



**DR. JONES'**

# MENTAL FITNESS UPDATE©

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## SLEEP.... "Pay Me Now or Pay Me Later"

### Wayne C. Jones, M.D.

A board certified Psychiatrist with 30+ years of clinical, research, and teaching experience. He is among the first Psychiatrists certified in the U.S. as Psychopharmacologists. His specialties are anxiety disorders, mood disorders, sleep disorders, stress management, ADHD, and innovative medication management.

When I help people with stress management I always start with sleep. Good health habits along with stress management help protect us from the damage stress can cause. Stress overload raises cortisol and weakens the immune system. Stress interferes with sleep by raising levels of the brain's modulators norepinephrine and serotonin. The result can be insomnia and the inability to function effectively during the day.

The best way to ensure adequate stress management is to sleep well. Most adults need seven to eight hours per night. Teens need 8-9 hours and children need 9-10 hours of sleep. Adequate sleep is probably the single most important habit for keeping the mind and body healthy.

This is not an easy habit to maintain for most people. Constantly changing lifestyles make it hard to "turn the brain off" at night. Access to the internet 24 hours a day, television, movie channels, and heavy work schedules all make sleeping seem like an inconvenience. Sleep becomes expendable in order to have more time for all our more "stimulating" activities. At the turn of the century, before easily affordable lighting was available the average adult slept nine hours per night. The average adult now sleeps seven hours. Leisure time has also decreased an average of ten hours per week in the last ten years.

Complicating the time crunch is the feeling of pressure that we all have to get more things done in a 24 hour period. We feel pressure to monitor current events since everything is changing so quickly. We crave more leisure time. We also have to change schedules after early flights and late meetings. Shift work makes it hard for many people to have control of consistent sleep schedules. Unfortunately, sleep does not respond well to control because you can't "do sleep".

**Good sleep is our most important health habit**

One study found that working mothers with young children still spend the same amount of time per day with them as do mothers that work at home, which is 4 1/2 hours. The bad news is that they are doing it at the expense of 2 hours of leisure and 1 hour of sleep per day. Our bodies adapted over thousands of years to a life

of being outdoors and physically active all day. There was no artificial light or high stimulation in the evening. Now it's 24-7. Daylight regulates sleep through the body's natural system, *melatonin*. In today's world, we are mostly indoors. We have become like "cave dwellers" and our brains have no idea what time it is. Without the regulation of daylight the brain goes on a natural cycle of 25 hours. This causes a tendency to go to sleep one hour later every night.

New advances in medication give us the ability to control sleep. Only a few medications provide normal sleep. These include Sonata, Ambien, Lunesta, Gabitril, Neurontin, and Xyrem. They allow normal stages of sleep to occur. (See p. 2 on Sleep Stages)

### PRIMARY MEDICAL TREATMENT

#### •HYPNOTICS

Sonata\*\*\*, Ambien\*\*\*, Restoril,\* Dalmane\*, Halcion\* Lunesta\*\*\*

#### •TRANQUILIZERS/Benzodiazepenes\*

Klonopin, Xanax, Ativan, Librium, Valium

#### •ANTIDEPRESSANTS\*\*

Amitriptyline, Doxepin, Remeron, Trazodone, Serzone

#### •OTHER SEDATING AGENTS:

Depakote, Zyprexa, Risperdal, Clonidine, Benedryl, Neurontin\*\*\*, Gabitril\*\*\*, Xyrem\*\*\*, Seroquel

Topamax, Keppra, Melatonin\*\*\*

\*Decrease Stage 4 Sleep \*\*Decrease REM

\*\*\*Allow normal sleep

### QUALITY SLEEP EVERY NIGHT

Even with the best sleep habits everyone has trouble sleeping on occasion. Almost everyone would benefit by having medication available that safely provides good quality sleep.

Our internal clock (circadian rhythm) is regulated by bright sunlight. Even on cloudy days, it is at least ten times brighter outside than indoors. Bright light suppresses melatonin, (the body's natural sleep inducing hormone). As evening approaches and light diminishes, melatonin increases. Under these conditions, melatonin peaks around 9:00p.m. Ideally, this would make going to bed at 10:00p.m. and waking at 5:00 or 6:00a.m. a healthy sleep schedule. Going outside for the first time at noon will set your sleep clock for 16 hours later, or 4a.m. This makes it very difficult to fall asleep even at normal bedtime.

