

***“Our Army’s people are our greatest strength and our most important weapon system.”***

***“Majors talk grand strategy, Generals talk about squads”***

***“People First - Winning Matters – Army Strong”***

**-General McConville, Chief of Staff, Army**

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









# Culmination



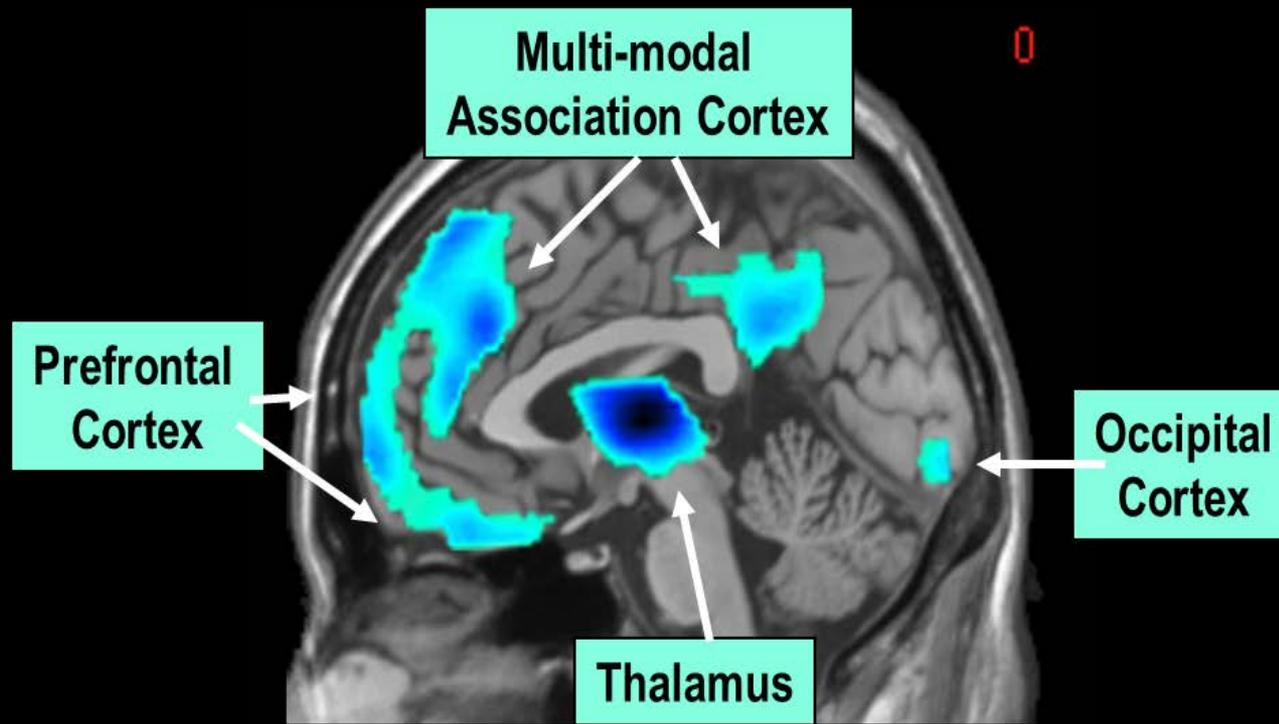


# Sleep is Ammunition for the Brain



# Sleep is Ammunition for the Brain

- Brain is deactivated by insufficient sleep – cognitive abilities
- Only part of the body that requires sleep
- Only sleep will restore its function
- Sleep requires time





“No Company at NTC was evaluated as above average (a rating of 4) in any category without sleeping at least four hours a night.”

Majority of companies rated above average had commanders that slept 4 to 5 hours/night

Battalion Commanders cognitive function was < 85%; they slept less than Brigade Commanders (5.5 hours/night)

A night-vision image of a soldier in a field. The soldier is in the foreground, wearing a helmet and a vest, looking towards the right. The field is filled with tall grass and bushes. In the background, there are trees and a dark sky with some stars. The entire image has a green tint, characteristic of night-vision equipment. Overlaid on the image are four percentages: 220%, 164%, 86%, and 22%.

220%

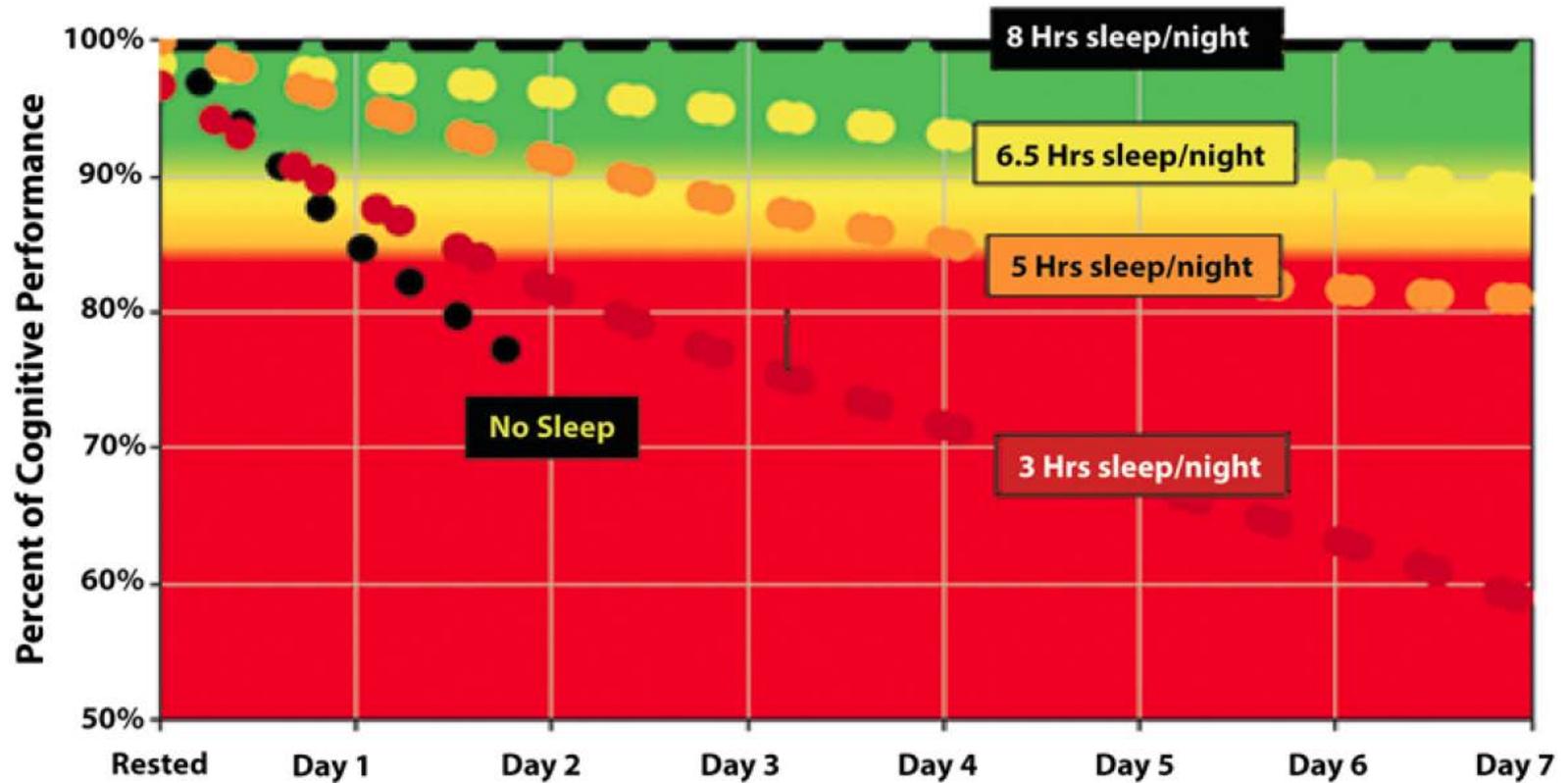
164%

86%

22%

-Lieberman et al, 2005

# PERFORMANCE DECREMENT ACROSS DAYS OF INSUFFICIENT SLEEP





<5

5

20%

0.08

# FATIGUE-RELATED DISASTERS

## Space Shuttle Explodes, Killing Crew



**Suddenly, the Celebration Stopped**  
 Joy Turns to Grief in Teacher-Astronaut's Town  
 As Students at High School See Tragedy Unfold

By Lynn A. Korman  
 Concord, N.H., Jan. 28—We were rejoicing in the thrill. We were excited to be celebrating with her. Then it stopped. That's all. It stopped," said Concord High School principal Charles Foley, his voice shaking.

