



Dr Alex Bartle

Sleep Well Clinic

ID and Rx of Parasomnias including Restless Legs Syndrome - Concurrent Workshop Repeated

Saturday, 17 August 2013

Start 8:30am

Duration: 55mins

Da Vinci

Start 9:35am

Duration: 55mins

Da Vinci



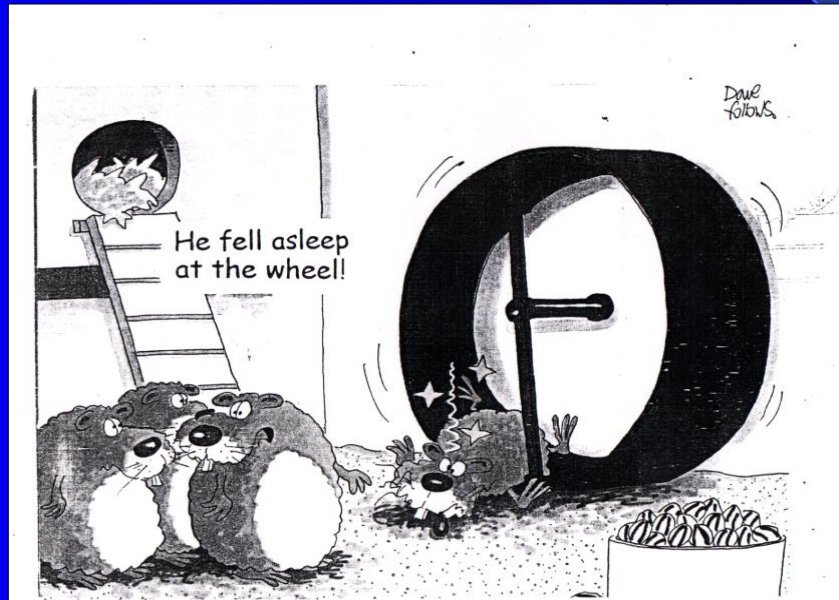
South GP CME 2013

General Practice Conference & Medical Exhibition

15-18 August | Edgar Centre | Dunedin

The Parasomnias

“Things that go bump in the night”
and
Restless Leg Syndrome



GP CME 2013
Dunedin

Overview

The Structure of Sleep

The Parasomnias

In Non-REM

In REM

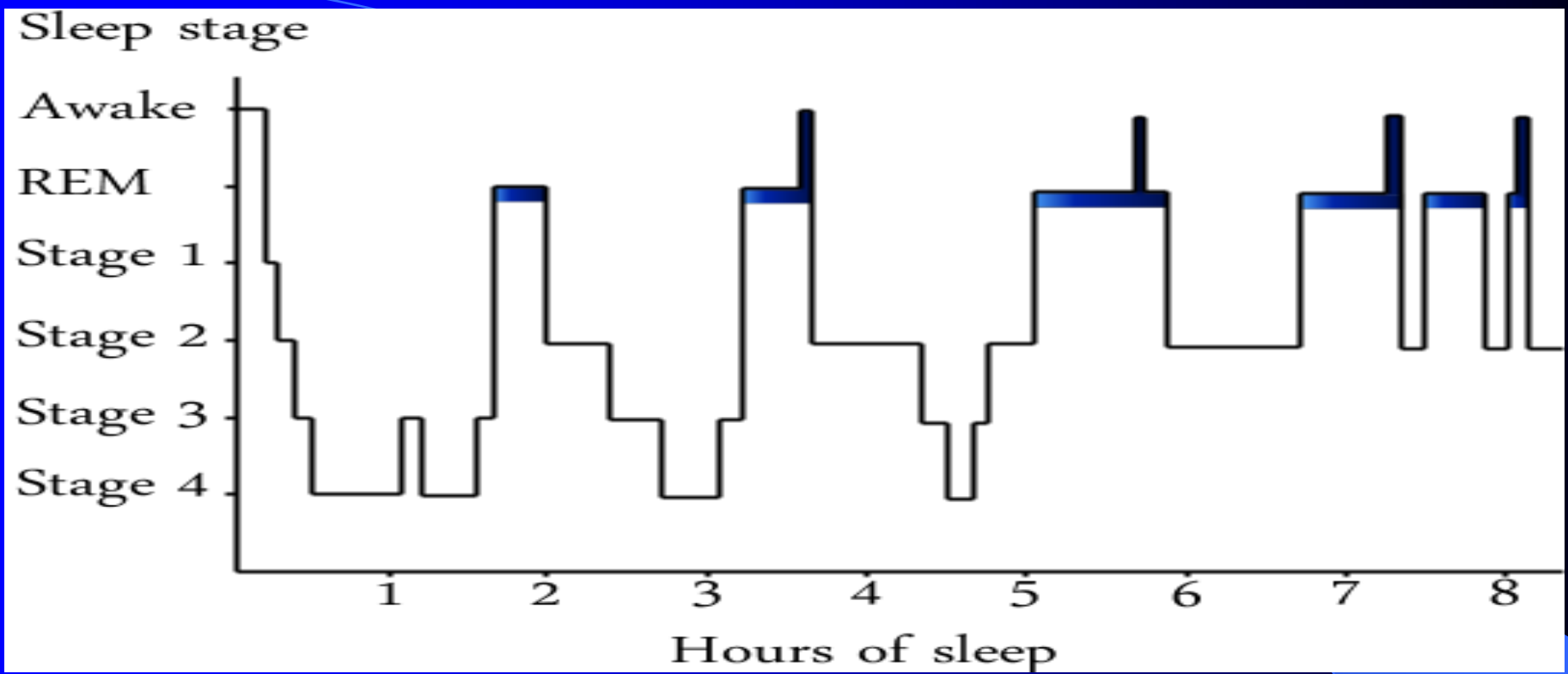
In either

Sleep Related Movement Disorders

Restless Leg Syndrome

Periodic Limb movements in Sleep

Narcolepsy



REM - Rapid Eye Movement

NREM - Non-Rapid Eye Movement

Stages 1 and 2 light sleep

Stages 3 and 4 deep sleep

90 -100 Minute sleep cycles. 4 – 5 cycles per night to feel refreshed

25% REM, 50% Stage 2 and 25% stages 3 and 4

Parasomnias: (Common)

In Non-REM

Sleep Walking

Night terrors

Sleep Related Eating Disorder

Sexsomnia

REM related sleep disorders

Nightmare

REM-Sleep Behaviour Disorder

Others

Bruxism

Sleep talking (somniloquy)

Enuresis

Rhythmic Movement disorders

Parasomnias:

In Non-REM

- Sleep Walking

- . Occurs from sudden arousal from slow wave sleep
- . In 1st third of the night
