

# Brain Health: Sleep Holds The Secret

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How Are You  
Sleeping?



Or Like This?



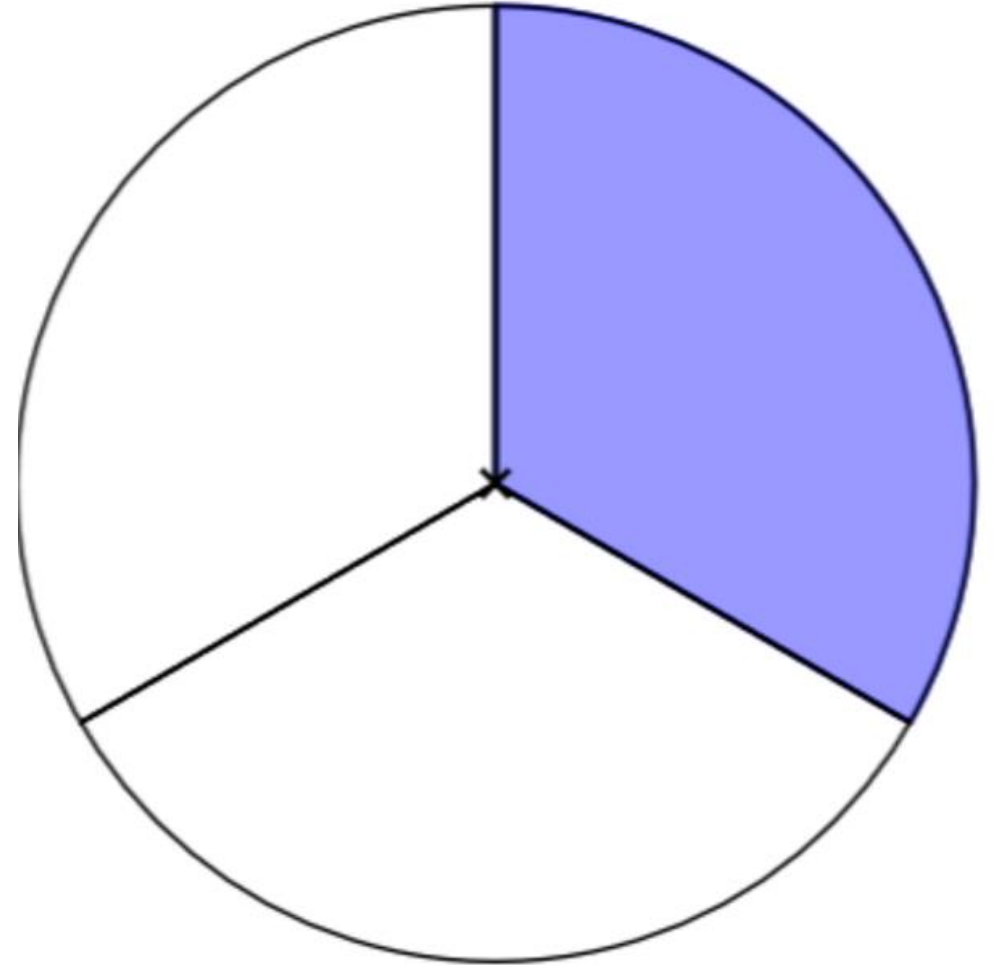
Risk Factors For???

## Seriousness Of Sleep

- Diabetes
- Depression
- Heart disease
- Hypertension and obesity
- Cancer
- Dementia

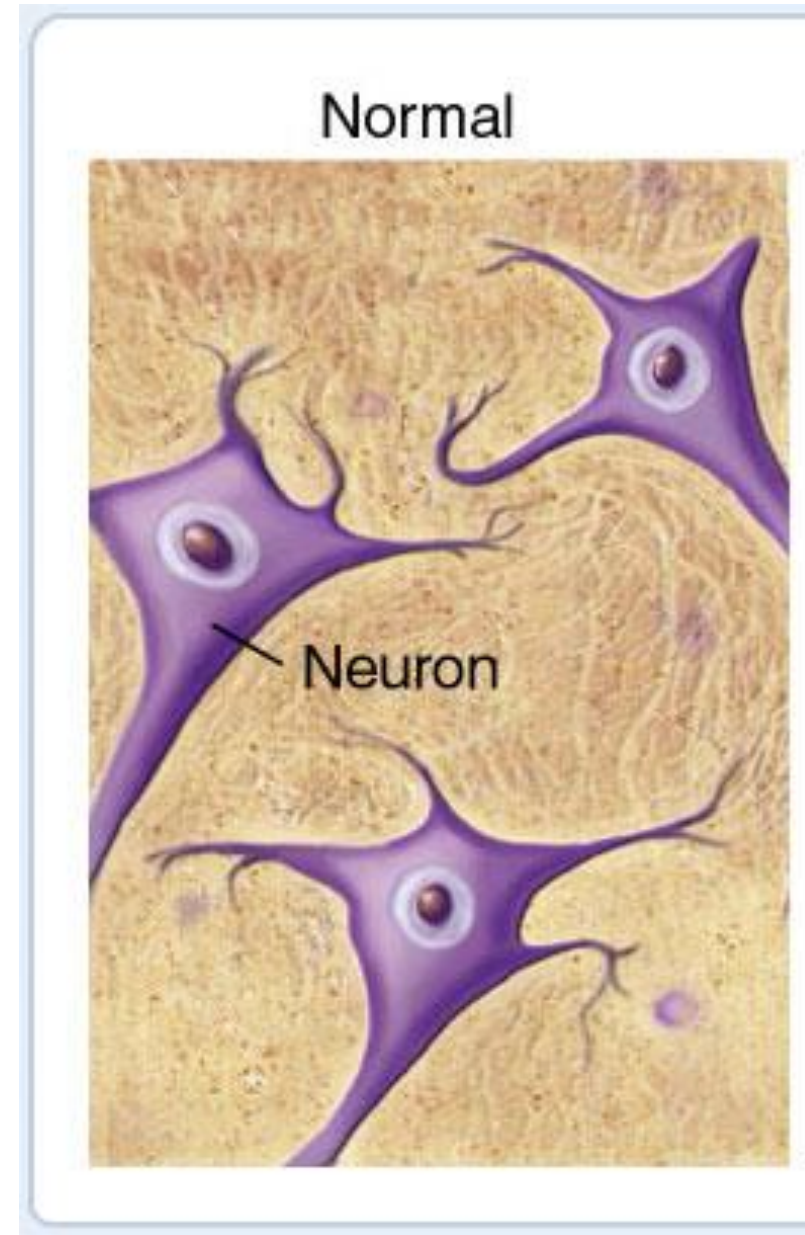
# 1/3 of All Dementia Is Preventable

- 47 million people have dementia worldwide
- 115 million by 2050.
- What are key factors in preventing dementia and brain aging?



