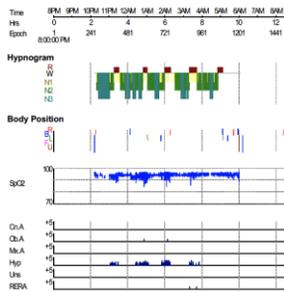


SLEEP DISTURBANCE IN MENOPAUSE

A/PROF JEREMY GOLDIN
HEAD OF SLEEP MEDICINE
ROYAL MELBOURNE HOSPITAL

MRS LJ

- 55y.o mother of 3 children (25, 22, 18y.o)
- 3 years of sleep onset insomnia, nocturnal awakenings and tiredness
- PHx – depression (no current treatment)
- No menstrual periods for 18 months
- Epworth Sleepiness Score 7/24
- Works 3 days a week (office)
- Weight gain of 5kg in last 2 years
- Snorer
- Occasional vasomotor symptoms
- Normal FBE, iron studies, TSH



- “There is severe obstructive sleep apnoea in REM”
- “Recommend treatment with CPAP”
- “If CPAP is not tolerated consider a mandibular advancement splint”
- “Untreated sleep apnoea is associated with motor vehicle accidents, hypertension, cardiac disease and stroke)”

WHAT WOULD YOU DO?

- REFER FOR CPAP THERAPY?

WHAT WOULD YOU DO?

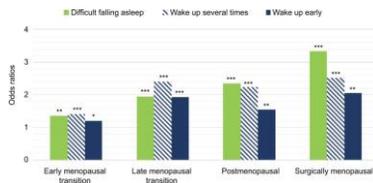
- REFER FOR CPAP THERAPY?
- REFER FOR MANDIBULAR ADVANCEMENT SPLINT?

WHAT WOULD YOU DO?

- REFER FOR CPAP THERAPY?
- REFER FOR MANDIBULAR ADVANCEMENT SPLINT?
- LEAVE SLEEP APNOEA UNTREATED AND INVESTIGATE AND MANAGE OTHER FACTORS THAT MAY BE IMPACTING SLEEP – vasomotor symptoms, consider mood disorder, lifestyle factors, circadian rhythm disturbance.

Epidemiology

- 40-60% of Middle aged women report sleep problems
- 26% of perimenopausal women and beyond describe severe sleep problems that impact QOL and meet criteria for insomnia [Chayan, M. Arch Int Med 2006](#)
- Population studies demonstrate sleep difficulties are linked to menopause stage and changes in FSH and oestradiol over and above the effects of age.
- It is normal for older individuals to spend more time in wakefulness – as individuals get older in many cases it is not the awakening that is the problem but rather the individuals response to it.



Age-adjusted odds ratios for self-reported sleep difficulties in women participating in the SWAN prospectively tracked across the natural menopausal transition relative to premenopausal baseline and in women who transitioned to surgical menopause.
Notes: * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$. Data from Kravitz et al. [22](#) Abbreviation: SWAN, Study of Women's Health Across the Nation.
 Baker et al. [Nat Sci Sleep. 2018; 10: 73–95.](#)

- 53% of middle aged women with OSA, PLMs or both – [Freedman et al. Menopause 2007](#)
- 20% of middle aged women with moderate-severe OSA (SWAN study) – [Hilli et al. Sleep 2009](#)
- OSA – in majority of cases in this group does not necessarily require treatment – Know the evidence of risks associated with OSA (majority of patients diagnosed with OSA do not have increased long term health risk and treatment may be more a burden than benefit – decision to treat dependent on comprehensive clinical assessment together with the sleep study result)
- PLMs – common incidental finding particularly in older adults – treatment also dependent on clinical assessment together with interpretation of sleep study (i.e. are the leg movements impacting sleep architecture).