During an emotional news conference this afternoon, Foley stood in the auditorium where, hours before, students with party hats and streamers had subdued into silence as they realized, slowly, that the shuttle carrying Concord teacher Christa McAuliffe had exploded.

The horrifying moment when Challenger blew off gracefully and hard apart was witnessed at television by schoolchildren, at live sessions and lectures throughout New

### Fire Engulfs Ship With 7 Aboard Soon After Liftoff

By Bruce Bawolker  
 Washington Post Staff Writer



The space shuttle Challenger, carrying an astronaut and schoolteacher Christa McAuliffe, exploded in a burst of fire 74 seconds after liftoff.

The investigation without warning as proceeding. Each time per second, 130 million miles down again. The spacecraft is into bits of debris, falling pieces. These into their seats, had to additional to were spacecraft of 2000 tons. The launch, mission commander speaking. Force Lt. Col. Ellis had spent time.

It was the worst of his career. He has been killed in flight. The tragedy on day after U.S. in Concord, N.H. A. While that during a live broadcast in the crash on the launch. First hours after a "W. Money, and

life's term. The excitement that had needed here about joy when McAuliffe was selected as the first teacher in space turned to grief, and shock to grief.

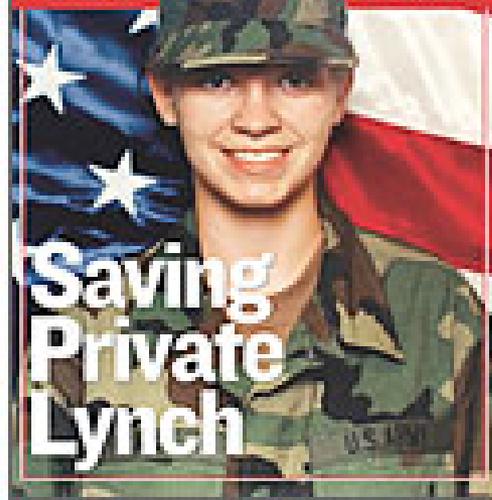
The flight's terrible outcome gave some students toward reporters and camera crews who particularly disrupted their lives over the last six months and made their money a public spectacle today. When the extent of the disaster became clear, a voice on the public address system asked students to return to their classrooms and serve people to leave the building.

Dismissed early, some of the departing students declared to give their names, others to speak at it. "It's pretty hard to handle," one boy said.

"It's a terrible, terrible loss for us," Foley said. CONCORD, N.H., Col. 1.

## Cover Story

### INSIDE BAGHDAD New York Times



## Saving Private Lynch



# 25% of all motor vehicle accidents are a result of drowsy driving

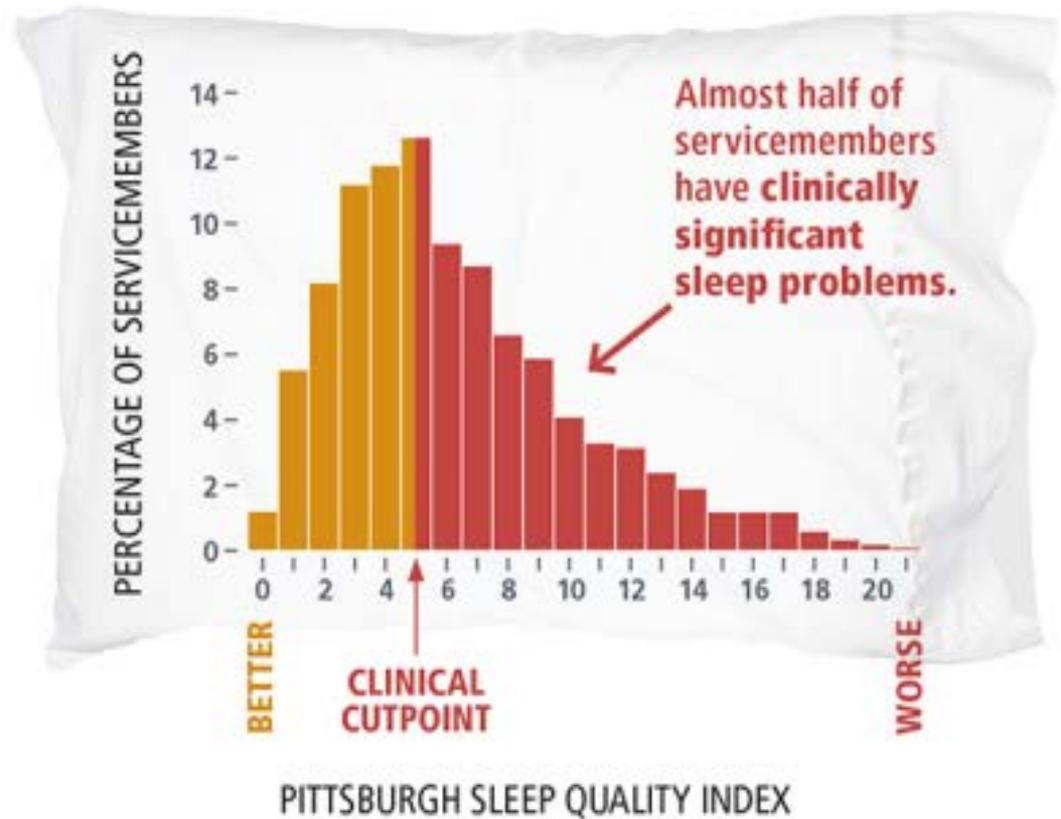
13 of the 19 Class B/C accidents at NTC had Commanders that slept < 4 hours/night



# Sleep Problems and Their Impact on U.S. Service Members



Nearly 1/3 get 5 hours of sleep or less per night, an amount linked to an increased risk of mental and physical health problems.



