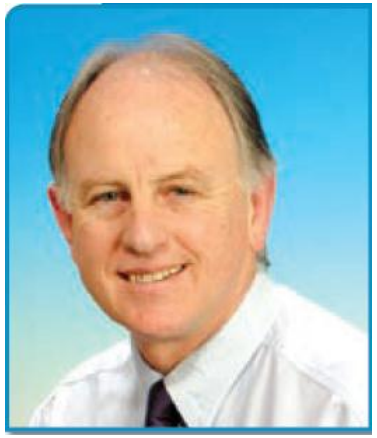


Dr Alex Bartle

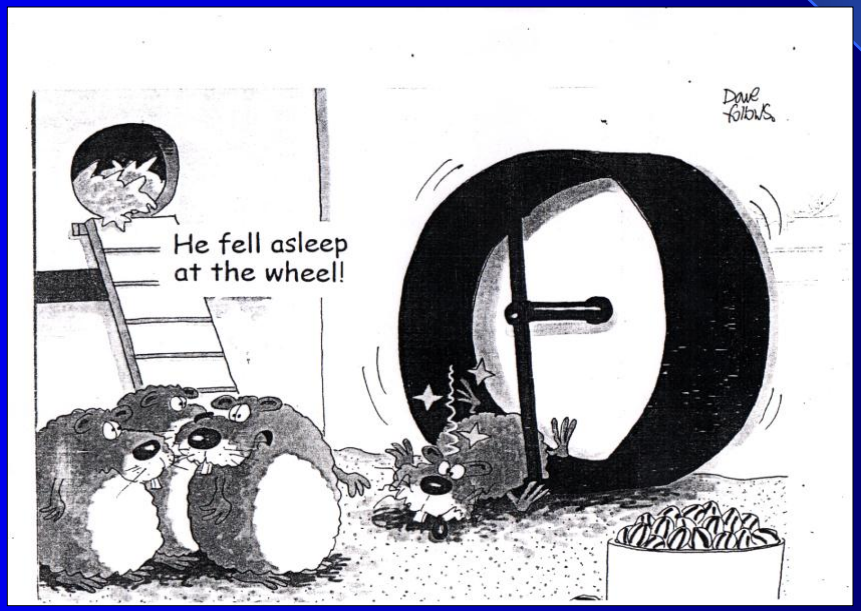
Sleep Well Clinics

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

Saturday, 22 June 2013 Start 4:30pm Duration: 60mins Baytrust

The Parasomnias

"Things that go bump in the night"
and
Restless Leg Syndrome



GP CME 2013
Rotorua

Overview

The Structure of Sleep

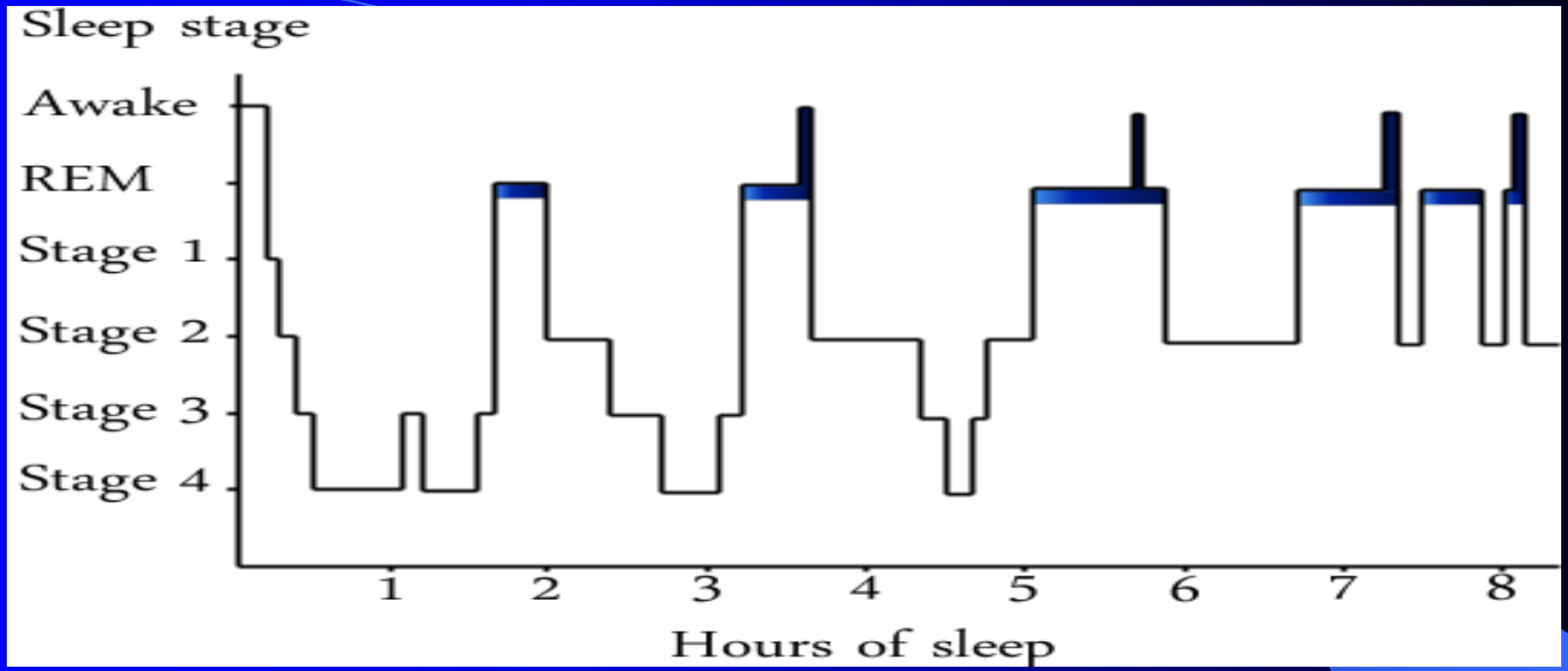
The Parasomnias

- 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 the child.

. Guide back to bed, don’t force.

. 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.

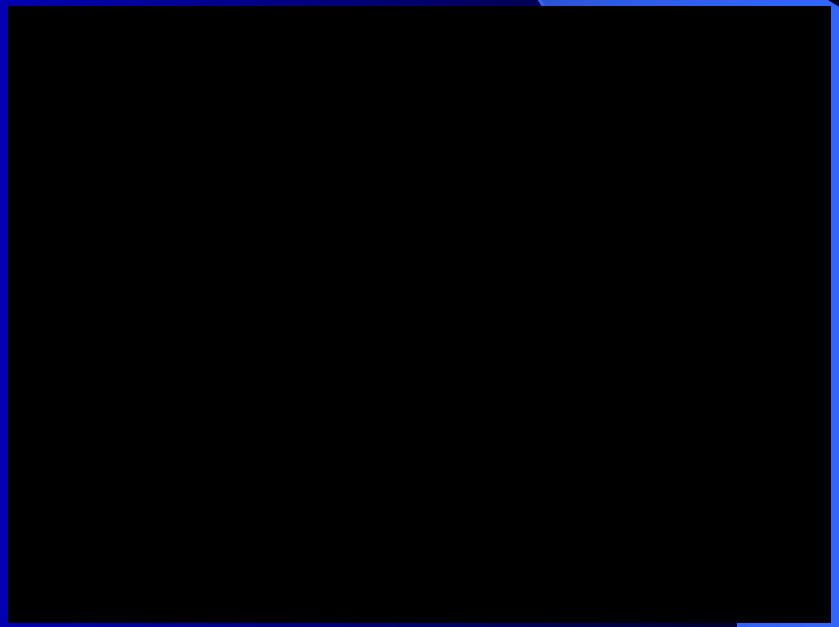
  . Triggered or exacerbated by TCA's, SSRI's & MAOI's

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

Parasomnias:

In REM

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



