



# USanna<sup>®</sup>

## HEALTH & SCIENCE

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### EDUCATION





**Sleep !**





What is  
**sleep**  
and **why**  
do we  
**need** it?




# Sleep

affects how we  
**look, feel, and**  
**perform** on a daily  
basis, and can have  
a major impact on  
our overall  
quality of life.



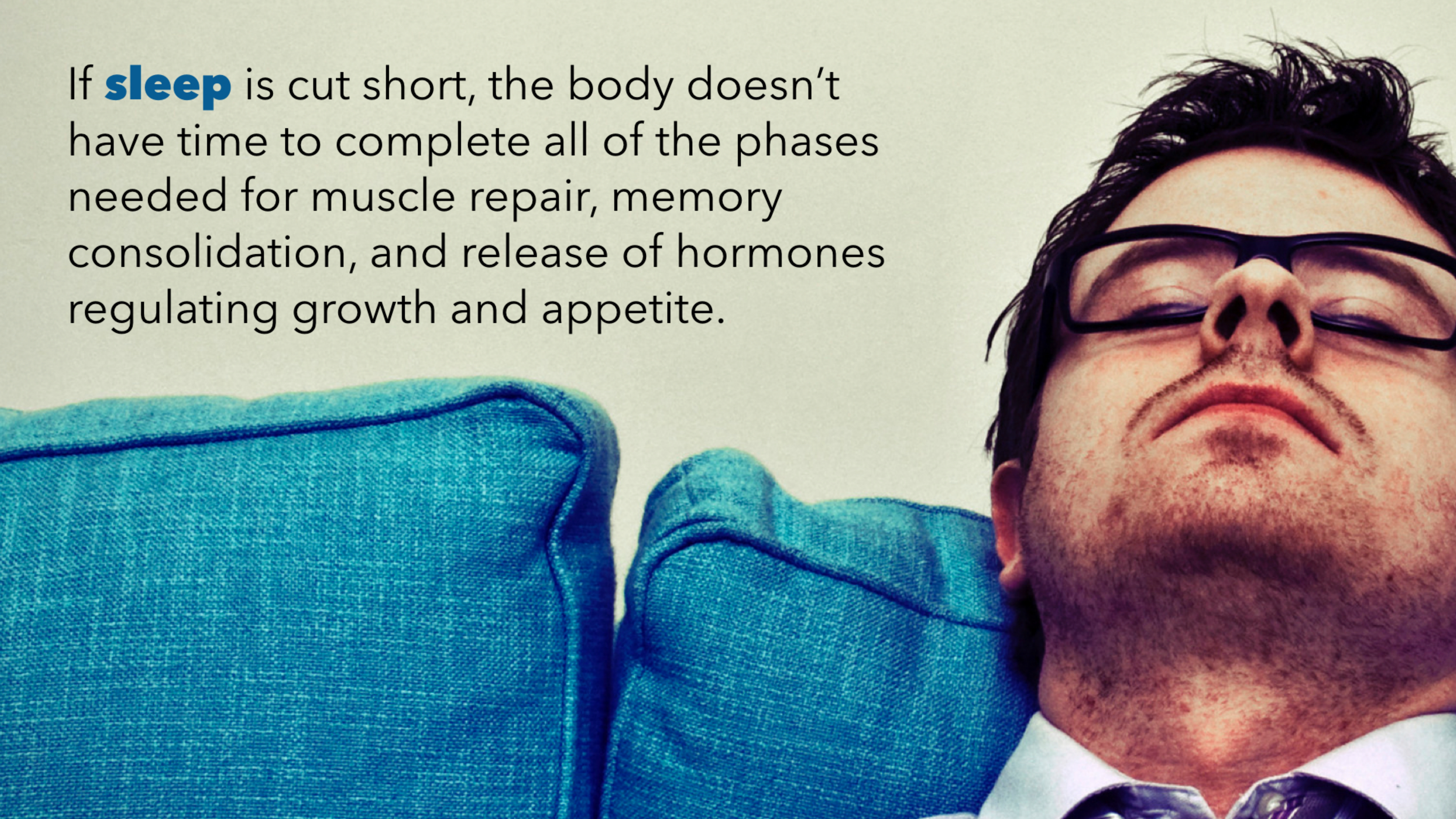


A close-up, soft-focus photograph of a woman with dark hair sleeping peacefully on a white pillow. Her eyes are closed, and she has a gentle smile. Her hand is resting near her face. The background is blurred, showing more of the white bedding and a hint of a green plant.

