

# Occupational Health Impact on Air Traffic Controllers

Assessing Job-Related Health Risk and  
Self-care Recommendations



# Hi!

## José Henríquez Psychologist

He's an accomplished air traffic controller with specialization in en-route operations and ATS surveillance. In addition to his technical expertise, José serves as an OJT instructor and holds both a Bachelor's and a Master's degree in Clinical Psychology. Member of the Critical Incident Stress Management (CISM) team in DR. Certified in various psychometric assessments and possesses extensive expertise in psychological well-being and stress management.



# WHAT IS THERE TO DISCUSS TODAY?

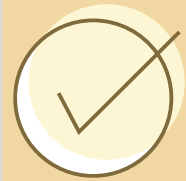
Through this talk, we aim to empower air traffic controllers with the knowledge and tools necessary to identify, manage and reduce work-related stress and its consequences, as a contribution to improving their quality of life and therefore positively impacting their emotional, family and professional spheres.



# TOPICS



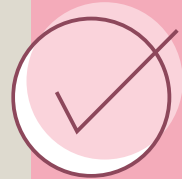
**How does stress affect Air Traffic Control?**



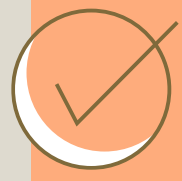
**Stress, Stressors, and Occupational Stress**



**The Impact of Stress Hormones on the Brain and Body**



**Somatization**



**Self-Care for Mental Well-Being**





# What is the impact of stress on Air Traffic Control?

➤ According to ICAO, 60% to 80% of ATCs experience work-related stress.

➤ According to NATCA, 70% of ATCs experience work-related stress.

➤ The FAA discovered that 65% of CTAs indicate that workload is a major stress factor.

➤ The Journal of Occupational Health Psychology stated that 30% of CTAs exhibit anxiety symptoms, while the FAA indicated that almost 25% experience depression.

➤ The Journal of Occupational Medicine discovered that 40% of individuals suffer from sleep disorders, while the European Union reported that 50% of occupational health workers experience cardiovascular disease and hypertension.



**Stress contributes to 20% of operational errors and diminishes information processing capacity by 15%.**

# What is stress?

Physiological and psychological responses to stressors, whether internal or external, involve changes that impact nearly all of the body's systems and influence individuals' emotions and actions.

It can be shown as:

- Palpitations
- Sweating
- Dry mouth
- Respiratory distress
- Concern
- Rapid speech
- Rise in adverse feelings
- Extended period of fatigue due to stress.



# What constitutes a stressor?


Stimulus, condition, or situation that triggers a stress response in an individual.



**Examples of stressors:**

- Change
- Uncertainty.
- Financial difficulties.

# WHAT IS WORK-RELATED STRESS?



**Physiological and psychological responses that arise from stressors directly related to the functions inherent to a specific job.**