- . Onset between 4 and 6yrs (peak 12yrs)
- . 15% - 40% sleepwalk at least once. 3% regular sleepwalkers
- . 4% occasionally continue to sleepwalk into adulthood
- . 10% will also suffer from Night Terrors

Parasomnias:

In Non-REM

- Night terrors (Parvor Nocturnus)
 - . Occurs from sudden arousal from slow wave sleep
 - . In 1st third of the night
 - . Autonomic and behavioural manifestations of fear
 - . ~ 3% of children experience Night Terrors
 - . Onset usually between 4 and 12 years (but often seen before)
- Sleep Related Eating Disorder and Sexsomnia.

both Non-REM behaviours

Parasomnias:

Most common precipitating factors:

- ***Genetic factors***
- ***Fatigue/sleepiness***
- ***Stress***
- ***Febrile illness***

(occasionally, Alcohol)

Parasomnias:

In Non-REM

Treatments:

- . Reassurance and education
- . Safety measures
- . Sleep Hygiene
- . Address bedtime refusal / night-waking behaviour
- . Avoid waking
- . Guide back to bed
- . Avoid interfering
- . Avoid next-day discussion

Parasomnias:

In REM

- REM Sleep Behaviour Disorder. (REM without muscle atonia)

- .Tends to be in the latter 1/3rd of the night

- . Overall prevalence of 0.5% (15 – 100yrs)

- . More common in older men

- . 40% - 50% (and probably more) will later develop some Neurodevelopmental disorder, especially Parkinson's Disease.