We spend **one-third**  
of our lives sleeping but it is far from  
unproductive. Our **sleep-time** AND **quality**  
—plays a direct role in how **full, energetic,**  
and **successful** the other two-thirds  
of our lives can be.



If **sleep** is cut short, the body doesn't have time to complete all of the phases needed for muscle repair, memory consolidation, and release of hormones regulating growth and appetite.







# Two main types of sleep:

**1** **Non-rapid eye  
movement  
(NREM)**

**2** **Rapid eye  
movement  
(REM)**



# **Non-rapid eye movement (NREM)**





**NREM** (75% of night): As we begin to fall asleep, we enter NREM sleep, which is composed of stages 1-3

**Stage 1**

Between being awake and falling asleep  
Light sleep

**Stage 2**

Onset of sleep  
Becoming disengaged from surroundings  
Breathing and heart rate are regular  
Body temperature drops (so sleeping in a cool room is helpful)

**Stage 3 (slow-wave sleep)**

**Deepest and most restorative sleep**

Blood pressure drops  
Breathing becomes slower  
Muscles are relaxed  
Blood supply to muscles increases  
Tissue growth and repair occurs  
Energy is restored  
Hormones are released





# **Rapid eye movement** (REM)







# Rapid eye movement (REM)

**REM** (25% of night): First occurs about 90 minutes after falling asleep and recurs about every 90 minutes, getting longer later in the night.

- **Provides** energy to brain and body
- **Supports** daytime performance
- **Brain** is active and dreams occur
- **Eyes** dart back and forth
- **Body** becomes immobile and relaxed,





# Sleep **TRIVIA**



In which stage of  
sleep, do dreams  
occur?  
NREM or REM





We dream in any  
stage of sleep.





What initiates  
**sleep**?






A single lit lightbulb hangs in the upper right corner of a dark, black background. The bulb is illuminated, casting a warm, yellowish glow. The rest of the image is dark, with some faint, out-of-focus light spots visible.

Darkness!

