TheSleepClinics.ca

Sleepy Patients in Primary Care

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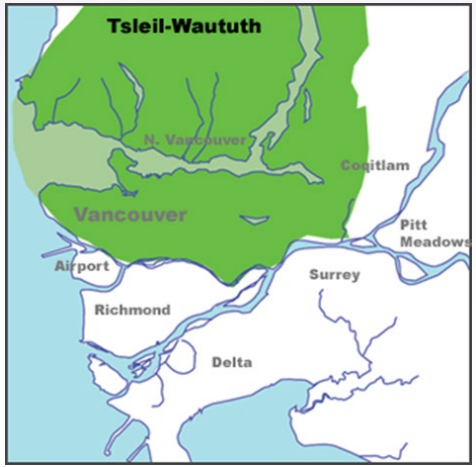
Good Sleep Health-Burnaby

We would like to acknowledge that we are gathered today on the traditional territories of the Musqueam, Squamish and Tsleil-Waututh peoples.

Source: www.johomaps.net/na/canada/bc/vancouver/firstnations/firstnations.html



Learning Objectives

- Participants will be better able to:

1. Assess a patient presenting with excessive daytime sleepiness (EDS)
2. Review sleep disorders that can cause EDS
3. Conduct a differential diagnosis in patients presenting with EDS to identify those who can be managed in primary care vs. those requiring expert assessment and management
4. Discuss appropriate management strategies, including referral practices, for patients presenting with EDS

Meet Mia

- 29-year-old, presents to your office on her mother's insistence
  - "It's not normal for someone so young to be so tired!"
- History of being overly tired since early adolescence
  - Negatively impacted her academic achievement; had to repeat 10th grade
  - Was bullied/teased throughout high school
- Currently unemployed
  - 5 months ago was fired from her last job for "dozing off at work"
- Recently gave up driving following 2 minor accidents
- Social circle limited to family members (siblings and cousins)

Fatigue vs. Sleepiness

Fatigue – don’t have the energy to do things but not struggling to stay awake.

Sleepiness – struggling to stay awake

- Patients can have both
- Clinical evaluation is the same before.

Determining Fitness to Drive:
National Safety Code (Standard 6)

- All drivers may maintain their license with untreated OSA if AHI <30 and they do not admit to daytime sleepiness
- Drivers with severe OSA (AHI ≥30) are disqualified from driving unless the condition is successfully treated, ***OR*** the driver has been assessed by a sleep specialist who is of the opinion that there is a low risk of a sleep-related crash
- Any driver with OSA, regardless of severity, with a history of a crash within the previous 5 years associated with falling asleep or sleepiness while driving must provide evidence that the OSA is successfully treated
- Non-commercial drivers with narcolepsy or idiopathic hypersomnia need to have a recommendation from a sleep specialist stating that their condition is under control (Commercial driving is not recommended)

AHI, apnea-hypopnea index (the number of apneas plus hypopneas that occur on average every hour. It is a measure of sleep apnea severity. AHI ≥30 per hour indicates severe OSA); OSA, obstructive sleep apnea.

Canadian Council of Motor Transport Administrators. National Safety Code Standard 6: Determining Driver Fitness in Canada. February 2021. Available at https://ccmta.ca/en/national-safety-code

Determining Fitness to Drive:
Physician Considerations & Responsibilities

- Most patients with EDS have managed with it for years
  - It is not necessarily urgent for them to stop driving while waiting for treatment if they
    - are incident-free *and*
    - are not driving when sleepy
- Request priority investigation and treatment for sleepy patients
- Safety is the priority, but keep in mind the effect the loss of the ability to drive will have on the patient
- The ESS is helpful if elevated, but do not rely on it if it is normal
- Make sure the patient acknowledges the importance of not driving while sleepy and document this in your notes
  - If you feel the patient is not being truthful and will continue to drive while sleepy, or is declining investigation or treatment and therefore sleepiness will not be controlled, then it is appropriate to report to your Provincial Department of Motor Vehicles

EDS, excessive daytime sleepiness; ESS, Epworth Sleepiness Scale.