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## ABOUT OUR STAFF

### Paige Embrey, M.B.S., L.P.C.

Clinical assistant to Dr. Jones, she is certified as a licensed professional therapist. She is available for personal counseling, including children, teens, social anxiety, and ADHD coaching.

### Penny Chaney, B.B.A., Marketing

Marketing director. She develops patient educational materials, and manages/produces presentations on stress disorders with Dr. Jones.

### Leslie Cunningham, B.S., Psychology

A member of our office staff, and graduate of UT Austin. She is a key member of our administrative staff with advanced training in stress disorders to accommodate our patients.

### Melissa Halbert, B.F.A., Painting

She is a returning member of our staff. She brings many skills and great enthusiasm to complete our team. She also has training in stress disorders.

## THE STAGES OF SLEEP

There are two basic types of sleep:

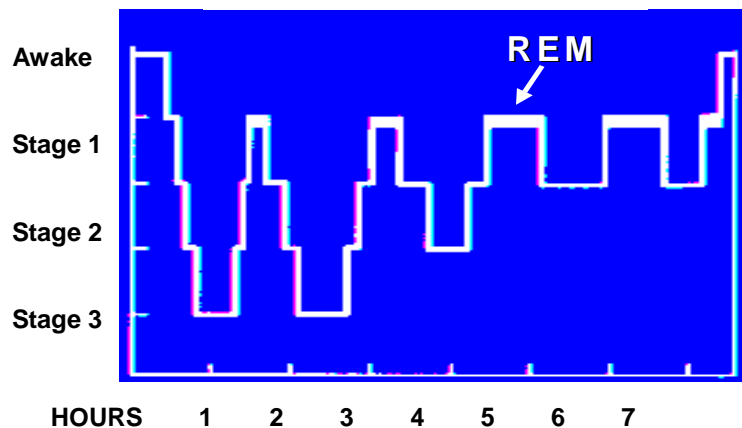
- **Non-REM (NREM) sleep**—This includes stages 1-4 of sleep. Stage 1 is very light sleep, and stage 2 is transitional sleep. Stages 3 and 4 are deep sleep. They occur in the first 3 hours of sleep (see diagram below) Stage 4 is the only restorative sleep phase. It increases energy in the brain cells, releases growth hormone, and builds the immune system.
- **Dream, REM sleep**—mainly starts after 3 hours of sleep. Each 90 minute cycle has a higher percentage of REM sleep.

Although the brain only weighs 3 pounds, it uses 25% of our O<sub>2</sub>. More

O<sub>2</sub> is used during REM than during waking hours. That is why sleeping 9 or more hours can make you feel mentally drained.

Studies show that learning takes place during sleep. We show more benefit of study/practice in the morning after good sleep.

### EEG OF NORMAL SLEEP



## THE EFFECTS OF STRESS DISORDERS ON SLEEP

**DEPRESSION**—Sleep disorders are both a risk factor for and a symptom of depressive disorders. A study of 373 adults showed that 60% of people being treated for depression also had insomnia. Depression causes delayed sleep onset and awakenings, especially early morning awakenings. REM occurs earlier and is more intense. Dreams are usually negative.

Stage 4 sleep is usually decreased the most by depression. This can inhibit the body's ability to promote growth hormones and boost the immune system. Early morning awakenings, possibly caused by cortisol are common. Cortisol (stress hormone) is higher than normal during serious depression. Cortisol releasing hormone causes a decrease in stage 4 and increase in REM sleep.

**BIPOLAR-MANIA**—Mania usually creates a feeling of high energy and reduced need for sleep. Severe insomnia can result. Sleep is essential for the bipolar individual. It helps reduce the risk of a manic episode.

**ANXIETY**—Most anxiety disorders have related insomnia. Anxiety causes vigilance and an inability to "turn off the mind". This results in problems going to sleep and also produces shallow sleep.

**PANIC ATTACKS**—Sleep related panic attacks can be found in up to 30% of those with the disorder. Night time panic attacks occur three hours after going to sleep. This is during stage 4 deep sleep when breathing becomes shallow and CO<sub>2</sub> levels peak. Individuals with panic disorder are extremely sensitive to CO<sub>2</sub>.

### MEDICATIONS AND INSOMNIA

Most of the antidepressants which are used to treat depression can initially cause insomnia (especially if taken at night). This is due to the stimulating or activating effect they have on the system. Antidepressants include the SSRI's—Zoloft, Paxil, Prozac, Celexa, Lexapro and also Wellbutrin XL, Effexor XR, most Tricyclics, and MAOI's.

