



**Dr (Maj) David Edgar PhD**



# Back-ground

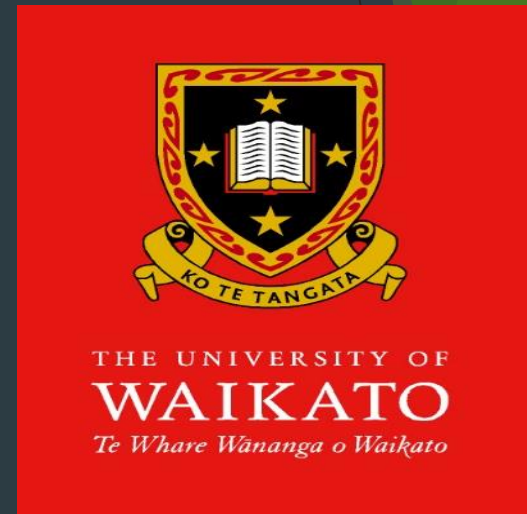
**BPhEd**



**MSc**



**PhD**



# Background



# Elite Sport-Military-Human Performance



A man with dark hair and a beard is lying in bed, looking directly at the camera. He is wearing a dark long-sleeved shirt. In the foreground, a round analog clock is visible on a bedside table, showing a time around 10:10. The room is dimly lit with a blueish tint, suggesting nighttime. The background is a plain wall.

# Sleep

**Up to 60% of the  
worlds population  
sleep poorly  
or suffer from sleep  
deprivation**

# Sleep

## ► What do know

Better sleep (Optimal sleep) = Enhanced Physical Performance

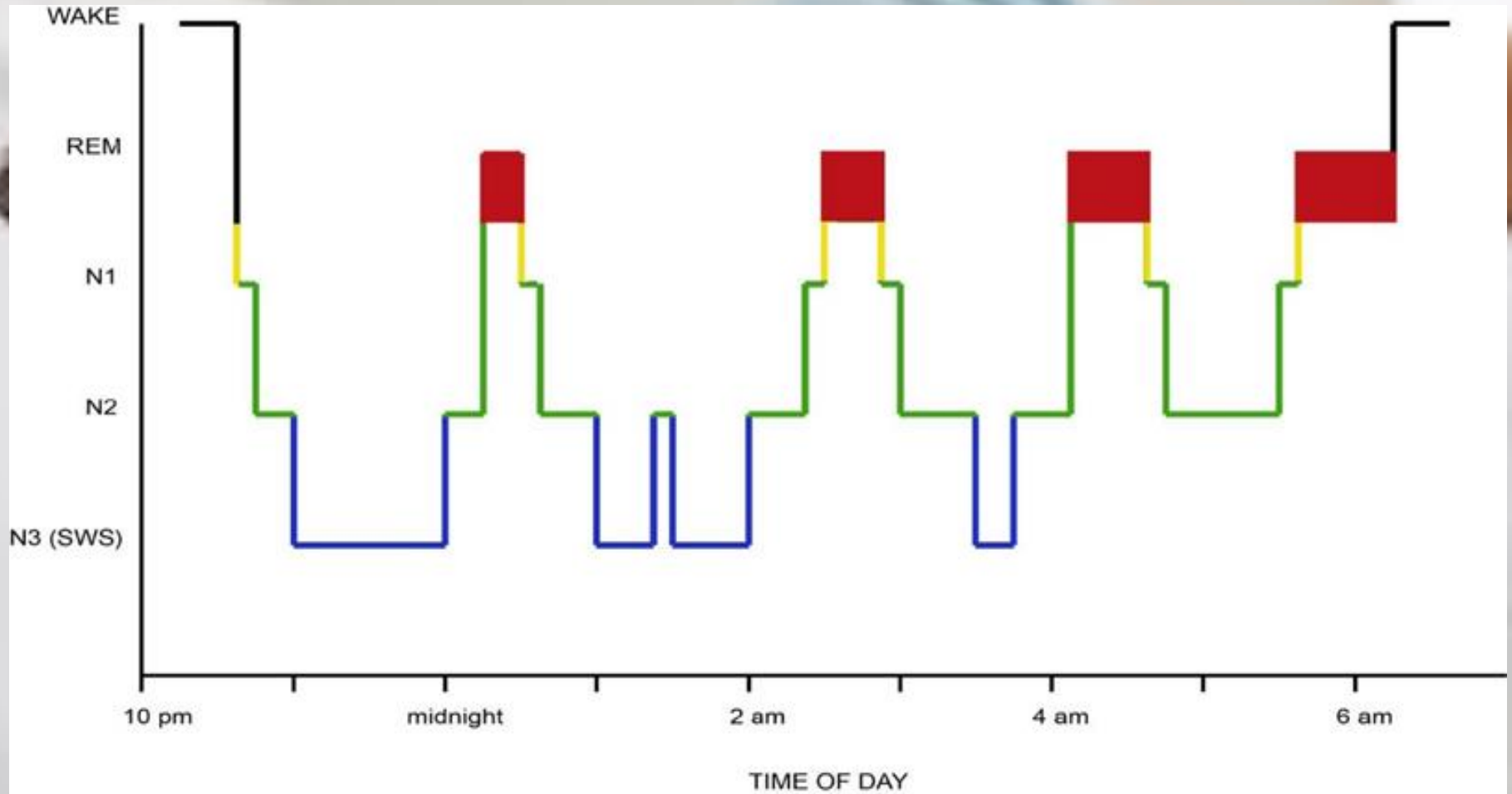
Better sleep (Optimal sleep) = Enhanced Cognitive Function