Diagnostic Considerations of EDS

Sleep-related disorders

Insufficient sleep

Most common cause

Insomnias
(chronic, short-term or other)

Sleep-related breathing disorders
- OSAs
- CSAs

Sleep-related movement disorders
- RLS
- PLMD

Circadian rhythm disorders
- Delayed sleep-wake phase disorder
- Advanced sleep-wake phase disorder
- Jet lag
- Shift work
- Non-24

Hypersomnias of central origin
- Narcolepsy type 1 or 2
- Idiopathic hypersomnia
- Kleine-Levin syndrome

Parasomnias
(REM, non-REM-related or other)

Neurological
- Stroke
- Brain tumours
- Traumatic brain injury
- Multiple sclerosis
- Parkinson disease
- Multiple system atrophy
- Dementia with Lewy bodies
- Spinocerebellar ataxia
- Encephalitis
- ALS

Metabolic/other
- Anemia
- Hypothyroidism
- Diabetes
- Hepatic dysfunction
- Renal failure
- Addison's disease
- PCOS
- Obesity
- GERD
- Peptic ulcer disease
- Cancer

Genetic
- Prader-Willi syndrome
- Niemann-Pick type C
- Williams syndrome
- Smith-Magenis syndrome
- Fragile X syndrome
- Moebius syndrome

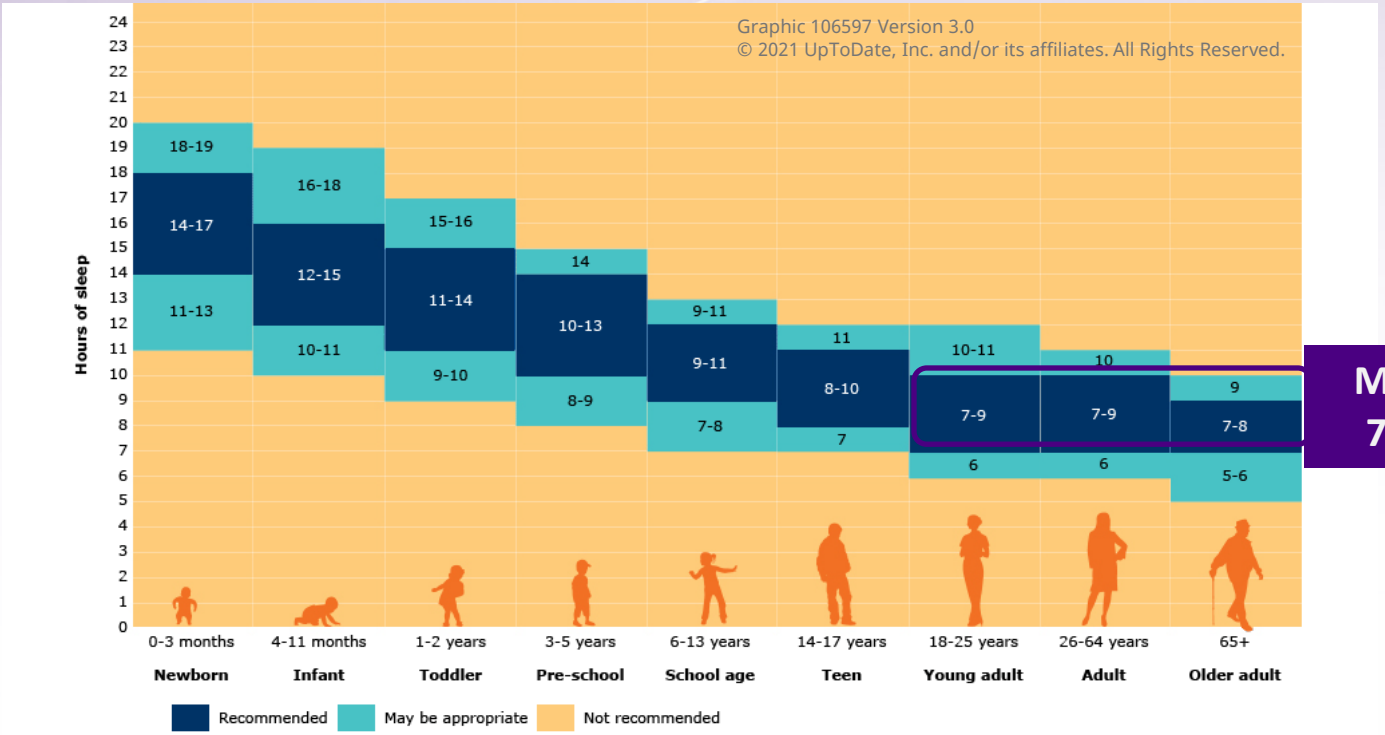
Medications
- Benzodiazepines
- Sedatives (non-benzo)
- Antipsychotics
- Opioids
- Beta-blockers
- Barbiturates
- Antihistamines
- Anticonvulsants
- Antidepressants
- Antidopaminergics
- NSAIDs

Psychiatric
- Depression (atypical)
- Bipolar disorder
- Anxiety
- ADHD
- Substance use disorder

ADHD, attention deficit hyperactivity disorder; ALS, amyotrophic lateral sclerosis; CSA, central sleep apnea; GERD, gastroesophageal reflux disease; NSAIDs, non-steroidal anti-inflammatory drugs; OSA, obstructive sleep apnea; PCOS, polycystic ovary syndrome; PLMD, periodic limb movement disorder; REM, rapid eye movement; RLS, restless legs syndrome.

