



Over the Counter Medications for Sleep Disorders

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Objectives

Overview of Importance of Sleep

Definitions

OTC Sleep Aids

OTC Stimulants

Engineer's Sleepiness Caused Deadly Train Derailment

Trucker accused of Sleeping Behind the Wheel in Fatal I-78 Crash dozes in court, pleads no contest

Sleep Disorders are Clinically Important



25 % of motor vehicle accidents with loss of consciousness are due to falling asleep



60 % of fatal truck accidents are due to sleepiness



24% of adults have chronic sleepiness

Sleep Affects



Mood



Endocrine function



Memory



Immune function



Motor Function




Mortality


How much sleep do we really need?

Insomnia

 1/3 of adults report some degree of insomnia within a given year





 Diagnosis

- Adequate sleep opportunity
- Persistent Sleep Difficulty
- Impairment of daytime function

 Symptoms

- Difficulty initiating sleep
- Difficulty maintaining sleep
- Waking up too early

Impairment of Daytime Function

-  Fatigue
Reduced motivation or energy
Daytime sleepiness
-  Poor attention or concentration
Dysfunction at work or school
Increased errors or accidents
-  Mood disturbance or irritability
Behavioral problems such as hyperactivity, impulsivity or aggression
-  Ongoing worry about sleep

Do you or someone you know have insomnia?
What should you do?

What can you do to improve your sleep?

SLEEP Hygeine!

- Set a consistent bedtime and awaking time
- Avoid alcohol in the late afternoon/evening
- Avoid caffeine six hours before bedtime (coffee, tea, soda)
- Avoid heavy, sugary or spicy foods fours hours before bedtime
- Avoid smoking , especially in the evening
- Exercise Regularly

SLEEP Hygiene!

- Reserve the bed for sleep
- Keep the bedroom comfortable
(block out distracting noises and eliminate as much light as possible)
- Avoid looking at electronics (phone, ebooks) that give off light before bed
- Do not try to force yourself to sleep

Get Evaluated by a Physician




UPSTATE | *Sleep Center*
UNIVERSITY HEALTH SYSTEM

Upstate Sleep Center for Adult and Pediatric Patients



Over the counter sleep aids

 ~ 25 % of patients with insomnia use OTC sleep aids
~ 5 % use them at least several nights a week *

 Anti-histamines

 Herbal and Dietary Supplements
– Melatonin
– Valerian Root

 Alcohol





Anti-Histamines

Drug	Daily Dosage (mg)	Peak action (Hours)	1/2 Life (hours)	Side Effects
Benadryl (Diphenhydramine)	25 - 50	1 - 3	8	- Drowsiness - Dizziness - Impaired coordination
Unisom (Doxylamine)	12.5 - 25	2 - 3	10	- Dry mouth, eyes - Double vision - Constipation - Dysuria - Paradoxical CNS stimulation - Blurred vision - Double vision - Headache



Routine use of anti-histamines is NOT recommended:
- may reduce sleep quality
- can cause residual drowsiness

Occasional use of Anti-Histamine as a Sleep Aid

-  Use LOWEST effective dose
-  Only use for short duration (2 – 4 weeks) and intermittently
-  If used longer, hypnotics should be discontinued gradually by the physician in order to avoid **withdrawl symptoms** and **rebound insomnia**
-  Do NOT drive or operate heavy machinery after taking hypnotics

Herbal and Dietary Supplements



Melatonin
Valerian Root
Lavender
Passionflower
St. John's Wort



L – Tryptophan
Niacin
Glutamine
Kava



Insufficient evidence of benefit as a sleep aid except for
Melatonin & Valerian Root

Melatonin

- Hormone naturally produced in your body by the pineal gland
- Involved in regulating the sleep- wake cycle
 - Rising levels ~ 2 - 3 hours prior to natural sleep time
 - Decrease in levels ~ 2 - 3 hours prior to wake time
- FDA approved for the treatment of :
 - Circadian rhythm sleep disorders (ie. Jet lag)





