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Public Health Update – April 2018 (2nd edition)

Return Unused Influenza Vaccine

- Unused influenza vaccine can now be returned to ESTPH.
- The MOHLTC recommends Health Care Providers keep a small amount of QIV flu vaccine on hand for students or patients requesting flu vaccination during non-peak seasons.
- All unused influenza vaccine returned to ESTPH will be wasted.
- Please complete the form (https://www.elginhealth.on.ca/sites/default/files/file-attachments/basic-page/ehu_960_vaccine_return_form.pdf) and include this with any returns.

For you and your staff - Save the Date – Please post attached flyer

- Workshop Title: IPAC 101 in Community Health Settings
- Date: June 13th, 2018 5:30-8:30pm (arrival by 4:30pm)
- Location: Boler Mountain, 689 Griffith St. London, ON
- Registration Eventbrite - $50 (includes supper)

Slides from December Primary Care Rounds on Insomnia

- Many of you asked for a copy of the slides from Dr. Jennifer's Barr's presentation last December on Insomnia. These are attached.

Save the Date

June 13, 2018

5:30 - 8:30 pm
Boler Mountain
London, ON
Registration details to follow

IPAC-SWO Presents:

Infection Prevention & Control 101: Community Health Settings

Topics Include:

· Best Practice Guidelines for Infection Control in Clinical Office Practices & Core Competencies
· Occupational Health and Safety
· Environmental Cleaning
· Reprocessing

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THE ASSESSMENT AND MANAGEMENT OF CHRONIC INSOMNIA

Presented by: Dr. Jennifer Barr
Associate Professor, Schulich School of Medicine & Dentistry, Western University, London, Canada

CONFLICT OF INTEREST DISCLOSURES

- I have not had a financial interest, arrangement or affiliation with any organizations that could be perceived as a direct or indirect conflict of interest in the content of this presentation

OBJECTIVES

- Overview of Insomnia and its Assessment
- Review of the Center for Effective Practice – Management of Chronic Insomnia Guidelines
- Understand the components of Cognitive Behavioral Therapy for Insomnia (CBT-I)
- To be able to apply aspects of CBT-I to your patient population

INSOMNIA OVERVIEW

INSOMNIA DISORDER DEFINITION DSM-V

- Predominant complaint of dissatisfaction with sleep quantity or quality associated with one or more of:
  - Difficulty initiating sleep
  - Difficulty maintaining sleep
  - Early morning awakening with inability to return to sleep
- Disturbance causes clinically significant distress or impairment in important areas of fxn
- The sleep difficulty occurs at least 3 nights/week and is present for at least 3 months despite adequate sleep opportunity
- The insomnia is not better explained by and does not occur exclusively during the course of another Sleep-Wake disorder, Psychiatric Disorder, or General Medical Condition

INSOMNIA DISORDER CLINICAL FEATURES

- A disorder of physiological, cognitive, and emotional hyperarousal resulting in negative conditioning for sleep
  - Marked preoccupation w/ and distress due to the inability to sleep contributes to a vicious cycle
- Acquire maladaptive sleep habits: daytime napping, spending excessive time in bed, following an erratic sleep schedule

INSOMNIA EPIDEMIOLOGY

- One of the most prevalent complaints in primary care
- Insomnia complaints: 1 yr prevalence of 30-45% in adults
- Insomnia Disorder
  - 6-10% in general population DSM-V, up to 15% reported in literature
  - Up to 25% in elderly
- 2011 Canadian Survey (Morin et al)
  - 13.4% incidence meeting DSM-IV criteria
- Complaints twice as prevalent in women compared to men
- Highly comorbid with medical and psychiatric disorders

Morin CM, et al. Prevalence of Insomnia and Its Treatment in Canada. *Can J Psychiatry*, 2011; 56: 540-548
Winkelman JW. Insomnia Disorder. The New England Journal of Medicine 2015;373:1437-44

INSOMNIA MORBIDITY & BURDEN

- Adverse effects of untreated insomnia
  - Economic
    - estimated $100 billion annually in the US alone
  - Increased rates of accidents
    - MVA – 2.5x more likely compared to good sleepers
    - Work place – 8x more likely compared to good sleepers
  - Reduced quality of life
  - Absenteeism
  - Increased risk of General Medical Conditions
  - Increased risk of Psychiatric disorders
  - ?independent risk factor for suicide

