Brain Health: Sleep Holds The Secret

Dr. Marc Milstein www.drmarcmilstein.com

How Are You Sleeping?



Or Like This?



Risk Factors For???

Seriousness Of Sleep

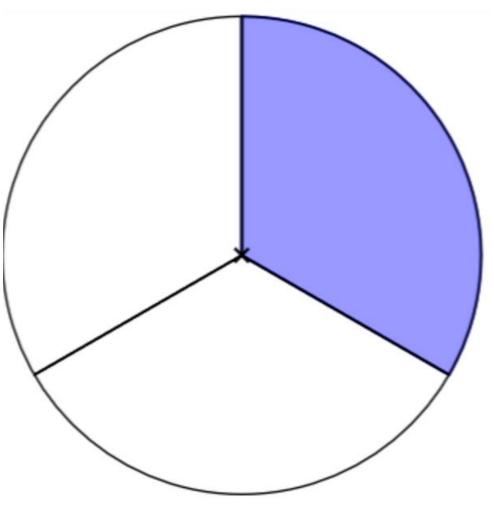
- Diabetes
- Depression
- Heart disease
- Hypertension and obesity
- Cancer
- Dementia

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?

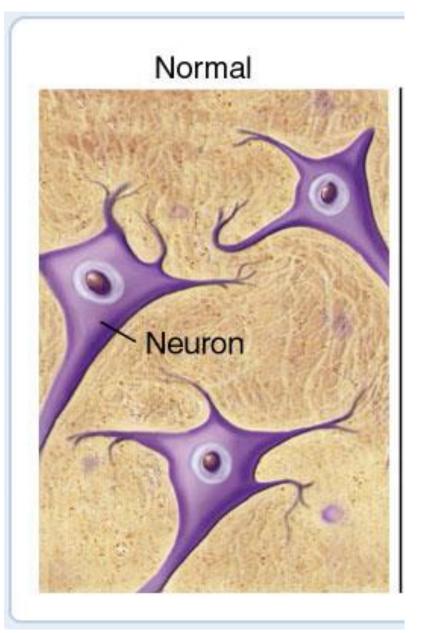


1.Gill Livingston, Andrew Sommerlad, Vasiliki Orgeta, Sergi G Costafreda, Jonathan Huntley, David Ames, Clive Ballard, Sube Banerjee, Alistair Burns, Jiska Cohen-Mansfield, Claudia Cooper, Nick Fox, Laura N Gitlin, Robert Howard, Helen C Kales, Eric B Larson, Karen Ritchie, Kenneth Rockwood, Elizabeth L Sampson, Quincy Samus, Lon S Schneider, Geir Selbæk, Linda Teri, Naaheed Mukadam. **Dementia prevention, intervention, and care**. *The Lancet*, 2017; DOI: <u>10.1016/S0140-6736(17)31363-6</u>

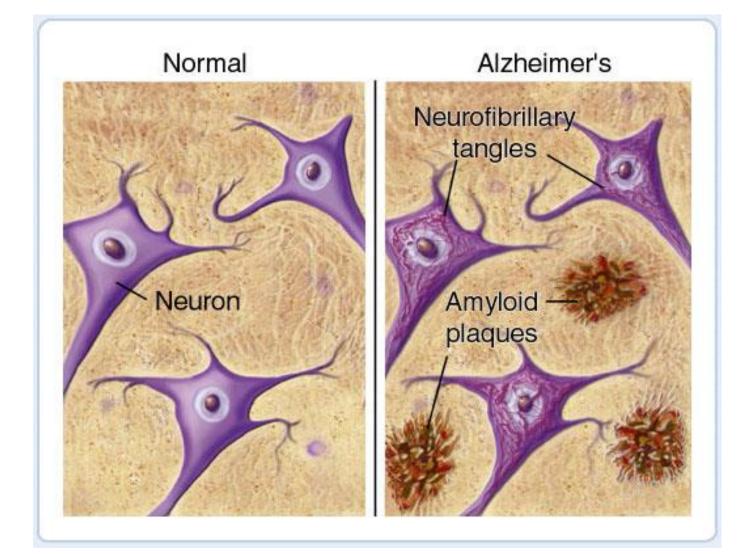
Lower Risk of Dementia and Alzheimer's By 30 to 60% Based on Specific Factors

Dementia and Brain Aging:

Something Is Interfering With Brain Cell Communication



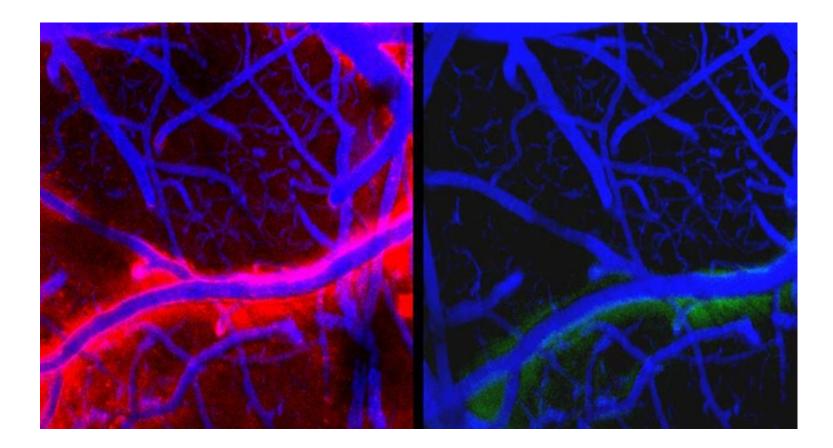
What Can Trash Interfere With?



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 Xie¹ et al. Science 18 October 2013: Vol. 342 no. 6156 pp. 373-377

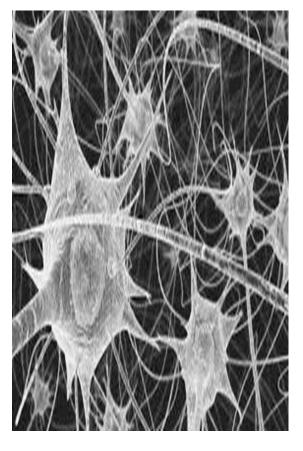
Over The Counter Sleep Aids

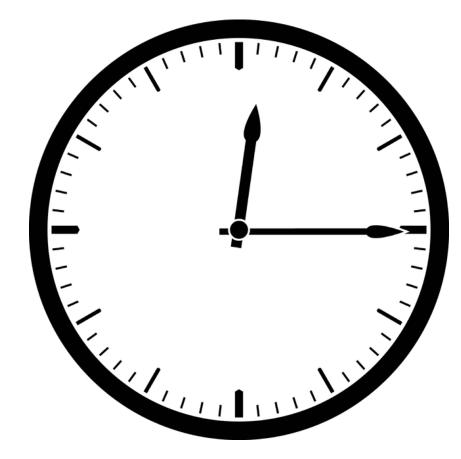


The Secret Is In Your Brain

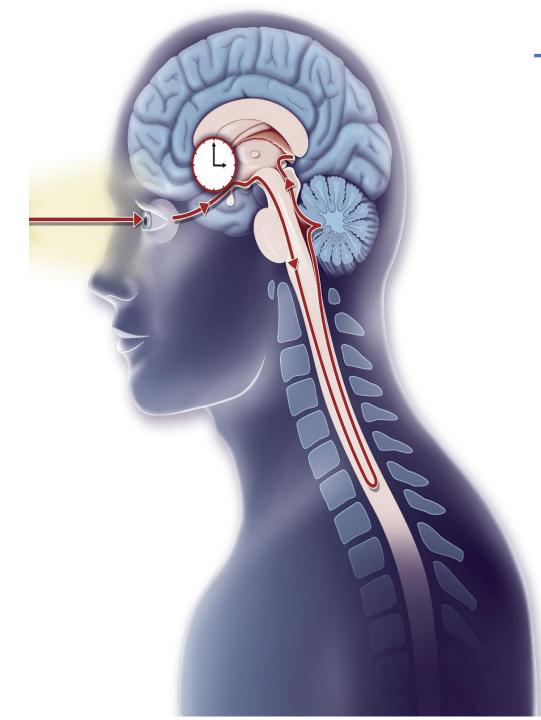


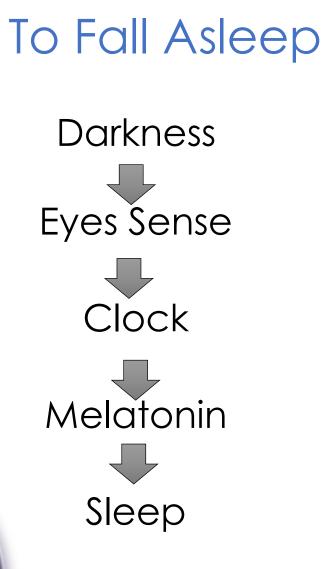
Your Clock?