Antidepressants that *increase* stage 4 sleep include Remeron, Serzone, Trazodone, and Elavil. They decrease REM. Most antidepressants should be started in the morning and switched to bedtime later, (dinner time with Effexor XR) if sluggishness begins to occur.

The Benzodiazepines (Xanax, Klonopin, Ativan) improve sleep continuity by promoting quick sleep onset and reducing night awakenings. However, they don't give normal sleep because they decrease stage four sleep.

## BEHAVIORAL MANAGEMENT OF SLEEP

Since you can't "do sleep", trying to force its onset will only cause the opposite to occur. Instead, try to shift focus away from sleep. Read, watch TV, focus on breathing, thumb through a magazine or book, or listen to soothing music. Shifting focus to activities that are non-stimulating to you, will relax the mind and body, and *allow* sleep.

**Sleep Restriction**-Limit time in bed to match actual time needed for sleep. Start with 5-6 hours only and increase by 30 minutes at a time only if sleeping most of the time.

### BREATHING AND RELAXATION TRAINING

#### Close your eyes and focus on breathing

Reduce tension by breathing out *FIRST*

Slowly, *exhale* by saying "S H H H H"

Next *inhale* and count "1 2 3 4"

Hold and count "1 2 3 4"

Slowly, *exhale* again, "1 2 3 4 "

FEEL THE TENSION LEAVING THE BODY

"Sleep...The death of each day's life,  
The balm of hurt minds,  
Great nature's second course  
Chief nourisher in life's feast"

William Shakespeare

### WHAT MEDICATIONS ARE BEST FOR GOOD SLEEP?

**Lunesta**-the newest sleep medication. It is the most likely to provide 7-8 hrs. of quality sleep. In studies it was well tolerated.

**Sonata**-10mg is probably the mildest sleep med. Since it totally wears off in 5 hours, there is no a.m. grogginess. If there is ever an emergency during the night you should be able to function normally and have full recall (memory) in the a.m.

**Ambien**-10mg is 2 1/2 times stronger than Sonata 10mg and lasts 6-7 hours. The main advantages are duration, depth of sleep, and lower cost.

Disadvantages (mainly at full dose of 10mg) include possible a.m. hangover, and if an emergency occurs during the night, there may be some lack of awareness and memory for the events in the a.m.

**Gabril**-Is not indicated for insomnia, but works well to increase stage 4 sleep and allow normal dream sleep.

**Provigil**-This is a mild stimulant used to treat daytime sleepiness associated with narcolepsy, shift work sleep disorder, and obstructive sleep apnea/hyponea syndrome.

**Neurontin and Xyrem**-both of these medications also allow normal sleep to occur with normal dream sleep and increased Stage 4 sleep.

### DID YOU KNOW THAT . . . ???

⇒MOOD is affected more by sleep deprivation than are cognitive skills or physical performance

⇒A 45 minute nap can improve alertness for the next 6 hours....a 1 hour nap can improve alertness for 10 hours

⇒Healthy sleep prepares the brain for the next day and renews mental balance

⇒Laboratory rats deprived of sleep died in only 16 days

⇒Inadequate sleep is probably the most common cause of irritability

⇒Untreated insomnia can lead to a worsening of a sleep disorder and the onset of depression

⇒Alcohol and OTC sleep aids DO NOT result in normal sleep

⇒33% of traffic accidents are caused by sleepiness

⇒The invention of the light bulb by Thomas Edison marked the beginning of sleep loss and abnormal sleep rhythms

⇒Negative effects on sleep can be measured even 16 hours after ingestion of 200mg of caffeine (which is 2 cups of coffee)

#### SLEEP AND ALCOHOL

An individual that can drink one glass of alcohol and show no impairment when rested

*can become.....*

An individual that creates "fatal fatigue" with only one glass of alcohol when sleep deprived.

ZIGGY

By Tom Wilson



### DO YOU HAVE "INSOMNIA PHOBIA?"

"Insomnia phobia" is a phrase I use to describe the fear of not being able to fall asleep.

Fear has an alerting effect and wakes you up! Telling yourself, "don't worry about it!", won't help if you don't have the confidence that you will get enough sleep. Cognitive therapy can help. Having a sleeping pill nearby to take if needed is also a way to help eliminate the fear. Even if you don't use the medication, it allays anxiety, allowing you to lightly focus on something else as you drift off.