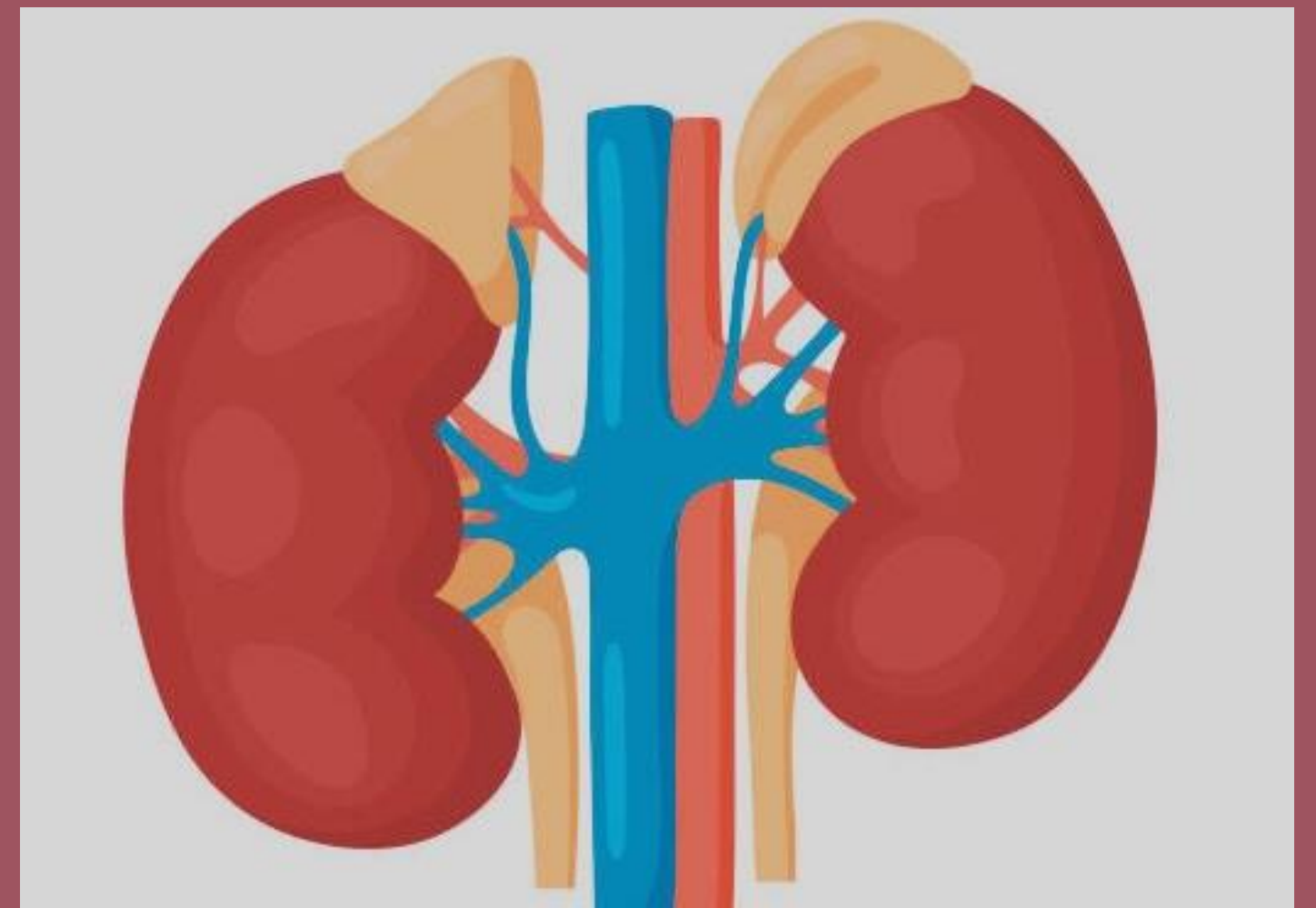
# Cortisol

Pituitary Gland

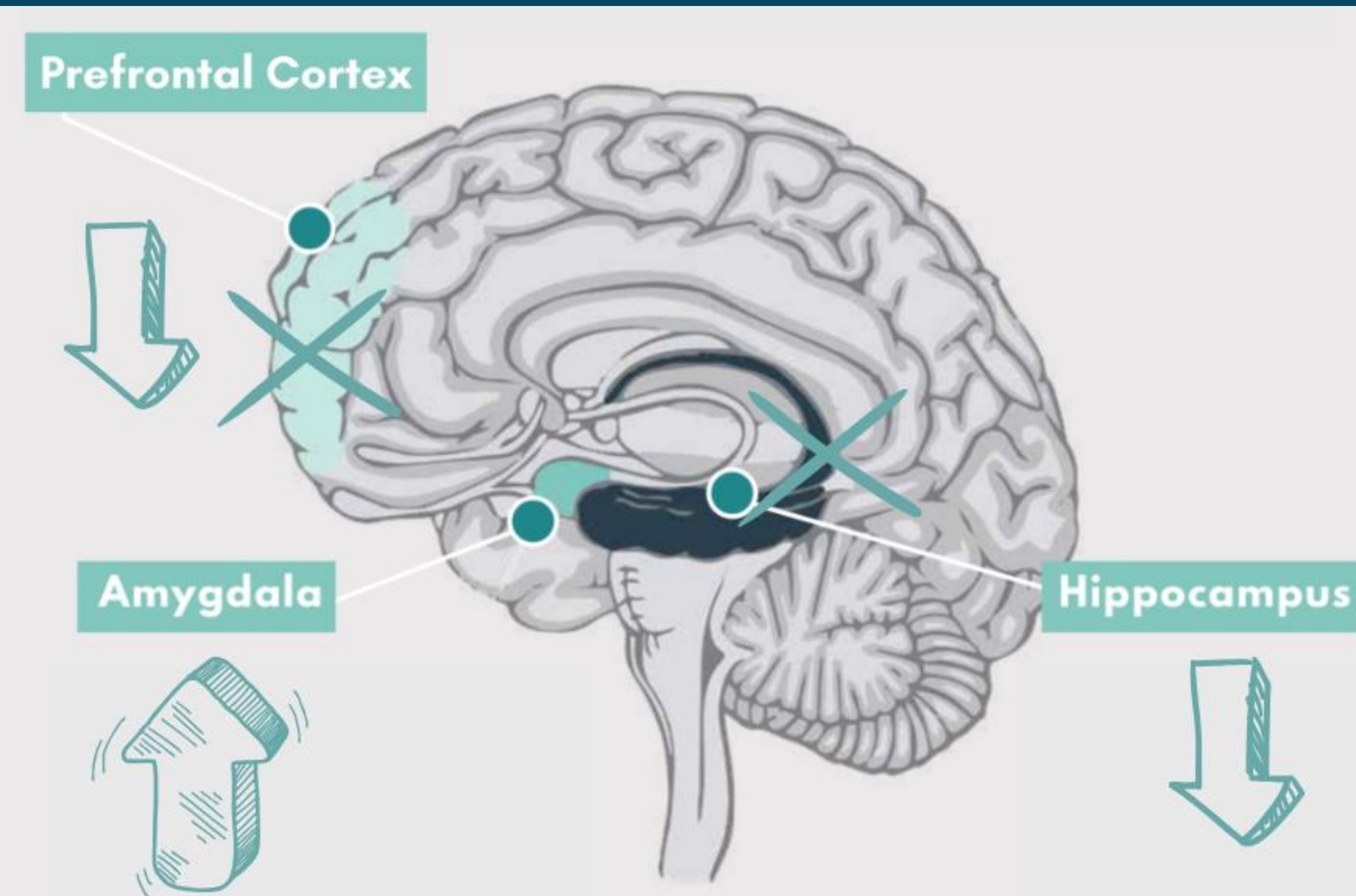


It is accountable for elevating blood sugar levels, enhancing glucose utilization in the brain, and increasing the presence of substances that aid in tissue repair in the body.

Adrenal Glands



# CORTISOL IN THE BRAIN



- The hippocampus is a crucial brain region for memory formation and learning.
- The amygdala, responsible for regulating emotions and fear response, is a region of the brain.
- The prefrontal cortex is accountable for executive functions like decision-making, planning, and impulse control.

# What are the features of job stress in terms of appearance and sensation?

**Emotional symptoms include anxiety and irritability.**



**Behavioral manifestations: trouble focusing and sleeplessness.**



**Physical manifestations: fatigue and headaches**





# SOMATIZATION

Physical symptoms that manifest in the body, not entirely explicable by medical conditions, and thus linked to psychological factors.





# Self-Care for Mental Well-Being

For Air Traffic Controllers



# Hi!

## **Breydys Tapia** **Psychologist**

Industrial psychologist with a specialty in neuroeducation. Speaker at the Aeronautical Talks Marathon for the Aeronautical Learning Services in Colombia. Member of the Critical Incident Stress Management (CISM) team in DR. OJT instructor. Tower supervisor at Punta Cana International Airport. Aerodrome controller with over fifteen years of experience.



# Techniques for Relaxation and Mindfulness

**Strategies for maintaining a healthy and balanced mind**

Meditation: Engage in a daily practice of 10–15 minutes (e.g. Headspace).

Deep breathing exercises: Ideal for high-pressure situations.

Mindfulness: Cultivating presence and alleviating stress.



# Workout sessions

1

Benefits: Enhanced mood, decreased stress

2

Walking, running, yoga, swimming.

3

Suggestion: 30-minute exercise sessions at least 3 times weekly.





# Sufficient Rest and Sleep

Sufficient and quality sleep on a consistent basis is crucial for the brain and body to rejuvenate.

Napping before work reduces wakefulness duration and sustains attention and performance at work, without diminishing necessary sleep duration during short breaks at work.



