

Shirley Ryan  
**Abilitylab**<sup>®</sup>

**SLEEP HYGIENE AND MINDFULNESS**

**Christine M. Gagnon PhD  
Psychologist/Associate Professor  
Shirley Ryan Abilitylab/  
Northwestern University Feinberg school of Medicine**

# OBJECTIVES

## **Sleep hygiene:**

1. List at least two areas of functioning that sleep can impact.
2. Describe 3 tips for improving sleep hygiene.

## **Mindfulness:**

1. Name four benefits of mindfulness.
2. Describe the three components of mindfulness.



# SLEEP & SLEEP HYGIENE

# SLEEP

**Sleep Satisfaction, who is satisfied with their sleep?**

**Impact of Sleep:**

- physical health
- mental health and well-being
- cognitive functions (e.g., memory, learning, creativity)
- athletic training, performance, recovery, and risk for injuries

**Theory**

# SLEEP MYTHS & FACTS

**Adults need 8 hours of sleep?**

**Myth**

**Facts:**

- 1. Individual needs vary**
- 2. On average people need < 8 hours**
- 3. Sleep quality is just as, or even more important, than sleep quantity.**

# SLEEP MYTHS & FACTS

**Good sleepers begin to experience insomnia if they try to sleep longer?**

**Fact**

**Facts:**

- 1. Spending more time in bed than you are actually able to sleep might make your sleep problem worse.**
- 2. Brain is learning that bed does not equal sleep.**

# SLEEP MYTHS & FACTS

**If you don't feel refreshed when you wake up, than you need more sleep?**

**Myth**

**Facts:**

**It's normal to feel sleepy when first wake up.**

- **“sleep inertia” typically last 30-60 minutes.**
- **can last longer for “night owls”.**