Lower Risk of Dementia  
and Alzheimer's By  
30 to 60% Based on  
Specific Factors

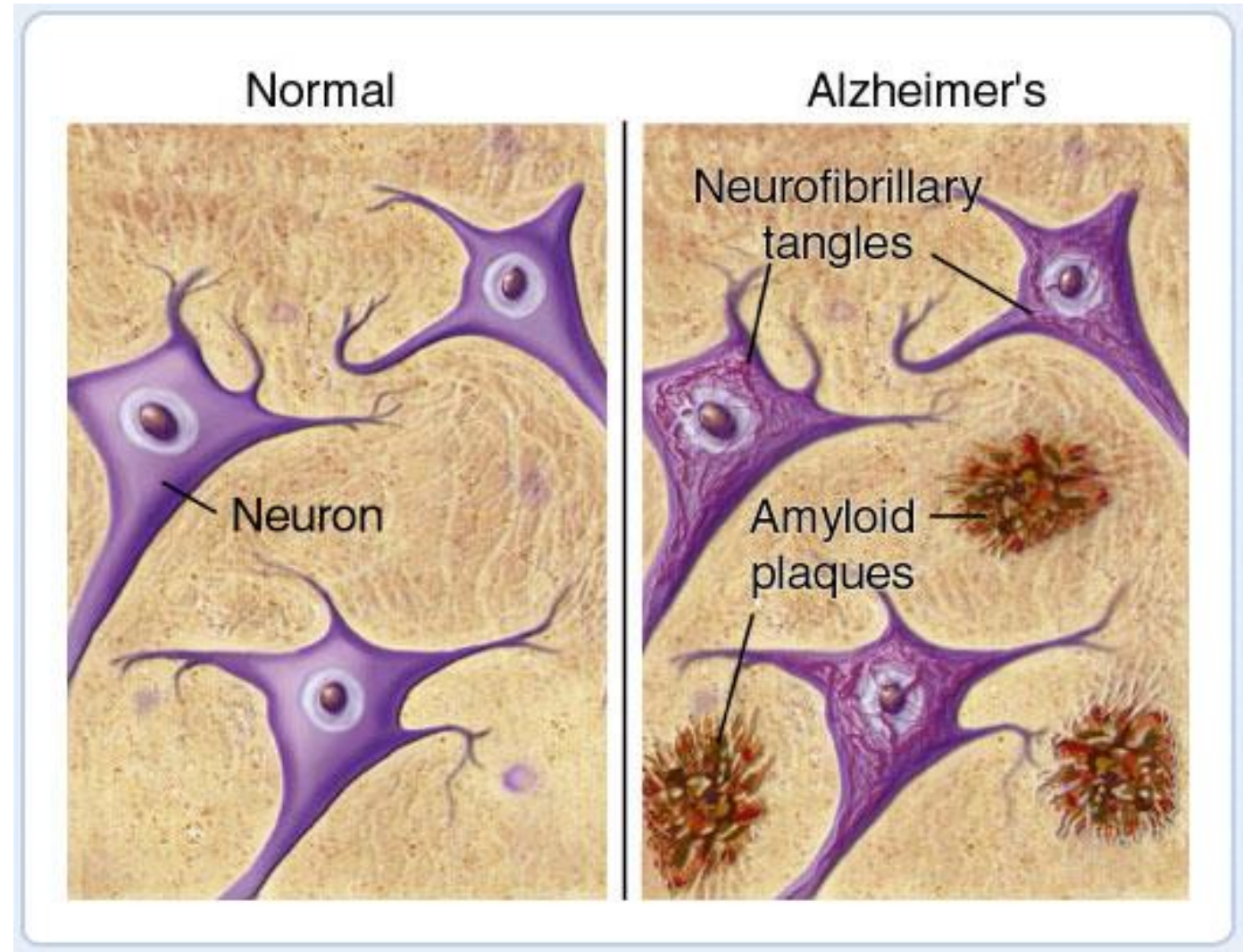
# Dementia and Brain Aging: Something Is Interfering With Brain Cell Communication





# What Can Trash Interfere With?

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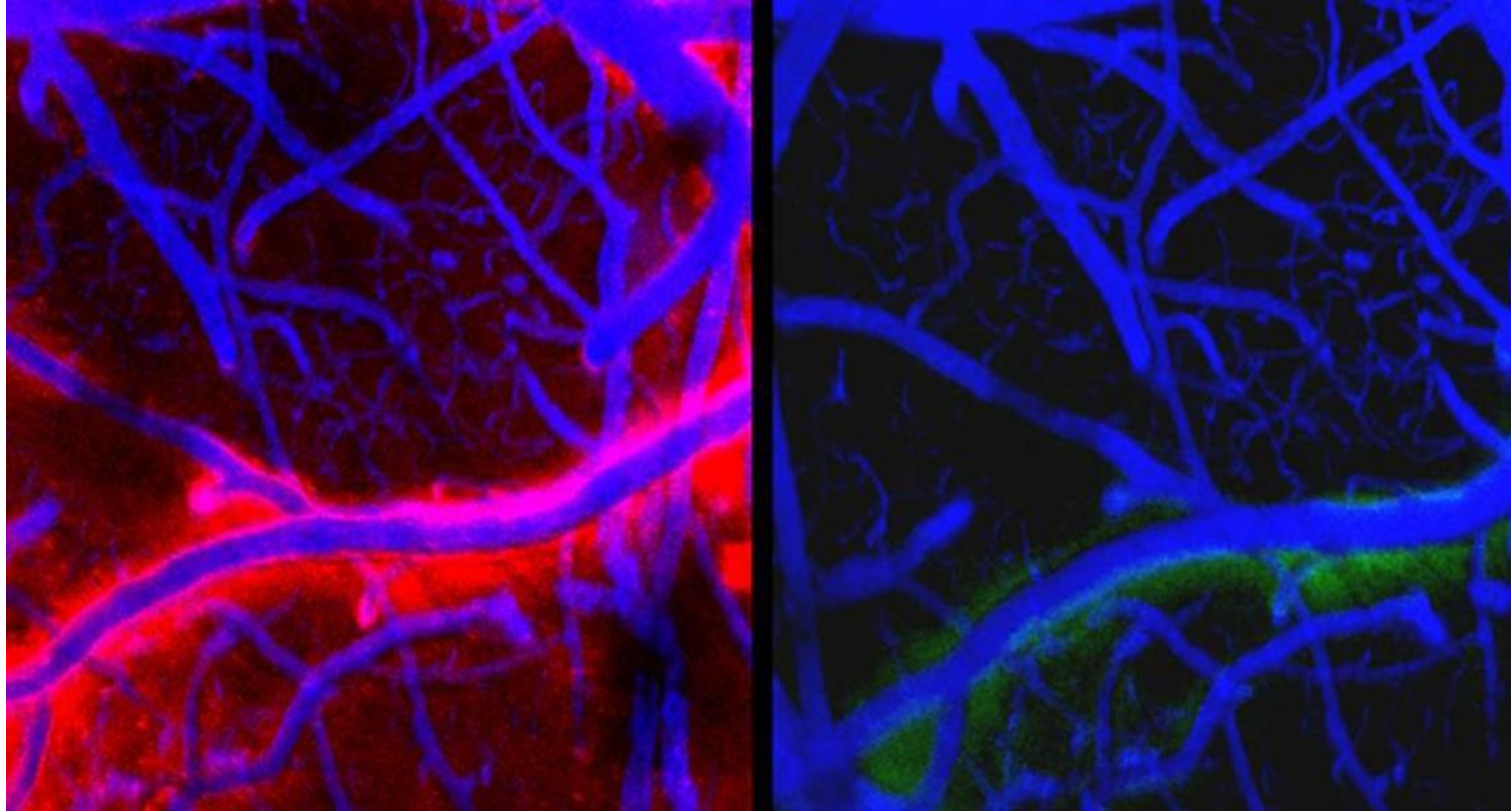




Take Out The  
Garbage?