Recommended Sleep Duration by Age

Sleep Duration Recommendations by Age[1,2]



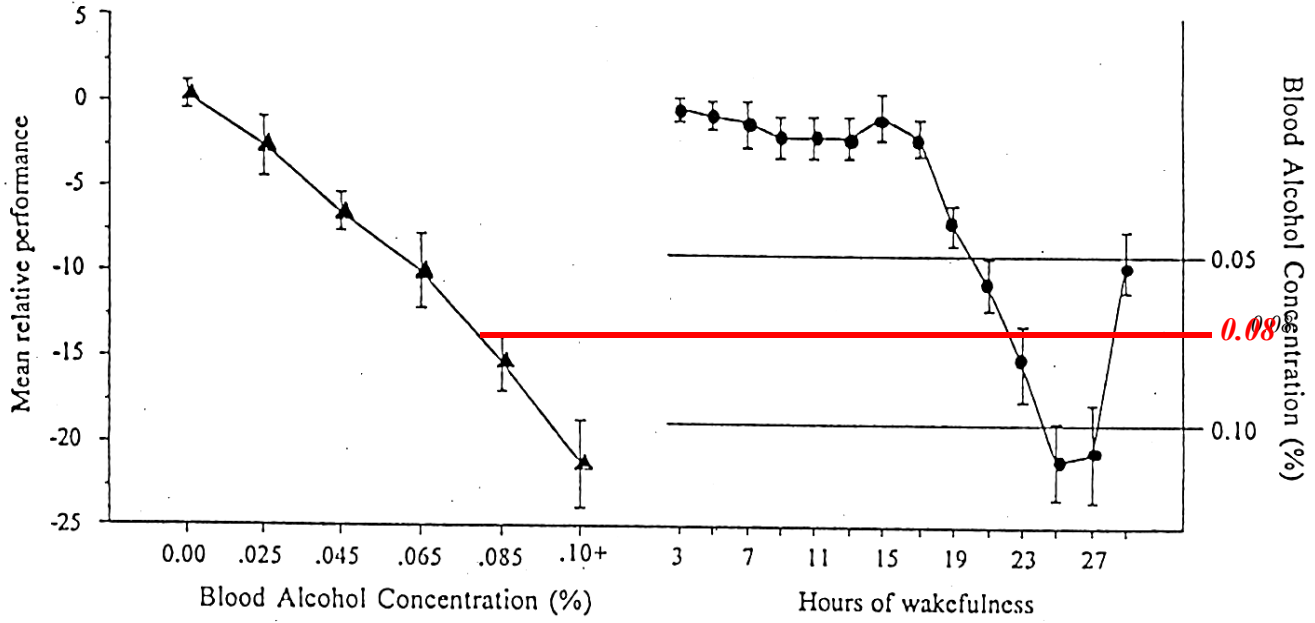
Most adults require 7–9 hours of sleep

1. Paruthi S, et al. *J Clin Sleep Med.* 2016;12(6):786. 2. Watson NF, et al. *J Clin Sleep Med.* 2015;11(6):591-2.

Fatigue vs Alcohol

Response Latency

(Lamond & Dawson, 1999)



Sleep Deprivation is Cumulative

- 22 hours awake results in a reduction in performance = 0.08 blood alcohol.
- 4 hrs. sleep/night for 2 weeks results in a reduction in performance equivalent to no sleep for 3 days.
- People do not accurately predict

when they will fall asleep.