**Improved Health and Wellbeing!**

A young woman with long brown hair is sleeping peacefully on a blue couch. She is wearing a blue knit sweater and has her eyes closed. The couch has several blue pillows. The text "Sleep is FREE!" is overlaid in yellow on the lower part of the image.

**Sleep is FREE!**

# What is Sleep?



**The human sleep cycle (Carskadon & Dement, 2005). WAKE; indicated being awake, REM; represents rapid eye movement, N1; sleep stage one, N2 sleep stage two, N3 (SWS); represents sleep stage three, slow wave sleep.**

# Consequences of Shift Work:

- Blood Sugar Imbalance and Diabetes
- Inhibited Mental Performance
- Increased Risk of Injury & Accidents
- Hormone Imbalances
- Weight Gain
- Digestive Disorders
- Depression
- Anxiety
- Chronic Fatigue



# Six Key Bio-Hacks to Better Sleep!

*Biosynthesis...the body systems)*



# One: Sleep hygiene

## *-Process to prepare for sleep*

- ▶ Shower
  - ▶ Reduce lights
  - ▶ Warm drink
  - ▶ Read
  - ▶ Next day prep
- 
- ▶ The human body likes a routine!

## SLEEP HYGIENE



PUT YOUR MOBILE AWAY AND  
SET AN ALARM CLOCK



YOU NEED ABSOLUTE DARKNESS  
AND QUIETNESS



READ A BOOK INSTEAD OF  
WATCHING A TV SHOW



ESTABLISH A PRE-BEDTIME  
RITUAL FOR YOURSELF



KEEP THE TEMPERATURE  
COMFORTABLY COOL



USE A HUMIDIFIER  
TO MOISTURIZE THE AIR

## Two: Reduce bright light

- ▶ Lounge
- ▶ Kitchen
- ▶ Hallways
- ▶ Bedroom



- ▶ **Suppression of melatonin!**
- ▶ **ESSENTAIL SLEEP HORMONE!**

# Three: Get off Devices



## Four: Reduce artificial light in the bedroom

- ▶ Drapes
- ▶ Clocks
- ▶ Phones
- ▶ TVs
- ▶ Hair drier



# Five: Keep the bedroom cool



- ▶ Body temp at night
- ▶ Sleep better cool
- ▶ Fresh air
- ▶ Fans
- ▶ Natural airflow
- ▶ Layers on the bed



# Six: Reduce Caffeine from 12pm (Lunch)



- ▶ Coffee
- ▶ Energy drinks
- ▶ Neural stimulation
- ▶ Melatonin suppression
- ▶ Dehydration

# What if you wake in the night?

- ▶ Wait 4-5min
- ▶ Get-up, Re-set
- ▶ Write some notes
- ▶ Write a list
- ▶ Read a book
- ▶ Warm milk drink



# 12hr+ Shifts

- ▶ Plan and prep ahead
- ▶ Plan your meals & hydration
- ▶ Stretch and mobility
- ▶ Have family, kids, pets, dogs and laundry planned!
- ▶ Plan some recovery: Pool, spa, massage, compression, insoles.

