Sleeping Through the Ages
Difference between theory and fact. Changes made in this information. The neuroscience, there will probably be some neuroscience, because of the rapid changing in time. Because of the information available to us at this time.

This is the information available to us at this time. Discuss with your healthcare provider(s). For your healthcare. Any treatment should be knowledge. This is not meant to be a substitute for your professional healthcare providers.

Disclosure
Class Overview

• Introduction
• Terminology
• Stages of Sleep
• Sleep and Health
• Dreams and ??? Why we Dream
• Disorders of Sleep and how Common These Disorders Are
• Sleep Deprivation and Why Stress Affects Sleep
• Medications
• Questions?
Your sleep/wake cycle, intervals. Also know as alternness at regulars between sleepiness and brain and cycles background of your running in the internal clock that is basically a 24-hr.

**Circadian Rhythm**

**Terminology**
Stages of Sleep

Stage 1: Falling asleep
- Eye movements slow
- Eversion
- Overall loss in awareness, thought, responsiveness
- Easily awakened

Stage 2
- High-voltage slow-waves appearing in EEG
- Deeper sleep than Stage 1

Stage 3
- More high-voltage slow-waves appear in EEG
- Deeper sleep than Stage 2

Stage 4
- A lot of high-voltage slow-waves in EEG
- Deepest stage of sleep

Stage 5
- Muscles cannot move
- Most people awakened from REM sleep

REM
NREM Sleep Stages
<table>
<thead>
<tr>
<th>Age</th>
<th>Not Recommended</th>
<th>May be Appropriate</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborns</td>
<td>14 to 17 hours</td>
<td>11 to 13 hours</td>
<td>11 to 13 hours</td>
</tr>
<tr>
<td>Infants</td>
<td>12 to 15 hours</td>
<td>10 to 11 hours</td>
<td>10 to 14 hours</td>
</tr>
<tr>
<td>Toddlers</td>
<td>11 to 14 hours</td>
<td>9 to 10 hours</td>
<td>9 to 10 hours</td>
</tr>
<tr>
<td>Preschoolers</td>
<td>8 to 10 hours</td>
<td>7 to 8 hours</td>
<td>7 to 9 hours</td>
</tr>
<tr>
<td>School-aged</td>
<td>7 to 9 hours</td>
<td>6 to 10 hours</td>
<td>6 to 10 hours</td>
</tr>
<tr>
<td>Teenagers</td>
<td>6 to 10 hours</td>
<td>5 to 7 hours</td>
<td>5 to 7 hours</td>
</tr>
<tr>
<td>Young Adults</td>
<td>5 to 6 hours</td>
<td>4 to 5 hours</td>
<td>4 to 5 hours</td>
</tr>
<tr>
<td>Adults</td>
<td>4 to 5 hours</td>
<td>3 to 4 hours</td>
<td>3 to 4 hours</td>
</tr>
<tr>
<td>18-25 years</td>
<td>3 to 4 hours</td>
<td>2 to 3 hours</td>
<td>2 to 3 hours</td>
</tr>
<tr>
<td>26-64 years</td>
<td>2 to 3 hours</td>
<td>1 to 2 hours</td>
<td>1 to 2 hours</td>
</tr>
<tr>
<td>Older Adults</td>
<td>1 to 2 hours</td>
<td>0 to 1 hour</td>
<td>0 to 1 hour</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stages of Sleep</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>More Than 12 Hours</th>
<th>Less Than 7 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 to 16 hours</td>
<td>9 to 10 hours</td>
</tr>
<tr>
<td>9 to 10 hours</td>
<td>6 to 8 hours</td>
</tr>
<tr>
<td>8 to 9 hours</td>
<td>6 to 8 hours</td>
</tr>
<tr>
<td>7 to 9 hours</td>
<td>6 to 8 hours</td>
</tr>
<tr>
<td>6 to 10 hours</td>
<td>5 to 7 hours</td>
</tr>
<tr>
<td>5 to 7 hours</td>
<td>4 to 5 hours</td>
</tr>
<tr>
<td>4 to 5 hours</td>
<td>3 to 4 hours</td>
</tr>
<tr>
<td>3 to 4 hours</td>
<td>2 to 3 hours</td>
</tr>
<tr>
<td>2 to 3 hours</td>
<td>1 to 2 hours</td>
</tr>
<tr>
<td>1 to 2 hours</td>
<td>0 to 1 hour</td>
</tr>
</tbody>
</table>
6. More than eight in ten survey respondents think that people often overestimate the number of visits they have had to have a discussion with their patients about insomnia during regular office visits.