National Sleep Foundation

Omnibus Sleep In America Poll

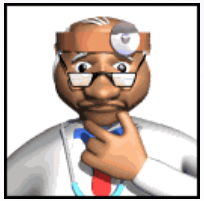
(OSAP 2000)

- 58% of the general population suffer from sleep disorders at least 3 days per week
- 66% get less than 8 hours sleep
- 33% get less than 6.5 hours sleep
- 20% find sleepiness interferes with daily activities a few days/week
- 51% drowsy while driving in past year
- 17% dozed off while driving in past year

Sleep in Primary Care

- Up to 69% of primary care patients suffer from sleep disorders.[1]

1. Shochat et al. ***SLEEP*** 1999; 22:S359-65



Take a Sleep History

History of present symptom/illness

- When did your sleep problems start?
    - Was there a trigger?
- How frequently do you experience these sleep problems?
- Is there anything that makes it better?
- Is there anything that makes it worse?
- What impact do these sleep problems have on your life?

Take a basic sleep history

- What time do you go to bed?
- What time do you put everything off and try to go to sleep?
- How long does it take for you to fall asleep?
- Do you wake up during the night? If so, how often?
- How long does it take to fall back asleep?
- What time do you wake up?
- What time do you get out of bed?

Estimated sleep time _____

Epworth Sleepiness Scale

The Epworth Sleepiness Scale

Please use this scale to rate the likelihood of you DOZING or FALLING ASLEEP in the following situations, in contrast to just feeling tired. This refers to your usual way of life in recent times. Even if you have not done some of these things recently, try to estimate how they would have affected you:

	Never	Slight Chance	Moderate Chance	High Chance
Sitting and reading	0	1	2	3
Watching TV	0	1	2	3
Sitting inactive in a public place (e.g.: theatre or meeting)	0	1	2	3
As a passenger in a car for an hour without a break	0	1	2	3
Lying down to rest in the afternoon when circumstances permit	0	1	2	3
Sitting and talking to someone	0	1	2	3
Sitting quietly after a lunch without alcohol	0	1	2	3
In a car, while stopped for a few minutes in traffic	0	1	2	3

Total: ____/24

A score of 10 or greater is significantly abnormal

Mia's Sleep History

- Symptoms started early adolescence (12 years old)
- Typically goes to bed between 10:00–11:00 pm
  - "I fall asleep almost as soon as my head hits the pillow"
- She experiences frequent awakenings (4–5 times a night), but is able to fall back asleep quickly
  - 2 x's/month unable to move or speak for a few seconds, can be accompanied by a sensation of an entity sitting on her chest making it hard to breathe
- Wake up time: 7:00–8:00 am
- No history of snoring, apnea, parasomnia, periodic limb movements in sleep.
- No history of cataplexy.
- No medication or social drug use.

Mia's ESS Results

In the following situations, how likely are you to doze off or fall asleep, in contrast to just feeling tired?
Use the following scale to choose the most appropriate number for each situation:

0 = would never doze or sleep
1 = slight chance of dozing or sleeping
2 = moderate chance of dozing or sleeping
3 = high chance of dozing or sleeping

This refers to your usual way of life in recent times. Even if you haven't done some of these things recently, try to work out how they would have affected you. It is important that you answer each question as best as you can.