Wickwire EM, et al. Health Care Economics of insomnia treatments: The return on investment for a good night's sleep. Sleep Medicine Reviews 2016;30: 72-82

CENTRE FOR EFFECTIVE PRACTICE – MANAGEMENT OF CHRONIC INSOMNIA OVERVIEW

- Assessment
- Address and optimize the management of any underlying medical, psychiatric or environmental causes
- Consider pharmacological causes of insomnia
- Non- pharmacologic options (CBT-I)
- Pharmacotherapy
- Benzodiazepine or Z-drug tapering
- Special populations

INSOMNIA DISORDER ASSESSMENT

- Clinical diagnosis
- No need for PSG unless concern re: comorbidities or not responding to treatment
- On I/V, look for predisposers, precipitators, perpetuators (faulty cognitions, maladaptive sleep behaviors and conditioned arousal)
- Must screen for other sleep, psychiatric, substance, and medical disorders/conditions
- Sleep diaries
- Scales
  - ESS & ISI: fatigue prominent and sleepiness usually minimal

INSOMNIA DISORDER ASSESSMENT

SLEEP DIARY

Sleep diary for your patient's use

Date						
Did you nap today?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
If yes, when and for how long?						
Did you exercise today?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
If yes, when and for how long?						
Time into bed						
Time of "lights out"						
Time to fall asleep						
Number of awakenings						
Longest awakening						
Time of "lights on"						
Time out of bed						
Total sleep time						
Sleep Quality (0-10) 0=worst, 10=best						

INSOMNIA DISORDER ASSESSMENT

INSOMNIA SEVERITY INDEX SCALE

Insomnia Problem	None	Mild	Moderate	Severe	Very Severe
1. Difficulty falling asleep	0	1	2	3	4
2. Difficulty staying asleep	0	1	2	3	4
3. Problems waking up too early	0	1	2	3	4

4. How SATISFIED/DISSATISFIED are you with your CURRENT sleep pattern?

Very Satisfied	Satisfied	Moderately Satisfied	Dissatisfied	Very Dissatisfied
0	1	2	3	4

5. How NOTICEABLE to others do you think your sleep problem is in terms of impairing the quality of your life?

Not at all Noticeable	A Little	Somewhat	Much	Very Much Noticeable
0	1	2	3	4

6. How WORRIED/DISTRESSED are you about your current sleep problem?

Not at all Worried	A Little	Somewhat	Much	Very Much Worried
0	1	2	3	4

7. To what extent do you consider your sleep problem to INTERFERE with your daily functioning (e.g. daytime fatigue, mood, ability to function at work/daily chores, concentration, memory, mood, etc.) CURRENTLY?

Not at all Interfering	A Little	Somewhat	Much	Very Much Interfering
0	1	2	3	4

Guidelines for Scoring/Interpretation:

Add the scores for all seven items (questions 1 + 2 + 3 + 4 + 5 +6 + 7) = _____ your total score

Total score categories:
0–7 = No clinically significant insomnia
8–14 = Subthreshold insomnia
15–21 = Clinical insomnia (moderate severity)
22–28 = Clinical insomnia (severe)

INSOMNIA DISORDER ASSESSMENT

EPWORTH SLEEPINESS SCALE

How likely are you to doze off or fall asleep in the following situations, in contrast to feeling just tired?

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.

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

It is important that you answer each question as best you can.

Situation	**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	

INSOMNIA DISORDER ASSESSMENT

STOP-BANG

STOP-BANG Sleep Apnea Questionnaire

Chung F et al Anesthesiology 2008 and BJA 2012

STOP		
Do you **S**NORE loudly (louder than talking or loud enough to be heard through closed doors)?	Yes	No
Do you often feel **T**IRED, fatigued, or sleepy during daytime?	Yes	No
Has anyone **O**BSERVED you stop breathing during your sleep?	Yes	No
Do you have or are you being treated for high blood **P**RESSURE?	Yes	No

BANG		
BMI more than 35kg/m2?	Yes	No
AGE over 50 years old?	Yes	No
NECK circumference > 16 inches (40cm)?	Yes	No
GENDER: Male?	Yes	No

