

# MEDICAL MEMO

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## Sleep Phase Disorder? or "he/she stays up so late and then sleeps the day away!"

Preschool age children typically need 10-12 hours of sleep, elementary school age children need 8-10 hours, while teens and adults need 7 to 8 hours. Right? Well, not quite. The need for sleep can vary from person to person and generally does follow the age pattern above, except for teenagers. Sleep studies show that adolescents need as much sleep as younger children, 8-10 hours for most. Our society operates under the theory that teens actually need less sleep and even includes a later bedtime as a sign of developing maturity. The result is that many teens (and young adults) try to get by on around 6 hours that leaves a sleep debt building up night after night. The bad news is that the sleep debt must be paid, and soon, or you suffer the consequences.

So, the sleep deprived teenager either naps or sleeps in, usually on the weekend during school time but daily on breaks and summer. After getting up around noon on Saturday the debt may be paid...that is until the teen stays up Saturday night and then sleeps in on Sunday AM (or takes a nap.) Now, he or she isn't tired at bedtime on Sunday night because of sleeping in or taking a nap. Then s/he has to get up early for school Monday morning ... bang! Back into sleep debt! **So, how do you recognize chronic sleep debt? The #1 sign is difficulty getting up and out of bed on one's own in the morning.** Other signs include chronic fatigue, increased grouchy or irritable behavior, poor concentration, dulled thinking, and moodiness; all this improves with a good night's sleep. Chronic sleep deprivation harms encoding of memories (especially learning and long term), limits production of neurotransmitters needed to function well the next day, makes medicines work less well, and can even cause weight gain and heart disease!

This pattern gets amplified with school breaks such as 3 day weekends, Thanksgiving break, Christmas

break, spring break, and worst of all, summer ... or college. Frequently the youth is allowed or demands to sleep in "because it's vacation." When the sleep deprivation debt gets chronic, a pattern of staying up late (midnight, 2 AM or even later) and sleeping late (11 AM, noon, or even later) takes hold and for many becomes virtually unchangeable, "I can't go to sleep even if I do go to bed earlier!", "I can't get up earlier even if I want to!". This is now called **Sleep Phase Shift Disorder** and is a diagnosable disorder of sleep often related to **Insomnia**. This is essentially what shift workers experience and fits the severe jet lag of flying to Europe or Asia and back. A few people are little affected by such sleep cycle shifts, some become stuck in this new pattern for years (eg., college students sleeping through afternoon classes), some are just called "night owls" who choose to work evening or night shift, and most of us struggle greatly (or should I say their parents struggle greatly) trying to reset their clocks, not really understanding what they have done to themselves. Doctors see this often, especially after the long Christmas break and as summer ends and school begins each year.

As mentioned earlier, some people can make this adjustment easier than others. I have seen teens and young adults who sleep through multiple alarms, door pounding, yelling, water dumpings, and being dragged out of bed. As mentioned above, some choose to lead an "evening shift" lifestyle that unfortunately doesn't fit well with the primary job of children and teens...school. Two of the other most powerful motivators to get up early regularly for older teens and young adults are a paying job and/or a crying baby (not yet please!). Once sleep phase disorder is identified, the treatment is straightforward.

**What is the treatment?** The best answer is easy to say but hard to do. The teen "simply" has to get up

early every day for at least a week (without naps) to reset their body clock that will then allow him or her to fall asleep normally at a reasonable hour. To prevent relapse he or she must then maintain that schedule, sleeping in past 9 am only on truly rare occasions. Going to bed earlier won't help, and won't be successful as long as getting up late and/or taking naps is continued. Just think about it logically, if you sleep in till noon and then try to go to sleep your body will understandably say, "I just got up a few hours ago, I'm not tired!" And you won't be able to fall asleep till at least 2 AM and the whole shifted later sleep pattern will continue. Medications will not change this pattern alone and are best avoided if possible. This process will be very difficult the first few days as s/he will have to drag him/herself out of bed and go on for several days feeling miserable until the body's clock switches back to Arizona (etc.) time, not India time. Then s/he can get to sleep at 9, 10, or 11 PM and awaken early (6 to 9 AM), feeling refreshed after 8-10 hours of sleep. This will take 3 days for the lucky few who are born to be shift workers or traveling salespersons, 7 days for most, and 2 or even 3 weeks for the unlucky and those deeply entrenched in this pattern.