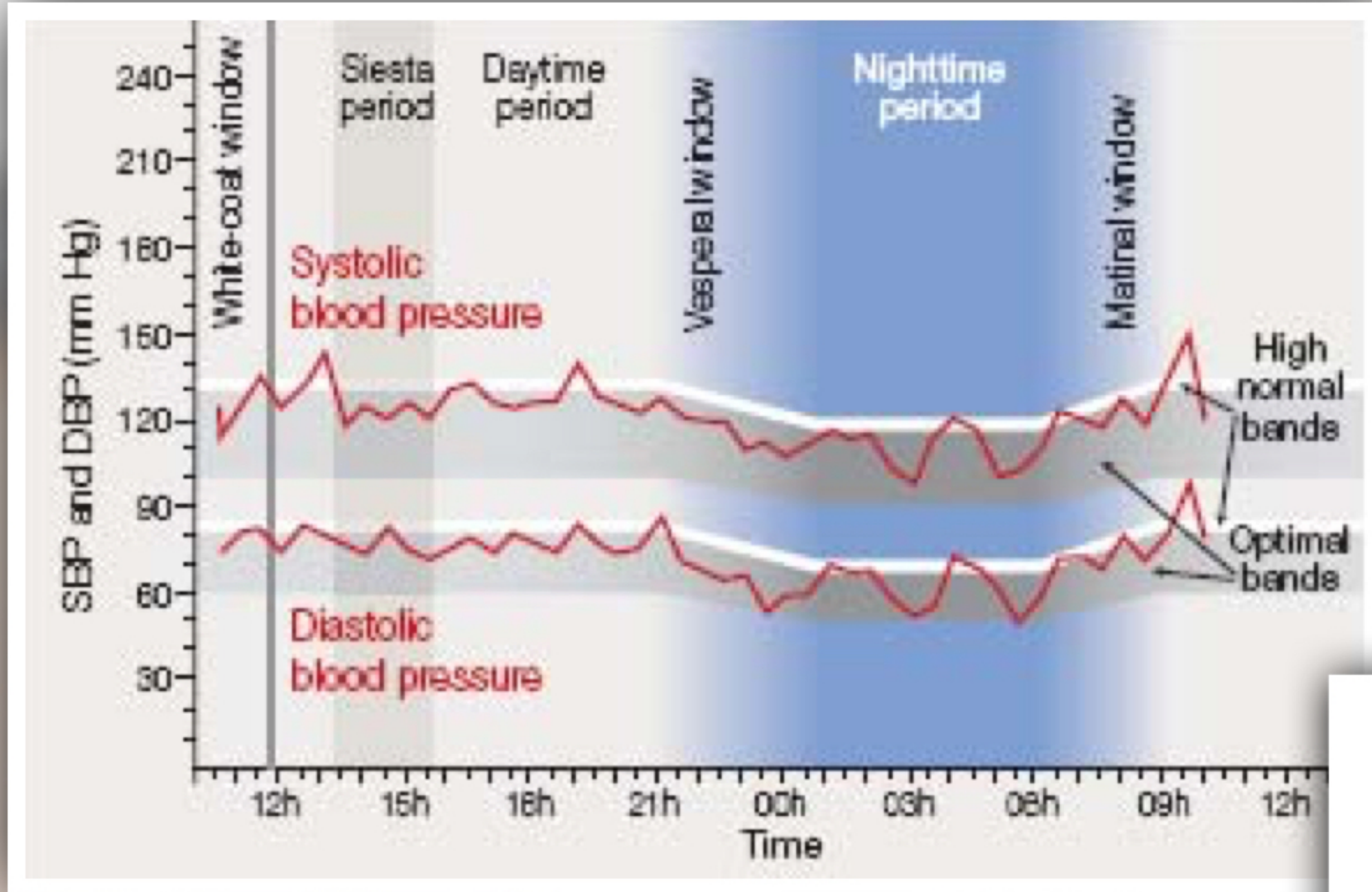




**Our bodies** are  
entrained to a **24**  
**hour** day by the  
Earth's **light**  
and **dark** cycle



# Blood Pressure and Body Temperature Decrease at Night



<http://www.medicographia.com/2011/01/ambulatory-blood-pressure-monitoring-24-hour-blood-pressure-control-as-a-therapeutic-goal-for-improving-cardiovascular-prognosis/>