TOTAL SCORE		

High risk of OSA: Yes 5 - 8

Intermediate risk of OSA: Yes 3 - 4

Low risk of OSA: Yes 0 - 2

INSOMNIA MANAGEMENT GUIDELINES

- Cognitive Behavioral Therapy for Insomnia (CBT-I) is considered the first-line therapy for all patients with insomnia
  - American Academy of Sleep Medicine
  - National Institute of Health
  - American College of Physicians
  - NICE (National Institute for Health and Care Excellence)
  - Centre for Effective Practice

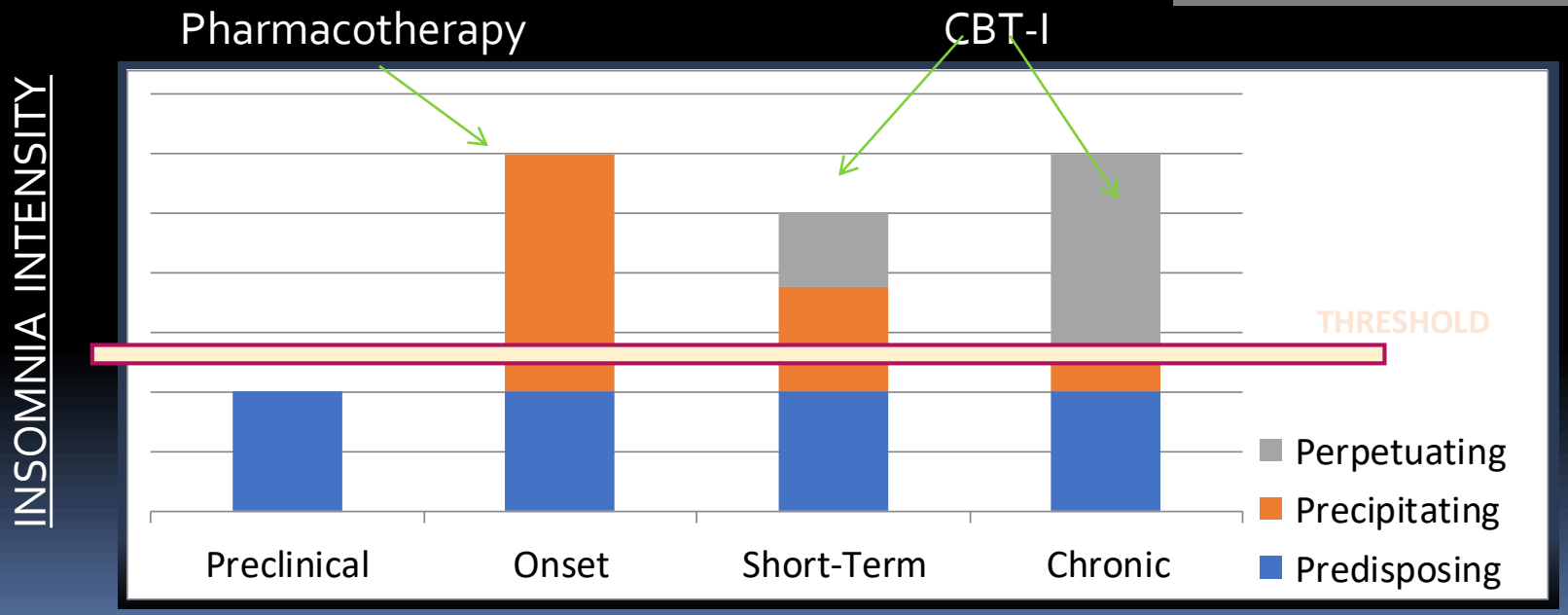
INSOMNIA MANAGEMENT – WHY CBT?

SPIELMAN'S MODEL OF CHRONIC INSOMNIA

PREDISPOSING
-hyperarousal
-inherently weak sleep generating system (genetics)
-anxious tendencies

PRECIPITATING
-medical illness
-substance
-psychiatric illness
-social change

PERPETUATING
-maladaptive sleep behaviors
-conditioned cognitive arousal
-faulty cognitions



ADDRESS AND OPTIMIZE THE MANAGEMENT OF ANY UNDERLYING MEDICAL, PSYCHIATRIC OR ENVIRONMENTAL CAUSES

Common comorbid medical disorders, conditions and symptoms[4]	
Potential cause	Examples of disorders, conditions, and symptoms
Cardiovascular	Angina, congestive heart failure, dyspnea, dysrhythmias
Endocrine	Diabetes mellitus, hyperthyroidism, hypothyroidism
Genitourinary	Incontinence, benign prostatic hypertrophy, nocturia, enuresis, interstitial cystitis
Mental Health (psychiatric)	Mood disorders: depression, bipolar, dysthymia Anxiety disorders: generalized anxiety disorder, panic disorder, post-traumatic stress disorder, obsessive compulsive disorder Psychotic disorders: schizophrenia, schizoaffective disorder Amnestic disorders: Alzheimer's disease Other: attention deficit disorder, adjustment disorders, personality disorders, bereavement, stress
Musculoskeletal	Rheumatoid arthritis, osteoarthritis, fibromyalgia, Sjögren's syndrome, kyphosis
Neurological	Stroke, dementia, Parkinson's disease, seizure, headache, traumatic brain injury, peripheral neuropathy, chronic pain disorders, neuromuscular disorders
Reproductive	Menstrual cycle variations, including pregnancy and menopause
Sleep	Obstructive sleep apnea, central sleep apnea, restless legs syndrome, periodic limb movement disorder, circadian rhythm sleep disorders, parasomnias
Environmental	Noise, temperature, disruptive presence of a partner, uncomfortable bed
Other	Allergies, rhinitis, sinusitis, bruxism, alcohol and other substance use/dependence/withdrawal

CONSIDER PHARMACOLOGICAL CAUSES OF INSOMNIA

Change administration of drug(s) to the morning (AM), taper or stop, if possible.

Drugs may cause fragmented sleep, nightmares, nocturia, or stimulation. These include:	
Antidepressants	Bupropion, MAOIs (phenelzine, tranylcypromine), SNRIs (desvenlafaxine, duloxetine, venlafaxine), SSRIs (citalopram, escitalopram, fluoxetine, paroxetine, sertraline)
Cardiovascular	α-blockers (e.g., tamsulosin), β-blockers (e.g., propranolol, metoprolol), diuretics (e.g., furosemide, hydrochlorothiazide), statins
Decongestants	Phenylephrine, pseudoephedrine
Opioids	In combination with caffeine (e.g., Tylenol #1, #2, #3)
Respiratory	β_2-agonists (e.g., salbutamol, salmeterol, formoterol, terbutaline, indacaterol, olodaterol), theophylline
Stimulants	Amphetamine, caffeine, cocaine, ephedrine, methylphenidate, modafinil
Others	Acetylcholinesterase inhibitors (e.g., donepezil), alcohol (fragmented sleep), antineoplastics, corticosteroids (e.g., prednisone), dopamine receptor agonists (e.g., levodopa, rotigotine), nicotine, medroxyprogesterone, phenytoin, thyroid supplements

MAOIs=Monoamine Oxidase Inhibitors, SNRIs=Serotonin Norepinephrine Reuptake Inhibitors, SSRIs=Selective Serotonin Reuptake Inhibitors

Five most common medications likely to disrupt sleep[7]