# SLEEP MYTHS & FACTS

**Good sleep only occurs if you do not wake up in the middle of the night?**

**Myth**

**Facts:**

**Normal sleep includes brief awakenings.**

**- we typically don't remember them.**

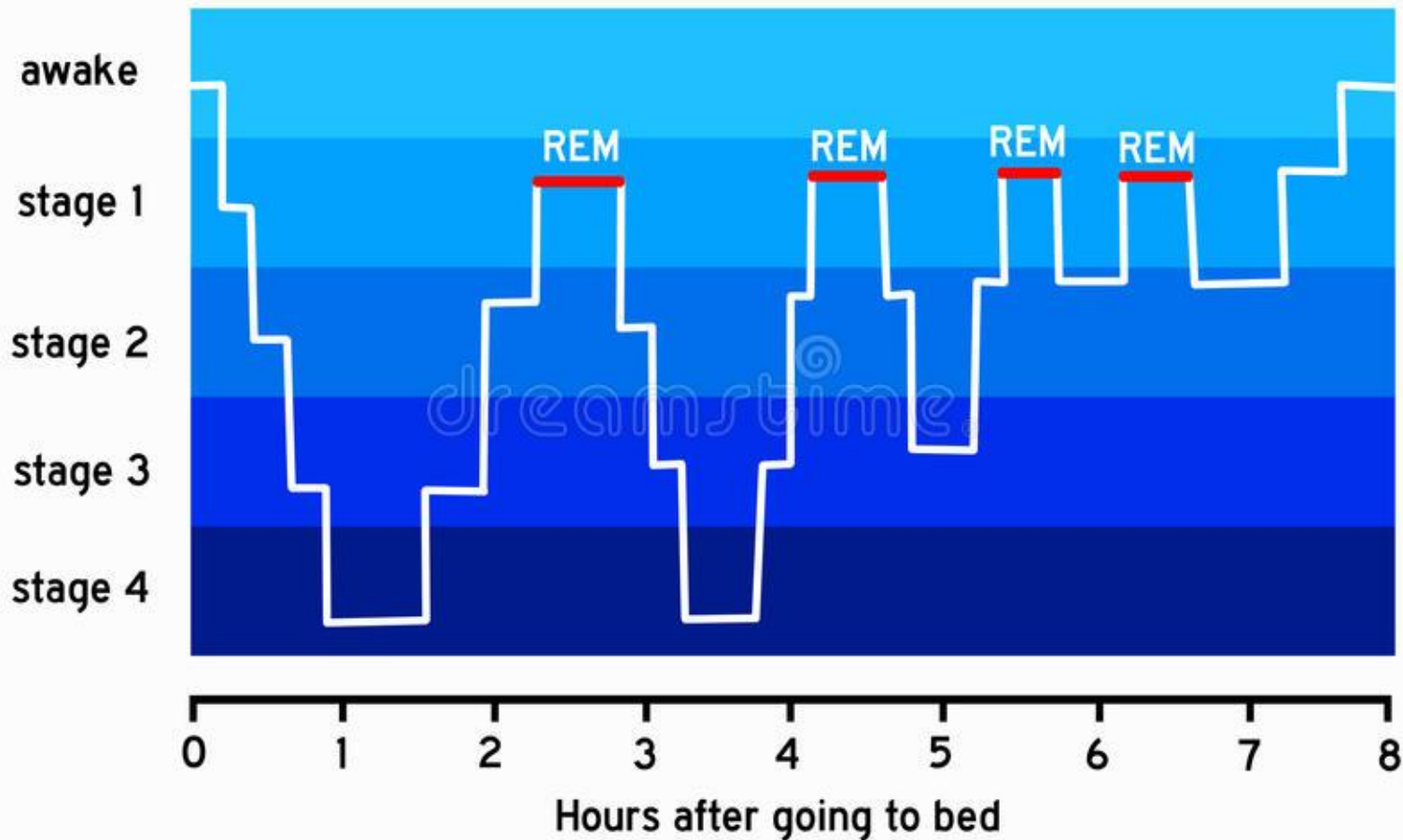


# SLEEP STAGES

Stage	Duration	What happens
Stage 1	1 – 7 minutes	Start falling asleep, brain slows down, and movements decrease
Stage 2	10 – 25 minutes	↓: body temp, breathing rate, heart rate, overall brain activity ↑: muscle relaxation  Eye movements stop Short bursts of brain activity
Stage 3 (Deep sleep)*	20 – 40 minutes	↓: muscle tone, breathing rate, and heart rate Brain- delta (slow wave sleep)
Rapid Eye Movement (REM)	10 – 60 minutes	Typically starts 90 minutes after falling asleep ↑ Brain activity (similar to being awake) Muscle paralysis (atonia)- except for eyes and breathing Dreaming most likely to occur (vivid dreams)

# SLEEP STAGES

## A TYPICAL 8 HOUR SLEEP CYCLE



# SLEEP HYGIENE AND STIMULUS CONTROL

**What is stimulus control?**

**-the extent to which a behavior (e.g., sleep) is influenced by different stimulus conditions (e.g., environment- bedroom).**

**Repeated experiences of lying in bed awake strengthens the brains association between lying in bed and being awake.**

# SLEEP HYGIENE AND STIMULUS CONTROL

## Stimulus control strategies:

1. Go to bed when you are sleepy, but not before.
2. If you can't sleep (after approx. 15-20 minutes), get out of bed!
3. Use the bed only for sleep (and sex).
  - No reading, eating, watching tv, worrying or planning
4. Stimulus control is difficult. You may feel worse at first. Remember: your brain didn't learn that bed = wakefulness in a day. Breaking that association won't happen in a day, either.

# SLEEP HYGIENE AND STIMULUS CONTROL

## Stimulus control is difficult!

- You may feel worse at first.
- **Keep in mind**: your brain didn't learn that bed = wakefulness in a day.
  - Breaking that association won't happen in a day, either.