- . Triggered or exacerbated by TCA's, SSRI's & MAOI's

Treatment: 90% - 95% will respond to Clonazepam 0.5mg – 2.0mg

Parasomnias:

In REM

- REM Sleep Behaviour Disorder. (REM without muscle atonia)

REM behavior disorder.mp4

Parasomnias:

In REM

- Nightmares:

- Frightening dreams, occurring in REM sleep, that usually awaken a child or adolescent
- 75% of children experience a nightmare at some time. Up to 50% of them have nightmares that result in parental interaction
- Risk factors.
 - Stress/traumatic events
 - Anxiety and anxiety disorders
 - Sleep deprivation
 - Medication, especially withdrawal of REM suppressants
- Associated with
 - Daytime fears
 - Bedtime resistance

Parasomnias:

In REM

- Nightmares:

- Treatments

- . Parental reassurance
- . Rehearsal therapy
- . Avoid exposure to frightening or over-stimulating images
- . Reduce stressors
- . Ensure adequate sleep
- . Security objects
- . Dim, low-level nightlight
- . Relaxation strategies for the older child.
 - Progressive muscle relaxation
 - Visualisation
 - Relaxation tapes/music

Parasomnias:

In Either REM or Non-REM

- **Bruxism:**

8% of adults, 14% - 20% of children <11yrs

Stress related, Sleep-related disorders, Chemical related

RLS/PLMS, RBD, OSA, Night Terrors

Alcohol, Caffeine, MDMA (ecstasy)

SSRI's, Methylphenidate, Antiarrhythmics,

- **Sleep talking:**

In light non-REM or REM, but no memory in the morning

More frequent in times of stress, fever, sleep disturbance

Parasomnias:

In Either REM or Non-REM

- Enuresis:
“A disorder of arousal”. Unknown aetiology . May accompany nocturnal seizures, OSA, or other sleep disorders
- Rhythmic Movement Disorders (*Jactatio capitis nocturna*)
head banging / body rocking. Usually a soothing behaviour

Sleep Related Movement Disorders:

Restless Leg Syndrome

(Growing pains in children)

Essential features

- Unpleasant sensation in the legs requiring the urge to move
- Urge to move is worse at times of inactivity
- Unpleasant sensation is partially or completely relieved by movement
- Unpleasant sensation is worse in the evening or at night.

Sleep Related Movement Disorders:

Restless Leg Syndrome

(Growing pains in children)

Other, non-essential but common features

- Family history
- Association with Periodic Limb Movement in Sleep (80%)
- Response to dopaminergic therapy
- May cause sleep disturbance, especially sleep onset
- May begin at any age, but usually progressively worse with age
- Usually gone in the morning

Sleep Related Movement Disorders:

Restless Leg Syndrome

(Growing pains in children)

Secondary Restless Leg Syndrome

- Anaemia. Ferritin < 50
RLS is associated with low CNS iron (not specifically serum iron)
- Uremia. 15% - 40% undergoing dialysis suffer from RLS
- Pregnancy. Especially in the third trimester

Sleep Related Movement Disorders:

Periodic Limb Movements in Sleep (Von Ekbom 1945)

- Daytime sleepiness
- Restlessness during sleep
- Nighttime arousals
- Observed limb jerking at night.
Typically extension of the big toe,
dorsiflexion of the ankle,
occasional flexions of the knee, and hip

Sleep Related Movement Disorders:

Periodic Limb Movements in Sleep (Von Ekbom 1945)

- PLM Index (PLM/hr), on PSG or Actigraphy
 - > 20 requires treatment
 - 5 – 20 treat depends on symptoms
(EDS, effect on patient / bed partner)
 - < 5 treatment probably not indicated
- 20% Suffer with RLS
- May have periodic leg movements at rest