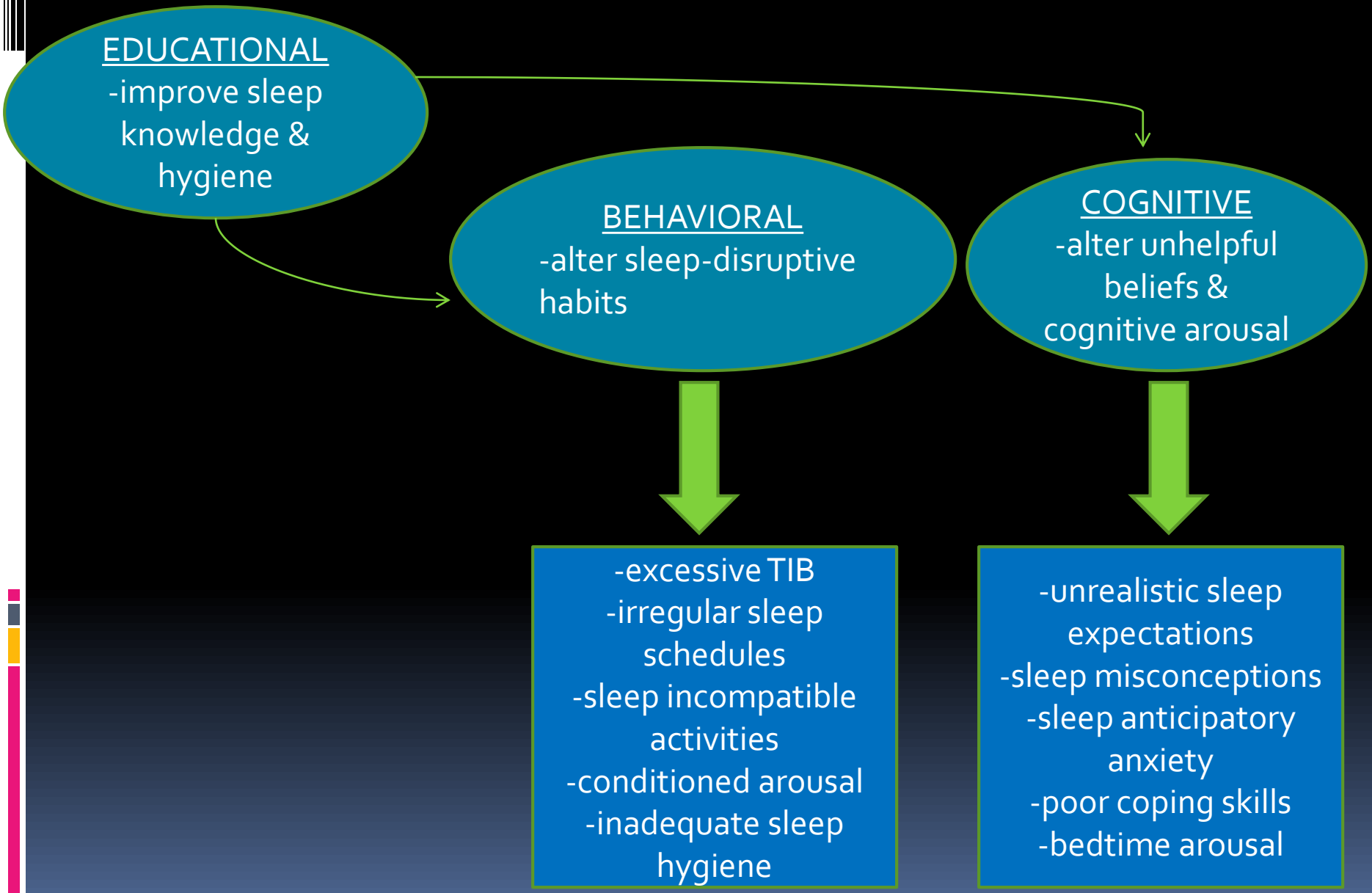
1. Levodopa
2. Prednisone
3. Venlafaxine
4. Fluvoxamine
5. Rotigotine