# HOW DO THEY COPE WITH SLEEP PROBLEMS AND DAYTIME FATIGUE?

Use of sleep medications and stimulants

**18.4%**



Used **sleep medications** during the prior month

**3.2%**



Used **stimulant medications** during the prior month

**8.6%**

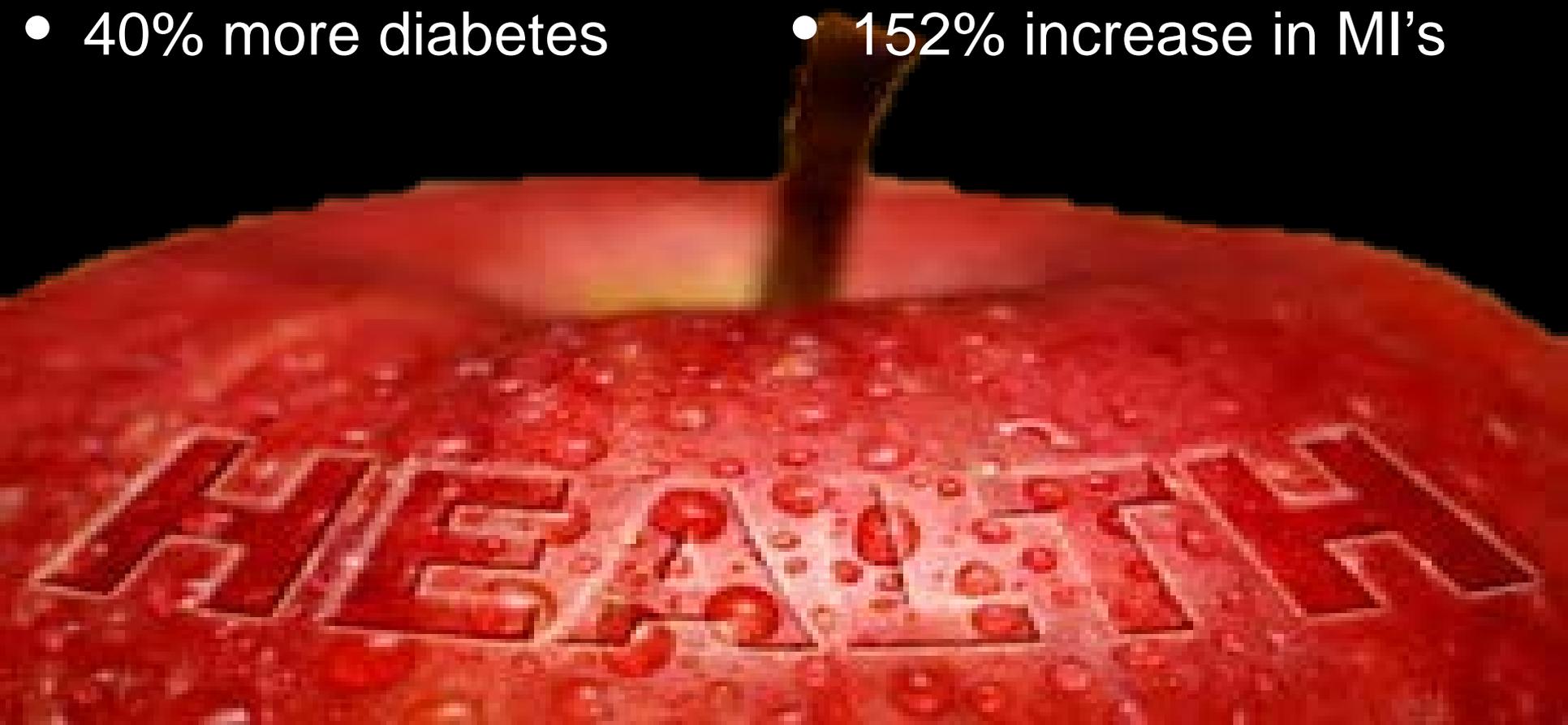


Used **energy drinks** at least once a week



## For those with <5 hours versus >7 hours of sleep

- 42% greater chance of obesity
- 69% more hypertension
- 40% more diabetes
- 36% increase in elevated lipids
- 62% greater risk of stroke
- 152% increase in MI's



# Prevalence and Impact of Short Sleep Duration in Redeployed OIF Soldiers

David D. Luxton, PhD<sup>1,2</sup>; David Greenburg, MD, MPH<sup>3</sup>; Jenny Ryan, MD<sup>3</sup>; Alexander Niven, MD<sup>3</sup>; Gary Wheeler, MD<sup>3</sup>; Vincent Mysliwiec, MD<sup>3</sup>

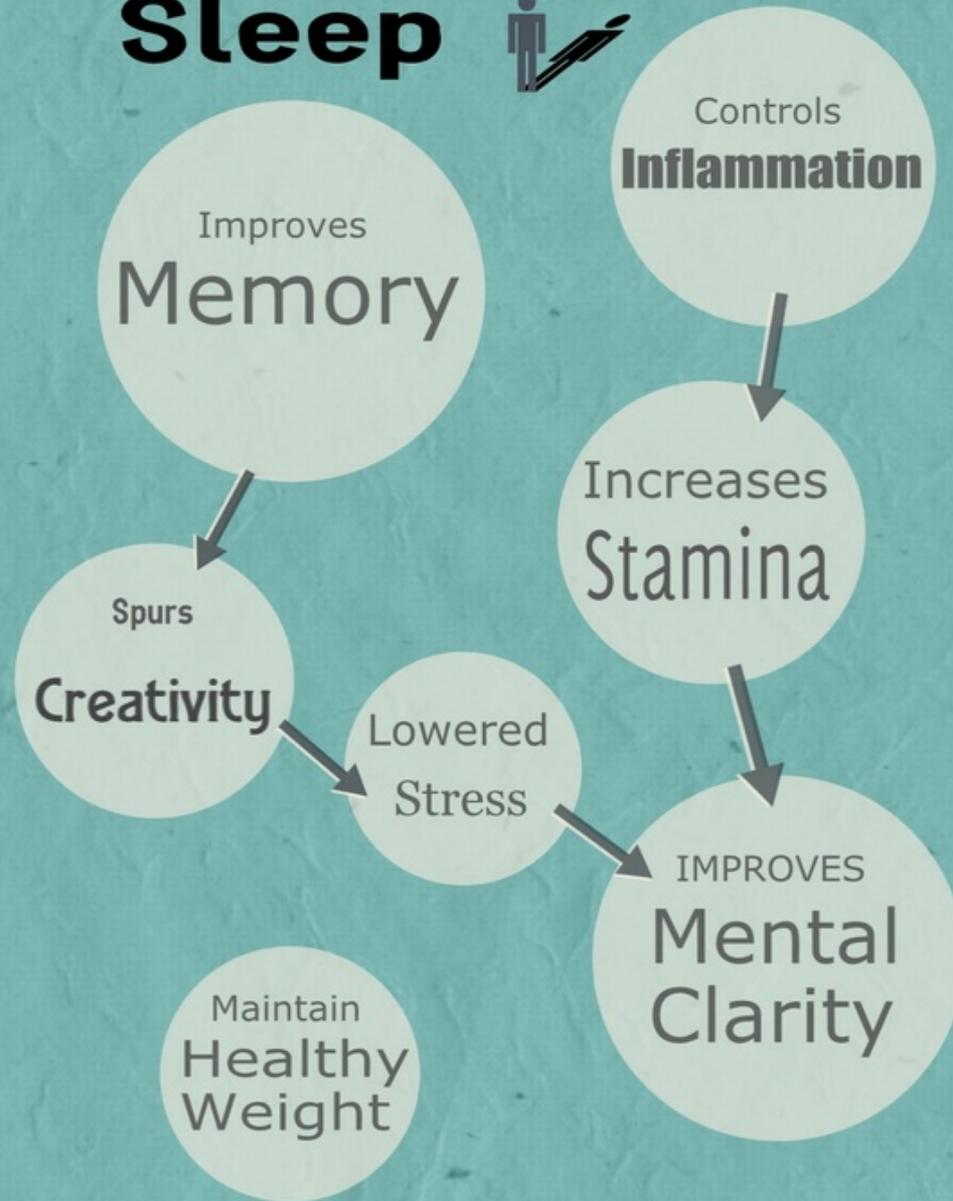
	<b>PTSD</b>	<b>Depres- sion</b>	<b>Mild TBI</b>	<b>Panic Syndr.</b>	<b>Obesity</b>
< 6 hours/ night	<b>4.7</b> <b>(3.2-6.9)</b>	<b>11.4</b> <b>(3.5- 36.9)</b>	<b>1.8</b> <b>(1.4- 2.3)</b>	<b>3.9</b> <b>(1.6-9.4)</b>	<b>3.3</b> <b>(1.3- 8.9)</b>
6 hours nightly	1.9 (1.2-2.8)	3.5 (1.0- 12.6)	1.2 (0.9- 1.5)	2.5 (1.0- 6.4)	2.1 (0.7- 6.2)
Symptoms of Insufficient Sleep	2.5 (2.0- 3.3)	3.4 (2.2-5.2)	2.0 (1.5-2.6)	3.0 (1.9-4.9)	0.9 (0.4-1.9)



About 25% of those with sleep disorders will develop PTSD, anxiety and depression



# 7 Health Benefits of Sleep



# INSUFFICIENT SLEEP



**Degrades Mental Operations and puts BOTH *Soldiers AND leaders* at risk for:**



- **Mission-impacting errors**
- **Near-miss incidents**
- **Mishaps and accidents**

# INSUFFICIENT SLEEP = LOSS OF PERFORMANCE

People who are sleep deprived:

- Poor judges of their own performance
- Micro sleep or have intrusion of sleep like mentation into awake state
- Mood changes....who typically needs more coffee to get going?
- Tend to select unhealthy food options



# CONSEQUENCES OF INSUFFICIENT SLEEP

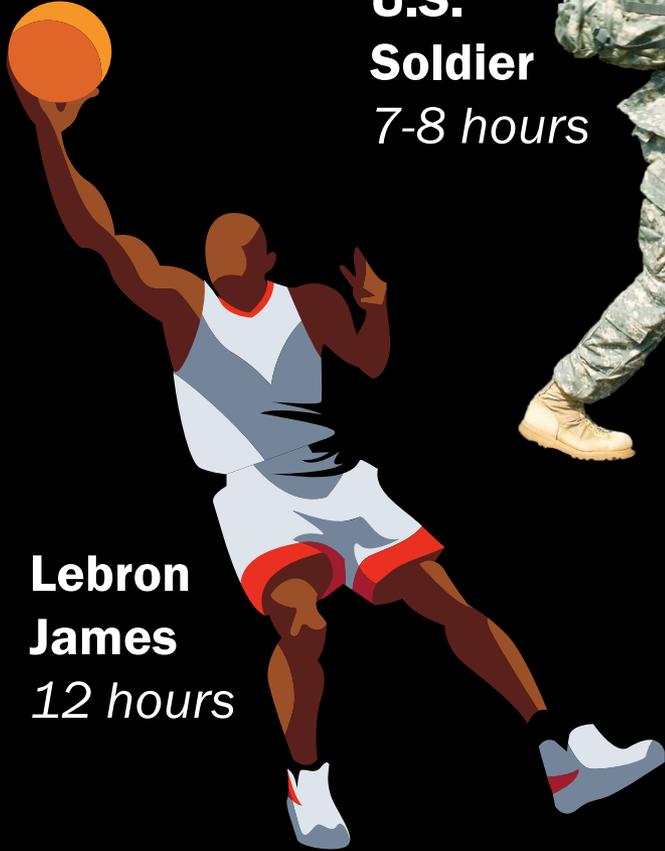
## DEGRADED

- Ability to recognize failed solutions
- Ability to generate novel solutions
- Anticipating problems
- Planning and prioritizing
- Judgment and accepting appropriate level of risk
- Problem-solving
- Vigilance
- Attention to detail
- Ability to multi-task
- Concentration/focus
- Emotional intelligence/stability
- Motivation and Response time

## UNAFFECTED

- Fine motor control (firing accuracy)
- Muscular Strength (loading magazines)
- Cardiovascular work and endurance (marching)

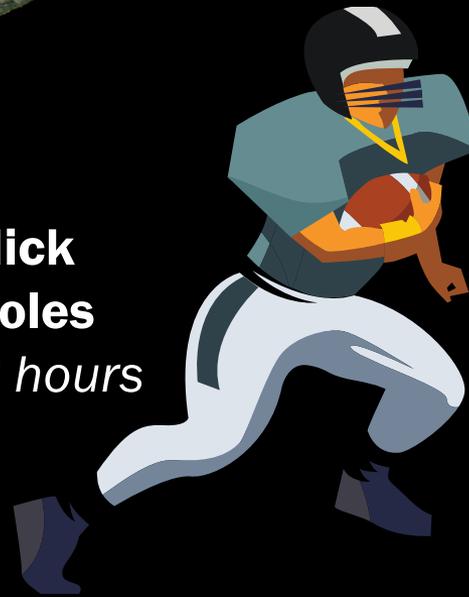
NOTE: Decreased motivation due to insufficient sleep may make it seem more difficult to perform the above tasks. But the *physical ability* to perform them is unaffected.



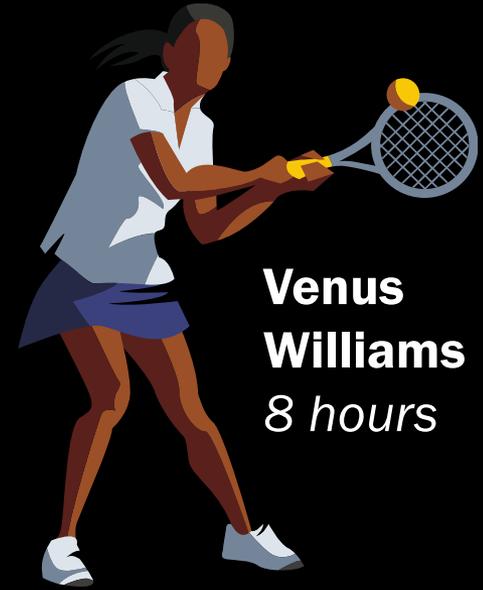
**Lebron James**  
*12 hours*



**U.S. Soldier**  
*7-8 hours*



**Nick Foles**  
*8 hours*



**Venus Williams**  
*8 hours*

**Being a**

**PROFESSIONAL SOLDIER ATHLETE**

**PROFESSIONAL SOLDIER ATHLETE**

requires you to make the same effort to constantly improve your **SLEEP**—just as professional athletes do.





# **Leader's Guide to Soldier and Crew Endurance**

---

- Length of wakefulness > 19 hours
- Sleep in 72 hours < 18 hours
- Activity periods between 0100-0600 hours
- Number of night shifts in previous 30 days
- Change of 6-12 hours in time zone
- Maximum level of exertion

# Warfighter Fatigue Management Strategies



- Sleep Management Planning
- Sleep Banking
- Reverse Cycle PT
- Tactical Naps
- Caffeine
- Exercise Energy Bouts
- Sleep Debt
- Mindfulness

## Caffeine For Optimal Alertness

Sustained/Continuous Operations & Night Ops

- Caffeine can help promote alertness and performance
- Caffeine does not replace sleep

### Dosing Schedule\*

- Take 200mg of caffeine every 4hrs upon waking/start of shift
- Avoid caffeine 6hrs prior to bedtime, when possible
- For full effectiveness, save caffeine for operations

### Common Sources

16oz Coffee = ~150mg	16oz Energy Drink = ~300mg	1 Piece of Energy Gum = 100mg
-------------------------	-------------------------------	-------------------------------

### Resources

[sleep.bhsai.org](http://sleep.bhsai.org) can provide an optimal caffeine schedule for any operational scenario; [p3.amedd.army.mil](mailto:p3.amedd.army.mil)

## Sleep Prioritization

- High:** Decision Making
- Medium:** Tedious/Hazardous Jobs
- Low:** Physically Demanding Jobs

## Strategies During Sustained Operations

**Tactical Naps:** When possible; even 5 - 20 minute naps can help

**Nappuccino:** Take a short nap immediately after drinking a cup of coffee to reduce grogginess

**Operational Sleep Environment:** Place sleep area away from working area

\* Recommendations vary based on caffeine habits. Individuals who typically use high levels of caffeine may need up to 300mg whereas infrequent caffeine users may only need 100mg.

**Warfighter Management & Mission Planning: Here it is Not a Game!**

## When unable to get 7+ hours sleep

- ❖ Manage the sleep of Soldiers with priority of sleep according to role
- ❖ Establish a plan prior to operations & adjust
- ❖ Publish plan upon receipt of the mission
- ❖ Use Sleep countermeasures

### Rule of Thumb for Soldiers:

- ❖ Get as much sleep whenever you can, where you can.
- ❖ Tactical naps

Leaders: Responsible for implementing deliberate sleep management strategies





# Sleep Banking

When leaders anticipate periods of insufficient sleep, promoting sleep banking can mitigate deficits

- Increase hours of sleep in anticipation of continuous operations or when you won't get enough sleep
  - Up to 2 weeks in advance
  - Go to bed earlier or wake-up later
- Improved effectiveness: decline slower and recover better and faster

# Reverse Cycle Physical Training

- Maximizes the amount of time Soldiers get to sleep by having PT in the afternoon
- Delayed start in duty day allows Soldiers to obtain 2-3 more hours sleep
- Aligns better with circadian rhythm
- Results in improved mood, morale, motivation, cognitive functioning, and reduced stress
- Discrete periods at leader's direction and discretion



# Tactical Naps

- Short sleep episodes
- Caffeine Naps
- Essential during continuous or sustained operations when 7-8 hours of sleep is not reliably available
- Allows the brain to clear protein waste, consolidate information, and re-generate by secreting necessary hormones for repair and growth
- Reduces fatigue, sleep debt and improves alertness





Live Fire

# Caffeine

When unable obtain adequate sleep, 200 mg of caffeine (two pieces of caffeine gum or two cups of brewed coffee) will help sustain alertness.



No Caffeine 6 hours before bed



## Caffeine For Optimal Alertness

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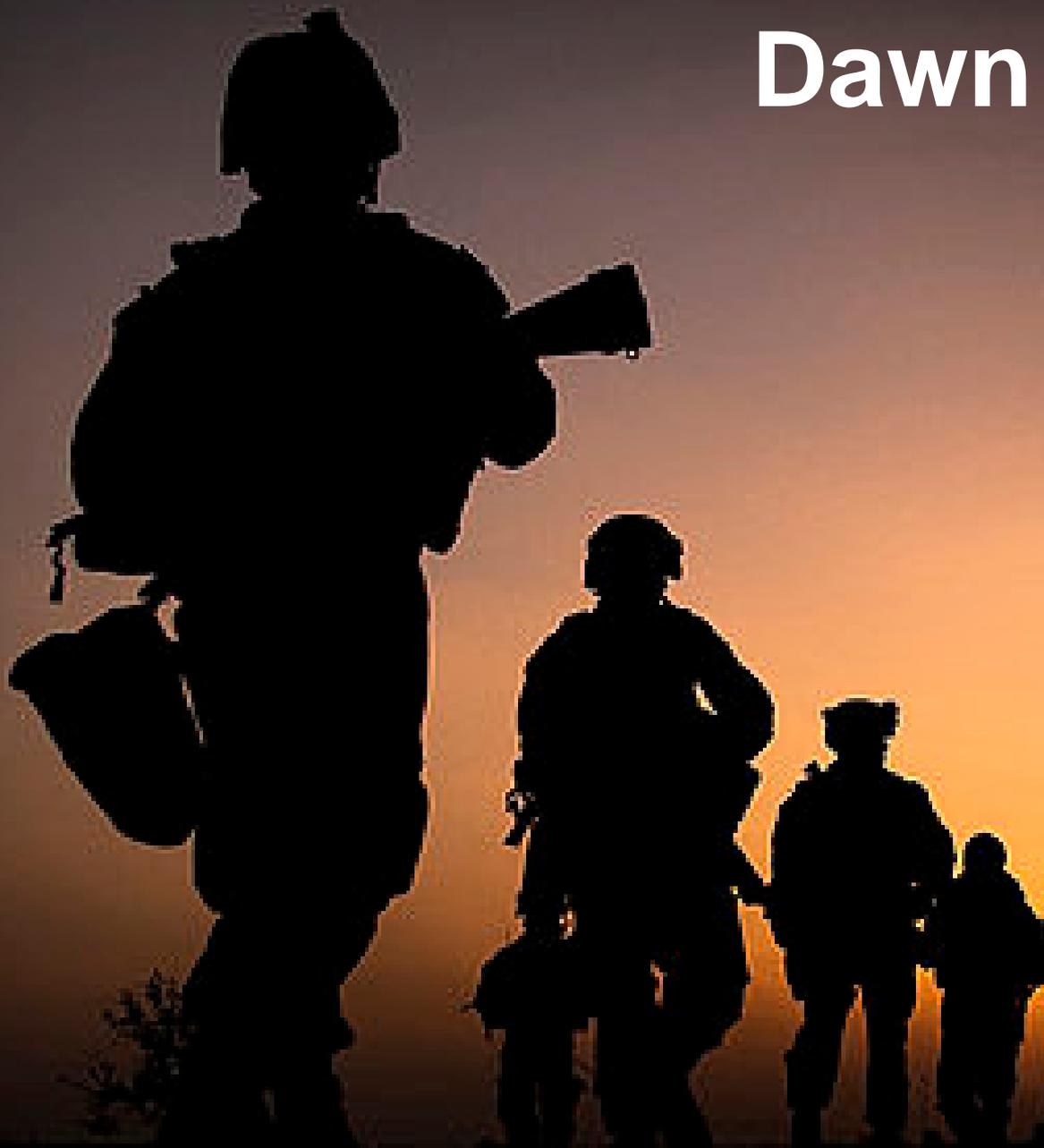
# Sleep Priority

- Ensures decision makers and those with roles requiring higher order cognitive demands (mission leaders, drivers, etc) get the most sleep and have well rested brains to make the best operational decisions
  - **Top Priority:** Decision makers and those with roles requiring higher order cognitive demands
    - After publishing plan but prior to initiating main effort
  - **Second Priority:** Those with tedious or sedentary duties (monitoring equipment or guard duty), and those who judge and evaluate information....Vigilance
  - **Third Priority:** Those with duties involving only physical work.
  - **Fourth Priority:** Those who are not resilient to insufficient sleep; function poorly when sleep deprived.

# Sleep Priority



# Dawn Patrol



# Shift Work





# 1/3rds – 2/3<sup>rd</sup> Rule & Mission Command





# Mindfulness



# Sleep Debt

- Cumulative effect of insufficient sleep
- Characterized by mental, emotional, and physical fatigue
- Reduces alertness and performance
- High level cognitive functions (impaired judgment, alertness, mood, reaction time)



# C Co, 3-66 AR BN

- Educated platoon on the importance of sleep and to keep sleep logs
- Sleep bank prior to gunnery
- Reverse PT schedule starting at 1600, duty day began at 0900
- Gunnery scores increased from 759 to 919
- 3 teams achieved Distinction and 1 team achieved Superior
- Leaders reported: Harder for them as not synched with rest of battalion; Soldiers executed faster and more efficiently; understood directions better.
- Soldiers reported: More motivated, less stressed; took longer to become fatigued and able to eat healthy breakfast



Soldiers increased Sleep hours from an average of 5.7 to 8.9 hours. With 2 Soldiers getting 12 hours and 1 getting 10 hours during sleep banking

# 1-26 Infantry BN

- Practiced sleep management plans according to role and responsibilities and continued it while in the box
- Educated Soldiers and leader emphasized the importance of sleep on operations
- Allowed sleeping when tasks were accomplished, even on ranges
- During RSOI, mandated lights out/on and restricted use of screens after 2200 to maximize sleep banking
- Results:
  - Lowest total number of incidents and lowest number of safety incidents of all battalions during JRTC
  - One of the best performances at JRTC
  - Soldiers reported feeling the most rested and the most motivated. They felt less stressed, had higher morale, and tended to take longer to fatigue compared to previous experiences



# 1-27 IN Reverse Cycle Study



## Performance Triad

Sleep | Activity | Nutrition

Balancing all elements of the Performance Triad with equal emphasis to enhance performance and reduce safety incidents.

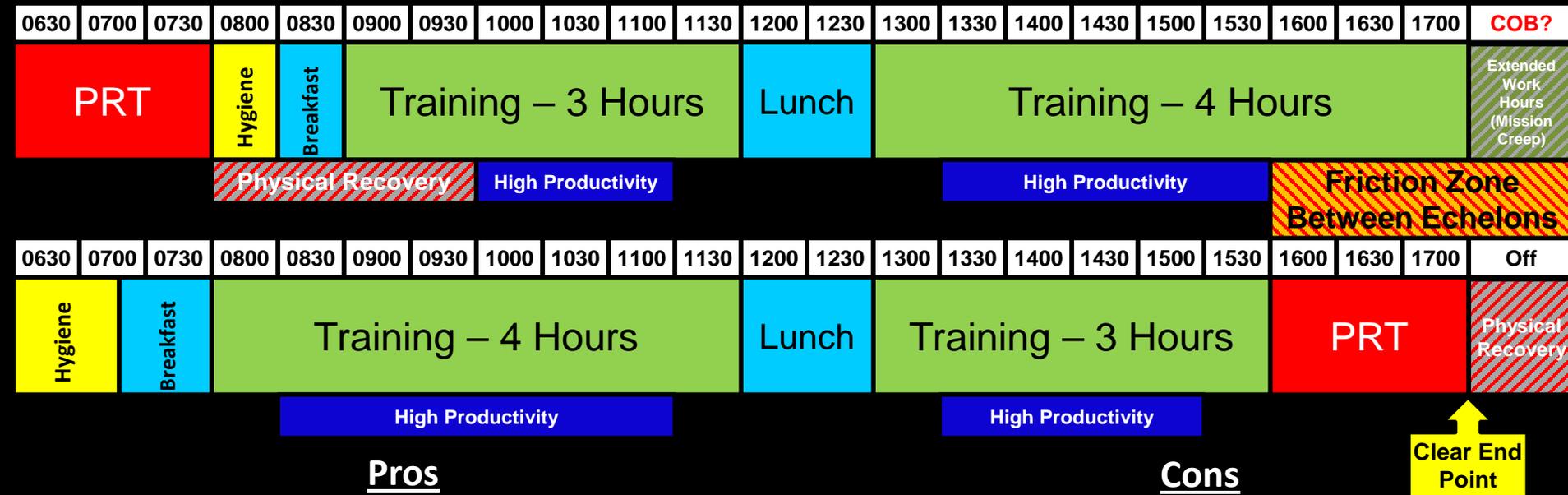
Previous Studies: 1-26 IN and 3-66 AR

- Practiced sleep management plans; maximizing sleep banking
- Allowed sleeping when tasks were accomplished, even on ranges
- Reverse PT schedule starting at 1600, duty day began at 0900

Results (390 Soldiers Surveyed)

- Enhanced job performance
- Soldiers reported feeling rested and more motivated; took longer to become fatigued, overall improved satisfaction with personal achievement at JRTC
- Decrease safety concerns/improved safety record

# 1-27 IN Reverse PRT Cycle



## Pros

- Soldiers arrive ready to engage their tasks with improved mood/morale, motivation, cognitive functioning, and reduced stress.
- Prime work hours unaffected, individual preparation and recovery conducted during personal time.
- Increased hours of high productivity (5.5 vs. 4)

## Cons

- Key Leader Synchronization with higher echelons on standard schedule (BN and Above)
- PRT must be prioritized over emerging requirements/missions or it will be neglected
- Heat during afternoon PT hours leads to a more deliberate risk mitigation



MetLife

Are you ready for your Super Bowl?

# Are You Fully Charged?

**Potential**

**Actual**

**Team**



**Capability**

**Capacity**

**Performance**



T

O

P

1

0

# 1. SET ROUTINE



# 2. STAY ACTIVE



**3 hours**

# 3. STOP THE STIMULANTS



**6 hours**

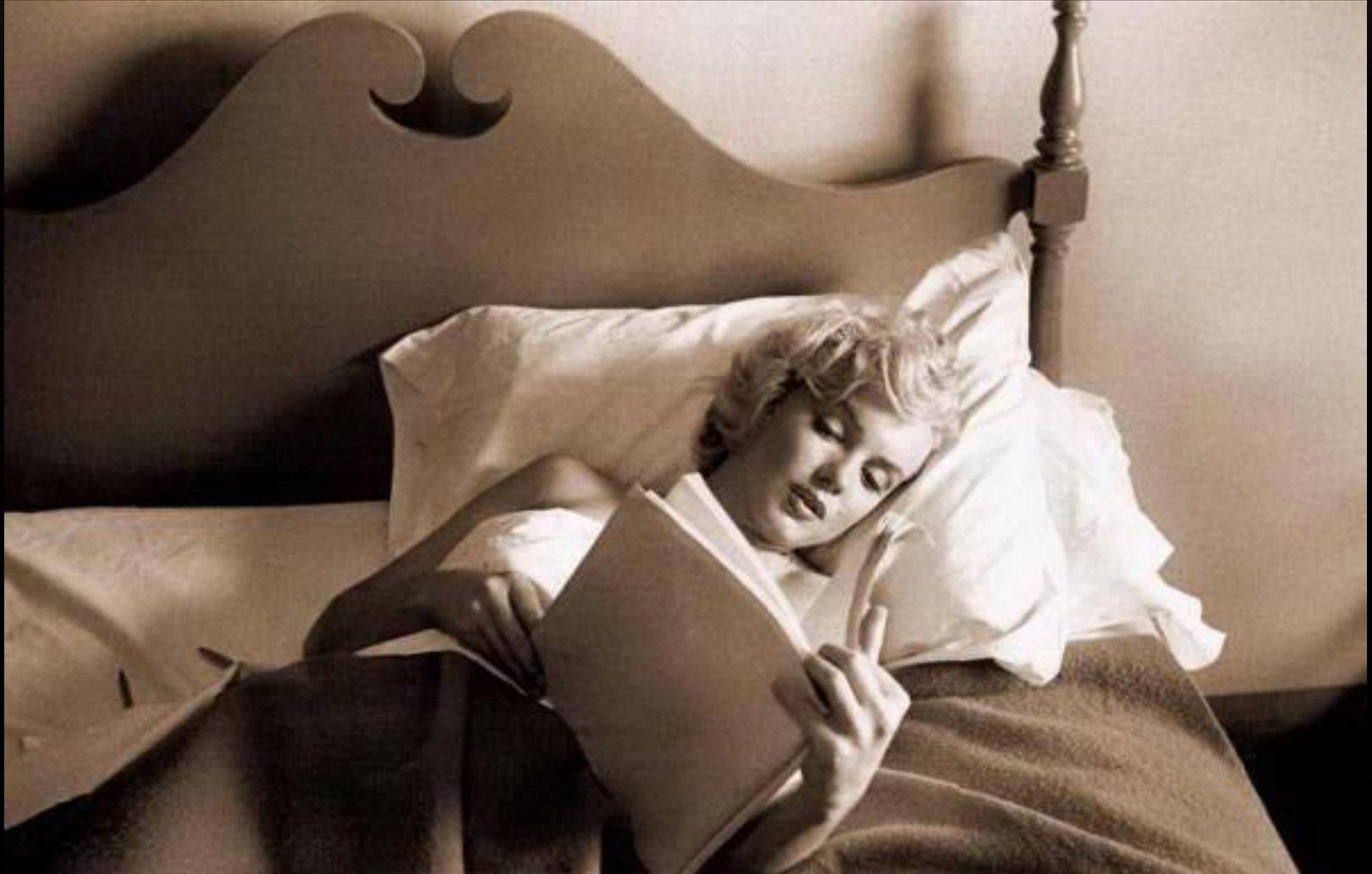
# 4. COOL DARK QUIET



# 5. LIGHTS OUT!



# 6. BE CALM



# 7. REMOVE DISTRACTIONS



# 8. BODY ALIGNMENT

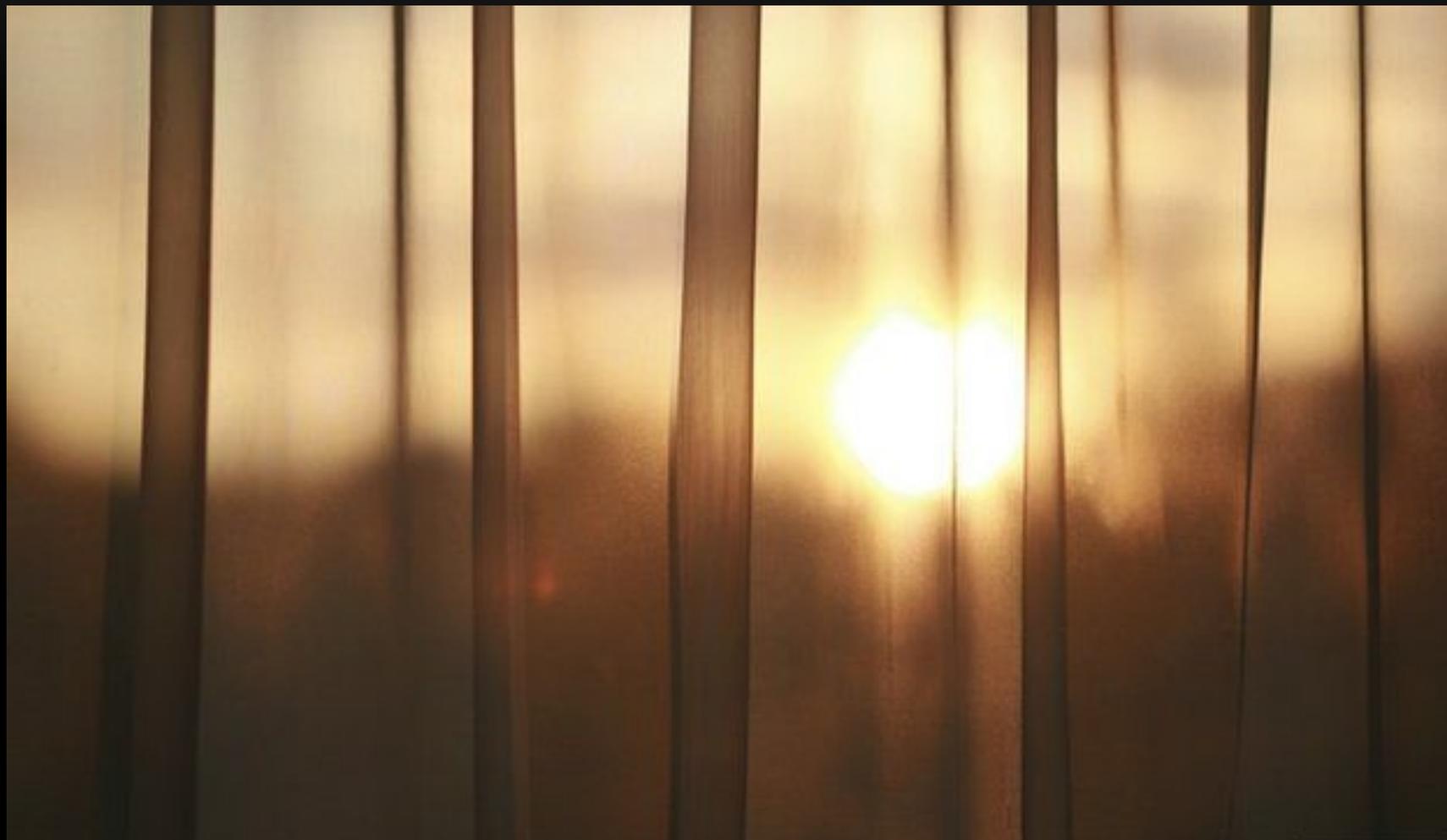


# 9. TUNE IT OUT





# 10. WAKE UP TO NATURAL LIGHT

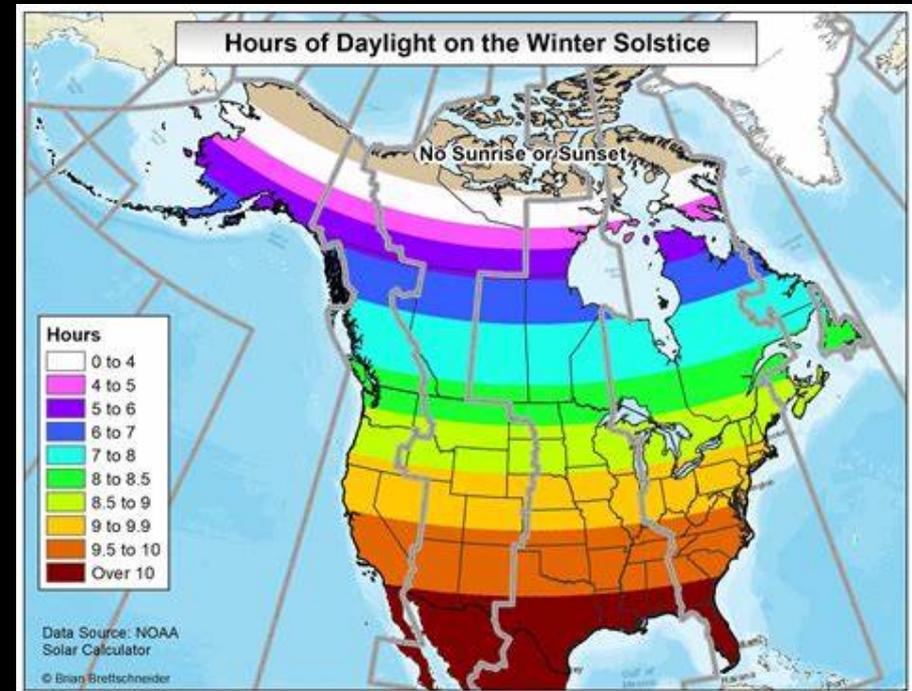
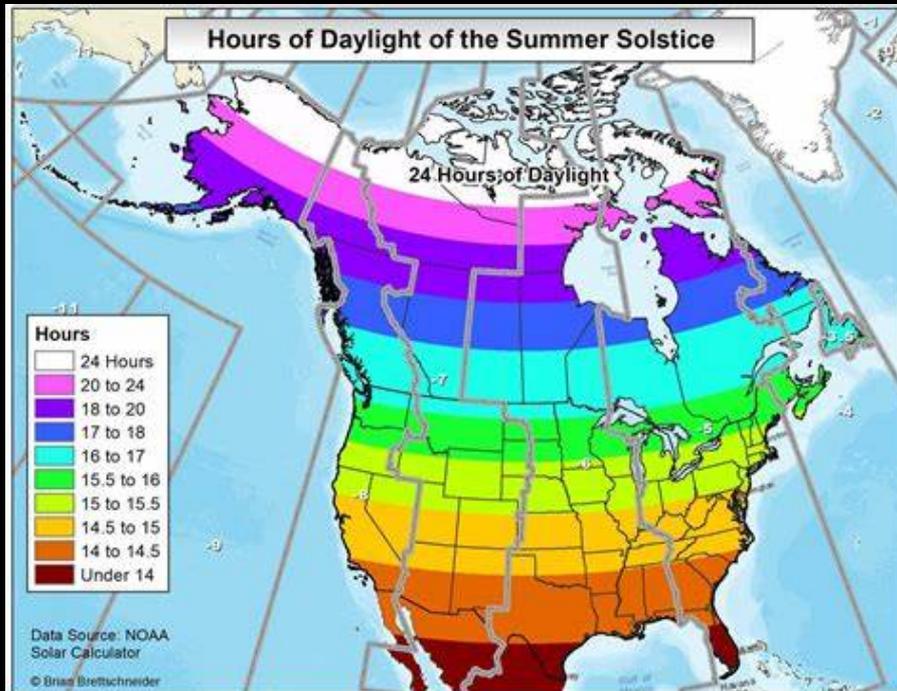


# Different Day-Lengths at Different Latitudes

## Summer Solstice

vs

## Winter Solstice



# Solstice Specific Solutions at High Latitudes

## Summer Solstice – Extended Daylight

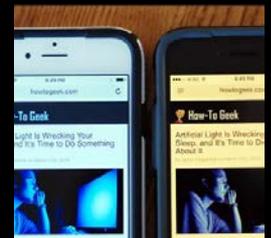


## Winter Solstice – Extended Darkness



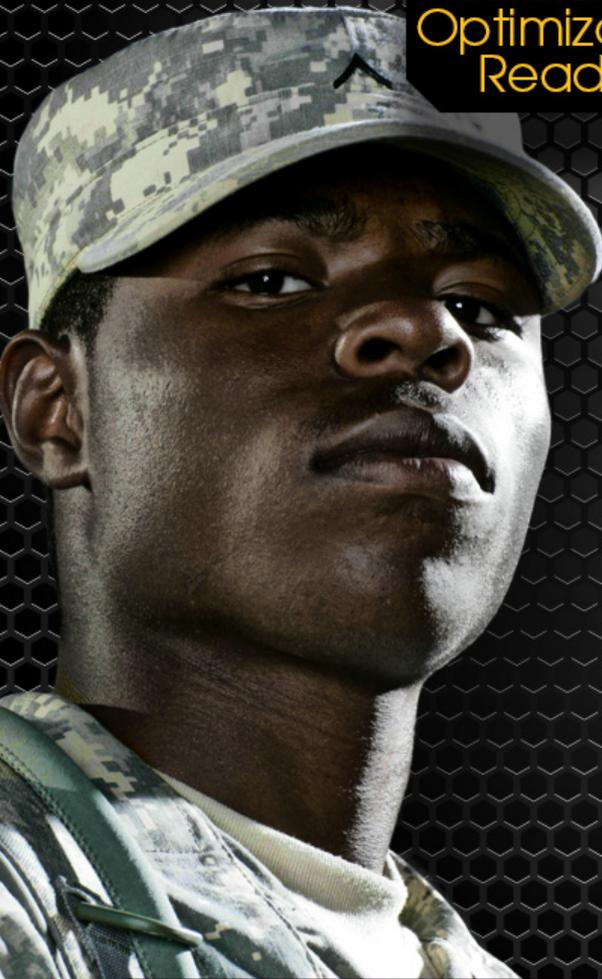
## Always...

- Keep a consistent bedtime and waketime no matter the amount of daylight
- Practice good sleep hygiene (e.g., no electronics 30-60 min prior to bed)
- Use phone apps to decrease blue light prior to bed and increase blue light in the morning when you wake up



# SPORT

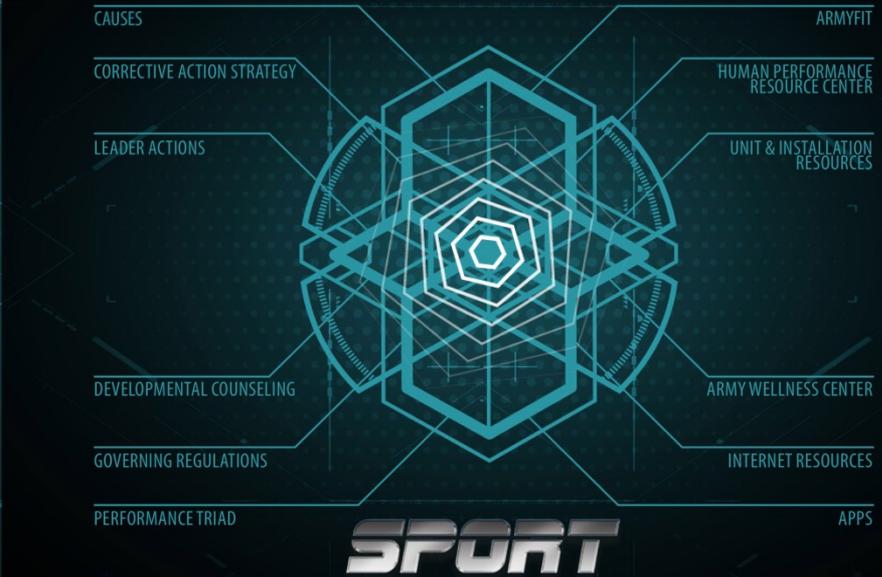
Soldier Performance Optimization & Readiness Tool



PULL FOR CONCERN



RESOURCES



SPORT

DEVELOPMENTAL COUNSELING FORM	
For use of this form, see ATP 6-22.1 in the appropriate Army's TRADOC.	
<b>AUTHORITY:</b> § USC 551, Departmental Regulations, 30 USC 5015, Secretary of the Army	<b>DATA REQUIRED BY THE PRIVACY ACT OF 1974:</b>
<b>PRINCIPAL PURPOSE:</b> To assist leaders in conducting and recording counseling data pertaining to subordinates.	
<b>POSITIVE USER:</b> The DA's Behavioral Health Care and Skills at the beginning of the Army's completion of systems or records indices also apply to this system.	
<b>DISCLOSURE:</b> DISCLOSURE & INDUSTRY:	
<b>PART I - ADMINISTRATIVE DATA:</b>	
Name (Last, First, MI):	Branch/Grade: _____ Date of Counseling: _____
Organization:	Name and Title of Counselor: _____
<b>PART II - BACKGROUND INFORMATION</b>	
Purpose of Counseling: (If enter states the reason for the counseling, e.g., Performance/Professional or Event Oriented counseling, and include the leader's facts and observations prior to the counseling.)	
<b>PART III - SUMMARY OF COUNSELING</b>	
Complete this section during or immediately subsequent to counseling.	
Key Points of Discussion:	
<b>OTHER INSTRUCTIONS:</b>	
This form will be destroyed upon: reassignment of the subordinate's function; separation or ETC, or upon retirement. For separation requirements and evaluation of loss of benefits consequences see local directives and AFI 6710-200.	
DA FORM 4856, JUL 2014	PROCESSED BY/TO/WHO SEE OBSOLETE.

Use Developmental Counseling Form DA4856

## DEVELOPMENTAL COUNSELING

Regular developmental counseling is the Army's most important tool for developing future leaders at every level. Counseling responsibilities are inherent in leadership. Leaders at all levels must understand the counseling process. More importantly, Army leaders must understand that effective counseling helps achieve desired goals and effects, manages expectations, and improves the organization. Leaders should emphasize routine counseling to reinforce positive behavior and superior performance.

From ATP 6-22.1

The purpose of the information below is to provide a general template to assist first line supervisors in the Coaching, Teaching and Mentoring of their Soldiers. For example, a supervisor may notice a Soldier who is at risk (e.g., excessive fatigue/lack of sleep, within 1-2% of maximum body fat %, barely passing the APFT, or overreliance of caffeine, etc...) and utilize the information below to counsel the Soldier. Counseling is not a standalone method and will be used in combination with the P3 tenets of Sleep, Activity, and Nutrition.

**NOTE:** The information provided is NOT to be utilized for counseling a Soldier who is flagged IAW AR 600-8-2.

Readiness Driven Tool for Leaders to Enhance Coaching, Teaching, and Mentoring



# Tools

The screenshot shows the U.S. Department of Veterans Affairs website. At the top left is the VA seal and the text "U.S. Department of Veterans Affairs". To the right is a search bar and a button that says "Get help from Veterans Crisis Line". Below the header is a navigation menu with links for Health, Benefits, Burials & Memorials, About VA, Resources, Media Room, Locations, and Contact Us. The breadcrumb trail reads "VA » Health Care » Veteran Training » Path to Better Sleep". The main heading is "Veteran Training". A left sidebar menu lists various training topics, with "Path to Better Sleep" highlighted. The main content area features a large banner with a clock and a bed icon. The banner text reads: "Can't Fall Asleep? Can't Stay Asleep? Cognitive Behavioral Therapy for Insomnia (CBT-i) can help. Free and Available, 24/7 No Medication Required".

U.S. Department of Veterans Affairs

Get help from Veterans Crisis Line

Search

SITE MAP [A-Z]

Health Benefits Burials & Memorials About VA Resources Media Room Locations Contact Us

VA » Health Care » Veteran Training » Path to Better Sleep

## Veteran Training

- ▼ Veteran Training
  - Home
  - Anger & Irritability Management Skills
  - Moving Forward
  - Veteran Parenting
  - Path to Better Sleep
  - About the Site
  - FAQs
  - VA Mental Health Home Page
  - ▶ More Health Care

**Can't Fall Asleep?  
Can't Stay Asleep?**

**Cognitive Behavioral Therapy for Insomnia (CBT-i) can help.**

**Free and Available, 24/7** **No Medication Required**

QUICK LINKS

<https://www.veterantraining.va.gov/insomnia/index.asp>

# Smartphone App



## **CBT-i Coach**

This is an application accessed on IOS and Android devices.

### **Pros:**

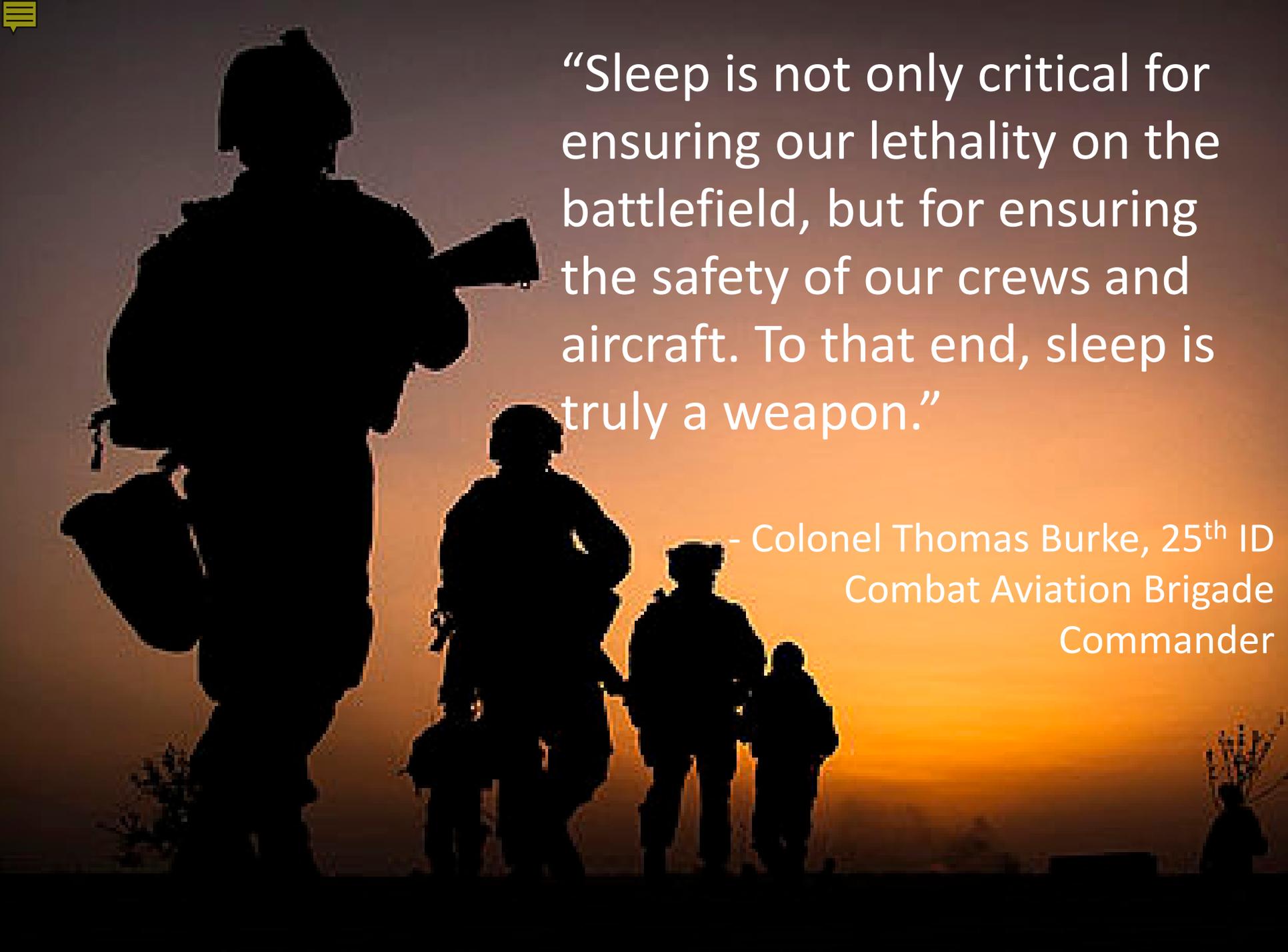
- Once downloaded no internet connection is needed
- Calculates your Sleep Prescription for you
- Has reminder alarms

**Learn More »**



# Culmination



The background of the slide features silhouettes of four soldiers in full combat gear, including helmets and backpacks, walking away from the viewer towards the right. They are set against a bright, glowing sunset or sunrise sky that transitions from a deep orange at the horizon to a darker, muted orange at the top. The overall mood is somber and reflective.

“Sleep is not only critical for ensuring our lethality on the battlefield, but for ensuring the safety of our crews and aircraft. To that end, sleep is truly a weapon.”

- Colonel Thomas Burke, 25<sup>th</sup> ID  
Combat Aviation Brigade  
Commander