# Brain Wash!



While you are sleeping your brain shrinks by 60% and squeezes toxins out of your brain cells and gets a wash!

**Sleep Drives Metabolite Clearance from the Adult Brain**

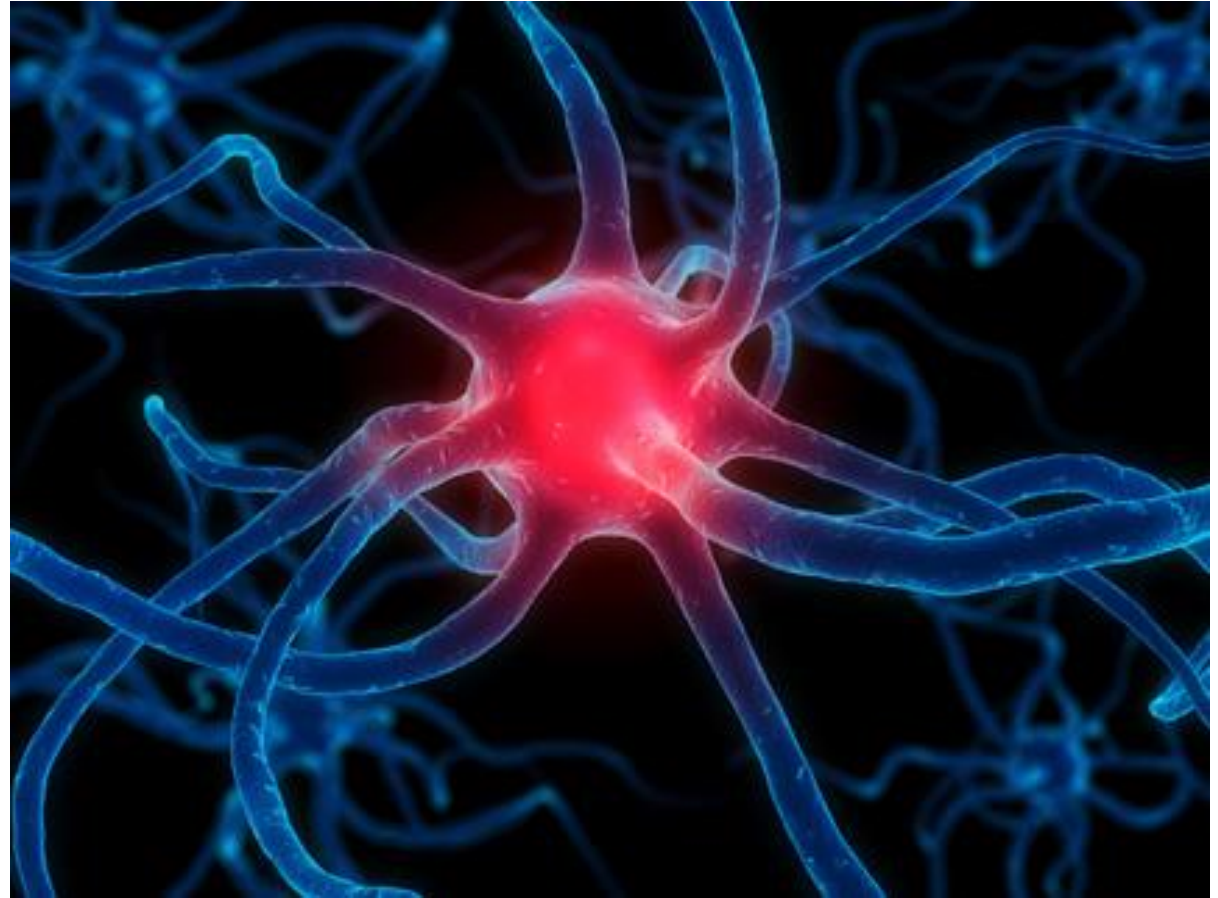
[Lulu Xie](#)<sup>1</sup> et al. Science 18 October 2013: Vol. 342 no. 6156 pp. 373-377

# Over The Counter Sleep Aids



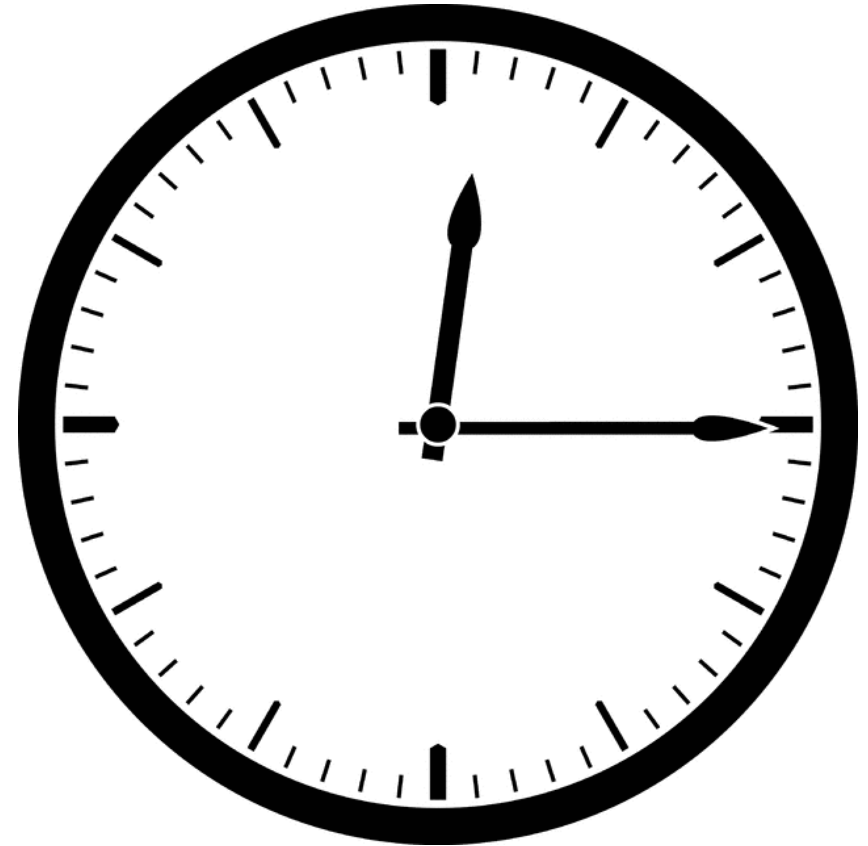
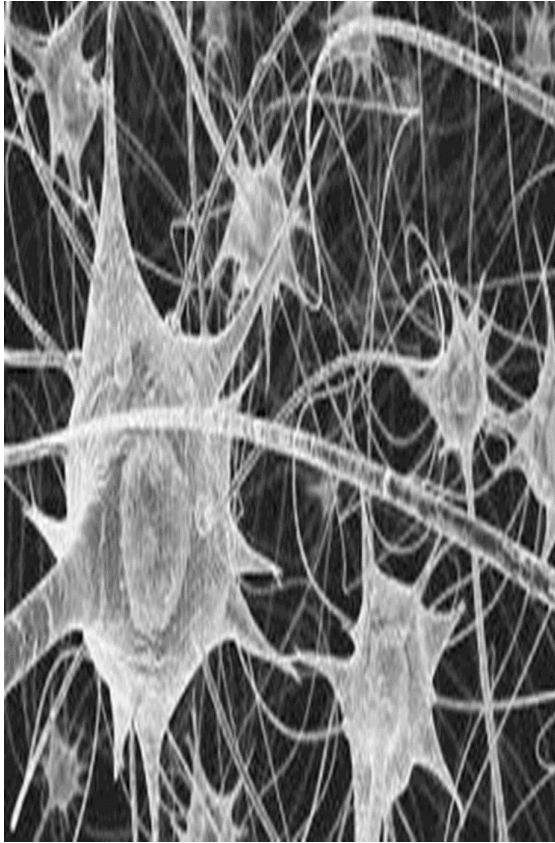


# The Secret Is In Your Brain

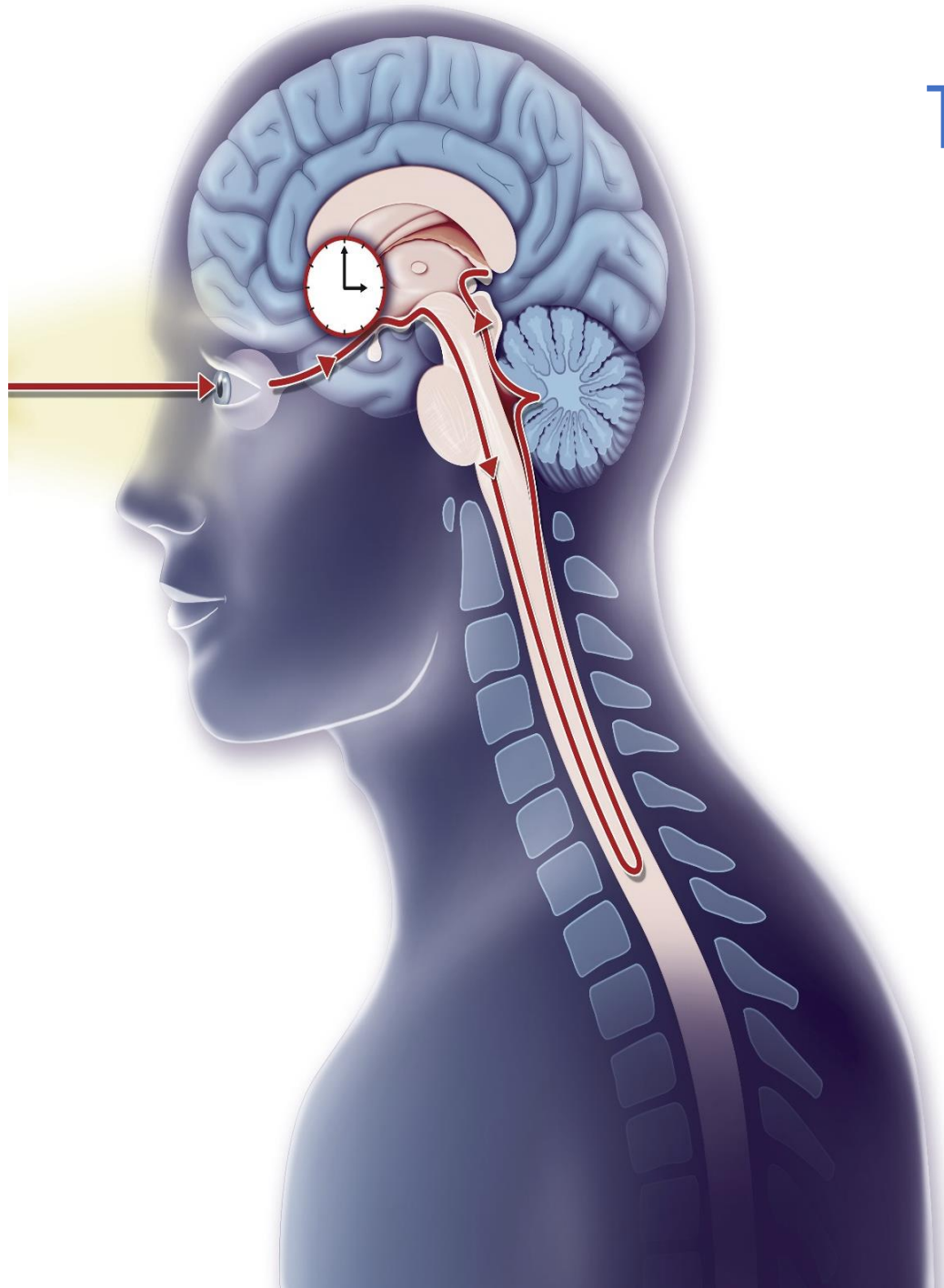


# Your Clock?

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Circadian Clock/Rhythm



## To Fall Asleep

Darkness



Eyes Sense



Clock

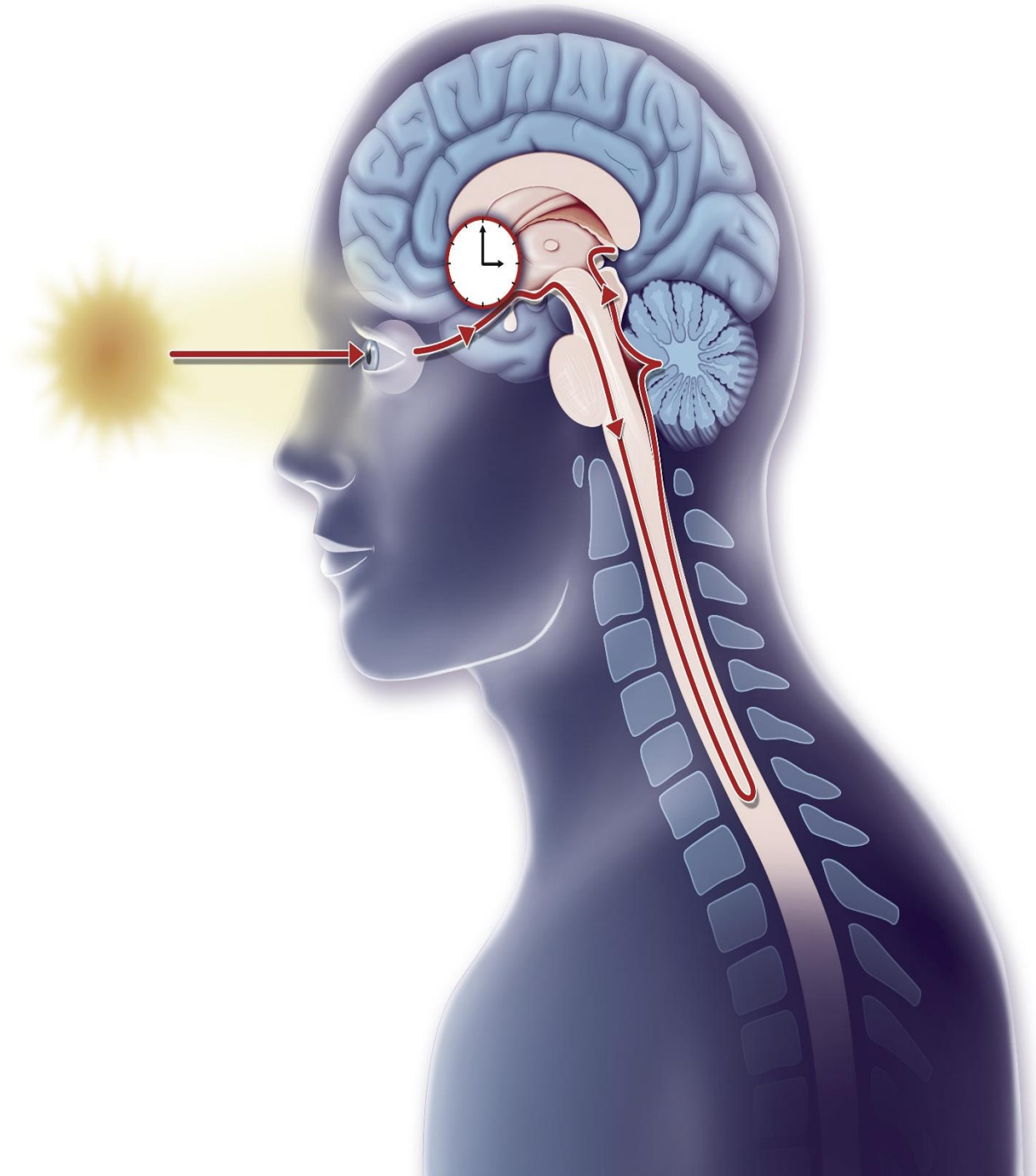


Melatonin

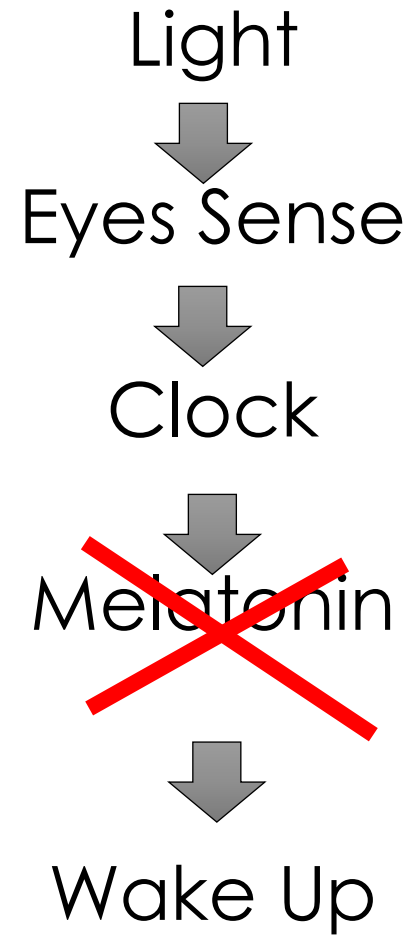


Sleep



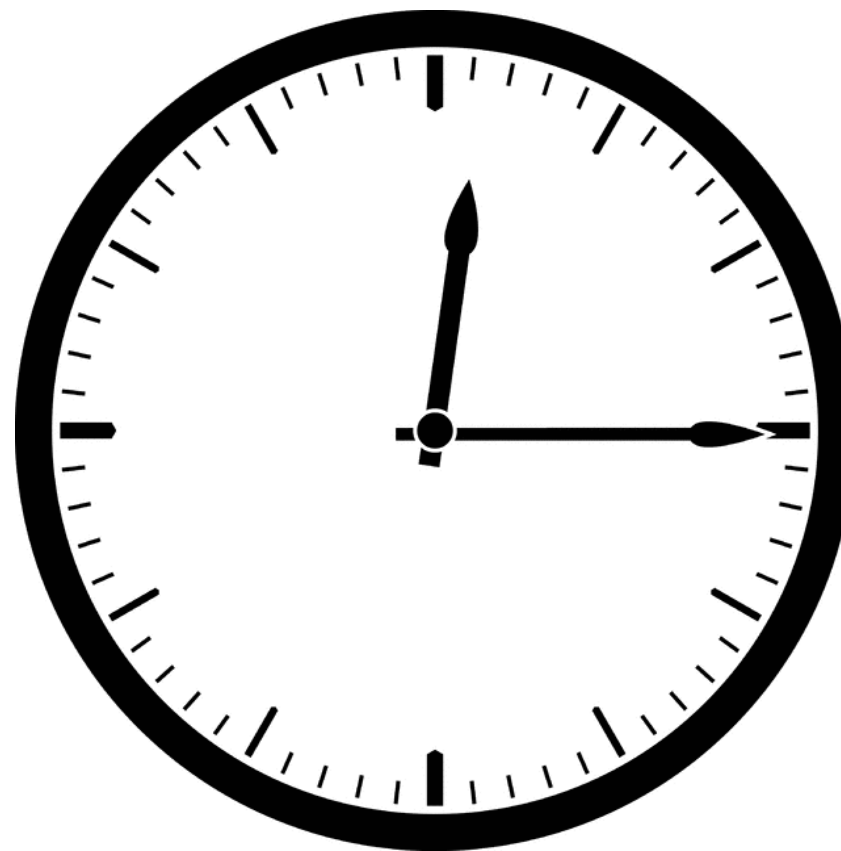
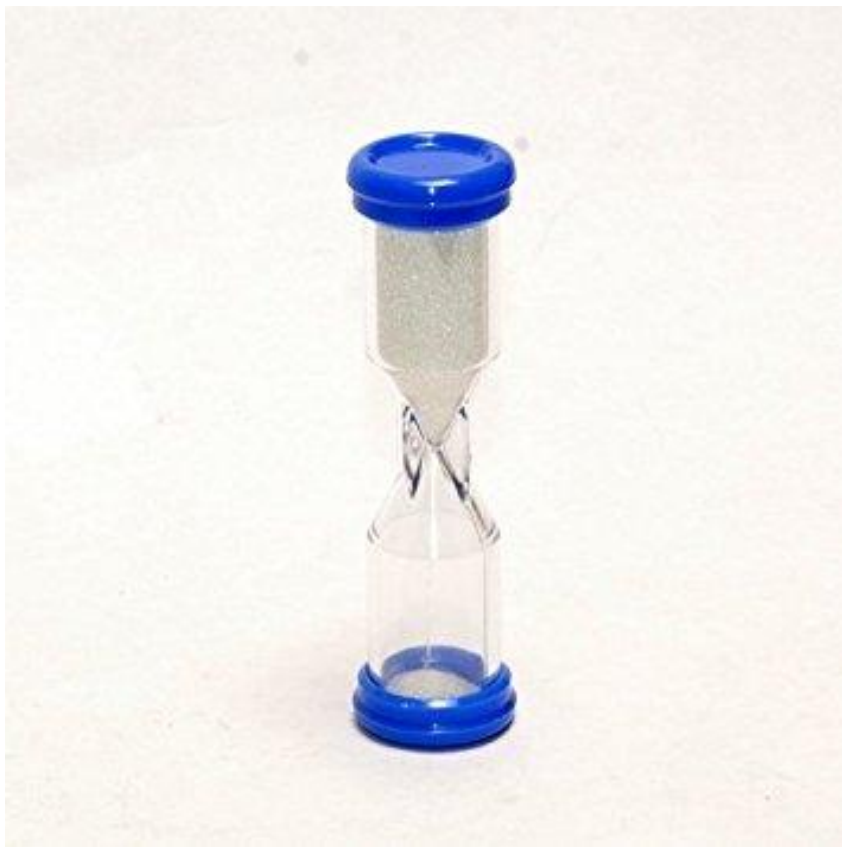


