How to Normalize Sleep-Wake Cycle in Harmony with Natural Circadian Rhythms

Taking all the above knowledge into consideration, the sensible guidelines on normalizing Sleep-Wake cycle are:

- 1. Plan 7-8 hours of sleep daily to avoid cumulative sleep debt, which is hard to pay back.
- 2. Keep in mind that a perfect indicator of optimal sleep duration is the pattern of the wake-up process. If one needs an alarm clock daily to wake up, that would mean that the individual is sleep-deprived. The wake-up process is always spontaneous for those who have had optimal sleep in both quality and duration. There is no harm in keeping an alarm, but in most cases, it should serve only as a backup tool.
- 3. The morning wake-up time naturally sets up the sleep onset time at night. If one gets up early between 5-7 AM, it will be easy for him/her to fall asleep by 10-11 PM. Rejuvenating sleep is critical to good health, so It is a good idea to stay in harmony with the melatonin secretion. The melatonin secretion by the pineal gland starts by 9 PM. That will be an excellent time to start winding down and prepare for sleep by disconnecting from digital devices and cellphones. These devices emit blue light which inhibits melatonin secretion from the pineal gland. There are red/orange circadian light apps for digital tools and mobile phone screens. Use these circadian screen apps to minimize blue light exposure.
- 4. Finish eating by 7-8 PM to be able to sleep by 10-11 PM. The food in stomach raises the core temperature by a degree, and for the good deep sleep, the core temperature needs to come down by a degree. "Late eaters are invariably poor sleepers both concerning the quality as well as the quantity of the sleep."
- 5. Minimize external and internal sensory sleep disrupters. The external disrupters are easy to control and include noise, artificial bright light, the blue light of digital devices, and conversation. Internal inputs such as anxiety, stress, and negative thoughts are harder to fix, but the awareness of the problem helps one to seek the solution. In most cases, a "Let Go" attitude and building social support (positive vibrations) helps with the anxiety and stress situation. Ego and fear of being judged are the most significant culprits in ruining restful sleep.
- 6. Note that time to bed is not the same as the time to relax for sleep. Time to rest is the time when one disconnects from all the external disruptions. After shutting off from digital devices, it takes 1-2 hours to wind down for sleep.
- 7. Aerobic exercise late in the evening after 7 PM disrupts the sleep cycle. Exercise releases excitatory chemical adrenaline which inhibits sleep drive chemical adenosine, a critical chemical for initiating the sleep process.
- 8. Caffeine antagonizes the effect of adenosine, the natural sleep driver in the brain and is the most potent inhibitor of sleep. The caffeine can stay in the system for as long as 8 hours, especially when one consumes a strong caffeinated drink like coffee and caffeinated soda

beverage. Always check the caffeine content of your beverages and judge for yourself what disrupts your sleep. For good restful sleep do not consume any caffeinated drinks after 2-3 PM.

The sleep time starts when one turns off external signals and closes the eyes. It usually takes 20-30 minutes for sleep initiation. If sleep fails to get initiated within 30 minutes, one should look into the cause which could be external or internal signals or certain medications (For more details on sleep, check the section of sleep).