Sleep Related Movement Disorders:

Treatments. RLS / PLMS

Non-pharmacologic

- Good sleep practices to avoid psychophysiologic insomnia
- Avoidance of caffeine and alcohol in the evening
- Massage. Hot/Cold compresses.
- Mental distraction
- Moderate exercise
- Remain physically active until bedtime

Sleep Related Movement Disorders:

Treatments. RLS / PLMS

Pharmacologic

- Dopaminergic Medication.

 - L-dopa. (Sinemet. Madopar)

 - Tolerance, augmentation, rebound, side effects

 - $\frac{1}{2}$ life of 3-4hrs

 - Dopaminergic Agonists. (Ropinerole. Bromocriptine)

 - Less tolerance, augmentation and rebound

 - $\frac{1}{2}$ life of ~6hrs

- Opioids.

 - Codeine; Oxycodone.

 - Start low and go slow.

 - Check Hx or substance abuse

 - Use low dose in conjunction with dopaminergic Rx

Sleep Related Movement Disorders:

Treatments. RLS / PLMS

Pharmacologic

- Anticonvulsants.

Gabapentin

Not as powerful as Dopaminergic Rx
useful for those with painful RLS, especially when
symptoms begin after the age of ~45yrs
Daytime fatigue, and dizziness

- Benzodiazepines. Non-Benzodiazepines

Used to induce sleep, and improve sleep continuity.
No direct beneficial effect on PLS/PLMS

- Iron (+- Folate) supplementation.

Useful if Ferritin is <50%

Sleep Related Movement Disorders:

Treatments. RLS / PLMS

Drugs that aggravate RLS/PLMS

- Antihistamines.

 - Block Dopamine receptors

 - Older antihistamines are worse.

 - Check OTC use

- Antiemetics

 - Block Dopamine receptors

 - Metoclopramide, Prochlorperazine

- Antidepressants

 - ? Because it increases Serotonin

 - TCA's, SSRI's, ?MAOI's

Other Nighttime disorders:

- **Narcolepsy**

- . **Four cardinal symptoms:**

- Excessive Daytime Sleepiness

- Sleep Paralysis

- Hypnagogic / Hypnopompic Hallucinations

- Cataplexy (only Cataplexy is unique to Narcolepsy)

- Not all are necessary for the diagnosis of Narcolepsy

- . **Other common symptoms:**

- Fragmented nocturnal sleep

- Sleep attacks

- Naps are temporarily refreshing

- . **Onset:**

- Most commonly in late teenage, and less often in late 30's

- May occur in children, especially with strong genetic links

- ˘ **May investigate with overnight Polysomnography (PSG), and Multiple Sleep Latency Test (MSLT)**

Other Nighttime disorders:

- **Narcolepsy**

- . Prevalence:

- 1/600 in Japan

- 1/4000 in North America and Europe

- 1/500,000 in Israel

- . Gender:

- Equal Male/Female

- . Family History:

- 8% - 12% have a 1st degree relative with narcolepsy

- . Thought to be related to a deficiency of Orexin/Hypocretin

- . Most carry the Human Leukocyte Antigen

- (HLA) DQB1*0602

- However, so do up to 40% of the population, and some narcolepsy patients do not have this marker

Other Nighttime disorders:

- Narcolepsy

RealPlayer SP.Ink

Other Nighttime disorders:

- Narcolepsy

Treatments:

- . Education**
- . Sleep hygiene, and management of sleep attacks.**
- . Increase activity, avoid boring / repetitive tasks**
- . Avoid dangerous activities ie driving, unsupervised swimming**
- . Stimulant medication: Methylphenidate / Modafinil**
- . Avoid caffeine, especially in the evening**

Thank You

Dr Alex Bartle

The SLEEP WELL CLINIC

Throughout New Zealand

www.sleepwellclinic.co.nz