## To Wake Up



# Clock Reset?

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Every Morning

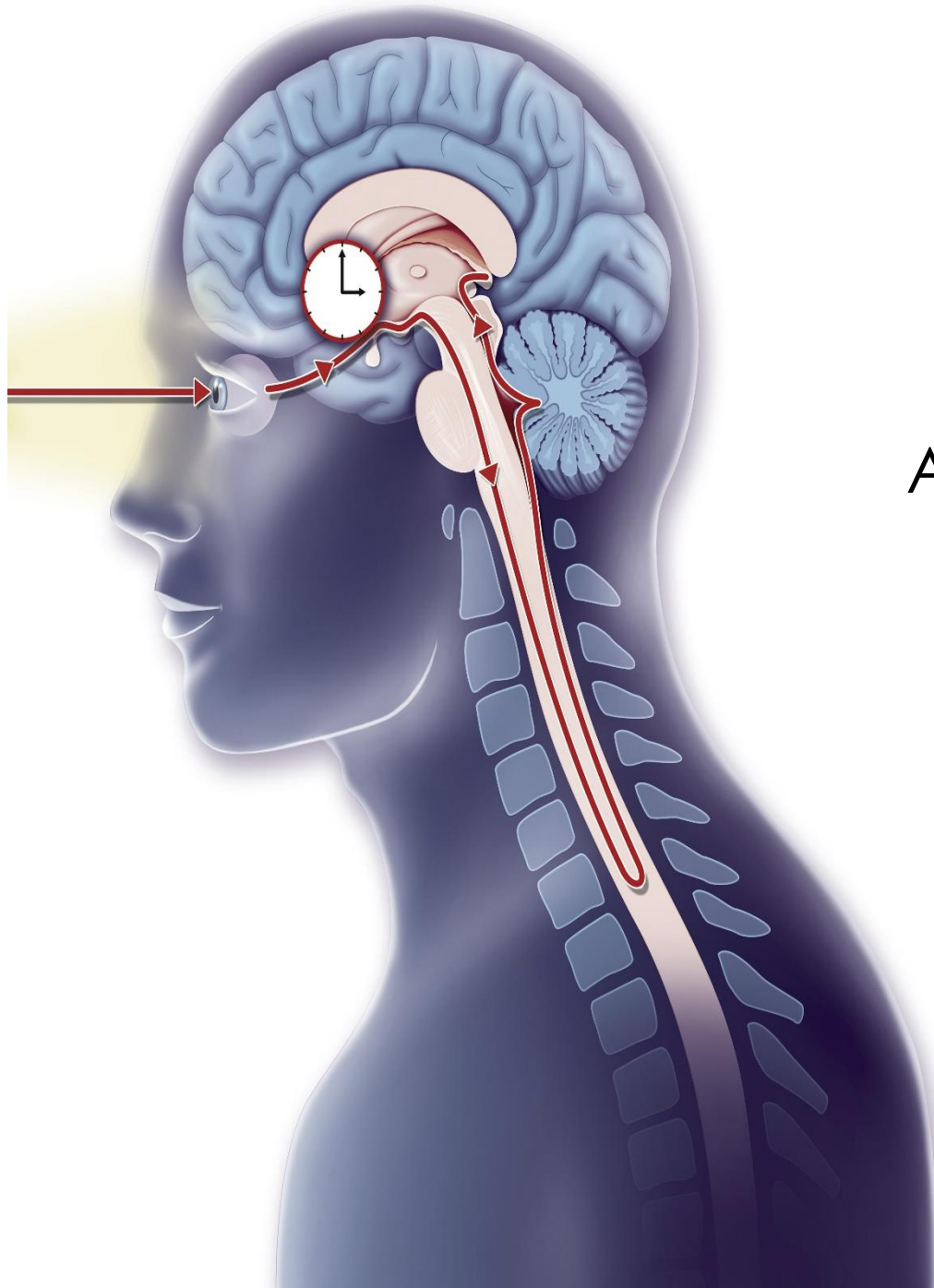






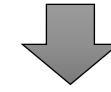
When Home During The Day:





# Length of Process

Darkness



Activates Eyes



Clock



Melatonin



Sleep

If You are  
Doing This





Does It Matter If  
Your Brain Clock  
Goes Out Of Sync?



# Daylights Savings Does It Matter?



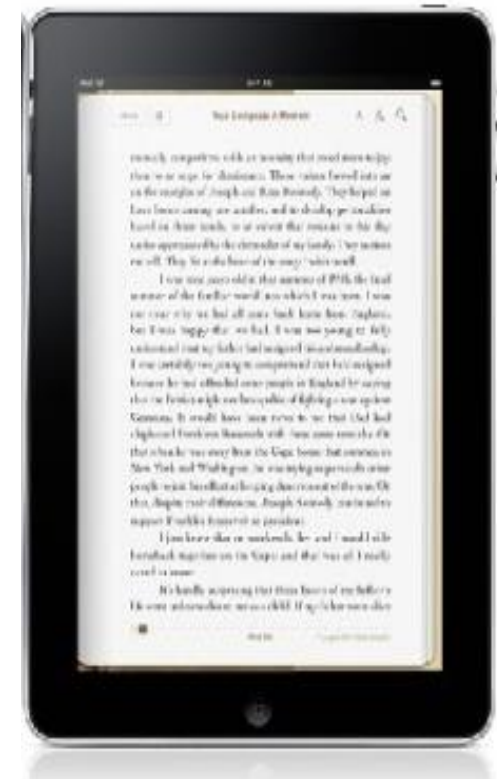
- More frequent traffic accidents and workplace injuries when we spring forward and lose an hour of sleep.
- Heart issues? Stroke?
- Judge rulings?



## The Master Clock

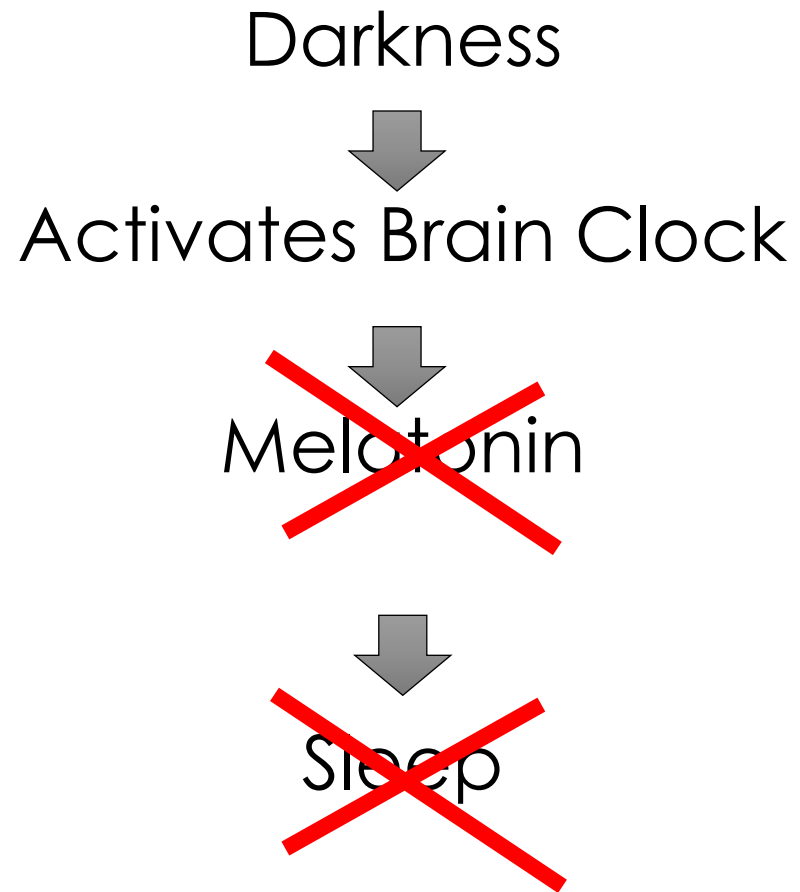


# E-Readers vs. Books?



1. Anne-Marie Chang, Daniel Aeschbach, Jeanne F. Duffy, and Charles A. Czeisler. **Evening use of light-emitting eReaders negatively affects sleep, circadian timing, and next-morning alertness.** *PNAS*, December 22, 2014 DOI: [10.1073/pnas.1418490112](https://doi.org/10.1073/pnas.1418490112)

# The Blue Light





# Do You Sleep In The Dark?

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Pete  
Sampras



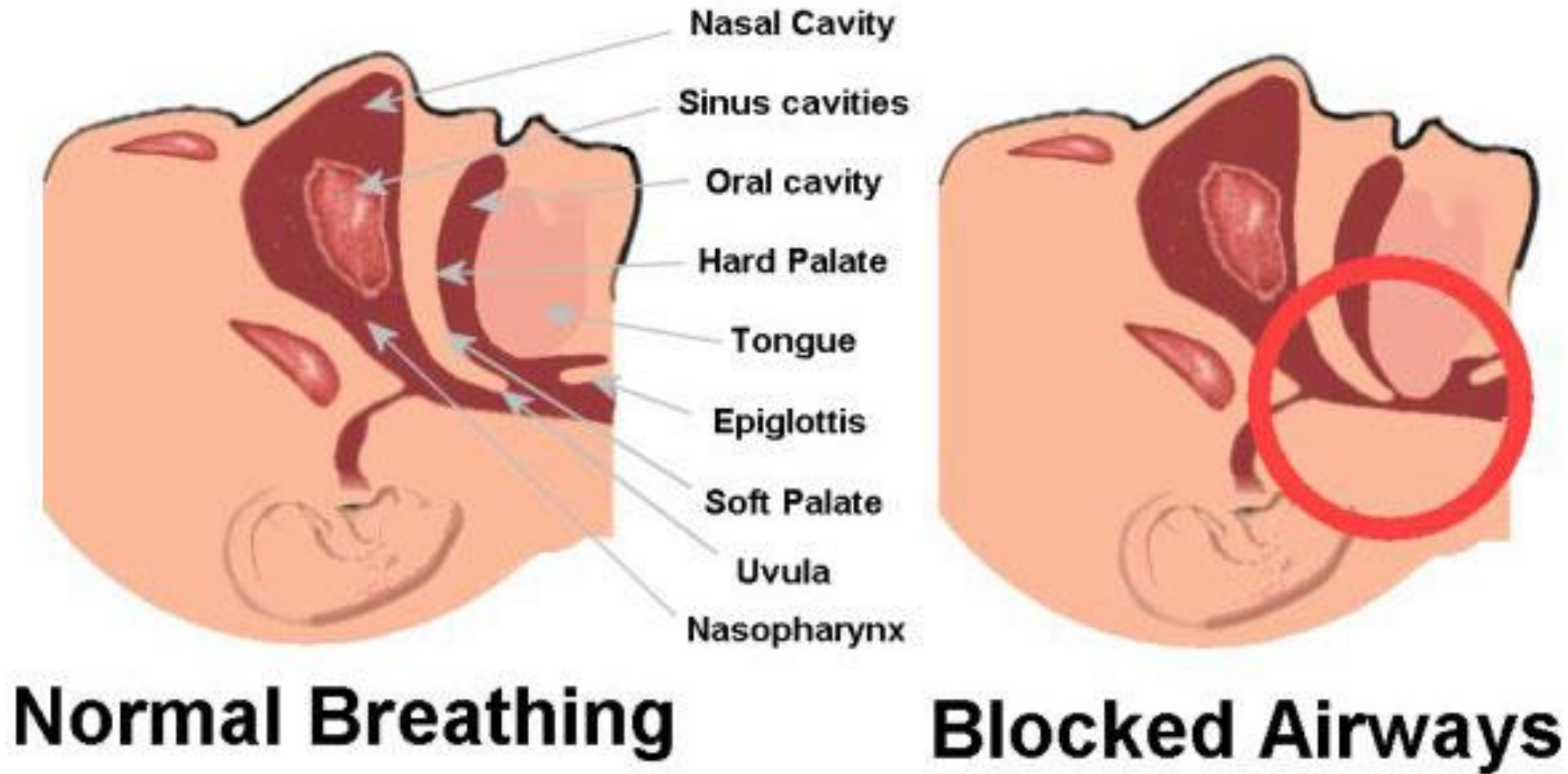


Take Home  
Tip For  
Hospitals  
and Nursing  
Homes:

# If Someone Is Having Memory Issues

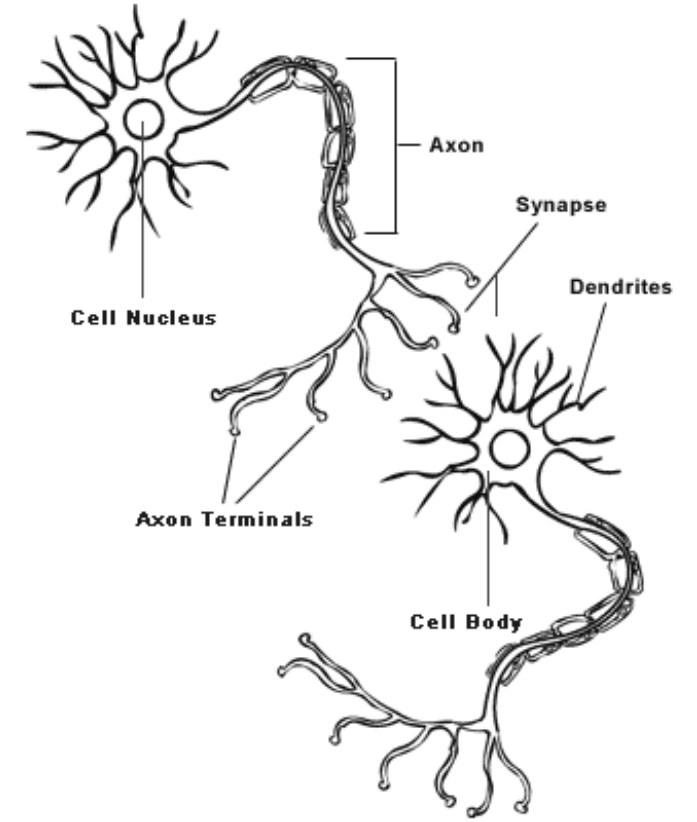
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# Do You Have Sleep Apnea?



# How Are Sleep and Memory Related?

cottage / swiss / cake  
cream / skate / water  
show / life / row



What Happens In Your Brain When You Learn Something  
During The Day.....

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# Senility?

- Incorrect belief that serious mental decline is a normal part of aging
- Serious mental decline is NOT a normal part of the aging process.
- If there is serious mental decline it is a disorder....





## What Is Dementia?

- Memory disorders, personality changes, and impaired reasoning severe enough to impair day to day living.
- Is dementia a disease?



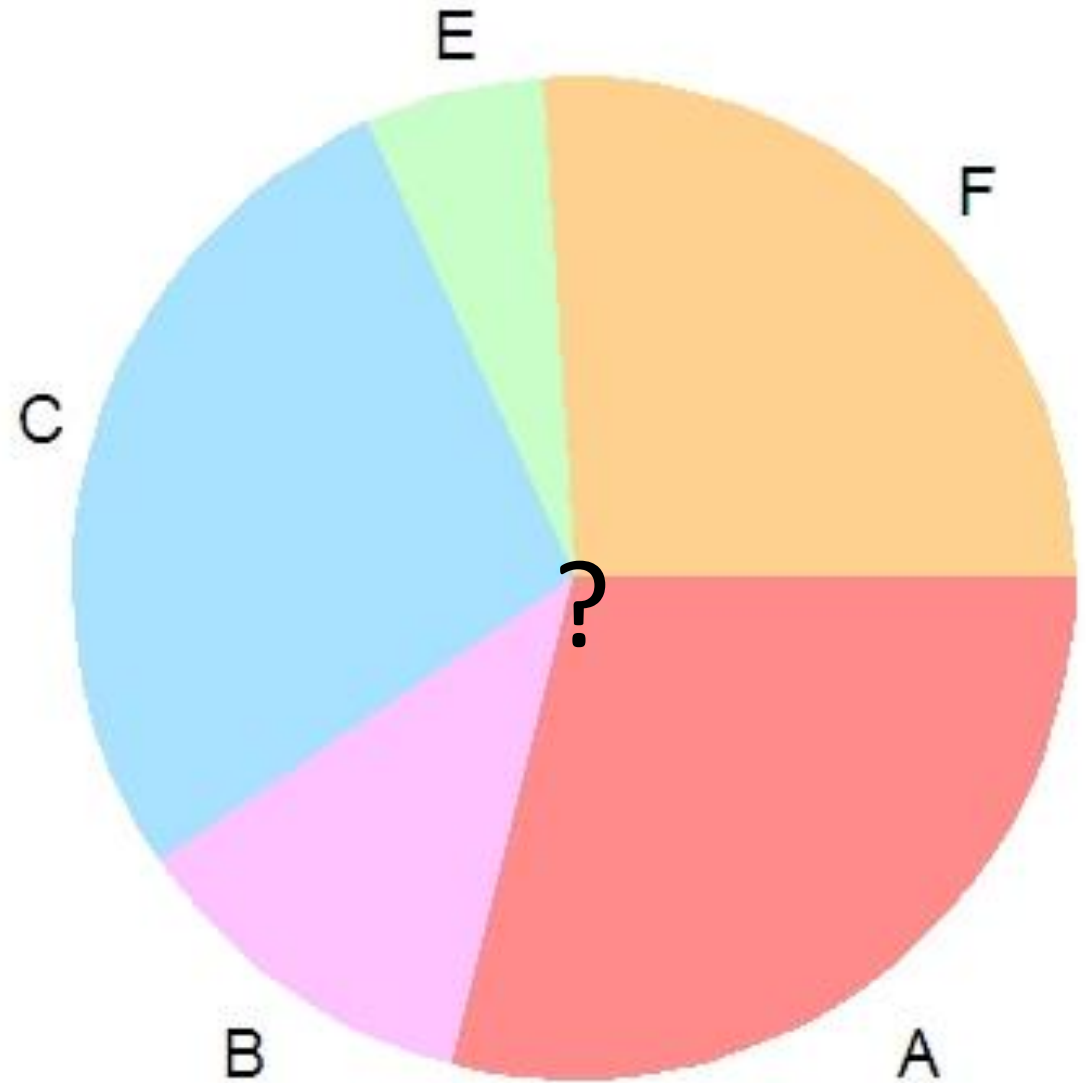
Dementia Is Like A Wave....

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The Roots of  
Dementia?

Redefining....





# The Best Things You Can Do For Your Brain

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For Today: