

**Restorative Sleep Vitality:
Making a Night and Day
Difference**

Presented By:
Empira
Sarah Brown, BS, RN, LNHA
Executive Director

Empira Inspira, Challenge & Strengthen Aging Service

Disclosure of Commercial Interests

I consult for the following organization: Empira Members and other clients and vendors upon request.

List the Name of Your Employer:

- Executive Director
- Empira
- Provider owed quality improvement consortium for Aging Services

If consultant for organizations, only list the names of the companies for which you consult.

- List all commercial interests.
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Who is Empira?



presbyterian
homes & services



elimcare



Saint Therese



Volunteers of America

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Who is Empira?

Non-profit quality improvement consortium including:

25 nursing homes in metro and rural Minnesota

Rooted in a vision for holistic excellence and quality of life for older adults.

If you want to go fast go alone, if you want to go far go together.

- African Proverb



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“I did then what I knew, when I knew better I did better”

-Maya Angelou



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Sleep Program Goals

Resident have restful restorative sleep, undisturbed sleep at night.

Residents are actively engaged and awake during the day.



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Clinical Practice

Standard of Practice: is the usual thing that is done in a particular situation.

Best Practice: is providing a service that is recognized as correct or most effective.

Harper-Collins English Dictionary

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According to a recent nationwide survey:

MORE DOCTORS SMOKE CAMELS THAN ANY OTHER CIGARETTE

YOUR "T-ZONE" WILL TELL YOU ...

T for Taste... T for Throat...

That's your peevish ground for any cigarette. See if Camels don't suit your "T-Zone" to a "T."

Camels *Castler Tobaccos*

*No single branch of medicine was mentioned in this nationwide survey made by three leading independent research organizations. To 113,970 doctors from Canada to Mexico, from the Atlantic to the Pacific went the query - "What cigarette do you smoke, Doctor?"

The brand name's best for Camels.

Like anyone else, a doctor smokes for pleasure. He appreciates rich, full flavor and cool mildness just as any other smoker. If you don't happen to be a Camel smoker now, try Camels. Let your "T-Zone" give you the answer.

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Ineffective Interventions

- Focusing attention on solutions and not on the causes
- Implementing as many interventions as possible - and hoping one of them will work
- Staggering interventions
- Not matching the interventions to the causes

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Standards of Practice

- Nutrition
 - *Syringe Feeding*
- Safety
 - *Restraints*
- Fall Prevention
 - *Merry Walkers*
- Wound treatment
 - *Light Therapy*
 - *Turning and Reposition Every 2 hours*


"When We Learn Better, We Do Better"
-Susan Mayfield Johnson

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Ftag 327 Hydration

The facility must pass fresh water every shift to ensure proper hydration and health.

The facility must provide each resident with sufficient fluid intake to maintain proper hydration and health.



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If you remember nothing else...

Be Curious:

- Do I know why I am doing it this way?
- What I am trying to accomplish?
- What is the root cause of the outcome?
- What is the impact to all stakeholders?
- Is there a better way?
- What does research say?

Be Bold:

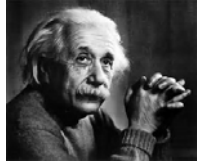
- When your curiosity gets the best of you show your courage to make the world a better place for those you serve.

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Root Cause Analysis

If I had an hour to solve a problem and my life depended on it. I'd spend 55 minutes thinking about the problem and 5 minutes thinking about the solutions.

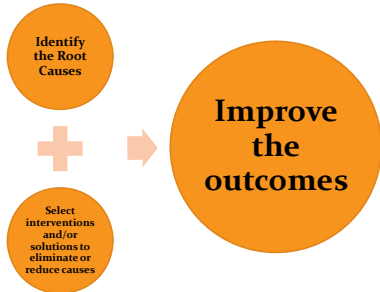
-Albert Einstein



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Root Cause Analysis



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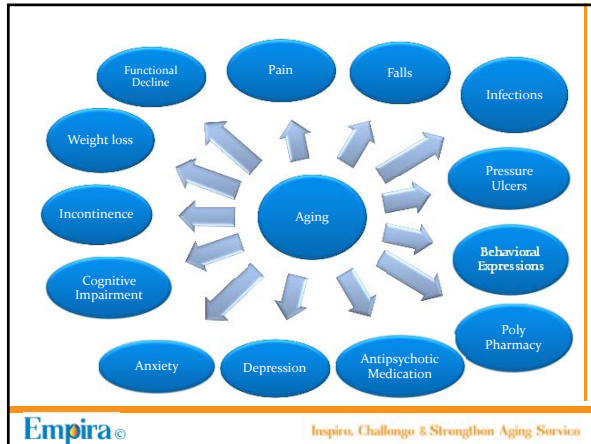
What outcomes do you want to improve?

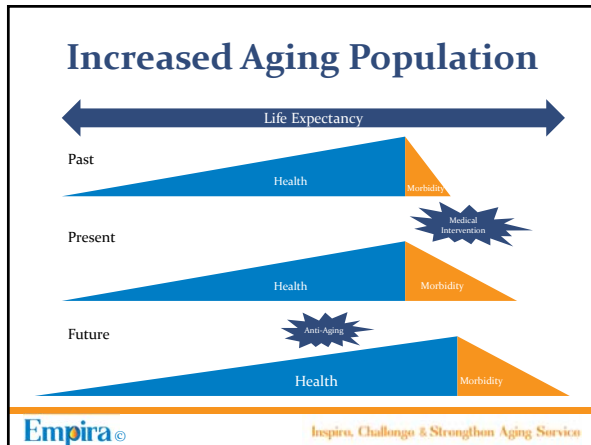
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Slide 13

A7 awesome quote
Author, 12/6/2017





Why Do We Age?

Cellular Damage
Decline in Cellular Repair
Cellular Senescence- Inability to Replicate
Caused by:

- Genetics
- Lifestyle
- Environment

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Strategies to Improve the Aging Experience

Prevention/Delay Aging

- Lifestyle choices that maximize cellular function
 - Slow the process of cellular damage
 - Promote cellular repair
 - Maintain cellular replication
- Exercise
- Nutrition
- Hydration
- Restorative sleep
- Avoid exposure to harmful influences

Morbidity Management

- Lifestyle modifications
- Elicit person-centered goals
- Coordinate care
- Prioritize care that improves multiple conditions
- Stay up to date on clinical practice guidelines
- Early intervention with change of condition
- Avoid unnecessary interventions
- Prevent complications



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Prevention/Delayed Aging

The goal of nursing is “to put the patient in the best condition for nature to act upon him”.

Florence Nightingale



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A Day in the Life of Mabel



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“Sleep is the one little thing that will make everything better in your life.”

-Arianna Huffington

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Why is Sleep Important?

- It is the restart for our bodies.
- It is the only time we have physical restoration.
- It is the only time we have psycho-social restoration.
- 1/3 of our life is spent asleep

So..
what comes first poor sleep or aging?

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**Restorative Sleep:
A Basic Human Need**

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Restorative Sleep

Restorative Sleep:
 One **continuous** significant sleep period in 24 hours day, ideally **lasting 7-9 hours** and **occurring at night**.

Uninterrupted Sleep= Restorative Sleep

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Sleep Fragmentation

Sleep Fragmentation:
 Sleep that is interrupted throughout the night inhibiting the opportunity for restorative sleep that is required for overall health and well being.

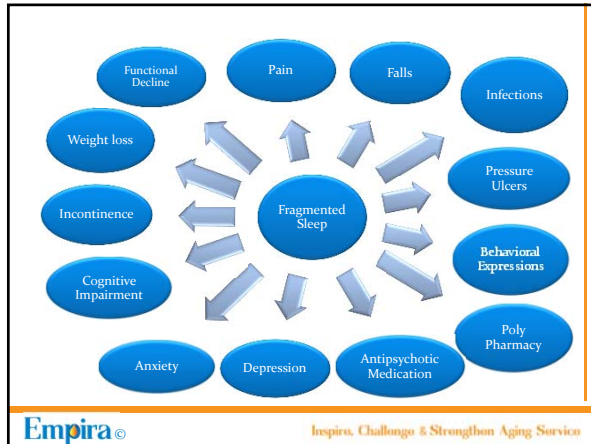
Interrupted Sleep= Fragmented Sleep

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Why is Restorative Sleep so important?

