

SLEEP

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- ◆ Shift Work will result in poor quality sleep for almost everyone.
- ◆ Chronic Sleep Debt
- ◆ Estimated to affect millions and millions of people in the United States alone.
- ◆ Research indicates that chronic sleep deprivation can hasten the onset of diabetes, high blood pressure, heart disease, cancer, memory loss, immune dysfunction, and can worsen all of these conditions.
- ◆ With just a week of sleep deprivation we can take healthy young men, and if we simply reduce their sleep time to 4 hours per night for 1 week we will decrease insulin sensitivity tremendously, disrupt blood sugar handling, disrupt thyroid rhythm and function, and induce a night time surge in cortisol. These problems are rapidly corrected if we repay the debt.
- ◆ Aging
- ◆ Disruptions in sleep patterns are a very common and a very unpleasant side effect of aging.
- ◆ These disruptions might include increased need for daytime napping, early morning awakening, restless sleep, frequent nighttime waking, poor quality sleep, waking without feeling refreshed, and an inability to rigidly follow a controlled 24-hour sleep cycle (a free running biological clock).
- ◆ Getting extra sleep matters. Even an hour more sleep makes sleepy people perform better. Even people who would describe themselves as well rested also are much sharper and perform much better when they get an hour of extra sleep.

Note: Insufficient quantity or quality of sleep can induce psychological and behavioral problems so always think of sleep and rhythm disorders as a potential contributing factor when patients falling into these categories come to see you.

TYPES OF SLEEP

- ◆ REM (active) and non-REM (quiet sleep)
- ◆ Sleep follows a 90-120 minute cycle for most people
- ◆ Early in sleep REM might be 10 minutes of this sleep cycle but by morning it might take up 1 hour)
- ◆ Sleep is triggered by body temperate dropping.
- ◆ IL-6, PGE2 and adenosine all thought to trigger sleep
- ◆ Sleep is like a bus that comes on a schedule. If you miss one chance you have to wait for the next bus (buses are thought to follow 90-120 minutes schedules).

INSOMNIA

- ◆ Generally speaking this is a disorder of entire sleep/wake cycle (so its is a 24-hour illness)
- ◆ Pain, restless leg syndrome, myoclonus, depression, anxiety and physical illness probably account for _ cases of insomnia.
- ◆ The other _ are generally problems with sleep rhythms.
- ◆ General categories
- ◆ Sleep latency (too long to fall asleep)
- ◆ Sleep waking (wakes during the night)
- ◆ Delayed sleep phase syndrome
- ◆ Advanced sleep phase syndrome
- ◆ Non-24 hour sleep wake syndrome (probably affects 8 out of 10 blind people)

SLEEP THERAPIES:

General

- ◆ Morning exposure to 45 minutes of daylight quality light.
- ◆ Eating at regular times and no skipping meals (Tell patient they have to eat a well balanced breakfast everyday — NO EXCEPTIONS).
- ◆ Avoidance of caffeine at least within 5 hours of bed.
- ◆ No alcohol (sedation is not the same as sleep)
- ◆ Chamomile tea
- ◆ Taking a warm bath (105° F) for 30 minutes starting about 90 minutes before you would like to fall asleep
- ◆ Evening walk for 90-120 minutes before sleep
- ◆ Consistent daytime exercise
- ◆ Cold extremities and especially cold feet can prevent sleep.
- ◆ If you don't fall asleep within 30 minutes after getting into bed...get out of bed. Sleep is like a train that comes on a schedule. If you miss this train you have to wait for the next one to arrive and it won't get there any quicker by tossing and turning and getting frustrated. Wait till you feel tired and then try again.
- ◆ NOTE: For patients with any form of advancing liver disease, supplement some snack (a low glycemic carbohydrate preferably) prior to bed to keep blood sugar stable.

SUPPLEMENTS:

- ◆ Methylcobalamin: primarily a rhythm establisher and should be used with bright light exposure (3 mg)
- ◆ 5-HTP: 30-45 minutes before bed @ dose of 100-300 mg. Try 1 week @ 100 mg and increase if no improvement.
- ◆ Sedaplus: 2 – 4 caps 30 minutes to 1 hour before bed OR
- ◆ Kava-Kava: 2 capsules 1 hour before bed if troubled by anxiety
- ◆ Probiotic in am (especially if any sign of GI disturbance)
- ◆ Melatonin (last choice): start with low dose and increase if needed. Dose 45-60 minutes before normal sleep hour (9 pm in winter and 10 pm in summer are good ballpark times).

