



# SLEEP, WOMEN AND MENOPAUSE

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# THE USUAL SLEEP PATTERNS in WESTERN MIDDLE AGE

## **NREM – Non-Rapid eye movement or quiescent sleep**

Stage N1 5-10% ( lightest snooze)

Stage N2 40-50%

Stage N3 20 -25%( deep sleep, thought like friendly dreams)

## **REM – Rapid Eye Movement**

20-25% - (hallucinatory/bizzare content)

## **WAKE**

Sleep latency – 15 mins

Wake after sleep onset – 45 mins

Arousal (more than 3 secs of wakefulness) 12/hour

# SLEEP FUNCTIONS

- 1) **Organization of information**
- 2) **Embeds memories.**

Non-REM – Procedural and task orientated

REM – Embeds emotional and visual memory

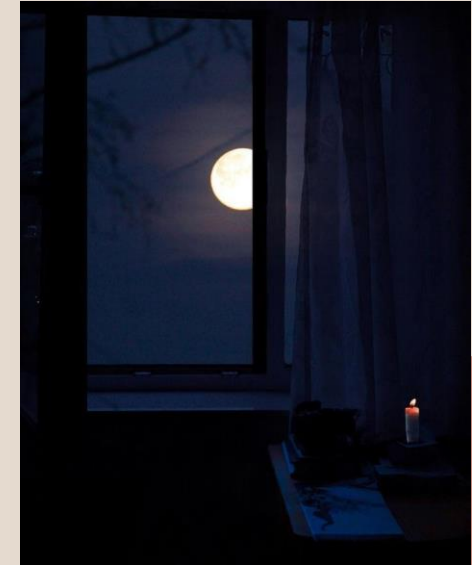
- 3) **Regulates hormones** eg circadin

- 4) **Removes brain waste** –during sleep brain cells shrink up to 60%. Cerebral spinal fluid washes through the gaps to pick up beta-amyloid ('waste'). This is important to avoid a build up of the beta-amyloid proteins which block signals and could be associated with Alzheimers

- 5) **Maintains sexual function**

- 6) **Allows uninhibited information processing** During sleep the frontal lobe does not act to apply logic. This can lead to great arty ideas, but with no logic.

- 7) **Maintains the immune system**



# SLEEP and the CIRCADIAN RHYTHM after menopause

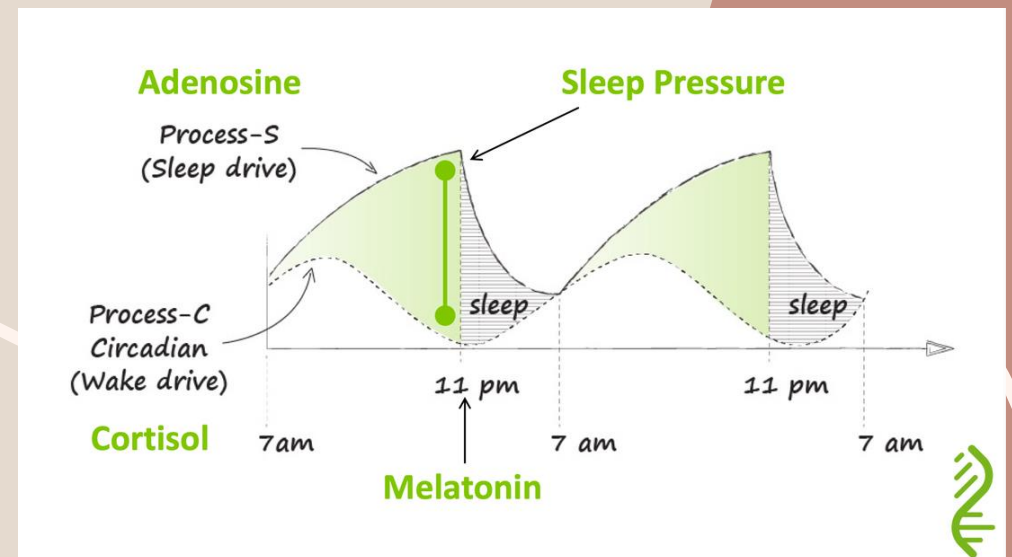
**Adenosine** interacts with cells to cause **drowsiness**. (Adenosine is the product of dietary glucose breaking down (glycolysis) to further break down to ATP to adenosine)

During sleep the adenosine will then reduce in cyclic (circadian) fashion.

**Some studies suggest that after the menopause circadian rhythm is dampened.**

It is proposed that menopause leads to aging of multiple brain and ovary pacemakers that co-ordinate the sleep/wake cycle.