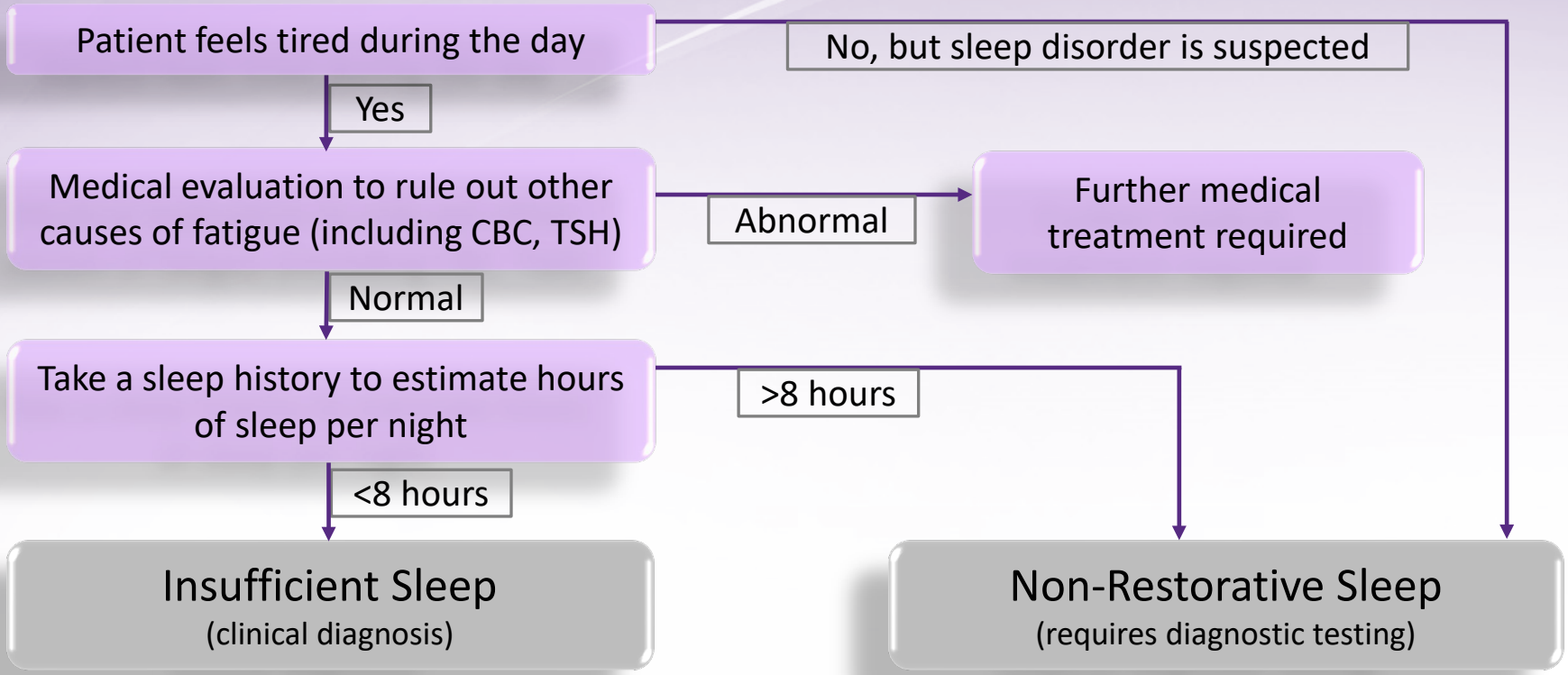
Situation	Chance of dozing or sleeping
Sitting and reading	3
Watching TV	2
Sitting inactive in a public place	3
Being a passenger in a car for an hour	2
Lying down in the afternoon	3
Sitting and talking to someone	2
Sitting quietly after lunch (no alcohol)	3
Stopping for a few minutes in traffic while driving	2
Total Epworth score	20

Sleep Disorder Diagnostic Algorithm

- The International Classification of Sleep Disorders (ICSD) 3rd ed lists 65 sleep disorders and 9 normal variants (74 sleep conditions)
- 6 Categories: Insomnias, Hypersomnias, Parasomnias, Breathing Disorders, Circadian Disorders, Movement Disorders
- There are 32 clinically "different" sleep disorders that can be divided into 2 categories:
  - Insufficient Sleep (13): clinical diagnoses
  - Non-restorative Sleep (19): requires testing

The "Sleep Disorder Diagnostic Tool" may be used in combination with a "Sleep Questionnaire" (for more information, see BBTi Manual- Appendix B for how to use questionnaire)

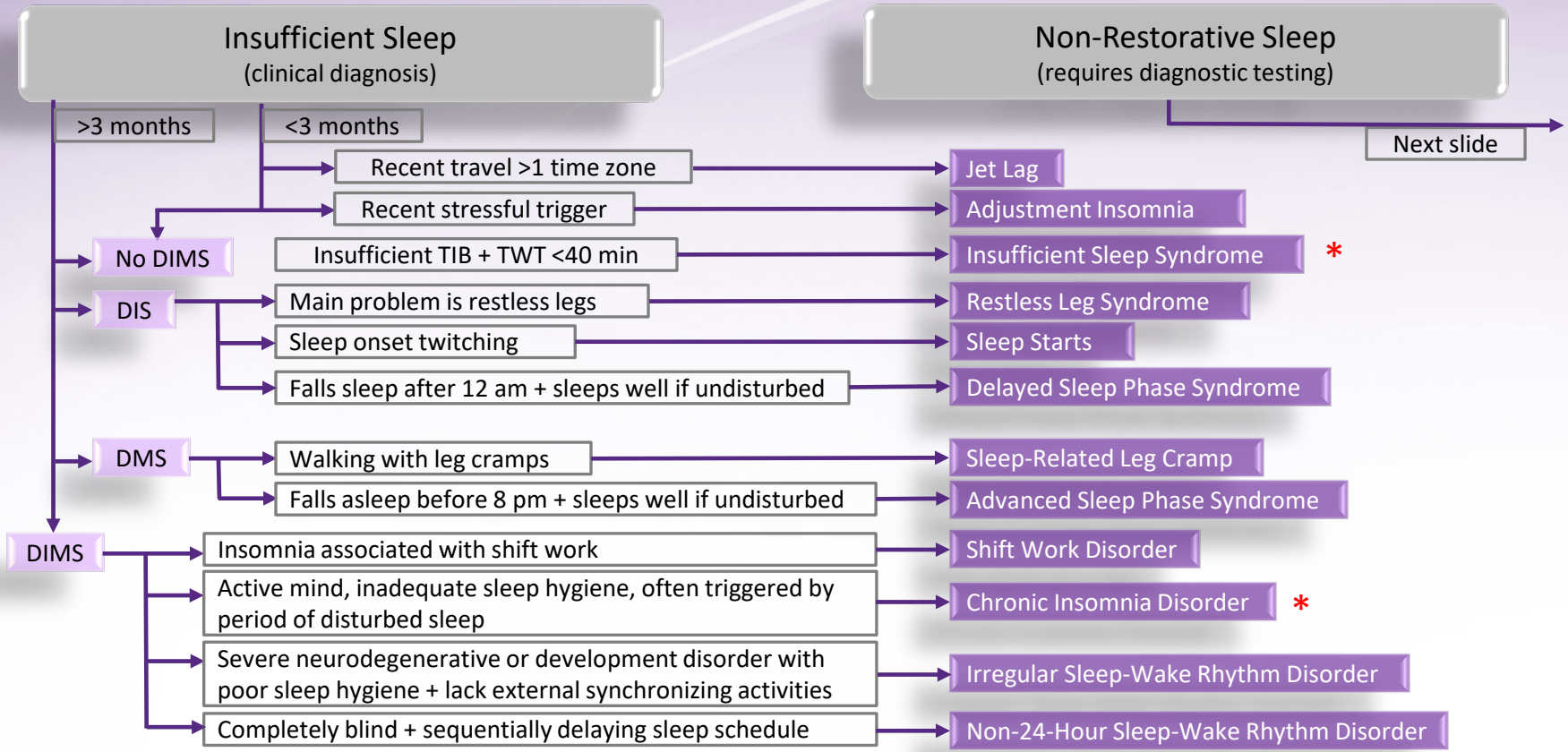
Sleep Disorder Diagnostic Algorithm



CBC, complete blood count; TSH, thyroid stimulating hormone.