<p>Impact on the Mind</p> <ul style="list-style-type: none"> • Memory Cemented • Emotions Processed • Stress Relieved 	<p>Impact on the Body</p> <ul style="list-style-type: none"> • Cell & Tissue Repair Regeneration • Cellular growth • Hormone regulation • Immunity 
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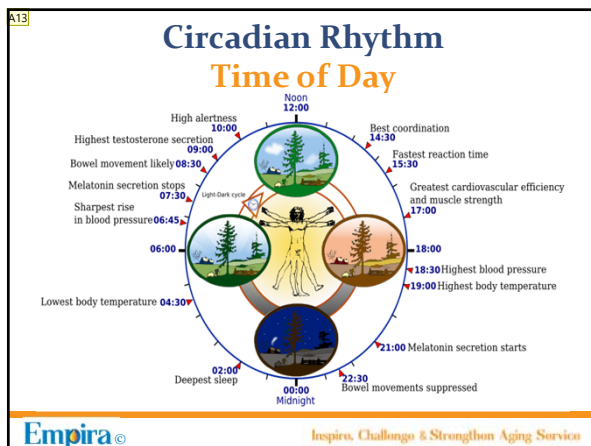
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Why Do We Sleep and Wake?

	Circadian Rhythm 	Sleep Wake Homeostasis 
Why do we sleep?	Melatonin Darkness	Adenosine Activity
Why do we wake?	Serotonin Light	Cortisol Rest

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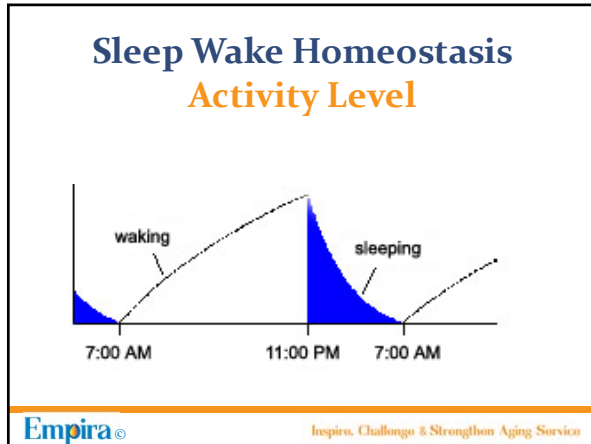


Slide 30

A13

great slide

Author, 12/6/2017



SB2

How Do We Sleep?

1. 4-5 sleep cycles per night

There are 4 stages of sleep in a cycle

1. Stage 1
2. Stage 2
3. Stage 3
4. REM

In each sleep cycle we go through the sleep stages.
If we are awakened we start back at stage one when we fall back to sleep

SB1 **A18**

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Sleep Stage 1 5%

- Stage N1 lasts 5-15 minutes. N1 is the transition stage of the brain from fast active brain waves (as in the awake state) to slower brain waves.
- Muscles begin to relax and loose tonicity sometimes sudden twitches and jerking may occur
- Eyes move more slowly, the heart begins to slow down, breathing becomes deeper and slower
- The person is still easily awakened and easily reacts to environmental noise.

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A18 **awakened**

Author, 12/6/2017

SB1 Sarah Brown, 2/14/2018

SB2 Sarah Brown, 2/14/2018

Sleep Stage 2 45%

- Muscular activity decreases more, eye activity stops or rarely moves, heart rate significantly slows and conscious awareness of the external environment disappears.
- Brain waves continue to slow down.
- The person is not as easily aroused from this level of sleep and usually only reacts to loud or selected noises in the environment.
- This stage has brief image dreams that the brain works to: save, file, trash.



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Sleep Stage 3 25%

- Stage 3 is deep sleep or slow-wave sleep.
- The brain is completely at rest. All eye movement and muscle activity ceases.
- Stage 3 is where the greatest amount of skin, deep tissue and overall healing and regeneration of the human body occurs.
- The greatest amount of healing occurs at this stage due to the greatest formation of white blood cells, T4 cells, red blood cell re-oxygenation and cellular repair and regeneration.
- It is very difficult to wake someone from this deep sleep stage.



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Sleep Stage REM 25%

- 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.
- This stage is 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. It also cements memories.
- Muscular paralysis occurs.



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Why does Restorative Sleep need to be continuous?

7-9 Hours

Cycle 1 Cycle 2 Cycle 3 Cycle 4 Cycle 5

1 3 R 1 3 R 1 3 R 1 3 R 1 3 R

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Outcomes of Poor Sleep

<p>Impact on the Mind</p> <ul style="list-style-type: none"> • Memory Impairment • Depression • Anxiety • Delusions • Paranoia • Hallucinations • Disorganized speech 	<p>Impact on the Body</p> <ul style="list-style-type: none"> • Impaired Immunity • Heart Disease • Hormonal Changes • Increase Cancer Risk • Poor Balance and Strength • Increased Pain Sensitivity • Accident Prone • High Blood Pressure • Obesity • Impaired growth and healing
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Could Restorative Sleep Improve Aging Service Challenges?