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/positive reinforcement of independent coping skills
    - . 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,
  - RLS/PLMS, RBD, OSA, Night Terrors
  - Alcohol, Caffeine, MDMA (ecstasy)
  - SSRI's, Methylphenidate, Antiarrythmics,

- 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
    - ½ life of 3-4hrs
  - Dopaminergic Agonists. (Ropinerole. Bromocriptine)
    - Less tolerance, augmentation and rebound
    - ½ life of ~6hrs
- Opioids.
  - Codeine; Oxycodone.
    - Start low and go slow.
    - Check Hx or substance abuse
    - Use low dose in conjunction with domaminergic 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)

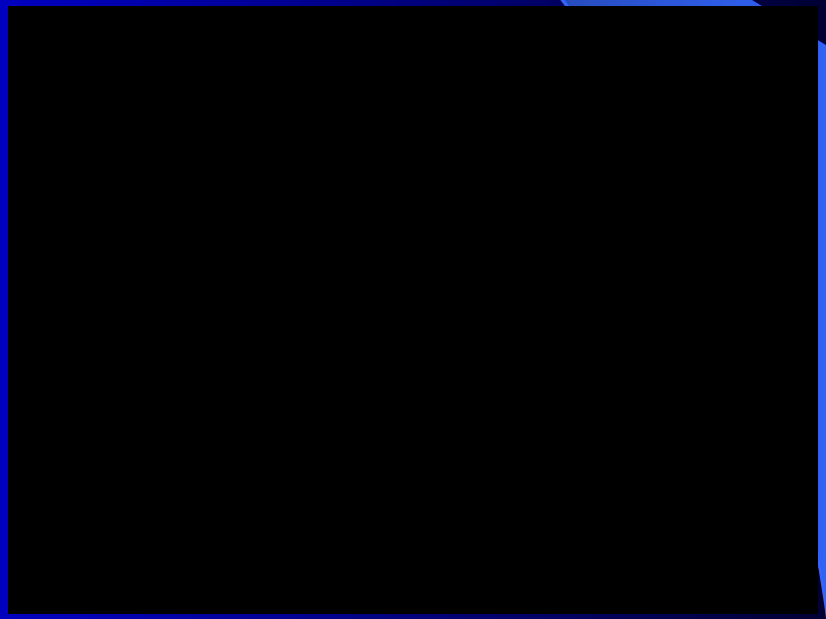
Other Nighttime disorders:

- 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



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