



Beyond Midnight
Consulting

Stop Before You Get Tired: Reframing Driver Fatigue

Dr Nicholas Mabbott



Fatigue Crashes – Common Myth

You must drive a long way to fall asleep at the wheel – Therefore use a JMP!

Facts from 17 investigated crashes – 13 fatal

10 drivers had 5 or less hours of sleep

9 drivers had passengers asleep

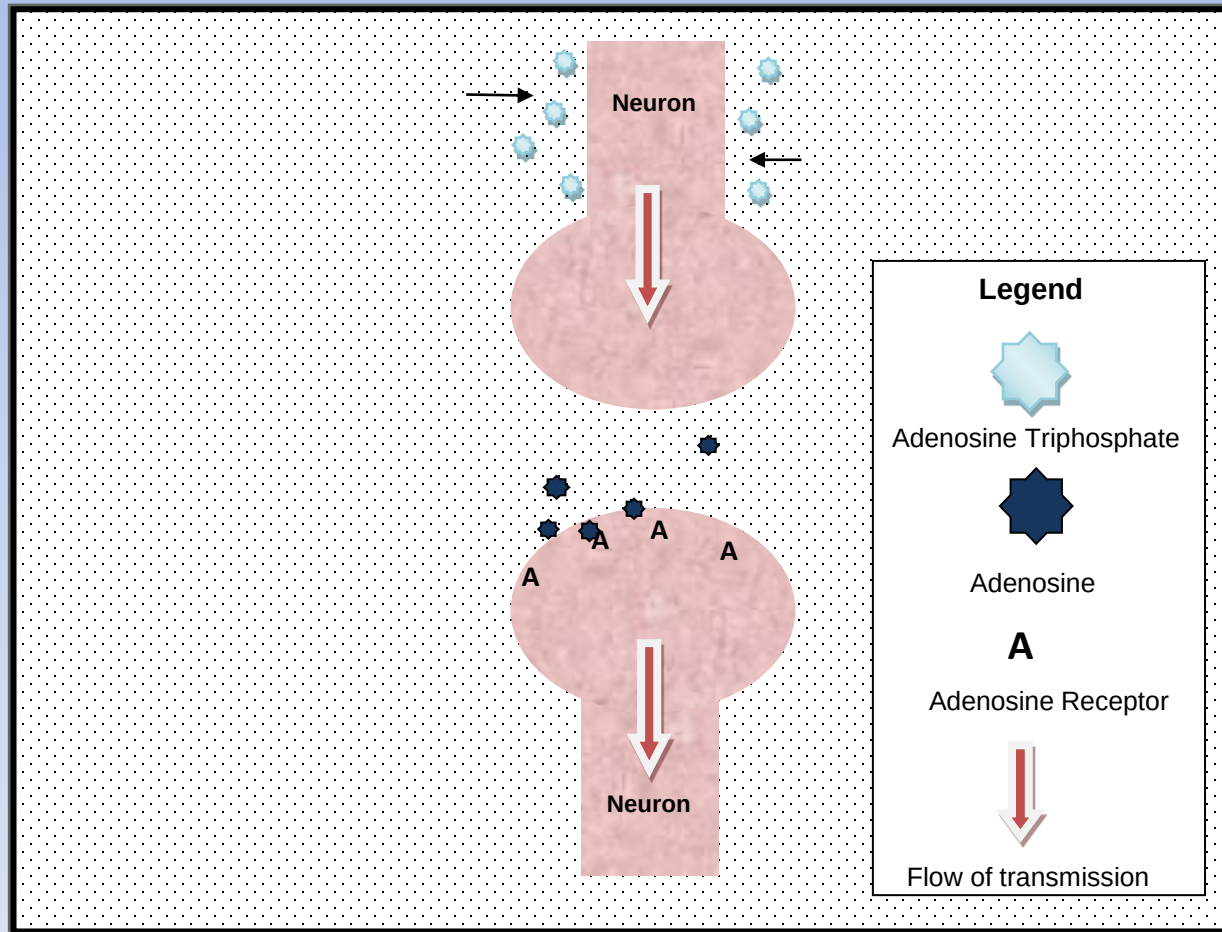
3 drivers were awake for over 17 hours

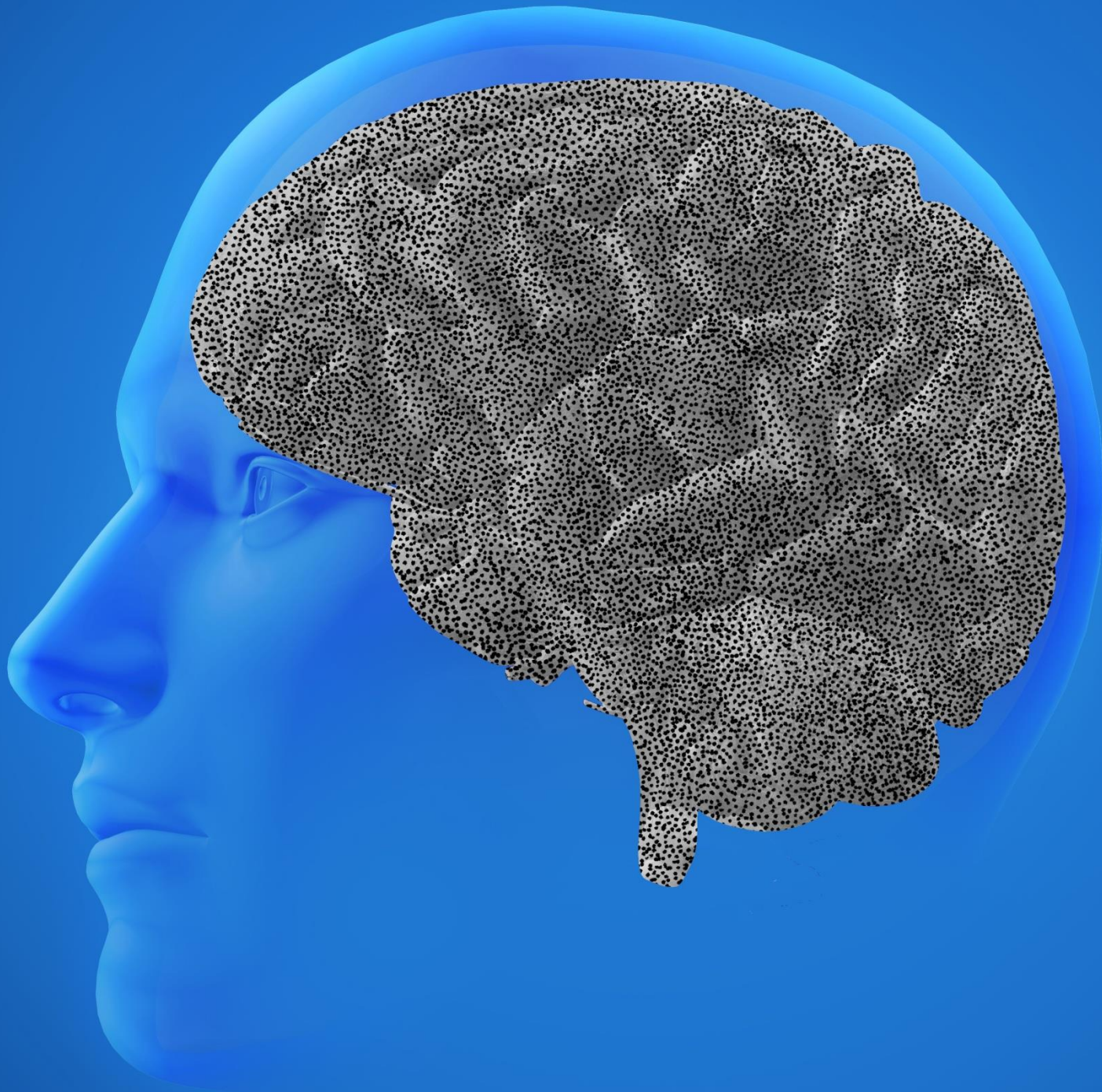
5 Drivers crashed within the first hour

3 drivers crashed within 10 minutes of a break

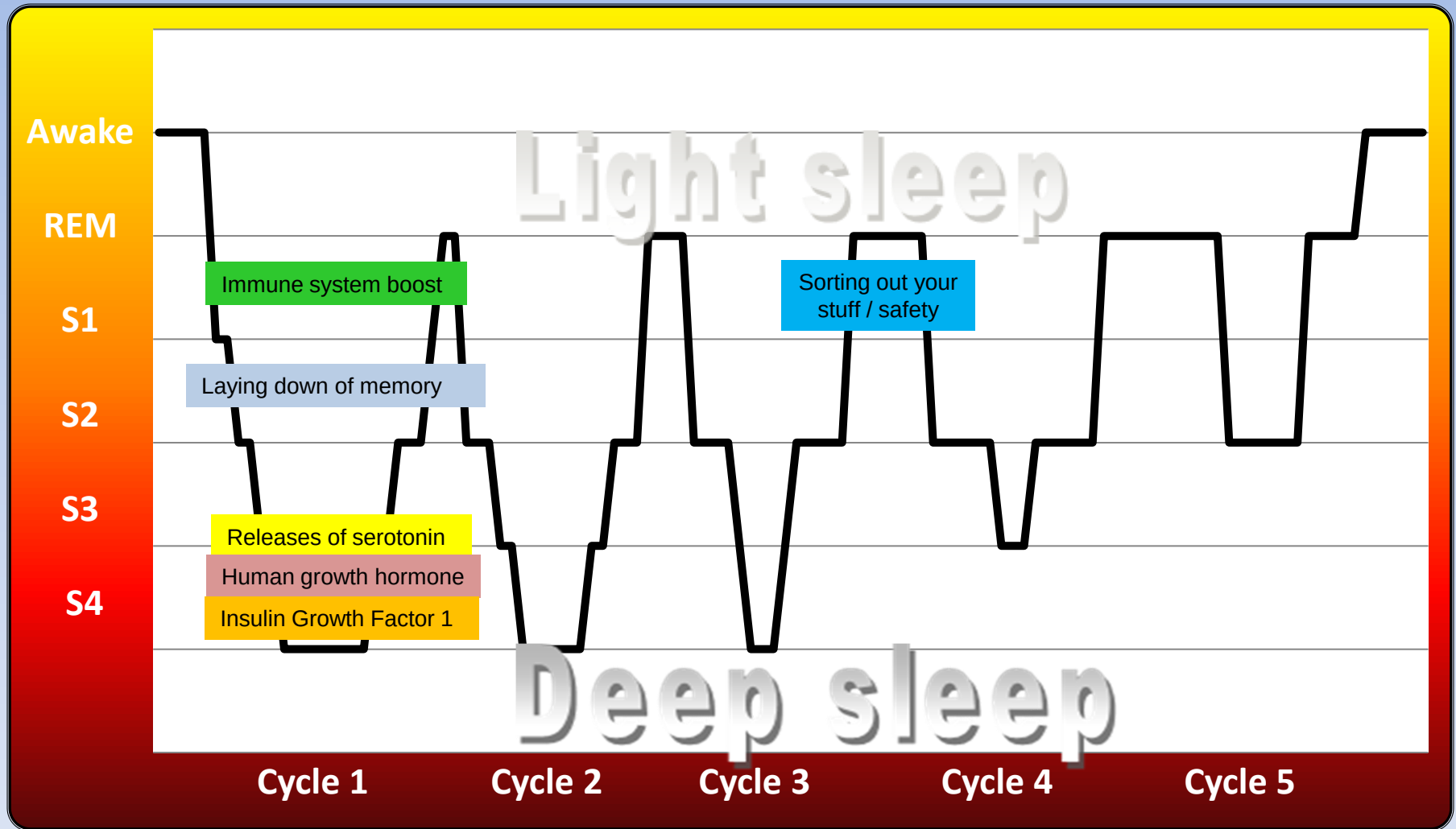
I know of two crashes within 10 minutes and a young gentleman last year in NSW in 19 minutes..

Recycling Adenosine Triphosphate – Brain Fuel





Sleep Stages & Cycles Across The Night



Common Sleep Disorders

- Obstructive Sleep Apnoea
- Restless Legs Syndrome
- Sleep Onset Insomnia
- Sleep Maintenance Insomnia
- Terminal Insomnia
- 20/80 rule..



Fatigue Errors in Operational Environments

Grounding of the Sheng Neng1 on Douglas Shoal

Nurse Thao and Jasmine Gant

115.000 m² of damage from Chief who slept 2.5 hours in last



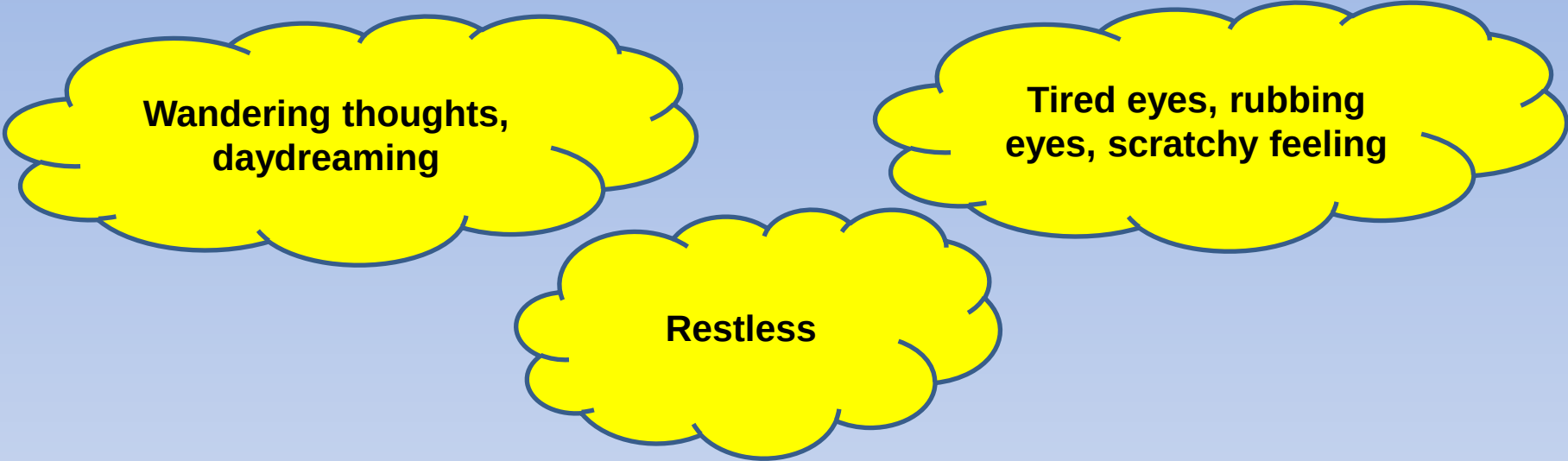
Sleep to drive/work safe – My Reframe Challenge



Before you get tired!!

- Have 7.5 hours of sleep every night you can
- For each hour less than that, add more controls
- If it's five or less hours, consider your driving options..

Fatigue symptoms - Tired



Wandering thoughts,
daydreaming

Tired eyes, rubbing
eyes, scratchy feeling

Restless

A short break

Interactions with others

Fresh air, cool water and bright light will also assist

Stretches and body movement will benefit the person greatly
(remember to park machinery appropriately)

This is a way of self-managing your fatigue..

Fatigue symptoms - Drowsy

**Eyelids wanting to close
Losing focus of visual field**

**Quiet, inactive,
frequent yawns &
reduced facial tone**

**Loss of steering corrections
Losing speed and not maintaining
headway distances
Reduced accuracy of lane tracking**

Frequent breaks with cool water, fresh air, bright light and major muscle movement.

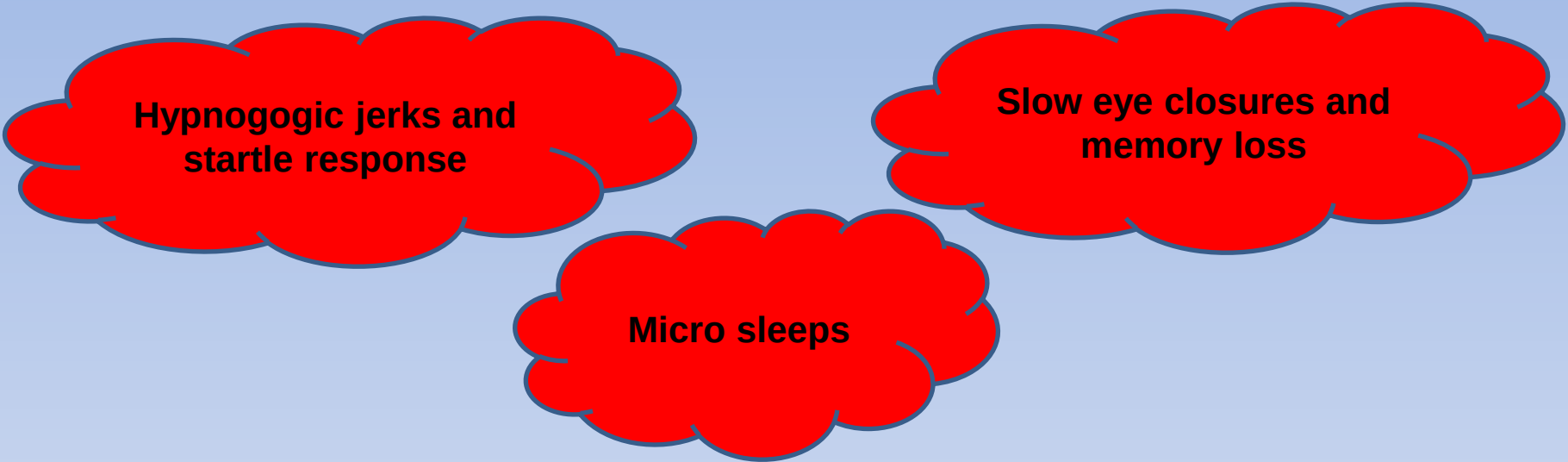
Should notify supervisor and have increased supervision from this point ([Fatigue-Assessment Tool](#))

May need to stop work/driving and have a 20-minute nap..

Does a driver know if they are about to fall asleep?



Fatigue symptoms - Sleepy



**Hypnagogic jerks and
startle response**

**Slow eye closures and
memory loss**

Micro sleeps

Notify supervisor immediately.

Only a nap in a secure location could allow you to continue

**This may be detected by a monitoring system in trucks, but personal
vehicles do not have these..**

Micro Sleep on the Road



Sleep & Fatigue Management Training

The science of sleep & how the brain works

Understanding the importance & benefits of sleep

How to best manage changing circadian rhythms to match
work schedules and time away from work

Sleep disorders and how to address them

How to manage shift work & get more daytime sleep

The importance of diet, exercise and sleep in combination

Recognition of fatigue impairment and appropriate controls

You get what you pay for..

Changes in sleep length from pre- to post-training (4 months)

- 190 responses
- **On dayshift**
 - 4 to 5 hours of sleep (was 17, down to 5) – 70%
 - 5 to 7 hours of sleep (was 134, down to 124) – 7.4%
 - > 7 hours of sleep (was 40 up to 61) + 52.5%
- **On nightshift**
 - < 4 hours of sleep (was 4, down to 1) - 75%
 - 4 to 5 hours of sleep (was 28, down to 20) - 28%
 - 5 to 7 hours of sleep (was 68, up to 71) + 4.4%
 - > 7 hours of sleep (was 13, up to 21) + 61.5%

Summary

- Sleep gives you brain energy for the next day
- Driving....stop before you get tired!
- You will recognise feeling drowsy, you won't know that you are about to fall asleep!
- Remember to.... *“Eat well, move often and sleep like a champion!..*



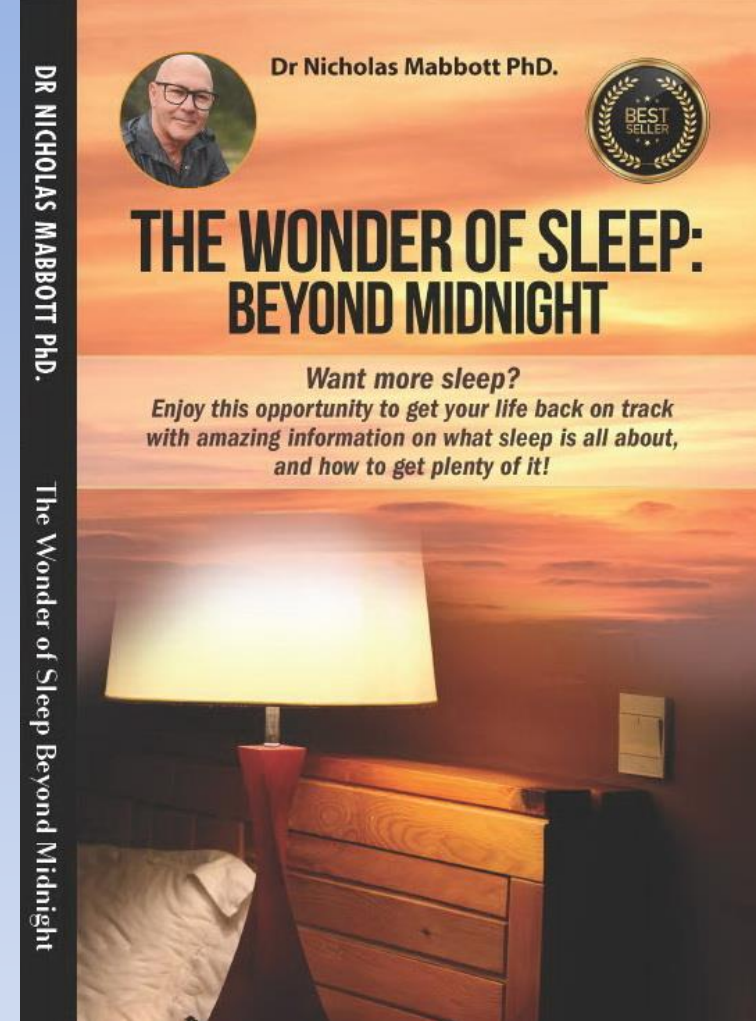
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Sleep meditation playlist
“Beyond Midnight” out now.



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