5. Six in ten healthcare professionals do not feel that they have enough time to spend with patients to help them cope with insomnia.

4. Divorced, widowed, and separated people report more insomnia.

3. In general, exercising regularly makes it easier to fall asleep and contributes to sounder sleep. However, exercising sporadically or right before going to bed will make falling asleep more difficult.

2. The higher the altitude, the greater the sleep disruption. Generally, sleep is the only mammal that willingly delays sleep.

1. Man is the only mammal that willingly delays sleep.

Restricting this information to our 25 closest friends, share it with everyone you know!

National Sleep Foundation has created a list of 25 random facts about sleep. But we're not Sleep & Health
Sleep & Health

7. Caffeine has been called the most popular drug in the world. All over the world, people consume caffeine on a daily basis in coffee, tea, cocoa, chocolate, some soft drinks, and some drugs.

8. In general, most healthy adults need seven to nine hours of sleep a night. However, some individuals are able to function without sleepiness or drowsiness after as little as six hours of sleep. Others can't perform at their peak unless they've slept ten hours.

9. We naturally feel tired at two different times of the day: about 2:00 AM and 2:00 PM. It is this natural dip in alertness that is primarily responsible for the post-lunch dip.

10. Sleep is just as important as diet and exercise.

11. According to the International Classification of Sleep Disorders, shift workers are at increased risk for a variety of chronic illnesses such as cardiovascular and gastrointestinal diseases.

12. Newborns sleep a total of 14 to 17 hours a day on an irregular schedule.
Sleep & Health
Sleep & Health
Sleep deprivation
Effects of Sleep & Health

- Temperature
- Decreased
- Risk of obesity
- Growth suppression
- Other:
  - Aches
  - Tremors
  - Decreased accuracy
  - Decreased reaction time
  - Increased
  - Risk of heart disease
  - Increased heart rate variability

Type 2 Risk of diabetes

- Immune system
- Impaired immune to ADHD
  - Symptoms similar
  - Hallucinations
  - Severe yawning
  - Judgment
  - Impaired moral
  - Memory lapses or loss
  - Cognitive impairment
  - Irritability
Try to organize all the different sensory inputs of the day and make some sense of them.

Memory: Memory moves from short term into long term.

Some of the current suggestions:

A. Regular brain stimulation from REM sleep may help develop and preserve neural pathways.

B. Trying to organize all the different sensory inputs of the day and make some sense of them.

There is no one theory so science is unable to say why we dream.
Restless Leg Syndrome
Narcolepsy
Sleep Apnea
Insomnia
These Disorders Are
Disorders of Sleep and How Common
1. Over 50% of Americans are missing enough sleep.

2. Sleep is an important resource that keeps you healthy, mentally sharp, able to deal with stress more effectively.

3. Too much stress and too little stress both impact our brains in a negative way.

Sleep deprivation and why stress affects sleep.
can also help reduce sleep-related side effects.

Potential options include:

- Exercising
- Eating a wholesome diet
- Managing stress
- Seeking alternative treatments
- Following healthy lifestyle habits

If you suspect your medications are impacting your sleep differently to its sleep-related side effects, if you suspect your medications make you drowsy.

How to Improve Sleep:

1. Medications that cause insomnia
2. Medications that disrupt sleep
3. Medications that make you drowsy
Questions?

Thank you!