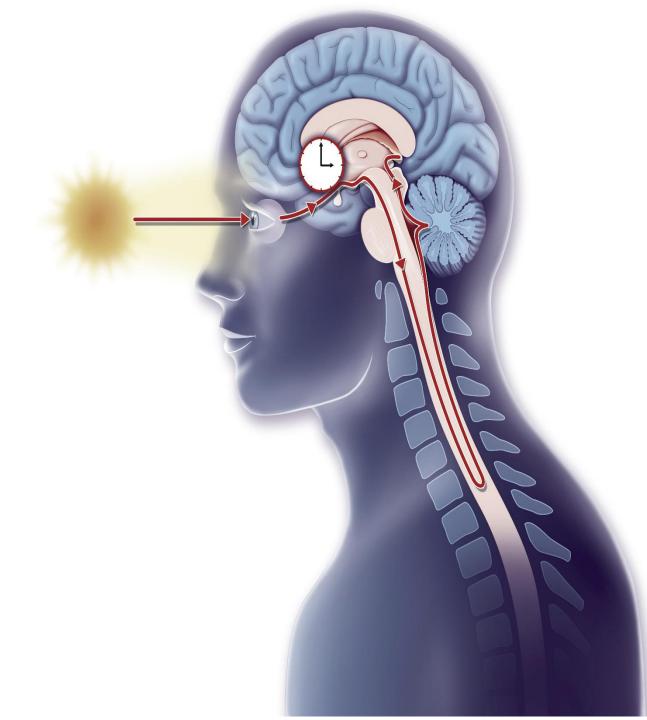


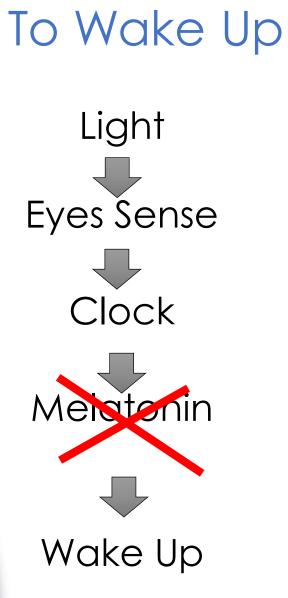


Circadian Clock/Rhythm

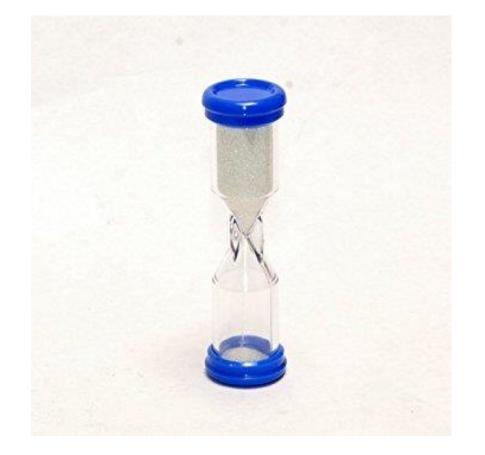


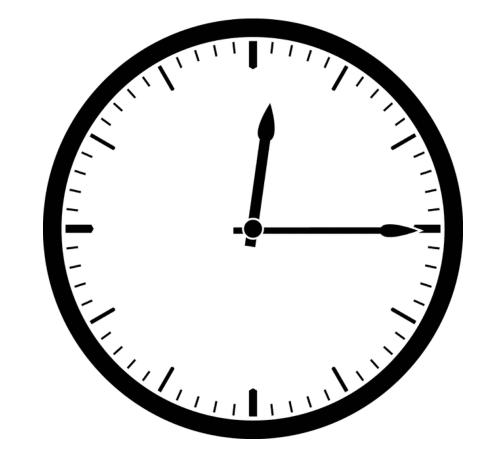






Clock Reset?