# SLEEP HYGIENE AND STIMULUS CONTROL

## **Sleep Hygiene tips:**

### **Food and Drink**

- 1. Limit caffeine, consume before noon.**
- 2. Limit alcohol, don't consume within 3 hrs of bedtime.**
- 3. Don't eat a heavy meal close to bedtime. Digestion is an active process and can disrupt sleep. Light snacks are okay.**

# SLEEP HYGIENE AND STIMULUS CONTROL

## Routine

- 4. Consistency: Go to bed at the same time every night and wake up at the same time every morning.**
- 5. Create a “buffer zone.” For 30-60 minutes prior to bedtime, do activities that are calming for you. Taking time to slow your body and mind down will prepare you for a good night’s rest.**

# SLEEP HYGIENE AND STIMULUS CONTROL

## Environment

6. **Keep your bedroom dark (eye masks), quiet (ear plugs), and cool. Our body temperature naturally drops at nighttime, and maintaining a cool room (around 60- 68 degrees F) promotes restful sleep.**
7. **Have a comfortable mattress, pillow, and bedding.**
8. **Turn the clock around. “Clock watching” increases sleep-related anxiety which makes it even more difficult to fall asleep.**
9. **Avoid screens: put away electronic devices, avoid having a tv in the bedroom.**



# SLEEP HYGIENE AND STIMULUS CONTROL

## Behaviors

- 11. Avoid or limit daytime napping. Napping, especially later in the day or early evening, interferes with your ability to fall asleep.**
- 12. Regular exercise. Exercise can improve sleep quality; however, exercising too close to bedtime (within 1-2 hours of going to bed) can make it more difficult to fall asleep.**
- 13. Manage stress before going to bed. Stress and worries can make it difficult to fall asleep. (e.g., relaxation, mindfulness/meditation).**



# MINDFULNESS

# MINDFULNESS

## What is mindfulness?

- **A way of living that focuses on the present moment.**
- **Can be a form of meditation where we sit and practice for a specific amount of time (*formal practice*).**
- **We can also incorporate mindfulness into our daily activities (*informal practice*).**

# MINDFULNESS

## **Benefits of mindfulness:**

- **Improve pain**
- **Improve physical and mental health**
- **Decrease stress**
- **Improve sleep**

# MINDFULNESS

**Three main components:**

**1. Paying purposeful attention**

**2. to the present moment**

**3. without judgment (aka, with acceptance).**

## Paying purposeful attention

- Unpleasant physical sensations suck you in, making it difficult to pay attention to anything else.
- Example: 1tsp of salt in 1tsp of water tastes like salt; 1 tsp salt in a gallon of water tastes like water
  - When it's diluted, it's not gone; it's just not as overpowering
  - Goal of mindfulness is not to ignore unpleasant sensations/experiences, but to take a bird's eye view and open our awareness up to all our other experiences and sensations. This allows us to put unpleasant sensations/experiences on the back burner and to choose what we put on the front burners.

# MINDFULNESS

## To the present moment

*"We may never quite be where we actually are..." – Jon Kabat-Zinn*

- The opposite of mindfulness is mindlessness, or autopilot. This is what happens when our bodies and our minds are in different places.
- Example #1: Driving/riding your usual route to work and realizing you don't remember the drive.
- Where do we go on autopilot?
  - Past (regrets, ruminations, memories)
  - Future (worries, plans)
  - The problem with this is that spending all our time in the past or future is not healthy for our bodies or our minds.

## To the present moment

- Example:
  - You go into your first training session and your trainer asks you to perform a certain exercise
    - ❖ Past: “Here we go again. Last time I did this exercise, I was out of commission for days.”
    - ❖ Future: “What if I get injured?” “What if I can’t compete?”
  - How do you think that training session is going to go?



# MINDFULNESS

## **Without judgement (aka acceptance)**

- Our minds are constantly placing value on/judging our experiences.
- This is our mind's way of protecting us—being able to quickly interpret something as “good” or “bad” helps us make snap decisions in stressful or dangerous situations.
- The problem is that these judgments are not always helpful—especially related to our mental or physical sensations.
- Mindfulness teaches us to simply observe our experiences without labeling them as “good” or “bad.”

# MINDFULNESS

## Goal of Mindfulness

The goal of mindfulness is not “emptying the mind”

- Our thoughts are never-ending
- Mindfulness does not mean not thinking; it means having awareness of where your mind is going and gently bringing it back to the present moment

# MINDFULNESS RESOURCES

## Readings:

- Full Catastrophe Living: Using the Wisdom of Your Body and Mind to Face Stress, Pain, and Illness. Jon Kabat-Zinn. 1990. Bantam Dell.
- Wherever You Go, There You Are: Mindfulness Meditation in Everyday Life. Jon Kabat-Zinn. 1994.
- Peace is Every Step: The Path of Mindfulness in Everyday Life. Thich Nhat Hanh. 1991. Bantam Books.
- Buddha's Brain: The Practical Neuroscience of Happiness, Love and Wisdom. Rick Hanson, 2009. New Harbinger. Hardwiring Happiness: The New Brain Science of Contentment, Calm and Confidence. Rick Hanson, 2013. Harmony Books.
- The Mindful Path to Self-Compassion. Chris Germer, 2009. Guilford Press.
- The Mindful Self-Compassion Workbook. Kristin Neff and Christopher Germer. 2018. Guilford Press, NY.
- The Little Book of Mindfulness. Dr. Patrizia Collard. 2014. Gaia Books: London.
- Things Might Go Terribly, Horribly Wrong: A Guide to Life Liberated from Anxiety. Kelly G. Wilson, Ph.D., Troy Dufrene. 2010. New Harbinger Publications: Oakland.

# MINDFULNESS

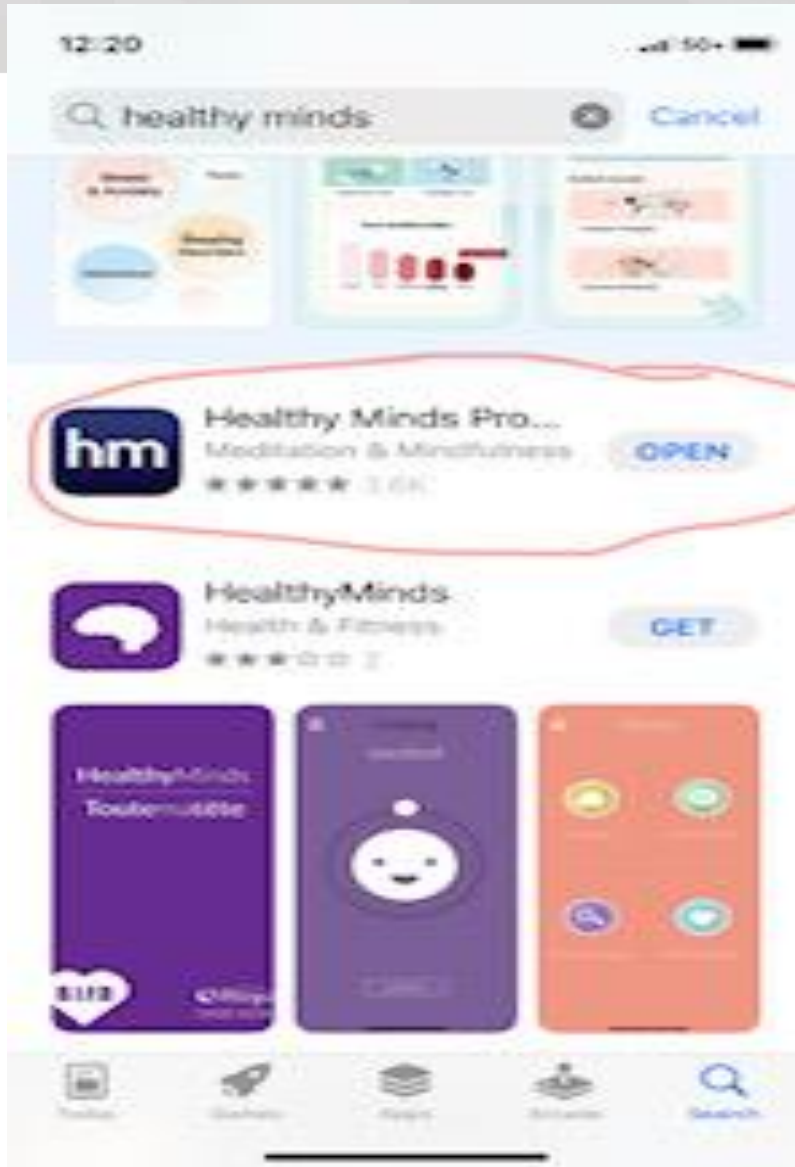
## Local resources:

- [www.insightchicago.org](http://www.insightchicago.org) local sanghas, classes, very friendly and welcoming.
- [www.theinsightcenter.com](http://www.theinsightcenter.com) Mindfulness Based Stress Reduction Course in Chicago

## Smart phone apps for meditation:

- Insight Timer app (search by teacher or topic). Good teachers: Tara Brach, Vidyamala Burch, Sharon Salzberg, Hugh Byrne, Gil Fronsdal, Jack Kornfield. Free but variable quality. The teachers listed are high quality and very knowledgeable.
- HealthyMinds app. Free. Will not ask for money.
- Headspace and Calm free and pay versions. They get mixed reviews. They will want you to upgrade and pay a fee. Some people feel it is worth the price. Others not so much.

# HEALTHY MINDS APP



# ACKNOWLEDGEMENTS

**Dr. Caryn Feldman provided content and selected resources for the mindfulness component of this lecture.**

**Dr. Claire Pedersen provided content for the sleep portion of this lecture.**

# REFERENCES

Cook JD, Charast J. Sleep performance in professional athletes. *Current Sleep Medicine Reports*. 2023;9:56-81.

Cameron AFM, Perera N, Fulcher M. Professional athletes have poorer sleep quality and sleep hygiene compared with an age-matched cohort. *Clin J Sport Med*. 2021;31:488-493.

Roberts IE, Murphy CJ, Goosey-Tolfrey VL. Sleep disruption considerations for Paralympic athletes competing at Tokyo 2020. *Sports Med Phys Fitness* 2021;61:1159-72.

Sleep Foundation:

<https://www.sleepfoundation.org/sleep-hygiene>

Healthline:

<https://www.healthline.com/health/sleep-hygiene>

# REFERENCES

Full Catastrophe Living: Using the Wisdom of Your Body and Mind to Face Stress, Pain, and Illness. Jon Kabat-Zinn. 1990. Bantam Dell.

Niazi AK, Niazi SK. Mindfulness-based stress reduction: a non-pharmacological approach for chronic illnesses. *North American journal of medical sciences*. 2011;3:20.

Grossman P, Niemann L, Schmidt S, Walach H. Mindfulness-based stress reduction and health benefits. A meta-analysis. *J Psychosom Res*. 2004;57:35-43.

Jalali D, Abdolazimi M, Alaei Z, Solati K. Effectiveness of mindfulness-based stress reduction program on quality of life in cardiovascular disease patients. *IJC Heart & Vasculature*. 2019;23:100356.

Solano Lopez AL. Effectiveness of the Mindfulness-Based Stress Reduction Program on Blood Pressure: A Systematic Review of Literature. *Worldviews on Evidence-Based Nursing*. 2018;15:344-352.

Huang H-p, He M, Wang H-y, Zhou M. A meta-analysis of the benefits of mindfulness-based stress reduction (MBSR) on psychological function among breast cancer (BC) survivors. *Breast Cancer*. 2016;23:568-576.



# REFERENCES

Haller H, Winkler MM, Klose P, Dobos G, Kuemmel S, Cramer H. Mindfulness-based interventions for women with breast cancer: an updated systematic review and meta-analysis. *Acta Oncologica*. 2017;56:1665-1676.

Zhang Q, Zhao H, Zheng Y. Effectiveness of mindfulness-based stress reduction (MBSR) on symptom variables and health-related quality of life in breast cancer patients—a systematic review and meta-analysis. *Supportive Care in Cancer*. 2019;27:771-781.

Li SYH, Bressington D. The effects of mindfulness-based stress reduction on depression, anxiety, and stress in older adults: A systematic review and meta-analysis. *International journal of mental health nursing*. 2019.

Strauss C, Cavanagh K, Oliver A, Pettman D. Mindfulness-based interventions for people diagnosed with a current episode of an anxiety or depressive disorder: a meta-analysis of randomised controlled trials. *PLOS one*. 2014;9:e96110.

Luberto CM, Shinday N, Song R, et al. A systematic review and meta-analysis of the effects of meditation on empathy, compassion, and prosocial behaviors. *Mindfulness*. 2018;9:708-724.