**Sleep Tips, "Sleep Hygiene"** or cleaning up your sleep habits is key. Here are suggestions. **Practice the regular rhythms of sleep** -- go to bed and wake up at the same time each day. Try this: set your alarm clock for 9 (or better yet 10) hours before you are supposed to wake up (waking at 7am? Set the alarm for 10 pm). This forces you into your room to turn it off and should remind you that it is time for bed. Make sure get in bed within the next 30 to 60 minutes after a wind down for sleep process of dimmed lights, no electronics except maybe soft mellow music, brush your teeth, get clothes and such out for the next day. Allowing for 1-15 minutes to fall asleep in bed with lights and electronics off you will get the target 8-9 hours of sleep. **Use your bed for sleep and romance only** - - not reading or television. **Create an environment that encourages sleep** -- use serene and restful colors and eliminate clutter and distraction. Set the mood. When you walk in to your bedroom, how does it make you feel? Relaxed? Tense? What could you add, or take away that might help your bedroom be more tranquil. Dim the lights one hour before bed, and don't bring

your laptop, tablet, phone, or TV into your bedroom. Get your mind and body ready for sleep. Remove any distractions (mentally and physically) that will prevent you from sleeping. **Create total darkness and quiet** -- consider using eyeshades and earplugs. **Write your worries down** -- one hour before bed, write down the things that are causing you [anxiety](#) and make plans for what you might have to do the next day to reduce your worry. It will free up your mind and energy to transition into sleep. **Get a relaxation, meditation, or guided imagery CD** -- any of these may help you get to sleep. Lessen your mind's racing by distracting yourself. One trick is to count backwards from 300 by 3's. It is complicated enough that you cannot think of anything else, and it is so boring, you drift asleep. **Learn relaxation techniques**. Aside from physical problems, stress may be the number one cause of sleep disorders. Temporary stress can lead to chronic insomnia. Many people have trouble turning off their minds and therefore can't sleep. Do some breathing exercises, self hypnosis, prayer, progressive muscle relaxation, imagine a favorite place, biofeedback, yoga, or meditation. These will calm the mind and reduce the fears and worries that trigger the stress. **Get the TV, computer, phone, and game console out of the bedroom**. Because we have no trouble at all falling asleep in the living room in front of the TV many of us watch TV in bed to fall asleep. But when we fall asleep in a bed watching TV, we often wake up later on. This sets up a cycle or conditioning that reinforces poor sleep at night. Don't watch TV in bed, the bed should be associated with sleep. **Get regular exposure to daylight for at least 60 minutes daily, morning is best for setting your body's clock** -- the light from the sun enters your eyes and triggers your brain to release specific chemicals and hormones like melatonin that are vital to healthy sleep. **Eat at least three hours before bed** -- eating a heavy meal prior to bed may lead to a bad night's sleep and causes gastric reflux. **Exercise at least 2 to 3 hours before bedtime** -- it excites the body and makes it more difficult to get to sleep if done close to bedtime. Earlier exercise 30-60 minutes is great for sleep as well as your health. **Take a hot bath or shower** -- raising your body temperature before bed helps to induce sleep. A hot bath also relaxes your muscles and reduces tension physically and psychically. Try a bubble bath or add lavender or aromatherapy. **Warm your torso** -- this raises your core temperature and helps trigger the proper chemistry