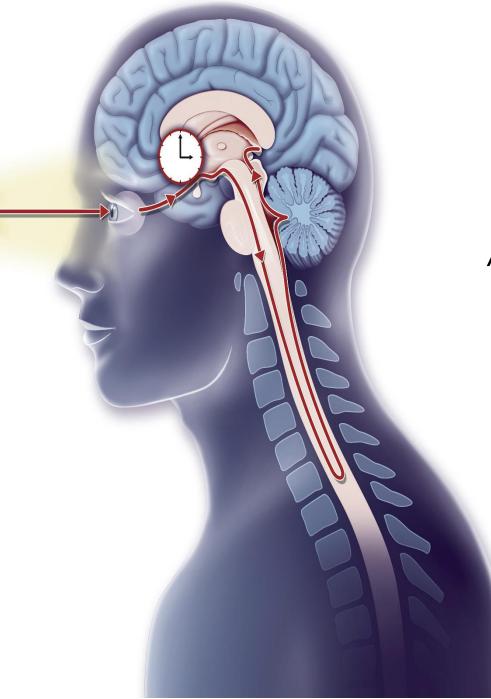


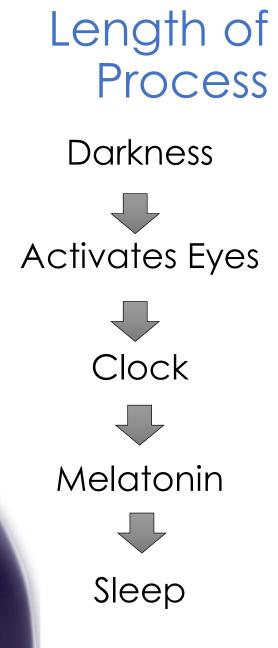


Every Morning



When Home During The Day:

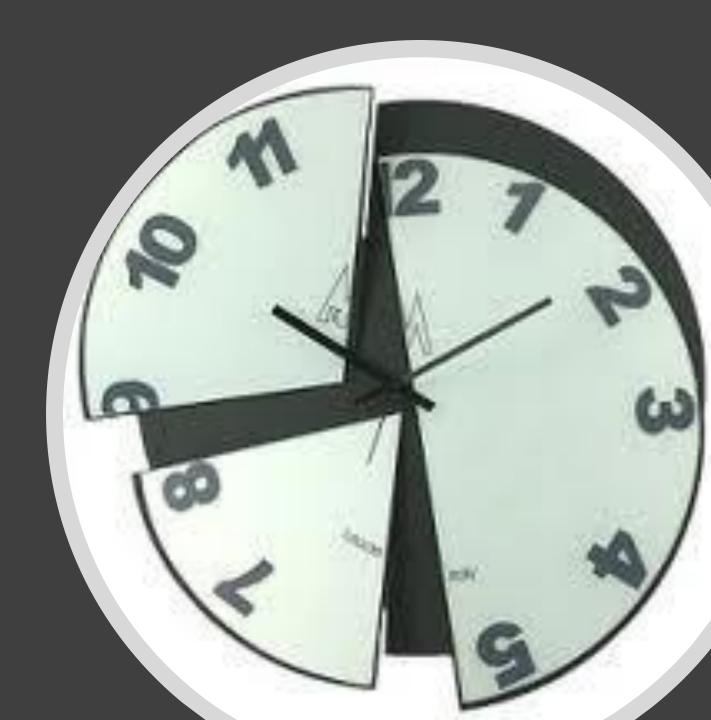




If You are Doing This



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?

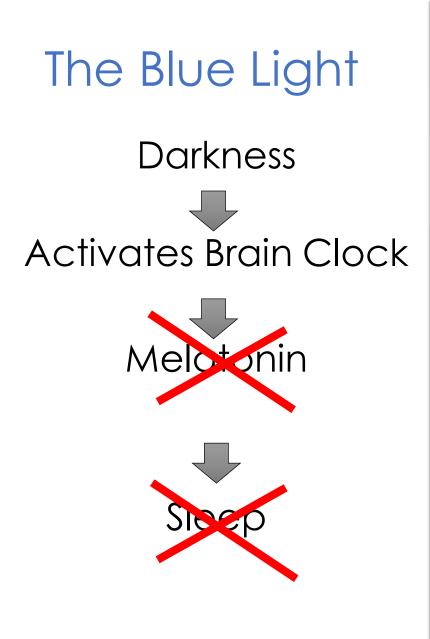


The Master Clock

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: <u>10.1073/pnas.1418490112</u>











Do You Sleep In The Dark?

1.R. G. Stevens, Y. Zhu. Electric light, particularly at night, disrupts human circadian rhythmicity: is that a problem? *Philosophical Transactions of the Royal Society B: Biological Sciences*, 2015; 370 (1667): 20140120 DOI: 10.1098/rstb.2014.0120