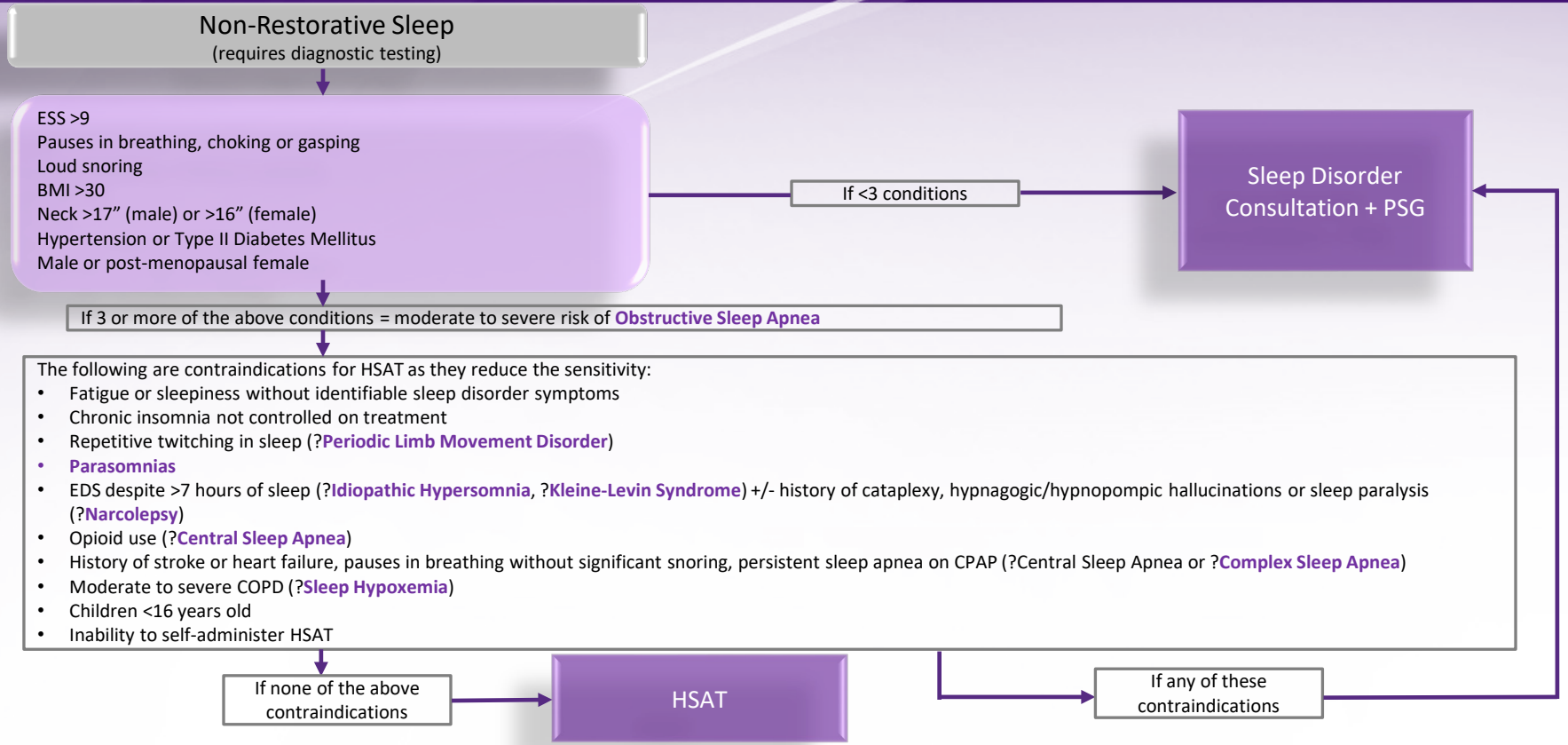
Courtesy of Dr. Ron Cridland. Diagnostic tool available at http://www.goodsleephealth.ca/education/physician_information

Diagnostic Algorithm, con't



DIMS, difficulty initiating and/or maintaining sleep; DIS, difficulty initiating sleep, DMS, difficulty maintaining sleep; TIB, time in bed; TWT, total wake time.
Courtesy of Dr. Ron Cridland. Diagnostic tool available at http://www.goodsleephealth.ca/education/physician_information

Diagnostic Algorithm, *cont'd*



BMI, body mass index; CPAP, continuous positive airway pressure; COPD, chronic obstructive pulmonary disease; EDS, excessive daytime sleepiness; ESS, Epworth Sleepiness Scale; HSAT, home sleep apnea test; PSG, polysomnogram.

Courtesy of Dr. Ron Cridland. Diagnostic tool available at http://www.goodsleephealth.ca/education/physician_information

Mia's Blood Work-Up

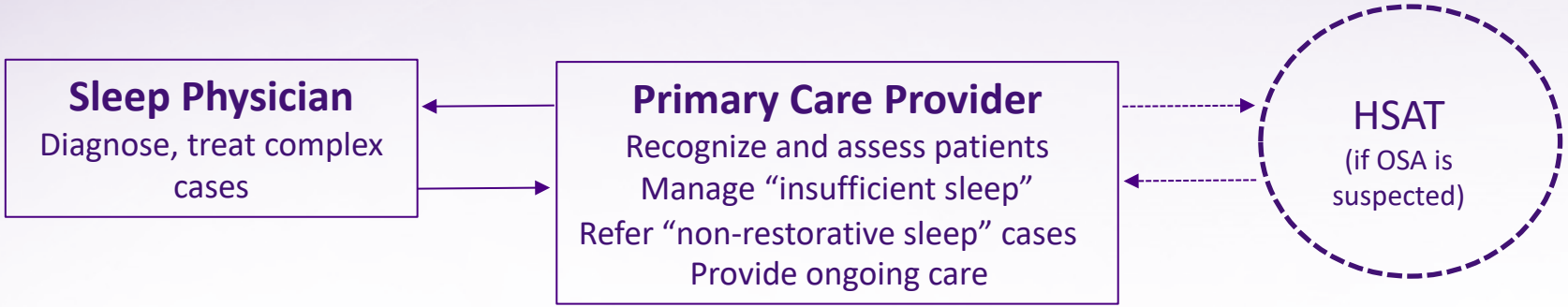
- CBC: WNL
- Liver Panel: WNL
  - AST: 35 U/L
  - ALT: 46 U/L
  - Total bilirubin: 8.4 µmol/L
  - Albumin, serum: 42 g/L
- Kidney function: WNL
  - BUN: 10.2 nmol/L
  - Creatinine, serum: 54 µmol/L
- Thyroid function: WNL
  - TSH: 4.3 mIU/L
  - Thyroxine, serum: 9.2 pmol/L
  - Triiodothyronine, serum: 4.7 pmol/L
- Metabolic:
  - BMI: 29.8 kg/m^2
  - HbA1c: 5.7%
  - Fasting glucose: 5.4 mmol/L
- Iron: WNL
  - Serum iron: 22 µmol/L
  - Ferritin: 142 µg/L