Melatonin

Drug	Daily Dosage (mg)	Peak action (Hours)	1/2 Life (hours)	Side Effects
Melatonin	0.5 - 10	1	0.5 - 2	<ul style="list-style-type: none">- Daytime fatigue- Dizziness- Irritability- Headache- Sleep disruption (at higher dosage)



- Considered a “nutritional supplement”
- Unregulated
 - Preparations vary greatly in strength

Valerian Root

-  Perennial Plant native in Europe
-  Used in insomnia, anxiety and restlessness (not FDA approved)
-  Thought to cause sedation by inhibiting breakdown of GABA (gamma aminobutyric acid) in the brain
-  GABA inhibits nerve transmission in the brain --> calming, sedating effect (Drugs such as Valium and Xanax also work via increasing amount of GABA in the brain)


Valerian Root


Drug	Daily Dosage (mg)	Peak action (Hours)	1/2 Life (hours)	Side Effects
Valerian Root	200 - 1000	1	Unknown	<ul style="list-style-type: none">- Daytime sedation- Hepatotoxicity


Valerian Root Side Effects

 Residual daytime sleepiness

Hepatotoxicity

-  – may effect breakdown of other medication by the liver
– discuss with your doctor before starting

 Do NOT use in combination with other sedative medications
Do NOT use while driving, operating heavy machinery or other tasks that require you to be alert

 Preparations are unregulated by the FDA
Vary in valerian content

Alcohol

- ~ 10 % of adults have reported using alcohol to help improve sleep
- Can help in making you go to sleep more quickly BUT.....
- Decreases REM Sleep
Increases likelihood of nighttime awakenings
Worsen Pre-existing conditions such as Acid Reflux & Sleep Apnea
--> Wake up LESS refreshed
- Potential for abuse
Alcohol is NOT recommended to be used as a sleep aid

Too Sleepy?



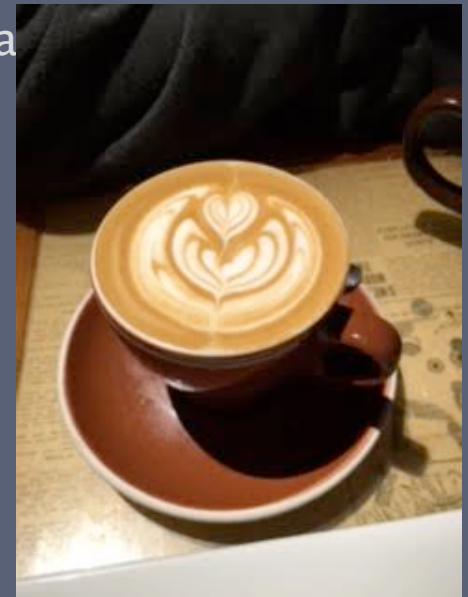
What is the most commonly used stimulant?

CAFFEINE

What is the most commonly used stimulant?

CAFFEINE

- Caffeine in the form of coffee and tea is the most consumed stimulant
~ 90 % of adults in the world consume caffeine daily
~ 150 million Americans drink coffee daily
- For most healthy adults, consuming < 400 mg /day a to be safe*
- Safe levels of caffeine consumption in children has yet to be established



Caffeine

Short term benefits (30 – 300 mg)

- increased mental alertness
- improvement in cognitive performance
- improvement in athletic performance

Short term adverse effects

- headache
- anxiety
- tremors
- insomnia

Long term caffeine use dependence

Caffeine withdrawal symptoms:

- headaches
- fatigue
- decreased energy
- decreased alertness
- difficulty concentrating
- feeling “fuzzy, foggy”

Caffeine Content reported by Consumer Reports Coffee & Tea

Coffees	Serving size (oz)	Caffeine (mg)
Coffee, brewed	8	133 (range: 102 to 200)
Coffee, generic instant	8	93 (range: 27 to 173)
Coffee, generic decaffeinated	8	5 (range: 3 to 12)
Espresso	1	40 (range: 30 to 90)
Espresso decaffeinated	1	4
Teas	Serving size (oz)	Caffeine (mg)
Tea, brewed	8	53 (range: 40 to 120)
Arizona Iced Tea, black	16	32
Arizona Iced Tea, green	16	15
Nestea	12	26
Snapple, Just Plain Unsweetened	16	18
Snapple, Kiwi Teawi	16	10
Snapple, Lemon, Peach, or Raspberry	16	42
Starbucks Tazo Chai Tea Latte (Grande)	16	100