Pete Sampras

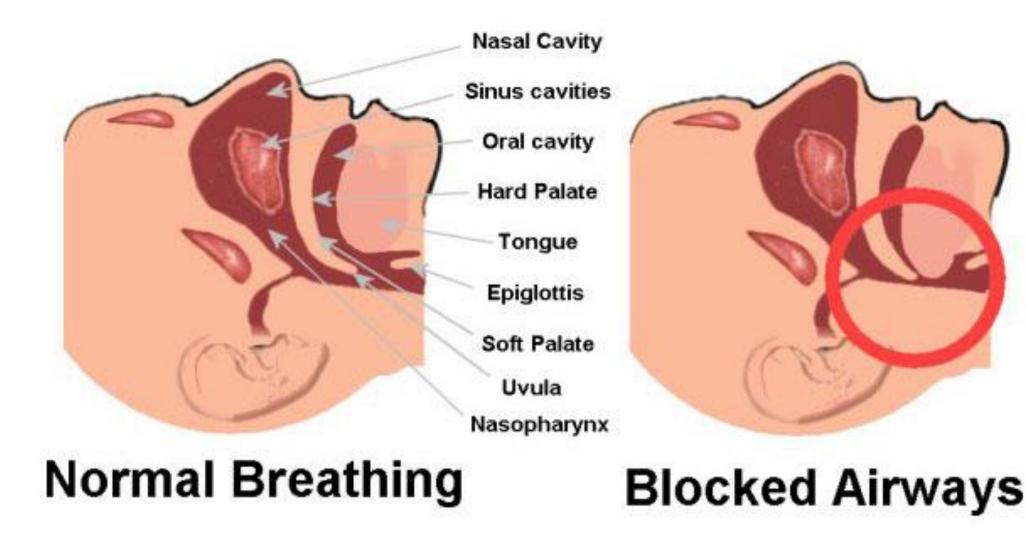




Take Home Tip For Hospitals and Nursing Homes:

If Someone Is Having Memory Issues

Do You Have Sleep Apnea?



Ricardo S. Osorio, Tyler Gumb, Elizabeth Pirraglia, Andrew W. Varga, Shou-En Lu, Jason Lim, Margaret E. Wohlleber, Emma L. Ducca, Viachaslau Koushyk, Lidia Glodzik, Lisa Mosconi, Indu Ayappa, David M. Rapoport, Mony J. De Leon. Sleep-disordered breathing advances cognitive decline in the elderly. *Neurology*, April 2015

How Are Sleep and Memory Related?

<u>cottage / swiss / cake</u> <u>cream / skate / water</u> <u>show / life / row</u>

> Study At UCLA, UCSD Remote Association Test



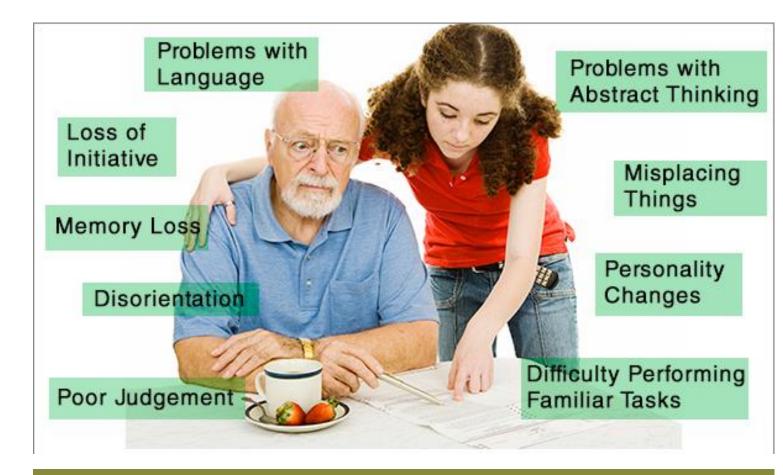
What Happens In Your Brain When You Learn Something During The Day.....

Senility?

- Incorrect belief that serious mental decline is a normal part of aging
- Serious mental decline is <u>NOT</u> 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.

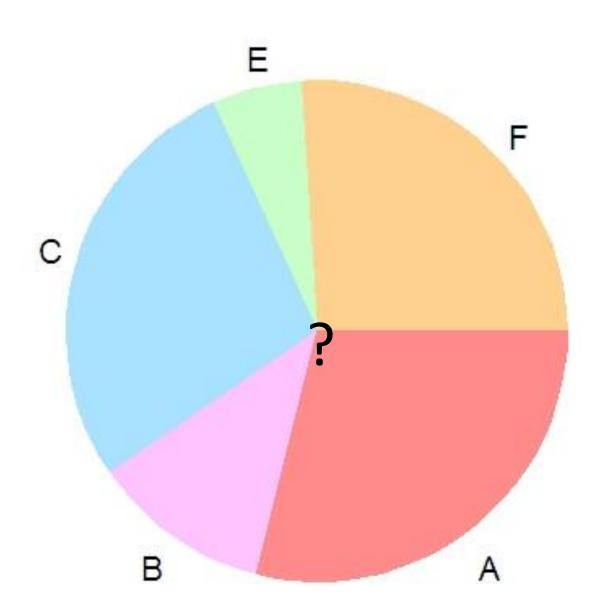
• Is dementia a disease?



Dementia Is Like A Wave....

The Roots of Dementia?

Redefining....



The Best Things You Can Do For Your Brain

For Today: