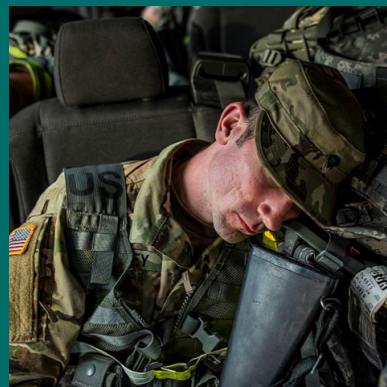
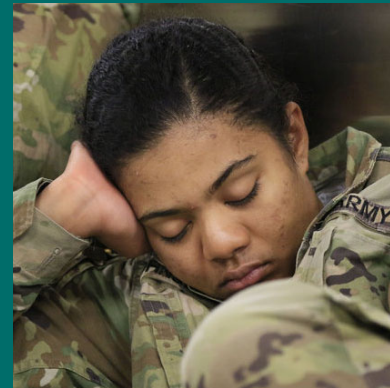
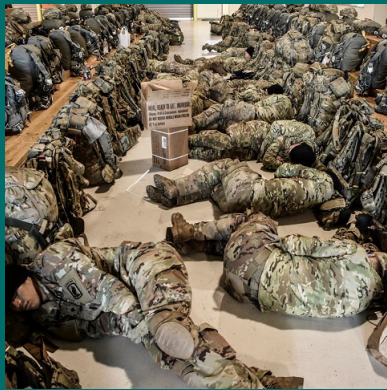




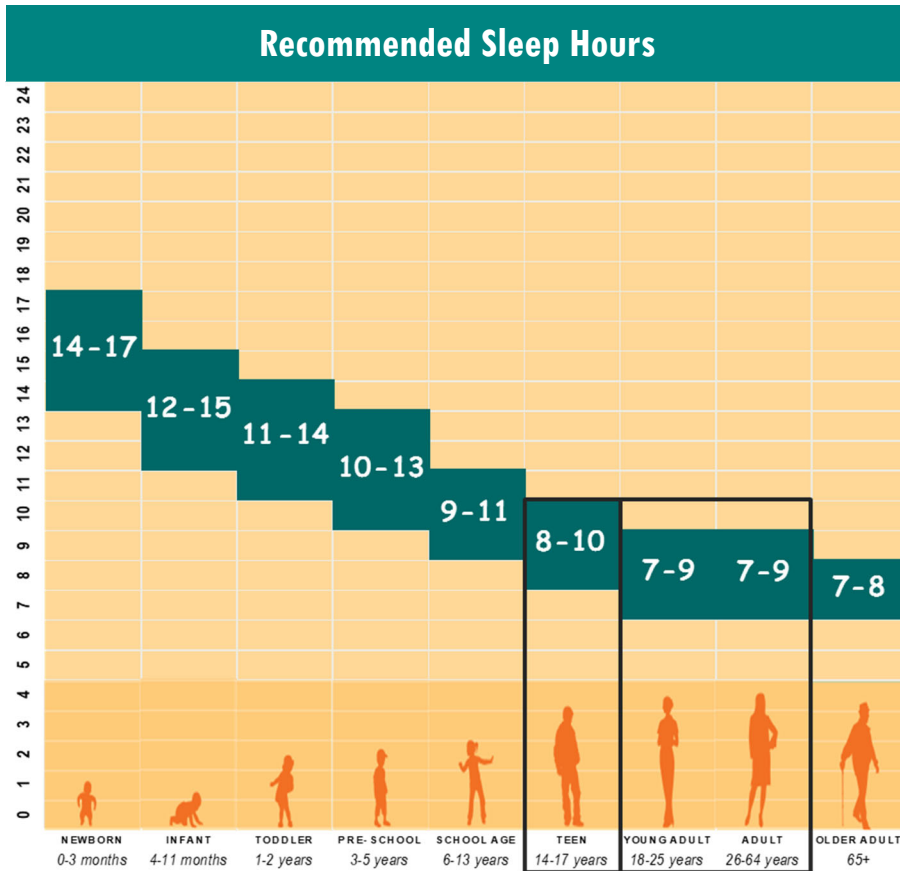
SLEEP Leadership Training Handouts



**A guide to help
Leaders and their
Soldiers optimize
performance
through sleep**

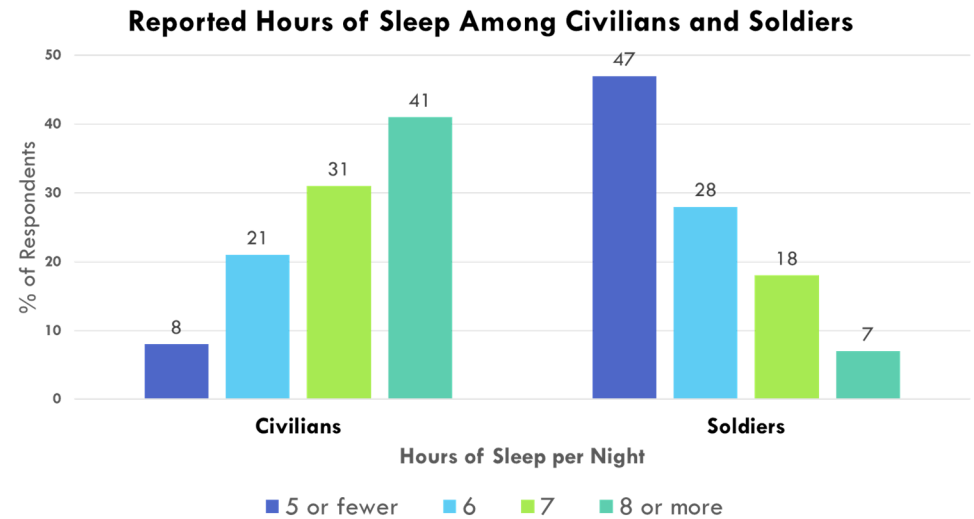
Approved for public release; distribution unlimited

V2 27SEP2022



Source: National Sleep Foundation, 2015

Comparing Civilian and Soldier Sleep



Sources Krueger et al., 2009; WRAIR Survey, 2022

SLEEP Leadership Notes

**Set
Conditions**

**Lead by
Example**

Educate

Encourage

**Prioritize
& Plan**

SLEEP IN OPERATIONAL SETTINGS

How's your sleep *SLANT*?

Environmental factors degrade soldier sleep in the field. Improving these factors can boost the recuperative value of sleep.



SURFACE

S

Soft, yet firm
sleeping surfaces
(mattresses/cots/
pillows)



LIGHT

L

Darkening shades
during sleep
Bright light exposure
upon awakening (for at
least 1 hour)



AIR QUALITY

A

Air filters
Sleeping quarters away
from burning waste



NOISE

N

White noise machines/
loud fans/ear plugs
Sleeping quarters
away from military
operations



TEMPERATURE

T

Air conditioner or heat
(65-67 degrees while
sleeping is optimal)
Proper blankets/
insulation

SLEEP AND CIRCADIAN CHALLENGES CAN BE PRESENT THROUGHOUT ALL PHASES OF A DEPLOYMENT CYCLE



Deployment Travel

Jetlag • Physical adjustment (e.g. altitude) • Improper use of sleep medications • Alcohol withdrawal • Local pathogens (e.g. traveler's diarrhea) • Sleep-disrupting medications (e.g. malaria prophylactics)

Redeployment

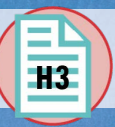
Jetlag • Nicotine withdrawal • Family/friend responsibilities • Work responsibilities • Trauma

On the Ground

*Mission responsibilities • Environmental factors (SLANT) • Time zone differences from loved ones
Excess of nicotine • Excess of caffeine*

The opinions or assertions contained herein are the private views of the author and are not to be construed as official.

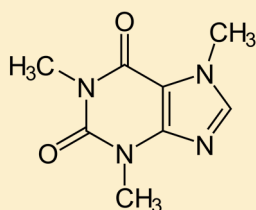
DEVELOPED BY: THE WALTER REED ARMY INSTITUTE OF RESEARCH | WWW.WRAIR.ARMY.MIL



CAFFEINE FACTS

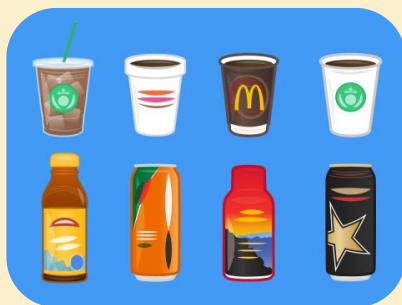
Caffeine is a central nervous system stimulant and a diuretic (substance that rids your body of fluids).

Source: National Institutes of Health, 2017



Caffeine does not “give you energy”; rather, it delays the onset of sleep and inhibits your body’s sleep signals.

Source: Newman et al., 2013



Caffeine usually reaches its peak level in your body within 30-60 minutes and stays there for up to 5 hours.

Source: American Academy of Sleep Medicine, 2013

Product	Caffeine (mg)	Product	Caffeine (mg)	Product	Caffeine (mg)
Energy Shots		Sodas		Other	
5-hour Energy Original	200	Barq's Root Beer	18	Alert caffeine gum (1 piece)	40
Rip It	100	Coca-Cola Classic	34	Clif Peanut Toffee Buzz (1 bar)	50
Rockstar	200	Diet Coke	46	Coffee Ice Cream* (4oz.)	30
Stacker 2 Original	156	Dr. Pepper	41	Crystal Light Energy (1 pkt)	60
Tweaker	275	Diet Dr. Pepper	41	GU Energy Gel (1 pkt)	40
Energy Drinks		Mountain Dew	54	Excedrin (1 pill)	65
Amp (16oz.)	142	Diet Mt. Dew	54	Hershey's Special Dark (1 bar)	20
Bang (16oz.)	300	Pepsi	38	Jolt Energy Gum (1 piece)	40
Full Throttle (16oz.)	160	Diet Pepsi	35	Military Energy Gum (1 piece)	100
Monster Original (16oz.)	160	Sprite	0	MiO Energy (1 squirt)	60
Mtn Dew Kickstart (16oz.)	92	Coffee/Tea		No Doz (1 pill)	200
NOS (16oz.)	160	Black Tea* (brewed) (8oz.)	45	One a Day Energy multivit. (1 pill)	90
Red Bull Original (8.5oz.)	80	Coffee* (drip) (8oz.)	90	Pre-workout supplmnt* (1 scoop)	200
Rip It (16oz.)	160	Espresso* (1oz.)	60	RX Coffee Chocolate (1 bar)	5
Rockstar Original (16oz.)	160	Instant coffee* (1 pkt)	65	White Chocolate* (1 bar)	0
Rockstar Hardcore (16oz.)	240	Starbucks coffee (drip) (16oz.)	310	Zipfizz (1 tube)	100
Xyience (16oz.)	176	Starbucks Doubleshot (6.5oz.)	110		

*These are average values. Actual amount may vary depending on brand and method of preparation.

Use of trademark names does not imply endorsement by the U.S. Army and is intended only to assist in the identification of a specific product.

SLEEP: A GUIDE FOR SOLDIERS

Loss of Sleep = Loss of Performance

Sleep is critical for sustaining the mental abilities you need for success. Even simple tasks such as communicating, driving or plotting grid coordinates can be impaired by inadequate sleep (less than 7-8 hours every 24 hours). For example, Soldiers may correctly site a target - but it may be the wrong target.

Field and deployment operations can create situations where inadequate sleep becomes the norm. Soldiers who don't get enough sleep accumulate a sleep debt that must be paid off. It's mission critical to make sleep a top priority.

Inadequate sleep impairs these (and other) abilities:

- ...# Detecting and appropriately determining threat levels
- ...# Requesting indirect fire
- ...# Coordinating squad tactics
- ...# Integrating range cards

Sleep is CRITICAL for sustaining the mental abilities you need for success in training & on the battlefield.

Best Sleep Habits

- ...# Sleep 7-8 hours every 24 hours
- ...# Go caffeine free 6 hours before sleep
- ...# Finish PT 3 hours before sleep
- ...# Establish a decompression routine 30-60 minutes before sleep
 - Read or listen to relaxing music
 - Avoid electronics 1 hour before sleep
 - Use the bathroom
- ...# Prepare a dark, cool and quiet space. Use earplugs or a fan to block sounds and cover your eyes to block light
- ...# Wake up at the same time every day
- ...# If you practice all of these habits for 2 weeks and continue to have sleep problems, go to your primary care manager

Signs of Insufficient Sleep

- ...# Struggling to stay awake during breaks, guard duty or driving
- ...# Difficulty understanding or tracking information
- ...# Attention lapses
- ...# Irritability, decreased initiative/motivation





















Overcoming Sleep Distractions

- ...# Use naps to get 7 to 8 hours of sleep per 24 hours
- ...# Only use medications for sleep if your primary care manager determined they are necessary

Source: Performance Triad Soldier's guide- Tools for the tactical athlete, 2013

SELECTED SLEEP-RELATED APPS AND SETTINGS

There are many smartphone applications designed to help you relax, fall asleep, track your sleep, or wake you up. Here are a few that you may find useful.

DoD-Endorsed Apps		Platform
	Tactical Breather can be used to gain control over physiological and psychological responses to stress. Through practice you can learn to gain control of your heart rate, emotions, concentration, and other responses that can help you wind down before bed.	 
	Breathe2Relax is a portable stress management tool; a hands-on diaphragmatic breathing exercise. Breathing exercises have can decrease stress responses, and help with mood stabilization, anger control, anxiety management, and winding down before bedtime.	 
	CBT-i Coach is for people who symptoms of insomnia that would like to improve their sleep habits. It guides users through the process of learning about sleep, developing positive sleep routines and improving their sleep.	 
Non-DoD Apps		Platform
	White Noise Lite features ambient sounds of the environment that will help you relax during the day and sleep at night. It generates sounds over a wide range of frequencies, masking noise interruptions, so you can fall and stay asleep.	 
	Twilight applies a filter that dims blue light during night hours according to darkness levels. Using the current location, the filter smoothly adjusts based on the sun cycle.	
	iOS Night Shift is an internal iOS feature that lets you adjust the color temperature of the display. This adjustment shifts away from blue spectrums of light to warmer spectrums of light.	
	Blue Light Filter (Samsung) or Night Light is an internal Android setting that uses a blue-light filter that is automatically activated at sunset and switches to 'normal' light at sunrise.	
	AMdroid can set multiple alarms, each with independent settings, from single to recurring alarms and countdown timers. Alarms can be location enabled and include wakeup challenges.	

Applications are listed for informational purposes only; inclusion does not imply DoD endorsement unless specifically stated.

There are hundreds of apps , just search for “sleep”!

ACHIEVE MAXIMUM SLEEP IN SUSTAINED OPERATIONAL ENVIRONMENTS

BEFORE SUSTAINED OPERATIONS

- ..# Get 7 or more hours of sleep to pay down sleep debt
- ..# Up to 2 weeks prior,, get 10 hours or more of sleep to start the mission with a full bank
- ..# Stop caffeine use at least 6 hours before sleep

DURING SUSTAINED OPERATIONS

- ..# Maintain separate day and night sleep areas to reduce light and noise
- ..# Use tactical naps to accumulate 7–8 hours per 24 hour period
- ..# Naps of 10–30 minutes are ideal for improving alertness and performance
- ..# Naps greater than 30 minutes may result in sleep inertia (lethargy upon awakening) that usually goes away after a few minutes
- ..# Use 10–15 minute sessions of exercise to increase alertness as appropriate.
- ..# Follow operational caffeine use

AFTER SUSTAINED OPERATIONS

- ..# To pay down sleep debt after periods of sleep deprivation, plan additional sleep time
- ..# 10 to 12 hours of sleep per 24 hours ensures faster return to optimal performance and alertness

Source: The Performance Triad Challenge, 2015

OPERATIONAL CAFFEINE USE

Caffeine can help promote performance but it does not replace sleep!

Sustained Operations (little to no sleep)

200mg @ 0000
200mg @ 0400 and 0800, if needed
200mg @ during daytime (1200, 1600), if needed

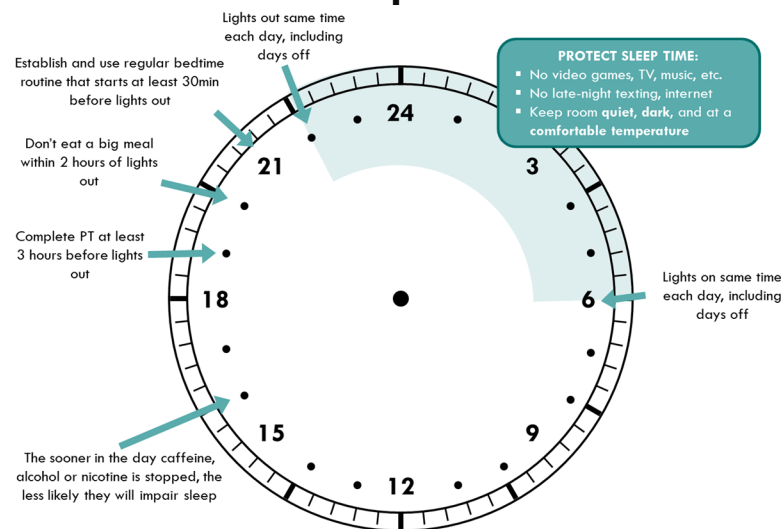
Night Operations (daytime sleep)

200mg @ start of shift
200mg 4 hours after start of shift
Last use at least 6 hours prior to sleep period

Restricted Sleep (6 or fewer hours of sleep)

200mg upon waking up
200mg 4 hours after waking up
Last use at least 6 hours prior to sleep period

24-Hour Sleep Habits Clock



Source: ATP 6-22.5: A Leader's Guide to Soldier Health and Fitness, 2016

TACTICAL NAPPING

TACTICAL NAPS ARE BRIEF PERIODS OF SLEEP THAT RESTORE AND SUSTAIN WARFIGHTER READINESS AND PERFORMANCE

THE MORE SLEEP YOU GET, THE BETTER YOU WILL PERFORM PHYSICALLY, COGNITIVELY, AND EMOTIONALLY.

IN GARRISON

MAINTAIN HEALTHY SLEEP PATTERNS



Naps can help achieve the goal of 7+ hours of sleep every 24 hours that is necessary for maximal health and performance

FOR SUSTAINED OPERATIONS

BEFORE



Sleep banking, or taking a nap before a period of unavoidable sleep loss, can help sustain performance during that sleep loss

DURING



When feasible, napping during continuous or extended operations will help sustain and restore performance

AFTER



Performance decrements from sleep loss can only be reversed by subsequent recovery sleep



TIPS FOR MAXIMIZING TACTICAL NAPPING IN THE OPERATIONAL ENVIRONMENT

CONSIDER THE SLEEPING ENVIRONMENT



- A disruptive sleeping environment can increase awakenings and prevent deep, restorative sleep.
- Try to nap in an environment that is dark, quiet, cool, with good air quality, and with a comfortable sleeping surface.
- DO NOT ATTEMPT TO NAP IN FRONT OF, BEHIND, OR UNDERNEATH TRUCKS OR VEHICLES.

TAKE A CAFFEINE NAP (CAFF NAP/NAPPUCCINO)



- Because the alerting effects of caffeine in coffee or energy drinks can take ~15-20 minutes to kick in, ingesting caffeine immediately before a short nap can result in awakening in about 20 minutes feeling refreshed and alert.
- During sustained or extended operations, if an opportunity for a short nap arises, caffeine naps may reduce post-awakening grogginess and disorientation ("sleep inertia").

AVOID THE NAP DANGER ZONE



- Avoid napping too close to bedtime, as this may interfere with nighttime sleep.
- If naps are consistently impacting nighttime sleep, consider taking shorter, earlier, and/or fewer naps.

MINIMIZE SLEEP INERTIA (THAT GROGGY FEELING AFTER A NAP)



- Sleep inertia severely impacts alertness and performance.
- If possible, wait 10-20 minutes after awakening before engaging in critical cognitive tasks.
- If a 10-20 minute delay is not possible, caffeine chewing gum* can reduce sleep inertia in about 5 minutes (quicker than coffee or energy drinks).



*DID YOU KNOW?



Military Energy Gum,
developed at WRAIR, comes as
part of "extra rations" that
can be ordered for your unit!
amazon-militaryenergygum.com

- Walter Reed Army Institute of Research is currently working on developing and testing strategies to maximize the effectiveness of napping in the operational environment.
- Comprehensive sleep and nap information is detailed in Army FM 7-22.
- Detailed information on the sleeping environment: Mantua, J., et al. (2019), *Military medicine*, 184(7-8), e259-e266.
- Validation of caffeine gum: Kamimori, G. H., et al. (2002). *International journal of pharmaceuticals*, 234(1-2), 159-167.

SLEEP UNDER STRESSFUL CONDITIONS

QUICK GUIDE

WRAIR

THE CHALLENGE

Being in an environment that is dangerous or tense and being uncertain of what tomorrow brings can cause worries and anxiety that can make it difficult to sleep. Stress can cause difficulty initiating and/or maintaining sleep. Losing sleep when under stress is common.

- If you are having feelings of anxiety and you are having trouble sleeping, use this guide to learn about strategies, tips, and techniques to reduce stress and improve your sleep.

STRATEGIES TO COMBAT DAYTIME STRESS AND BEDTIME WORRIES



- Journal thoughts and feelings of that day and of the future.



- Make a list or reminders of tasks needed to be accomplished the next day to have some level of control and get it out of your head.



- Try these relaxations techniques: focused attention, progressive muscle relaxation and self-guided imagery (see back for examples).

TIPS TO IMPROVE SLEEP WHEN POSSIBLE

If you are in an environment where you have situational control, use the tips below to help improve your sleep. If not, prioritize the relaxation techniques to address stress and anxiety when trying to sleep. If sleep problems persist, especially when the threat or stressful event is over, discuss with your medical care provider.



- Optimize what you can control in your sleep environment (e.g., cooler temperatures or the use of ear plugs or eye masks for stimulus control).



- Add elements from your bedtime routine to help signal your body to prepare for sleep.



- Limit screen time near bedtime as light can disrupt sleep.



- If you are worrying and can't shut off your thoughts and/or you have trouble falling asleep for more than 15 min remove yourself from your sleeping environment and return when you feel tired again.



- To prepare for anticipated future sleep loss or to be able to better process an upcoming stressful time, bank sleep by sleeping more than the recommended 7+ hrs.



- During the day if you can, exercise regularly, avoid caffeine before bedtime, reduce use of alcohol and nicotine, and maximize daylight exposure.



- Sleep when you can. Use a tactical nap to achieve the recommended sleep amount of 7+ hrs per 24 hrs to help sustain performance during continuous operations.



DID YOU KNOW THAT RELAXATION TECHNIQUES CAN HELP IMPROVE YOUR SLEEP?

FOCUSED ATTENTION EXERCISE

- **Try this breathing exercise to steady the mind and prepare for sleep:**

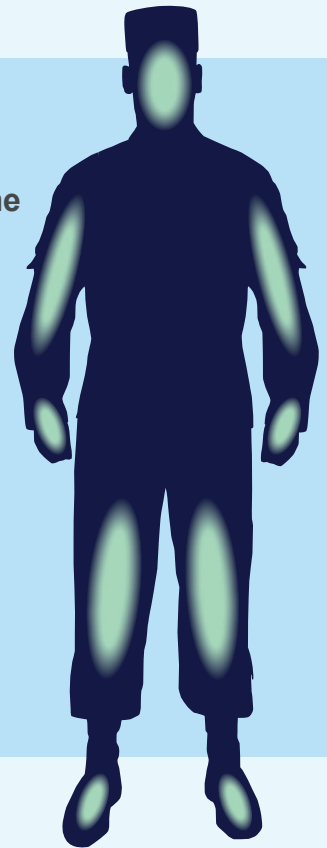
- Breathe in and out, feeling the belly rise and fall with each breath.
- Now count each breath cycle from 7 to 1...
- Inhale 7... Exhale 7...
- Inhale 6... Exhale 6...
- Continue counting your breaths from 7 to 1.
- If you lose count or get distracted, start again at 7.
- Repeat this practice 3-5 times.

PROGRESSIVE MUSCLE RELAXATION

- **Try this technique that involves tensing and relaxing one muscle at a time to release bodily tension, manage mental stress, and improve sleep:**

- Tense the left leg and foot... then release.
- Tense the right leg and foot... then release.
- Tense both legs and hold... then release.
- Tense the left arm and hand ... then release.
- Tense the right arm and hand... then release.
- Tense both arms and hold... then release.
- Tense the muscles of the face, then release.
- Tense the entire body, legs, arms face and hold... then release.

For advanced practice: inhale while tensing and exhale when releasing.



SELF-GUIDED IMAGERY

- **If circumstances allow, try this self-guided imagery technique to induce calmness and feelings of being at ease:**

- Bring to mind a place where you feel grounded and at ease.
- It can be an imaginary place or a somewhere you've been to before.
 - Include all your senses as you create this relaxing imagery
 - Build the sights and sounds that are relaxing
 - Imagine the smells and tastes that invite a sense of calm
- This place you have created can be there for you to return to each time you are getting ready to sleep.

SUGGESTIONS FOR STAFF DUTY OR CQ SHIFTS

Two 12 hour Shifts				
Shift	Time	Primary Benefit	Secondary Benefits	Alertness Tactics
1	1100 to 2300	Commute to/from CQ duty outside of circadian trough	Delayed reporting to duty allows personnel to sleep in and attend to personal matters before duty starts.	Encourage Soldier to sleep in on morning of duty and delay reporting to work until beginning of CQ/staff duty.
2	2300 to 1100	Commute to/from CQ duty outside of circadian trough	Driving to and from duty occurs during period of decreased motor vehicle traffic and minimizes risk of POV accidents.	Encourage Soldier to nap in the late afternoon or early evening prior to reporting to duty shift.
Shift 1: next-day return-to-duty possible with late arrival (e.g., 1000) to allow sleep recovery. Shift 2: 1 day off prior to return-to-duty to allow sleep recovery.				

One 24 hour Shift				
Shift	Time	Primary Benefit	Secondary Benefits	Alertness Tactics
1	1100 to 1100	Commute to/from CQ duty outside of circadian trough	Delayed reporting to duty allows personnel to sleep in and attend to personal matters before duty starts. Driving to and from duty occurs during period of decreased motor vehicle traffic and minimizes risk of POV accidents.	Dose caffeine starting at ~2300h if the mission does not permit on-duty sleep. Stop caffeine at least 6 hours prior to post-CQ sleep. If on-duty sleep is possible, sleep as long as possible. Best sleep periods are in early to mid-afternoon and morning circadian trough. Use alternative sleeping facilities for those on duty. Afternoon sleep prior to duty (more sleep is better).
1 day off prior to return-to-duty to allow sleep recovery.				

Source: Performance Triad guide, 2018