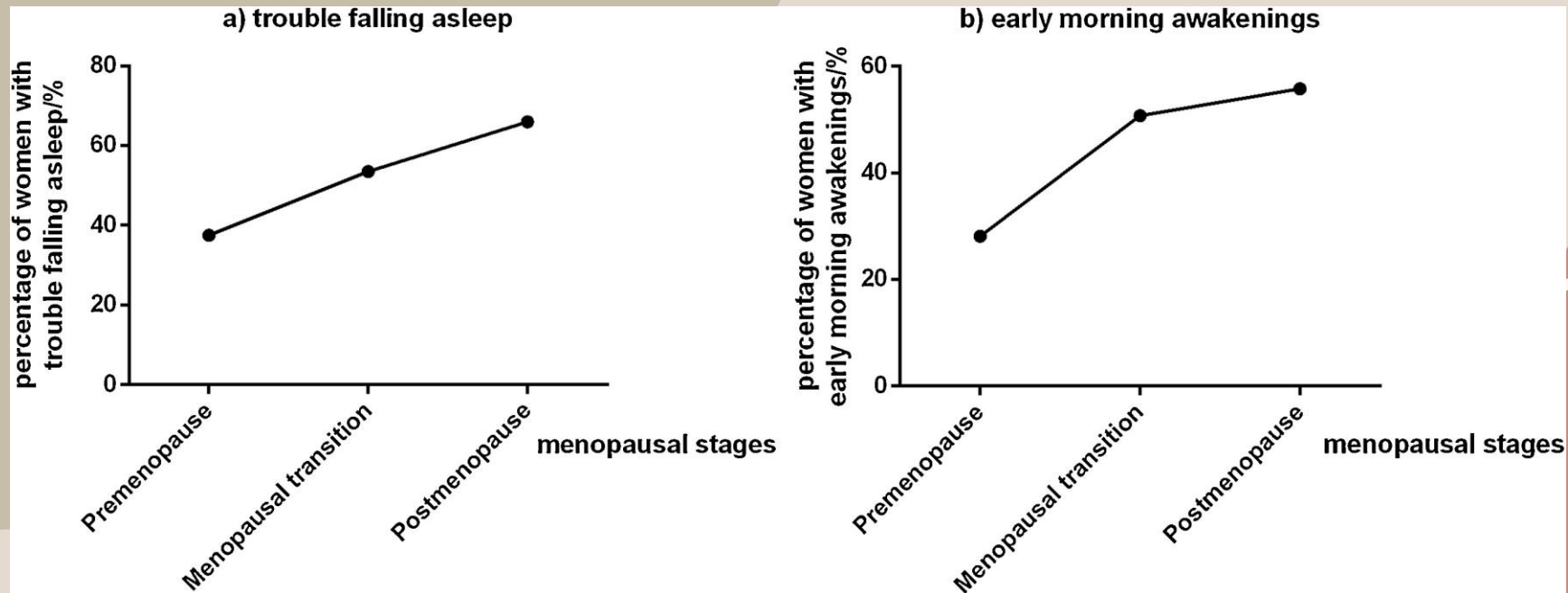
*Rangel-Zuniga et al Mechanisms of ageing and Development (2017).*



# Insomnia and Menopause

Declining oestrogen and increasing FSH will increase awakenings – effecting over 40% of women transitioning through the menopause.

Vasomotor (VMS) hot flushing can account for 25% of wake time and measured objectively about %69 of VMS lead to awakening.



## OTHER ISSUES

**Obstructive sleep apnoea / hypopnea** (overly shallow breathing or low respiratory rate). A medical condition that can present with insomnia, morning headache, fatigue, impaired memory, mood changes, enuresis. Diagnosis : by a GP referral to a sleep physician for sleep studies. Treatment: CPAP machine, weight loss and reduce alcohol

### **Restless leg syndrome**

For women 69% reported a worsening of symptoms after menopause

### **Chronic pain**

Clinically significant insomnia has been reported by 53% of chronic pain patients attending pain clinics vs 3% of matches controls.

# REDUCING INSOMNIA – GOOD SLEEP PRACTICES

Wake at the same time each day

Consider sleep part of the daily well being, like diet and exercise

No clockwatching if you obsess about it

Respect others' sleep

Bed is for sleep ( and sex ) only

Allow wind down time before sleep

The worst thing to fix sleep issues is to worry about it

Podcasts (boring sleep podcasts) if awake eg 'Sleep whispers' 'Nothing much happens', read uninteresting material.

# REDUCING INSOMNIA

The most effective long term treatment is cognitive behavioural therapy

Online CBT for insomnia recommendations:

This Way Up

<https://thiswayup.org.au/programs/insomnia-program/>

Restore <sup>TM</sup> CBT for Insomnia and sleep health

<https://www.cobaltrx.com/Products/restore.html>

Shuti

<https://www.somryst.com/>

FACTSHEETS Australian Sleep Health Foundation

<https://www.sleephealthfoundation.org.au/>