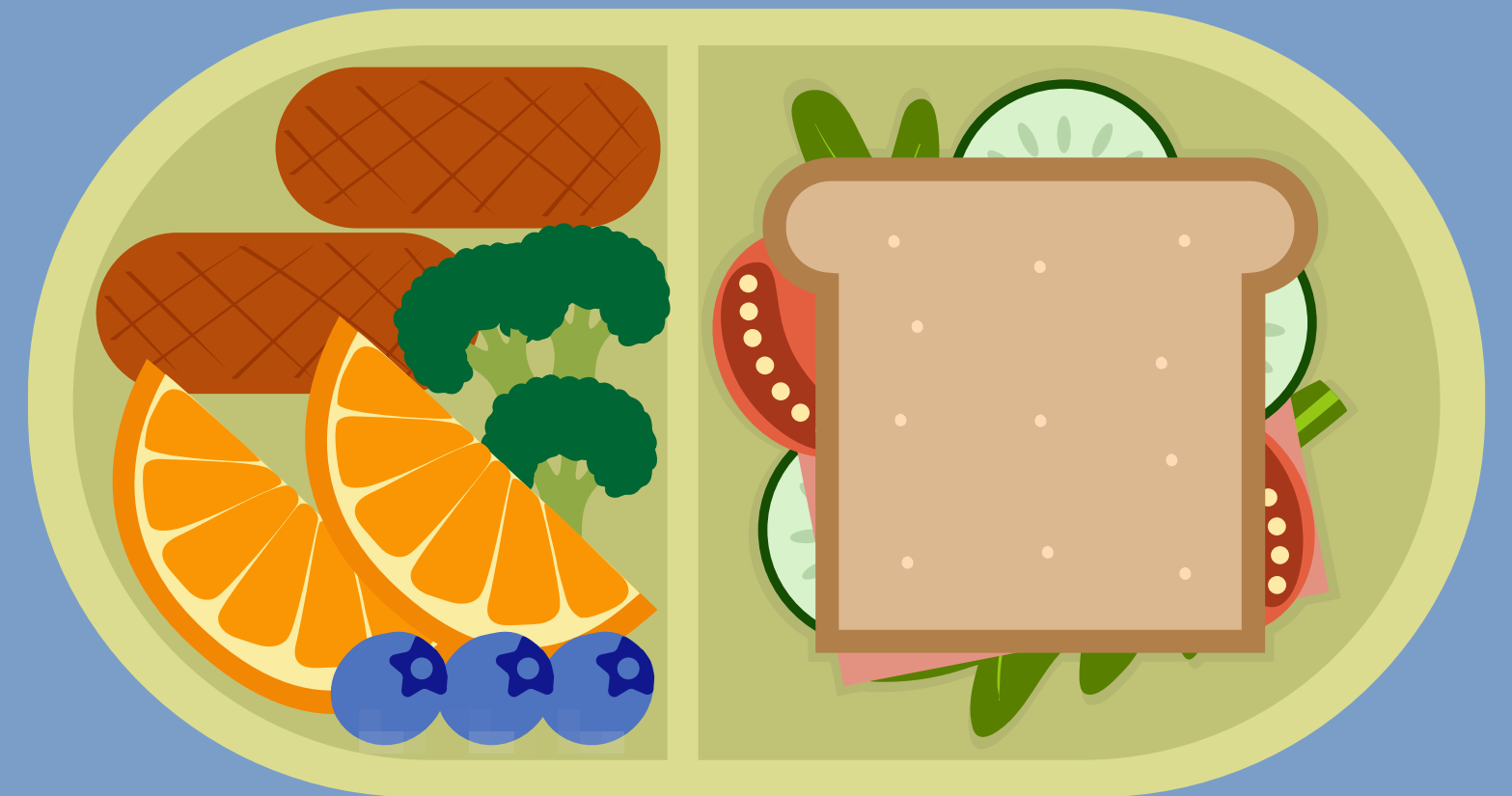
Taking a nap during a shift can help maintain performance when working long hours or during the night. The result depends on the situation, where you sleep, and how much time you have.

Avoid: Consuming caffeine and looking at screens before bedtime.

# Nutrition

Under the influence of stress or due to time constraints caused by overwork, it is common to give in to fast food cravings, which typically offer minimal nutrients and can contribute to the beginning of cardiovascular conditions.

Balanced diet: Fruits, vegetables, proteins.  
Hydration: Ensure adequate water intake.  
Avoid: Excessive consumption of caffeine and alcohol.



# Leisure and detachment

Sufficient dopamine levels play a role in maintaining emotional equilibrium, whereas imbalances can be linked to mood disorders like depression or anxiety.

## Suggested activities:

- Exercise.
- Enjoying nature.
- Listen to music.
- Create or accomplish a minor task.
- Hobbies, sports, reading.





## Social assistance

Healthy Relationships: Family and Friends.

Support groups provide a platform for individuals to share experiences and receive mutual support.



# Professional Counseling and Assistance



Seek assistance from mental health professionals when needed.

Workplace Support Programs:  
Using Available Resources (CISM).

# Effective time management and organization



Planning involves the organization of tasks and personal time.

Prioritization: Mastering the art of declining and preventing overwork.

# Resilience Strategies

1

Skill development: Managing challenges and pressure.

2

Positive outlook: View challenges and errors as chances for development.

3

Maintain hope

4

Nurture self-confidence.



# Questions?