### RESOURCE CORNER

- ✓ *The Promise of Sleep*, by William C. Dement, M.D.
- ✓ *Sleep Thieves*, by Stanley Coren
- ✓ American Academy of Sleep Medicine-[www.aasmnet.org](http://www.aasmnet.org)
- ✓ National Sleep Foundation-[www.sleepfoundation.org](http://www.sleepfoundation.org)
- ✓ American Sleep Disorders Assoc. 6301 Bandel Road, Suite 101 Rochester, MN 55901



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**QUESTION**-What do the nuclear accident at Chernobyl, the near melt down at Three Mile Island, the oil spill by Exxon Valdez in Alaska, and the loss of the space shuttle Challenger have in common?

**ANSWER**-Mistakes made by sleep deprived people!!!

Accidents are the #1 cause of death in teens and in the top 5 causes of death in all age groups.

As I researched this newsletter (sometimes at the expense of sleep I must confess) the serious consequences of not getting enough sleep surprised and alarmed me! Of course most of us do not have jobs that could cause national disasters! But I had to ask myself, *“what are some of the other consequences in the average person’s life for not getting enough sleep?”*

I decided to take my own informal poll to ask people how they felt that sleep deprivation affected them. I found that the answers were basically the same for everyone I questioned.

Effects of sleep deprivation included:

- ◆ Irritability, causing shortness and impatience with others
- ◆ Feelings of grogginess, causing slower thinking
- ◆ Feeling sluggish, causing physical clumsiness or pain

The consequences of these symptoms have not caused nuclear disasters for any of the people I polled. But I wonder if lack of sleep might be responsible for other things. Does it cause car accidents? Does it prevent us from getting that raise we need at work? Does it cause hurt feelings with a spouse, coworker, or children? Does it cause our body to feel achy or chronically fatigued? I know I’ll never launch the space shuttle, but I am 100% convinced that good sleep is essential for being at MY best. I hope you’re convinced too! P.S. Sweet Dreams!

## QUALITY SLEEP EVERY NIGHT, By Wayne Jones, M.D.

Some individuals, especially the elderly are “phase advanced”. This means melatonin peaks in the late afternoon, causing sleepiness. Even if going to bed is delayed, they often wake up in the middle of the night.

They usually fall asleep in the early evening and then wake up 7 hours later at 3:00-4:00 a.m. They complain of not sleeping through the night, but are actually getting plenty of sleep.

This is helped by:

- Getting late afternoon sunlight
- Melatonin intake in the morning\*
- Minimizing morning bright sunlight

Others, especially teens and young adults tend to be “phase delayed”. Phase delay may be due to lack of morning bright light, lack of any exposure to outside bright light, and excessive evening artificial light. They also tend to stay up late, even when they must get up early the next morning. Their melatonin peak is delayed to midnight or later.

This is helped by:

- Getting bright morning sunlight
- Melatonin intake in the evening\*
- Minimizing afternoon bright sunlight

\*Melatonin comes in 3mg tablets.

Starting dose-1/4 tablet sublingually 3 hours before bedtime if phase delayed. If phase advanced, take in the morning.

Increase the dose to 1/2-1 if needed.

This does not help sleep associated with hyper arousal. However it can help with jet lag, shift work, or changing the internal clock.

Another option is to use an artificial full spectrum, bright light. These can be purchased by companies such as Sunbox Corp ([www.sunbox.com](http://www.sunbox.com).)

Can you sleep too much? Yes! Since after 7 1/2 hours sleep you are getting almost all REM sleep, which uses MENTAL energy, you end up more sluggish.

What’s the difference between sleep and fatigue?

Sleepiness is improved by either a nap or vigorous physical activity, fatigue is not.

People who live long, healthy lives have good sleep habits. It is like regular car maintenance. “Pay me now, or pay me later.” You can “make up” 6-10 hours of sleep loss, but each day after inadequate sleep you will have higher levels of stress hormones and potential detrimental affects to your health. Make the time to sleep 7 hours every night, or subject your body and brain to increased wear and tear.

**Our main goal in writing this newsletter is to provide education that helps people have better quality lives and relationships! We would like to remind you however, our intention is not to personally advise anyone on treatment or medications. Please consult your physician before making any decisions concerning your own diagnosis and treatment plan. We would be delighted to hear comments/suggestions from you! Fax or E-Mail anyone on our staff at the numbers listed above. . . I HOPE SOMETHING IS OF VALUE TO YOU!**