# Night Shift Routines

- ▶ Gradually start to shift your sleep time (circadian rhythm).
- ▶ Workout and set a routine.
- ▶ Mimic your daytime meals at night.
- ▶ Avoid caffeine/energy drinks in the early hours of the morning.
- ▶ Get home and shower and get into bed in the dark.
- ▶ Block daylight (drapes)



# Shared Living

- ▶ Plan ahead
- ▶ Pack your bag and clothes in another room
- ▶ Have an agreement...sleep timing / quite timings
- ▶ Create a positive sleeping environment... sleeping pod
- ▶ Think about others!!

BAYONET

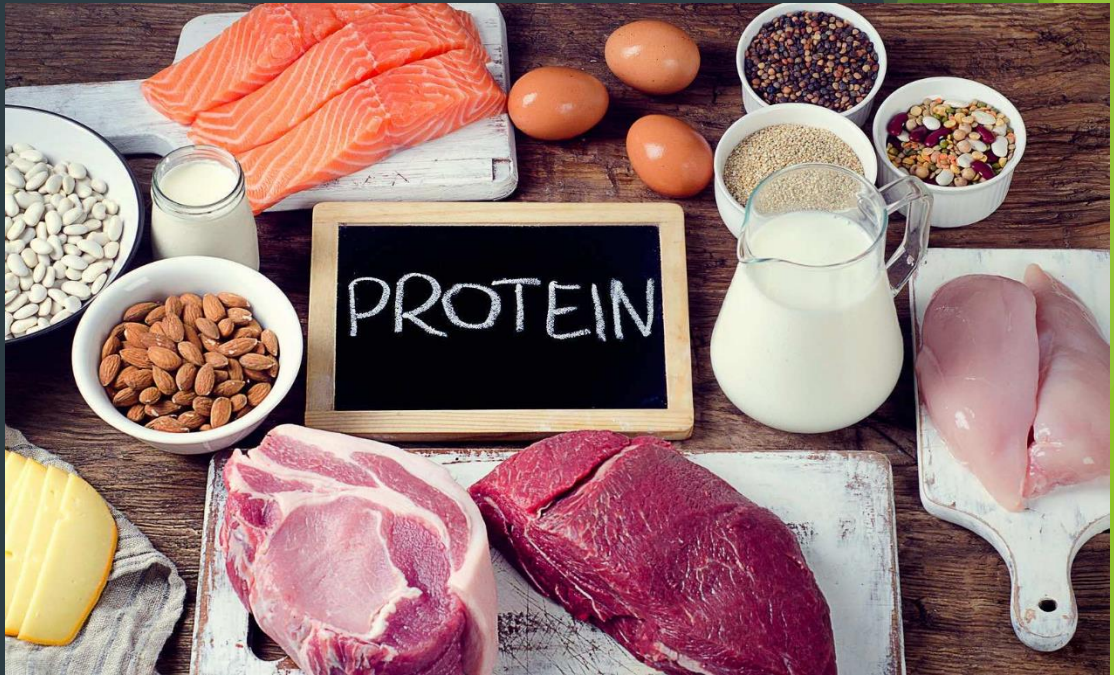
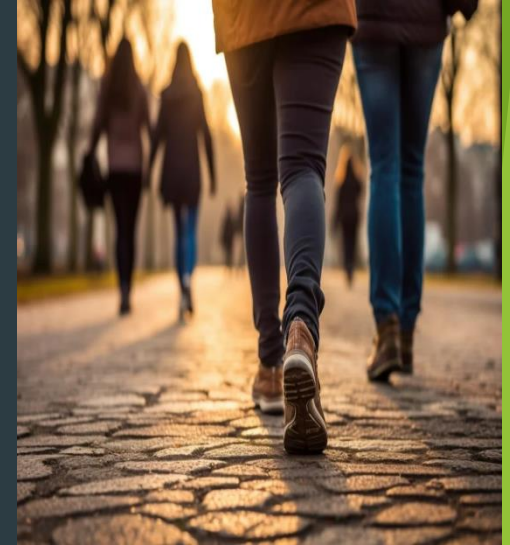
FIRST AID

MAP READING

PHASE TEST



# Recovery



# Injury Prevention

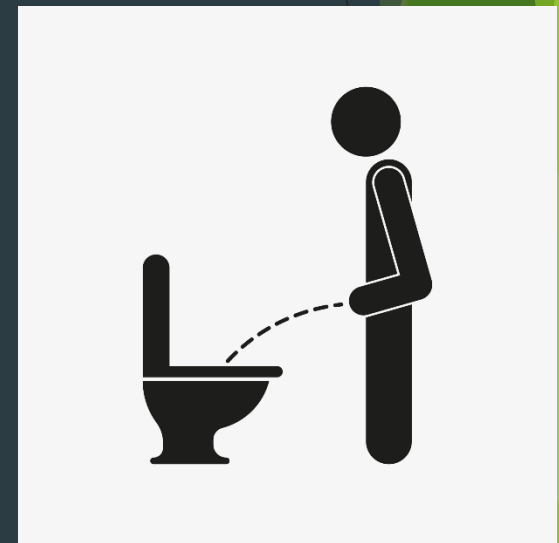


# Injury Prevention



# Sleep/Recovery & Alcohol

- ▶ Dehydration
- ▶ Need to pee
- ▶ Metabolic stimulation
- ▶ Cut into sleep time



The background of the slide features a dynamic image of water splashing, with numerous white bubbles and droplets against a light blue backdrop. The text is overlaid on this image.

**1% Drop in Body Weight = 7%  
Reduction in Performance and  
Cognitive Function**

**2% Drop = 14% Reduction ...etc**

**Optimal hydration will also  
support better sleep**

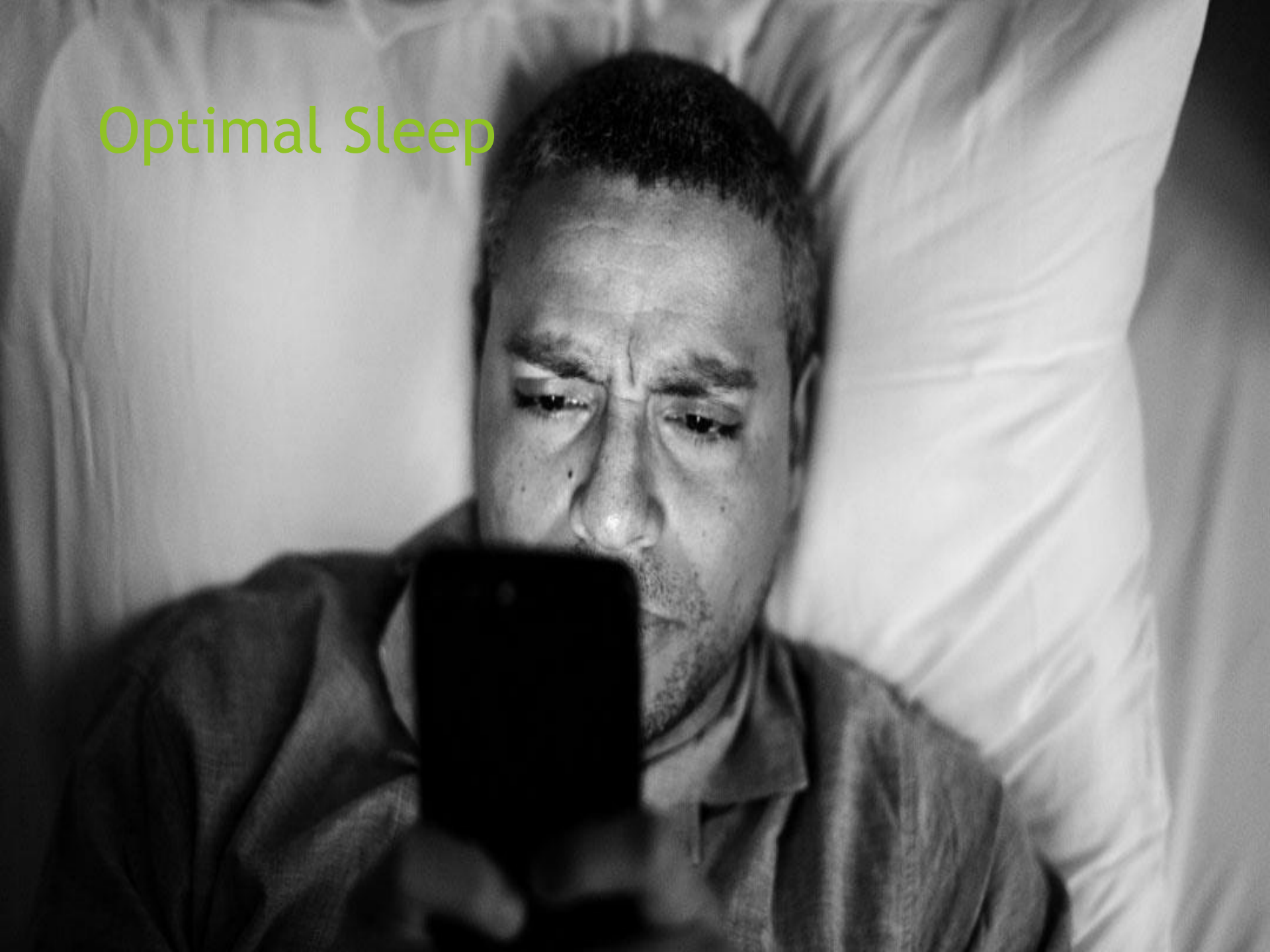
A close-up photograph of a woman with dark hair sleeping peacefully in a bed. She is lying on her side, resting her head on a white pillow. Her eyes are closed, and she has a slight smile on her face. She is wearing a white top. The background is softly blurred, showing more of the bed and a hint of a room.

# OPTIMAL SLEEP

- ▶ Ideal 8-9hr
- ▶ Target 8hr
- ▶ Actual 7hr
- ▶ Current 6-7hr
- ▶ Sleep Deprivation:

**6hr per night**

Optimal Sleep



## SLEEPING TIPS



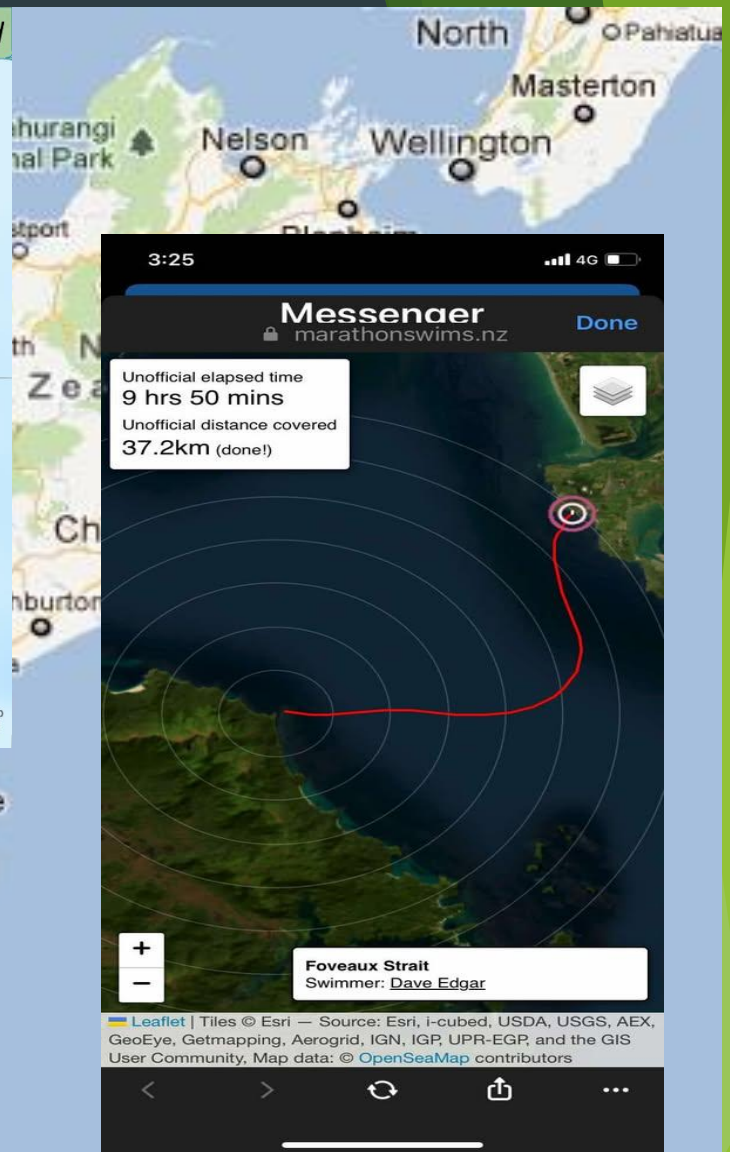
ESTABLISH A PRE-BEDTIME  
RITUAL FOR YOURSELF

KEEP THE TEMPERATURE  
COMFORTABLY COOL

USE A HUMIDIFIER  
TO MOISTURIZE THE AIR



**Sleep is FREE!**



**Stewart Island**









Evolve your Super Power!



Questions