Sleep Regulation – Overview

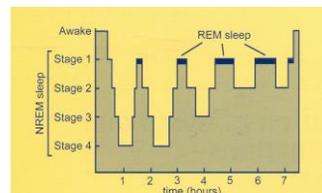
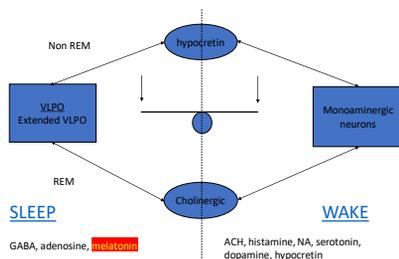
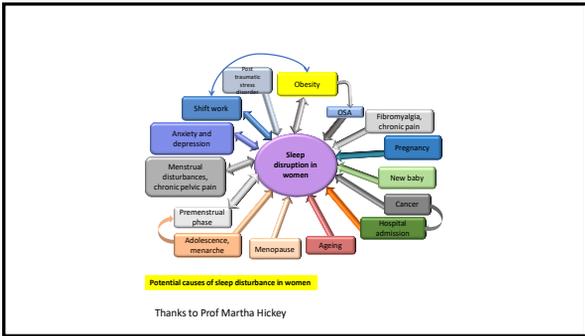
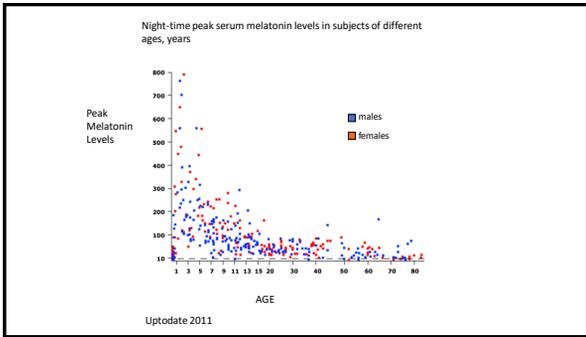
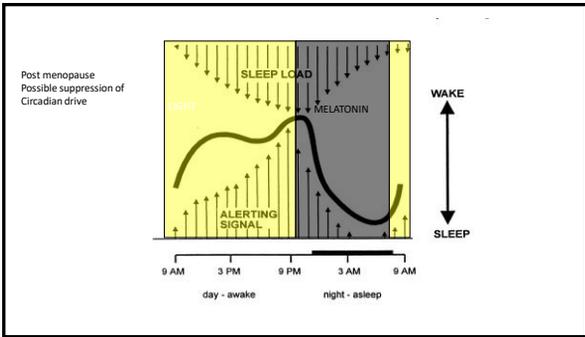
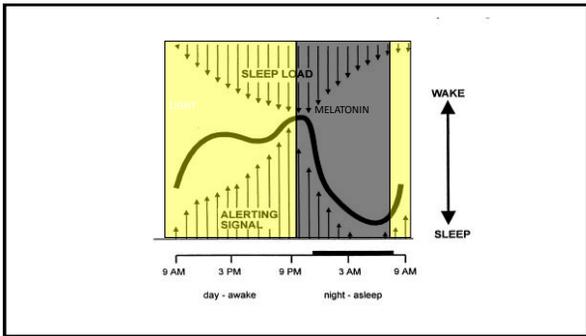
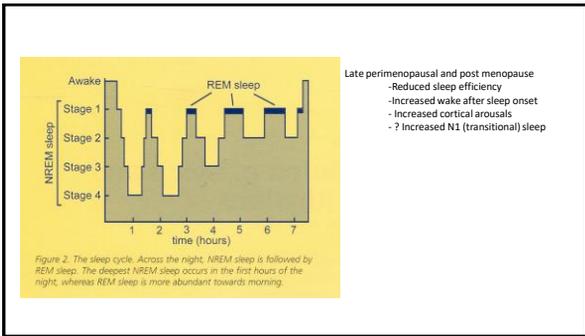


Figure 2. The sleep cycle. Across the night, NREM sleep is followed by REM sleep. The deepest NREM sleep occurs in the first hours of the night, whereas REM sleep is more abundant towards morning.



Sleep Disturbance in Menopause

- Likely to be multifactorial in aetiology
 - Vasomotor symptoms and Hormonal Changes – increased cortical arousals and awakenings (sleep fragmentation), reduced sleep efficiency and changes to sleep stages – Woodward S. Sleep 1991
 - Circadian Rhythm abnormalities
 - Exacerbation of Primary Insomnia
 - Mood Disorder (bidirectional relationship between sleep and mood)
 - Lifestyle Factors
 - Primary Sleep Disorders (sleep disordered breathing, periodic limb movement disorder)
 - Aging and Medical Illness

- Oestrogen and Progesterone receptors are found in brain regions associated with driving sleep
- Oestrogen – sleep maintaining
- Progesterone – sleep promoting
- Role of HRT (and SSRIs) in improving sleep in Menopause is controversial – mixed results (recent results are more positive) – possibly reduces degree of sleep fragmentation, reduced cortical arousals and increases REM – [Joffe et al. Semin Reprod Med 2010](#)

EVALUATION

- Mainly guided by clinical assessment – Sleep Hx
- Lack of correlation between subjective and objective measures of menopause related sleep disturbance with sleep studies – raises the question of the validity of laboratory/home based sleep assessment – [Shaver et. Al. Sleep 1991](#)
- Incidental findings on sleep studies (sleep apnoea, periodic limb movements) may not necessarily be causing symptoms and may not require treatment

HISTORY AND EXAMINATION

- Age and Gender
- Work – shift, work, retired, regular day shift
- Do you have a problem with sleep?
- Comorbidities (HTN, DM, CVD, Thyroid disease etc...)
- Medications/ Smoking/ EtOH/ Caffeine
- Sleep/Wake times – sleep onset, sleep duration
- Nocturnal Awakenings and Cause (?Nocturia)
- Refreshing sleep
- Morning Headaches
- Snoring/ Observed Apnoeas/ Choking/ Dry Mouth
- Restless Legs/ Periodic Leg Movements/ Parasomnia
- Sleep paralysis/ hypnagogic hallucinations/ cataplexy
- Sleep Environment
- Menopause Status
- Mood/ Hx of Depression?
- Constipation, anaemia (if considering RBD)
- Epworth Sleepiness Score

EPWORTH SLEEPINESS SCALE

Use the following scale to choose the **most appropriate number** for each situation:

0 = would **never** doze

1 = **slight chance** of dozing

2 = **moderate chance** of dozing 3 = **high chance** of dozing

Chance of Dozing (0-3)

Sitting and reading

Watching TV

Sitting, inactive in a public place (e.g. a theatre or a meeting)

As a passenger in a car for an hour without a break

Lying down to rest in the afternoon when circumstances permit

Sitting and talking to someone

Sitting quietly after a lunch without alcohol

In a car, while stopped for a few minutes in the traffic

[M.W. Johns 1990-97](#)

0-5 Lower Normal Daytime Sleepiness

6-10 Higher Normal Daytime Sleepiness

11-12 Mild Excessive Daytime Sleepiness

13-15 Moderate Excessive Daytime Sleepiness

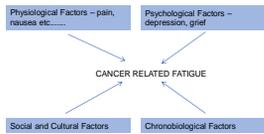
16-24 Severe Excessive Daytime Sleepiness

Management

- Sleep Hygiene and Circadian Rhythm
 - MR melatonin – not much evidence but often trialed if Hx suggests some circadian disruption
 - Morning Exercise and exposure to Natural Light/ Bright Light Therapy -
- Manage Vasomotor Symptoms
 - HRT
 - SSRI/ SNRI
- Diagnose and Treat Depression
- Identify Lifestyle Factors and any Psychosocial stressors – family dynamics, work issues, sleep deprivation
- Primary Insomnia - CBT

- Exclude Chronic Medical Conditions – anaemia, iron deficiency, hypothyroid, coeliac disease
- If Significant OSA (i.e. Overall AHI > 30) consider a trial of CPAP. If AHI 15-30 and symptoms persist despite above consider a trial of CPAP over 1-2 months. Cease CPAP if more a burden than benefit.
- Some Evidence for – Valerian, Chamomile, Melatonin (short acting), Kava

Sleep, Fatigue & Circadian Rhythm Abnormalities in Cancer



- Morning bright light treatment may prevent overall fatigue from worsening during chemotherapy (39 women with breast cancer)

Ancoli Israel et al. *Supp Care in Ca* 2011

- CBT is an effective treatment for insomnia in breast cancer survivors
Florentina et al.

- Melatonin may improve subjective sleep quality

Chen et al. *Breast Cancer Res Treat* 2014

- CANSLEEP PROGRAM

MRS LJ

- 55y.o mother of 3 children (25, 22, 18y.o)
- 3 years of sleep onset insomnia, nocturnal awakenings and tiredness
- PHx – depression (no current treatment)
- No menstrual periods for 18 months
- Epworth Sleepiness Score 7/24
- Works 3 days a week (office)
- Weight gain of 5kg in last 2 years
- Snorer
- Occasional vasomotor symptoms
- Normal FBE, iron studies, TSH

- “There is severe obstructive sleep apnoea in REM”
- “Recommend treatment with CPAP”
- “If CPAP is not tolerated consider a mandibular advancement splint”
- “Untreated sleep apnoea is associated with motor vehicle accidents, hypertension, cardiac disease and stroke”