<p>Pain</p> <p>Falls</p> <p>Infections</p> <p>Pressure Ulcers</p> <p>Behavioral Expressions</p> <p>Poly Pharmacy</p> <p>Antipsychotic Medication</p> <p>Medication Errors</p>	<p>Depression</p> <p>Anxiety</p> <p>Cognitive Impairment</p> <p>Incontinence</p> <p>Weight loss</p> <p>Functional Decline</p> <p>...</p>
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Slide 38

A19 is something missing here?
Author, 12/6/2017

Creating the Best Condition

	Circadian Rhythm	Sleep Wake Homeostasis
		
Promoting Restorative Sleep at Night	Exposure to Darkness or Amber light	Consolidated Sleep
Promoting active and purposeful engagement during the day	Exposure to Sunlight or Full Spectrum Light	Activity and Expend Energy

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A20 Top 10 Sleep Disturbances

1. Noise
2. Light
3. Sleeping environment
4. Napping
5. Medications
6. Continenence needs
7. Pain
8. Positioning
9. Activity/inactivity
10. Diet

Harvard Medical School Study 2010

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Sleep Disturbances #1: Noise

Noise #1 disrupter of sleep.

Noise that was most disruptive:

- Staff conversations
 - especially when residents thought they heard their name, their condition or care needs being discussed
- Loud personal alarms

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Slide 41

A20

great slide

Author, 12/6/2017

**Sleep Disturbances #2:
Light**

- Resident received too much light when they were trying to sleep.
- Hallway lights left on
- Lights turned on during rounding
- Residents receive less than the minimum amount of full spectrum light needed to set circadian rhythm during the day.
 - 10,000 lux of direct sunlight for 30 minutes of
 - 1,000 lux of light for 120 minutes

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**Sleep Disturbances #3:
Sleeping Environment**

- Uncomfortable sleeping surfaces
 - Mattress
 - Pillows
 - Blankets
 - Pajamas

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Sleep Disturbance #4: Napping

- Too much napping during the day can impair natural sleep/wake cycle
- Ideally napping should be limited to 30 minutes or less per day.

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A21 so what does one do about lighting when this is needed for fall prevention?

Author, 12/6/2017

Sleep Disturbance #5: Medications

- Insomnia and sleepiness is a common side effect of many medications.
- Timing of medication administration
- Cascading interventions due to polypharmacy.



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Sleep Disturbance #5: Medications

Psychosis

- ✓ difficulty concentrating
- ✓ sleep changes
- ✓ anxiety
- ✓ suspiciousness
- ✓ delusions
- ✓ hallucinations
- ✓ disorganized speech
- ✓ depression
- ✓ anxiety
- ✓ difficulty functioning

Fragmented Sleep

- ✓ difficulty concentrating
- ✓ sleep changes
- ✓ anxiety
- ✓ suspiciousness
- ✓ delusions
- ✓ hallucinations
- ✓ disorganized speech
- ✓ depression
- ✓ anxiety
- ✓ difficulty functioning



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Sleep Disturbance #6: Continance Needs

- Nocturia- Frequent awakenings to use the bathroom at night.
- Standard Practice of rounding every 2 hours
- Timing of laxatives, stool softeners, food, fluids, diuretics interfering with sleep.



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A22

check this wording

Author, 12/6/2017

Sleep Disturbance #7 Pain

- Discomfort/Restlessness
- Increased pain sensitivity

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**Sleep Disturbance #8:
Positioning**

Standard 2 hours rounding practices to turn and reposition.

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Sleep Disturbance #9 Activity

- Boredom
- Lack of engagement
- Lack of purpose
- Functional Limitations

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A23

so, how does one reconcile this?

Author, 12/6/2017

Sleep Disturbance# 10: Diet

- Food and fluid intake directly effects elimination status.
- Lack understanding of the impact certain foods had on promoting and/or disturbing sleep.

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“I did then what I knew, when I knew better I did better”

-Maya Angelou

“Now you know better, it is your turn to do better.”

-Empira

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WHAT WILL YOU DO BETTER?

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QUESTIONS?

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Thank you!

For more information please visit
www.empira.org

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