## Circadian Rhythm (Body-Temperature Cycle)



<http://www.stanshealth.com/2013/06/circadian-rhythm-and-insomnia.html>





# What is **Melatonin**?

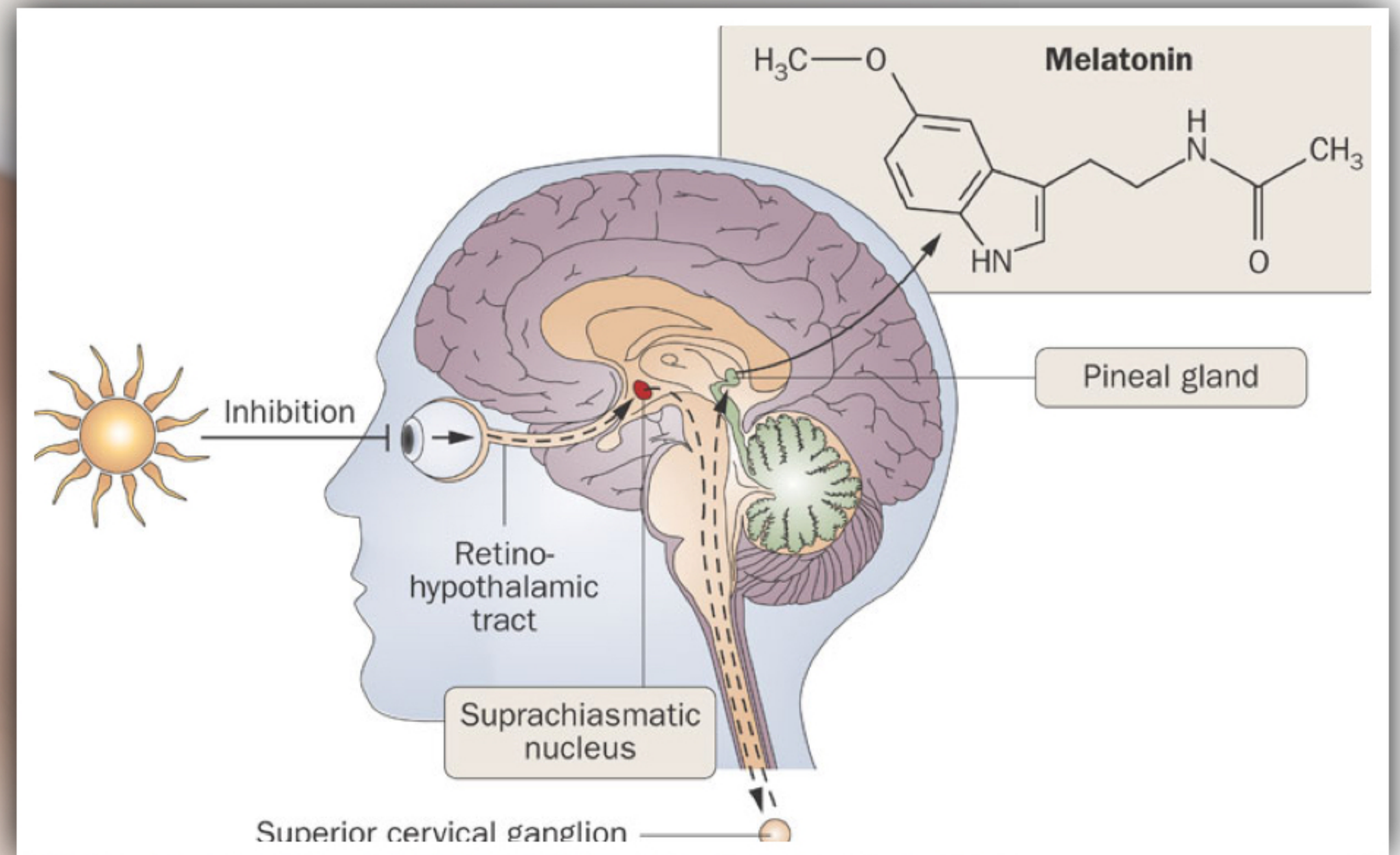
Melatonin is a hormone made by the pineal gland to control the body's natural sleep and wake cycles.

Hardeland R. Antioxidative Protection by Melatonin: Multiplicity of Mechanisms from Radical Detoxification to Radical Avoidance. 2005. Endocrine 27:2.

Reiter R, Acunu-Castroviejo D, Tan D, Burkhardt S. Free Radical-Mediated Molecular Damage: Mechanisms for the Protective Actions of Melatonin in the Central Nervous System. Annals New York Academy of Sciences 200-215.



# Light **inhibits** **melatonin** production





Light **inhibits melatonin** production







# Sleep **TRIVIA**



What percentage  
of Americans  
change their sheets  
every two weeks?





What percentage  
of Americans  
change their sheets  
every two weeks?

91%





**How** does a  
**Lack** of **sleep**  
(or poor sleep quality)  
**affect** Your  
**Body**?







**Sleep**  
plays an  
**important**  
role in  
**immune** health

Besedovsky L, Lange T, Born J. Sleep and immune function. Pflugers Arch. 2012;463(1):121-37.



Poor Sleep

# Decreases


immune response

**Less** immune cell activity

Across 26 species of mammals – **higher** immune cell counts in those that sleep the most


One “all-nighter” **decreased** immune cell function



A man with short, light-colored hair is shown in profile, driving a car. He is wearing a dark-colored t-shirt. The background shows a blurred view of a building with large windows, suggesting an urban setting. The lighting is soft, and the overall tone is slightly muted.

**Getting** too  
**little sleep** is  
associated with  
an **increased**  
body **weight**





**Operating**  
on **little** sleep  
results in less  
**focused**  
**thoughts**  
and slower  
**reaction**  
times





**5,000 - 6,000**  
fatal **crashes**  
each year may  
be **caused**  
by **drowsy**  
drivers

Masten SV, Stutts JC, Martell CA. Predicting daytime and nighttime drowsy driving crashes based on crash characteristic models. October 2006.

Tefft BC, AAA Foundation for Traffic Safety. Asleep at the wheel: the prevalence and impact of drowsy driving. Washington, DC: AAA Foundation for Traffic Safety; 2010.



A person is running on a paved path, captured from the waist down. They are wearing dark leggings and running shoes. The scene is bathed in a warm, golden-orange light, suggesting a sunrise or sunset. The background is slightly blurred, showing trees and foliage. The overall mood is energetic and healthy.

**Sleep is  
essential for a  
healthy heart**

<http://sleepfoundation.org/sleep-news/how-sleep-deprivation-affects-your-heart>



# **Lack** of sleep **kills** sex **drive**









# Sleep **TRIVIA**



A woman with long dark hair, wearing a white tank top, is seen from behind, reaching up to pull open white curtains. She is standing in front of a large, multi-paned window that lets in bright sunlight, creating a warm, golden glow. The scene is set in a bedroom, as indicated by the text overlay. A small green plant is visible on a surface in the lower left corner.

How many  
Americans don't  
use bedroom  
curtains or shades?



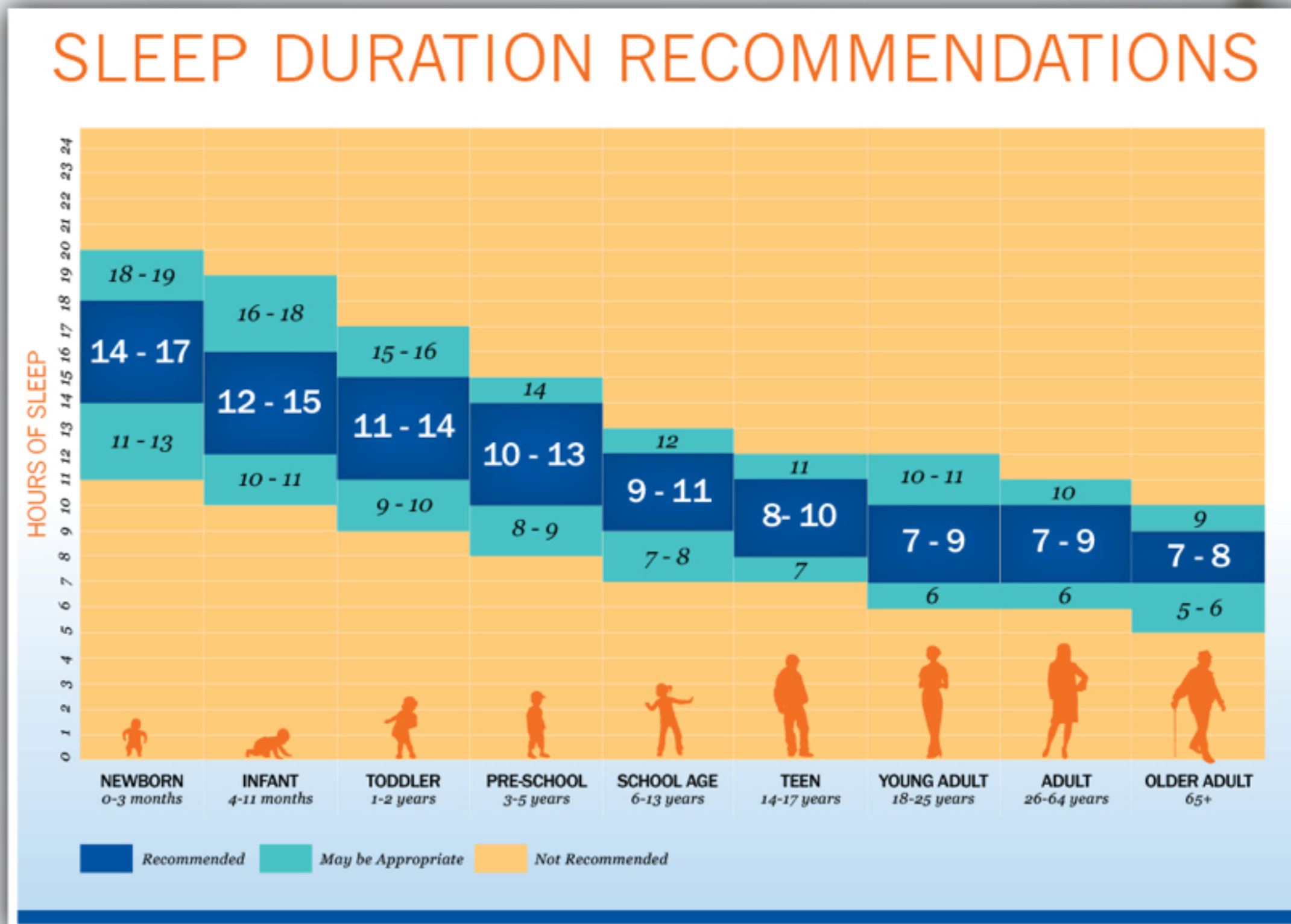


How many  
Americans don't  
use bedroom  
curtains or shades?

**35%**



# How **Much Sleep** Do We **Need?**



Adults  
**Recommended** to  
get **>6-7 hours**  
Sleep/Night



A person is sleeping in a bed, covered by a blue blanket. Their head is resting on a white pillow. The background is a soft, out-of-focus light blue.

# Sleeping Tips



A person is sleeping in a bed, covered with a blue blanket. The background is slightly blurred, focusing attention on the text.

# 10 Tips for Improving sleep

1. Stick to a sleep schedule
2. Exercise daily
3. Avoid napping and caffeine, especially late in the afternoon
4. Find a relaxing bedtime ritual, and wind down before bed
5. Sleep in a cool, dark, quiet, distraction-free room
6. Sleep on a comfortable bed and pillows, preferably on your back
7. Manage the light and darkness in your home and bedroom as necessary
8. Avoid alcohol, cigarettes, heavy meals, and large amounts of water in the evening
9. If you can't sleep, go to another room until you can adequately wind down
10. Use melatonin to promote natural sleep cycles






# Sleep **TRIVIA**



How many  
Americans use a  
sound conditioner  
(white noise) in  
their bedrooms?





A close-up, slightly blurred photograph of a woman with dark hair lying in bed, covered by a white blanket. She is sleeping peacefully with her eyes closed and a slight smile. The background is softly out of focus, showing more of the bed and some greenery.

How many  
Americans use a  
sound conditioner  
(white noise) in  
their bedrooms?

**5%**



How many  
Americans have  
at least one  
caffeinated  
beverage a day?





How many  
Americans have  
at least one  
caffeinated  
beverage a day?

**78%**





A person is sleeping in a bed, covered with a blue blanket. The background is slightly blurred, focusing attention on the text.

# 10 Tips for Improving sleep

1. Stick to a sleep schedule
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9. If you can't sleep, go to another room until you can adequately wind down
- 10. Use melatonin to promote natural sleep cycles**





# What is **Melatonin** ?

Melatonin is a **hormone** made by the pineal gland to **control** the body's **natural** sleep and wake **cycles**.

Hardeland R. Antioxidative Protection by Melatonin: Multiplicity of Mechanisms from Radical Detoxification to Radical Avoidance. 2005. Endocrine 27:2.  
Reiter R, Acuna-Castroviejo D, Tan D, Burkhardt S. Free Radical-Mediated Molecular Damage: Mechanisms for the Protective Actions of Melatonin in the Central Nervous System. Annals New York Academy of Sciences 200-215.



# Melatonin

A person is seen from behind, standing in front of a window with horizontal blinds. Their arms are raised high, reaching towards the top of the frame. The scene is brightly lit, suggesting daylight.

**Small** amounts of melatonin occur **naturally** in some **foods**

**Supplementing** a typical dose (0.5 - 5 mg) may **elevate** blood levels of **melatonin**

Hardeland R. Antioxidative Protection by Melatonin: Multiplicity of Mechanisms from Radical Detoxification to Radical Avoidance. 2005. Endocrine 27:2.

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# Supplementing **Melatonin**

**Promotes** natural  
**sleep** cycle

**Helps alleviate**  
sleeplessness due to  
shift work and jet lag

Beaumont M, Batejat D, Pierard C, Van Beers P, Denis JB, Coste O, et al. Caffeine or melatonin effects on sleep and sleepiness after rapid eastward transmeridian travel. 2004. J Appl Physiol 96:50-8.

Herxheimer A, Petrie KJ. Melatonin for prevention and treatment of jet lag. 2002. Cochrane Database Syst Rev (2):CD001520.

Petrie K, Conaglen JV, Thompson L, Chamberlain K. Effect of melatonin on jet lag after long haul flights. 1989. BMJ 298:705-7.

Bjorvatn B, Stangenes K, Oyane N, et al. Randomized placebo-controlled field study of the effects of bright light and melatonin in adaptation to night work. 2007. Scand J Work Environ Health 33(3):204-14.



# Using Melatonin for Jet Lag

In a **study**, those **taking melatonin** had:

- **LESS** feeling of jet lag,
- **REQUIRED** fewer days to establish a normal sleep pattern,
- felt **LESS** tired and more energetic during the day.

Beaumont M, Batejat D, Pierard C, Van Beers P, Denis JB, Coste O, et al. Caffeine or melatonin effects on sleep and sleepiness after rapid eastward transmeridian travel. 2004. J Appl Physiol 96:50-8.  
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# Using Melatonin for Jet Lag

## Why melatonin?

- **Decreases** sleep onset latency (i.e., it helps you fall asleep faster—no tossing and turning).
- **Increases** total sleep time.
- **Improves** overall sleep quality (doesn't just help you get to sleep, you sleep well).





# Supplementing **Melatonin**

To **support**  
healthy **sleep**,  
it is **best** to  
take melatonin  
**30** to **60** minutes  
**before** bedtime





# Pure Rest







**Supports natural sleep processes.** Pure Rest contains high-quality melatonin, which is a naturally occurring hormone in our bodies that regulates sleep and wake cycles, in a sugar-free tablet.

**Safe.** Pure Rest is non-habit forming, which means you take it only when you need it. And you won't suffer the same side effects as many other types of sleep aids.

**Fast-acting.** Pure Rest helps you get to sleep faster.

**Customizable dosage.** Pure Rest tablets are easily split in half so you can take only as much as you need. Each tablet delivers 2 mg of melatonin.

**Pure.** Each sugar-free tablet is made from non-animal sources and meets USANA's high quality standards.





# Pure Rest

Each **tablet** contains  
**2 mg** of **melatonin**

**Orange**-flavored, **sugar-free**  
tablet





# Pure Rest

## Dosage

is ½ to 2 tablets,  
as needed



the  
**USANA**  
difference







# the USANA difference

USANA manufactures our dietary supplements in our own **STATE-OF-THE-ART** (FDA-registered and TGA-certified) **MANUFACTURING FACILITY**, using quality standards that are above and beyond what is required for dietary supplements.





# the **USANA** difference

## **POTENCY**

Guaranteed that what is on the label is in the product

## **QUALITY**

Meets all specified expectations

## **STRENGTH**

Offers the correct concentration of ingredients

## **COMPOSITION**

Contains what it's supposed to and in the right proportions

## **IDENTITY**

Ingredients meet label claim

## **PURITY**

Free from impurities or contaminants





# USANA

**ADHERES** to

Good Manufacturing Practices  
set forth by NSF International







# USANA

is a member of the United Natural Product Alliance – an association of dietary supplement and functional food companies that share a commitment to provide consumers with natural health products of superior **QUALITY**, **BENEFIT** and **RELIABILITY**.



# USANA<sup>®</sup>



# THANK YOU!

