the result of alarm elimination program (Godar, 2016)
- Alarm <u>reduction</u> begins with education of staff and assessment of resident.

### **Napping Disturbs Nighttime Sleep**



More than one 30 - 40 minute nap, robs nighttime sleep; primarily at Stage 3 and REM Stages of sleep!

Limit daytime napping...

### **Turning & Repositioning Study**

- Turning for Ulcer Reduction: A Multisite Randomized Clinical Trial in Nursing Homes
- Goal: Determine optimal repositioning frequency of NH residents at risk for pressure ulcers
- *Participants*: 942 age 65 older, Braden score of moderate to high.
- *Conclusion:* There was no difference in pressure ulcer incidence over 3 weeks of observation between those turned 2,3, 4 hour intervals in this population *using high density mattresses.*

(Bergstrom, 2013)

# Reduce nighttime interruptions...

- Use high density mattresses.
- Extend turning and repositioning.
- Update policy/procedure.
- Care plan weekly skin checks!
- · Use nighttime briefs
- Teach staff to reposition with minimal disruption.
- Gentle reduction of fluids after evening meal.
- Educate staff, resident and family.
- Time meds and toileting to normal sleep/wake cycle.

# Interventions to light exposure...

- Open room shades/blinds in the morning.
- Close in the evening.
- Increase sunlight exposure in early am and late afternoon
- Serve meals in rooms with lots of natural light.
- Do activities in rooms or outside in natural light.
- Encourage families to take loved ones for walks or sit in rooms with natural light.
- Artificial lights may be used with MD order.

# Increase physical activity...



- Incorporate physical movement into every activity.
- Encourage walk to dine/park and dine programs
- Encourage families to do physical activities with loved one
- Med pass reach out and take it
- Travel around the world, tap dance club, wall art, dance break, etc.

# Medications and Sleep



- o Side effects
- Sleeping pills
- o Diuresis effect
- Ineffective
- o Timing
- o Other



### Diet....



- Limit alcohol and caffeine after lunch.
- Incorporate snooze foods into PM snacks i.e. bananas, almonds, dairy, cherries, and proteins
- Limit foods that irritate stomach at evening meal.
- · Gentle control of fluids after dinner.





http://health.usnews.com/health-news/articles/2012/07/19/sleep-promoting-and-sleep-stealing-foods

### Where to start?



"How did you sleep last night?"

### Where to start?

- Start with elders at high risk:
  - Falls
  - Pain
  - Delirium/increased confusion
  - "Behaviors"
  - Quality Measures
  - Residents with alarms



# The MDS and Sleep



- Quality Measures
  - Worsening behavior
  - Depressive symptoms
  - Urinary tract infections
  - Falls
  - Unexplained weight loss
  - Pain
  - Pressure sores
  - Antipsychotics
  - Decline in ADLs

# Organizational Barriers to Sleep

- Lack of staff education
- Policy and procedures
- Staff schedules/routines
- Incorporate sleep into QAPI process
- Inconsistent staffing/care



"I did then what I knew then, when I knew better, I did better."

~ Maya Angelou



	Alar	m Tracking	Form
Type of Alarm	Date	Time	What was the resident trying
(Bed, chair, mat, wheelchair, etc.)	(alarm went off)	(alarm went off)	to do or wanted to do, when the alarm went off?
micolchan, etc.,			and anamin wellt off.
IDT Analysis of Dat	ta (natterns	times rea	asons alarm went off):
151 Analysis of bar	ta (patterns	, 111103, 101	isons didini went onj.
Action Plan:			
Date of Review:			
Signatures of IDT:			
Resident Name:		MR#	Rm#

Pain Assessment in Advanced Dementia Scale (PAINAD)								
<b>Instructions:</b> (Observe the patient for five minutes before scoring his or her behaviors. Score the behaviors according to the following plant: Definitions of each tien are provided on the following plant: The patient can be determed under medication; of 6 or 4 cmt. Among a detected energy, buring deserving, their determines, the continuation of the patient can be determed under medication; and the patient can be determed as a second of the patient can be determined as a second of the patient ca								
Behavior	0		2	Score				
Breathing Independent of vocalization	Normal	Occasional labored breathing     Short period of hyperventilation	Noisy labored breathing     Long period of hyperventilation     Cheyne-Stokes resolvations					
Negative vocalization	None	Occasional moan or groan     Low-level speech with a negative or disapproving quality	Repeated troubled calling out     Loud meaning or greaning     Crying					
Facial expression	<ul> <li>Smiting or inexpressive</li> </ul>	Sad     Frightened     Frown	Facial grimacing					
Body language	Relaxed	Tense     Distressed pacing     Fidgeting	Fligid     Flists clenched     Knees pulled up     Pulling or pushing away     Striking out					
Consolability	No need to console	Distracted or reassured by voice or touch	Unable to console, distract, or reassure					
			TOTAL SCORE					
(Warden et al., 2003)								
7-10=severe pain. These rang literature for this tool. Source;	es are based on a s	standard 0-10 scale of pain, b	is: 1-3-mild pain; 4-6-moderate ut have not been substantiated in	in the				

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