Caffeine Content reported by Consumer Reports Soft Drinks

Soft drinks	Serving size (oz)	Caffeine (mg)
FDA official limit for cola and pepper soft drinks	12	71
7-Up, regular or diet	12	0
Barq's Diet Root Beer	12	0
Barq's Root Beer	12	22
Coke, regular or diet	12	35 to 47
Dr. Pepper, regular or diet	12	42 to 44
Fanta, all flavors	12	0
Fresca, all flavors	12	0
Jolt Cola	12	72
Mellow Yellow	12	53
Mountain Dew, regular or diet	12	54 (20 oz = 90)
Mountain Dew MDX, regular or diet	12	71 (20 oz = 118)
Mug Root Beer, regular or diet	12	0
Pepsi, regular or diet	12	36 to 38
Sierra Mist, regular or free	12	0
Sprite, regular or diet	12	0
TAB	12	46.5

Caffeine Content reported by Consumer Reports Energy Drinks

Energy drinks	Serving size (oz)	Caffeine (mg)
5 Hour energy	2	215*
Amp	8.4	74
Cocaine	8.4	288
Enviga	12	100
Full Throttle	16	144
Glaceau Vitamin Water Energy Citrus	20	50
Monster Energy	16	160
Red Bull	8.3	80
Red Bull Sugarfree	8.3	80
Rip It, all varieties	8	100
Rockstar Energy Drink	8	80
SoBe Adrenaline Rush	8.3	79
SoBe Essential Energy, Berry or Orange	8	48
SoBe No Fear	8	83
Spike Shooter	8.4	300
Tab Energy	10.5	95

Caffeine recommendations



Limits caffeine to ≤ 400 mg/day



Avoid excessive caffeine & high caffeinated energy drinks which may also have increased sugar

--> lead to weight gain, insomnia

--> further exacerbate risks of sleep disorders (ie.sleep apnea)

Summary

- Healthy sleep habits can make a big difference in your quality of life
- You should be evaluated by a physician if you experience:
 - Difficulty initiating and/or maintaining sleep
 - Excessive snoring, apnea
 - Abnormal movements during sleep
 - Abnormal urge to move extremities
 - Excessive daytime sleepiness
- Discuss with your physician before taking any over the counter sleep aids or stimulants
 - OTC may have serious side effects
 - OTC may have dangerous interactions with current medications

WORLD SLEEP DAY



“Good Sleep is a Reachable Dream”

March 18, 2016

10 Commandments for Good Sleep Hygiene

1. Set a consistent bed time and awakening time.
2. If you are in the habit of taking naps, try not to exceed 45 minutes of daytime sleep
3. Avoid excessive alcohol ingestion 4 hours before bedtime & do not smoke.
4. Avoid caffeine six hours before bedtime.
5. Avoid heavy, spicy or sugary foods 4 hours before bedtime. A light snack before bed is ok.
6. Exercise regularly, but not right before bed.
7. Use comfortable bedding.
8. Find a comfortable setting for sleeping and keep room well ventilated.
9. Block out all distracting noise and eliminate as much light as possible.
10. Reserve the bed for sleep. Do not use the bedroom as an office or workroom.

Helpful Resources



<http://www.upstate.edu/sleep-center/>

<https://sleepfoundation.org>

<http://worldsleepday.org>

The image features a deep blue background filled with numerous bright, multi-pointed stars of varying sizes and intensities. The stars are scattered across the frame, creating a sense of depth and vastness. In the center, the words "THANK YOU" are written in a clean, white, sans-serif font. The overall composition is simple and evocative, suggesting a night sky or a celestial theme.

THANK YOU