for sleep. A cool room with a good blanket is often best. **Get a massage or stretch before bed** -- this helps relax the body making it easier to fall asleep. **Avoid caffeine** -- it may help you awaken or stay awake in the day but actually makes your sleep worse. **Avoid alcohol for sleep**-- it may help you get to sleep but causes interruptions in sleep and poor-quality sleep and more problems. **Avoid medications that interfere with sleep** -- these include sedatives (these are used to treat insomnia, but ultimately lead to dependence and disruption of normal sleep rhythms and architecture), stimulants, cold medication, steroids, and headache medication that contain caffeine. **Use herbal therapies or tea** -- try passionflower, chamomile, or valerian root an hour or so before bed. Try 200 to 400 mg of magnesium citrate or glycinate before bed -- this may relax the nervous system and muscles. **Try 3 to 10 mg of melatonin 1-2 hours before your targeted sleep time** -- melatonin helps stabilize your sleep cycle and reset your body's clock. **Do not turn on the lights.** Lights make your brain think that it is morning and makes it hard to return to sleep. Instead, use a night light in your bedroom, hallway or bathroom. That way you can get to where you are going, without telling your brain it is morning. **Ignore the clock.** Watching the clock only causes added anxiety about the next day: something we do not need at night. Turn it around and do not look. **Nap for no more than 30 minutes.** If naps are absolutely necessary, make sure you only nap once a day and keep it under 1/2 hour and before 4 pm. Short naps may not hurt sleep and in fact a short siesta for half an hour after lunch or a 20 minute power nap before 4 pm works well for some people. **Get up if you don't fall asleep within 30 minutes,** Read a non-stimulating book (not lighted tablet), do a restorative yoga position, play solitaire with cards, or some other calming or boring activity for another 15 to 30 minutes until tired before going back to bed. Ignore the clock. Staying in bed "trying" to sleep only causes stress over not sleeping. Often just thinking about sleep affects your ability to fall asleep. What happens frequently is that the way you cope with the insomnia becomes as much of a problem as the insomnia itself. It often becomes a vicious cycle of worrying about not being able to sleep which leads to worsening sleep problems. Like so many things in life, it is about letting go, going with the flow. Sleep needs to become a natural rhythm like

breathing, something that comes automatically and you don't think about. Let go and go with the flow. Use the time to practice breathing exercises or meditation and to become aware of how what you eat, what medications you take, what behaviors or other activities can affect your sleep cycle. Increase your awareness by paying attention to your body and becoming conscious of how you react to different foods and situations. Use this time productively instead of getting upset that you can't fall asleep. **If you let inability to fall asleep be an excuse for sleeping in, you will likely remain stuck in this cycle. Remember, your body sets its clock NOT by when you go to bed or fall asleep but by when you get up!** Get up at the same time daily, even if sleep was poor.

**Other Sleep Disorders** may occur in children, teens, and adults. Any of these disorders can impair sleep resulting in fatigue, irritability, moodiness, reduced concentration and thinking abilities, and weight changes. A good sleep and health history, physical exam and sometimes a sleep study (polysomnography) can help make the diagnosis.

**Obstructive Sleep Apnea** is marked by excess body tissue or structures that block smooth air flow during sleep that causes snoring or other breathing noises and awakenings. The result is the complications of inadequate restful sleep listed above. Treatment depends on the identified cause.

**Narcolepsy** can begin in childhood and usually begins by the end of the teen years. It is marked by "sleep attacks" (sudden prominent daytime sleepiness), and may include "cataplexy" (sudden falling asleep due to strong emotions) and "hypnagogic or hypnopompic hallucinations" (going into dream sleep just before falling asleep or when awakening) and "sleep paralysis" (having fallen asleep and thus losing ability to move normally although still awake). Only sleep attacks are always present. Treatment involves good sleep "hygiene" habits and often medication.

**Restless Legs Syndrome (RLS)** is the experience of varying uncomfortable feelings in the legs while resting that require the person to move their legs to feel comfortable. Sometimes this is most often apparent to the afflicted person's bed partner who is often awakened by all the moving around. It can be

severe enough that the arms are affected and can begin in the evening or afternoon before even going to bed. RLS is sometimes associated with iron deficiency that can be checked by testing blood for Ferritin level. Other health conditions (such as hypothyroidism) and some medications or drugs can also cause RLS patterns. Treatment may include treating the underlying cause such as taking iron, stretching, or medications such as dopamine agonists like ropinirole (Requip) or pramipexole (Mirapex).

**Sleep Walking, Sleep Talking, Night Terrors, and Bedwetting** (Enuresis) all occur in the deep

stages of sleep - not REM (Rapid Eye Movement) sleep which is the stage where dreams and nightmares occur. These are most common in childhood and tend to decrease with age as brain development progresses. Sleep "hygiene" habits (above), ensuring safety, behavior therapy, and sometimes medication may help if warranted.

Two good links for more information:  
 National Center on Sleep Disorders  
<http://www.nhlbi.nih.gov/about/ncsdr/patpub/patpub-a.htm>  
 National Sleep Foundation  
<http://www.sleepfoundation.org/>

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