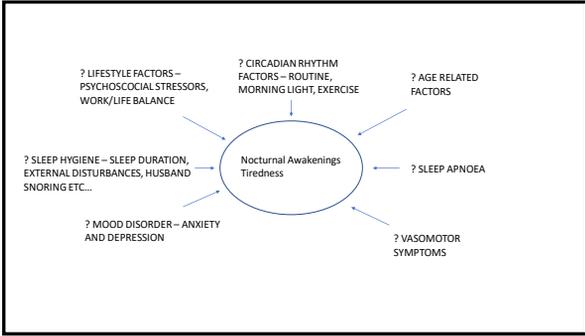
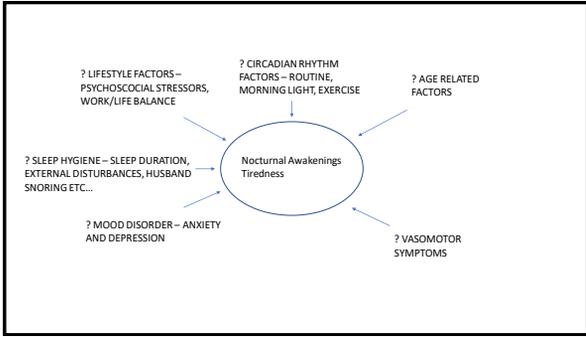
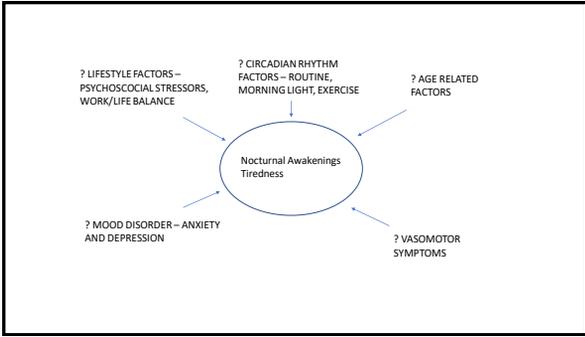
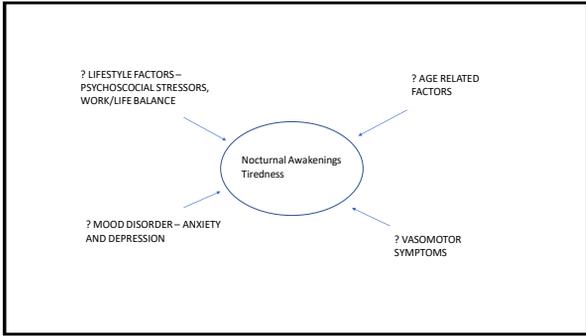
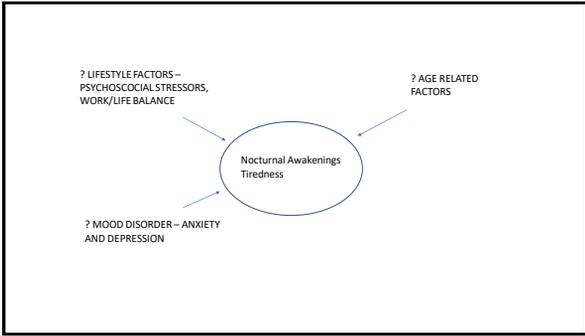
? LIFESTYLE FACTORS –
PSYCHOSOCIAL STRESSORS,
WORK/LIFE BALANCE



? LIFESTYLE FACTORS –
PSYCHOSOCIAL STRESSORS,
WORK/LIFE BALANCE



? MOOD DISORDER – ANXIETY
AND DEPRESSION



WHAT WOULD YOU DO?

- REFER FOR CPAP THERAPY?
- REFER FOR MANDIBULAR ADVANCEMENT SPLINT?
- LEAVE SLEEP APNOEA UNTREATED AND INVESTIGATE AND MANAGE OTHER FACTORS THAT MAY BE IMPACTING SLEEP – vasomotor symptoms, consider mood disorder, lifestyle factors, circadian rhythm disturbance.

NOTE – current evidence does not suggest the degree of OSA conveys significant long term health risk. The clinical assessment suggests other factors are driving the symptoms. The evidence does not support that REM isolated OSA causes excessive sleepiness.

THANK YOU

www.jeremygoldin.com.au

Mobile 0402 015 517

Phone 1300 487 588

admin@jeremygoldin.com.au