ALT, alanine aminotransferase; AST, aspartate aminotransferase; BMI, body mass index; BUN, blood urea nitrogen; CBC, complete blood count; HbA1c, hemoglobin, glycosylated; TSH, thyroid-stimulating hormone; WNL, within normal limits.

Mia's Diagnosis

- Sleeping more than 8 hours
- Symptoms consistent with hypnagogic hallucinations and sleep paralysis but no cataplexy.
- No symptoms of sleep apnea, parasomnia or periodic limb movement disorder
- Polysomnogram results negative
- Mean Sleep Latency on MSLT was 5 minutes with 3 Sleep Onset REM's
- Dx = Narcolepsy Type II

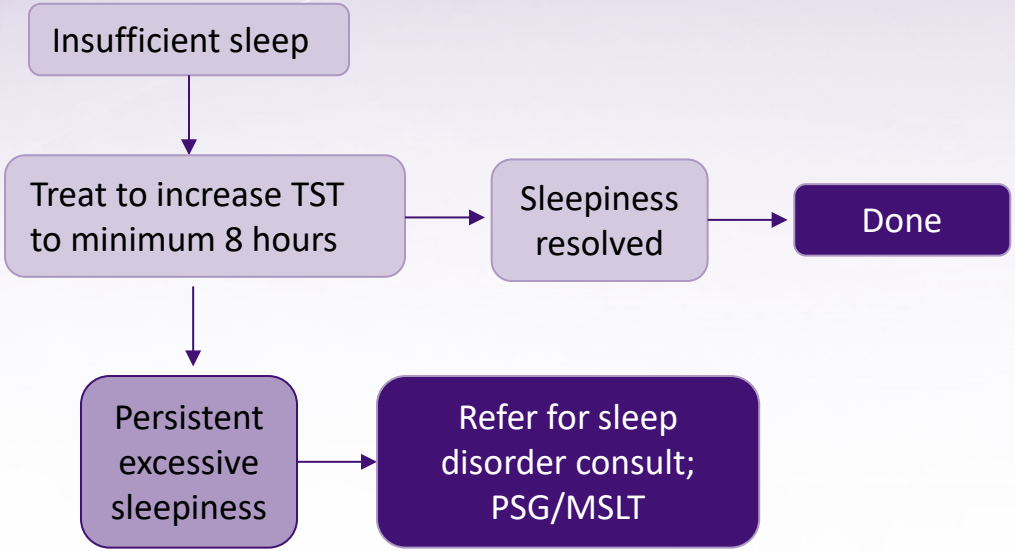
Role of Primary Care Physicians



EDS, excessive daytime sleepiness; HSAT, home sleep apnea test; OSA, obstructive sleep apnea.

Figure adapted from Pagel JF & Pegram GV. The role for the primary care physician in sleep medicine. In: Pagel J, Pandi-Perumal S (eds) Primary Care Sleep Medicine. New York: Springer, 2014.

Management of Persistent Sleepiness



MSLT, multiple sleep latency test; PSG, polysomnography; TST, total sleep time.

Key Take-Home Message

- Excessive daytime sleepiness is an important health concern
- Insufficient sleep is the most common cause of excessive daytime sleepiness and can be managed in primary care
- Patients should be referred to a sleep specialist when:
  - There is persistent Non-restorative sleep
  - Diagnostic testing is required
  - Presence of symptoms indicative of an underlying sleep disorder such as parasomnias or narcolepsy
  - There is persistent sleepiness despite adequate hours of sleep and treatment of known sleep disorder

Resources

- More information about the Sleep Disorder Diagnostic Tool, the **Program for Improved Sleep**, or general information about other sleep disorders can be found at:
- www.GoodSleepHealth.ca

- More information about Clinical Services can be found at:
- www.TheSleepClinics.ca