CBT-I: THE COMPONENTS

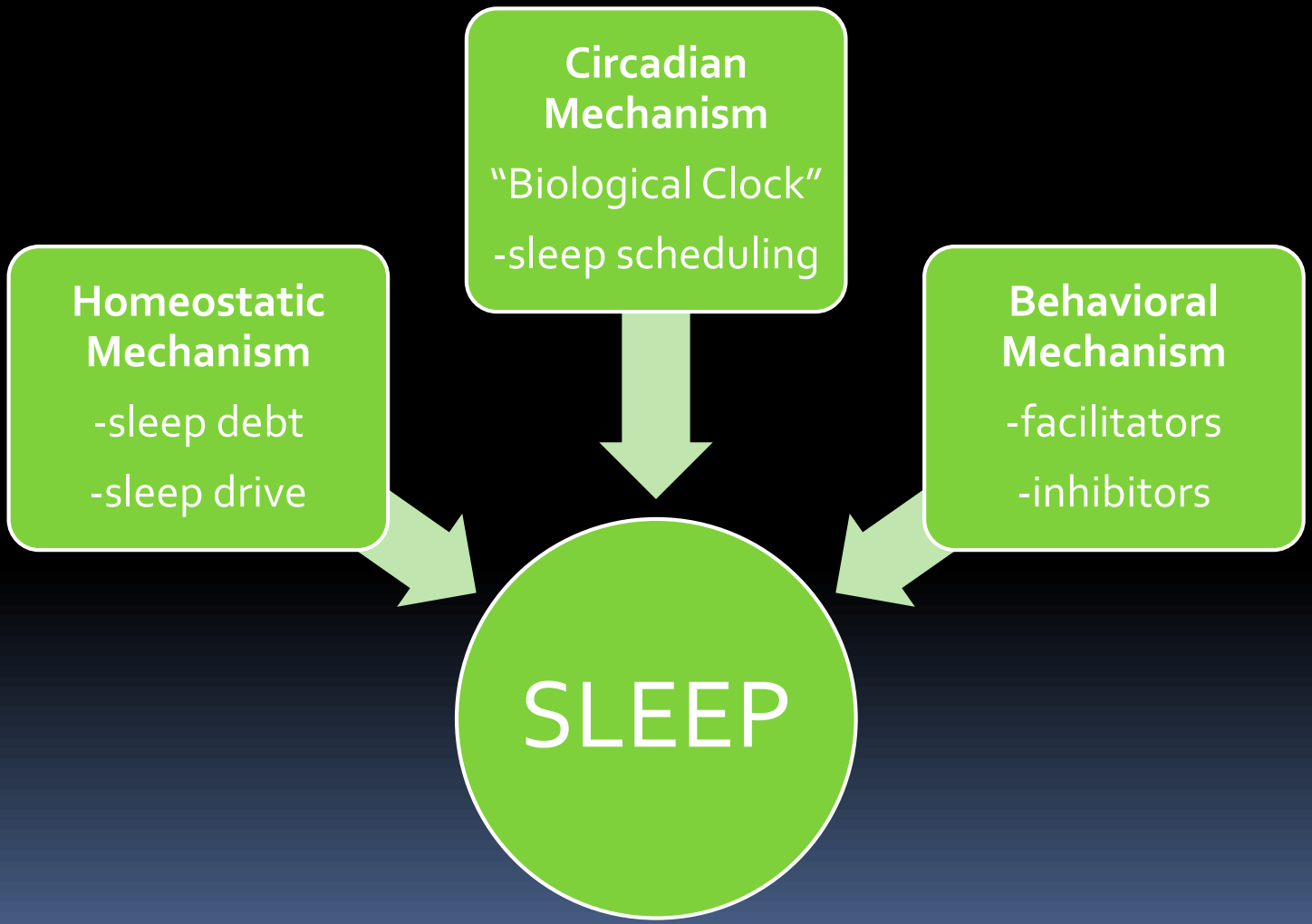
CBT-I COMPONENT OVERVIEW

- Education
- Sleep Hygiene
- Stimulus Control
- Sleep Restriction
- Cognitive Restructuring
- Relaxation
- Hypnotic Discontinuation

EDUCATION


EDUCATIONAL
-improve sleep knowledge & hygiene
BEHAVIORAL
-alter sleep-disruptive habits
COGNITIVE
-alter unhelpful beliefs & cognitive arousal
-excessive TIB
-irregular sleep schedules
-sleep incompatible activities
-conditioned arousal
-inadequate sleep hygiene
-unrealistic sleep expectations
-sleep misconceptions
-sleep anticipatory anxiety
-poor coping skills
-bedtime arousal

REGULATION OF SLEEP



Webb WJ. An Objective Model of Sleep. Sleep. 1988;Feb:11(5)488-496

SLEEP HYGIENE

- Patients are educated about healthy sleep behaviors and sleep-conducive environmental conditions
- Issues are queried as part of sleep history
- Effective sleep hygiene intervention:
  - Identify 1-2 issues that are particularly salient
  - Explain the rationale
  - Ask patient to maintain change for at least 2 weeks
  - Track progress via sleep diary

SLEEP HYGIENE

RULE	RATIONALE
Reduce time in bed	Excessive time in bed can lead to sleep fragmentation
Keep a regular sleep schedule (especially wake up time)	Stabilization of circadian rhythms; limits time in bed; strengthens homeostat
Eliminate the bedroom clock	Watching the clock can lead to rumination and worry
Exercise in the afternoon/early evening	May deepen sleep and shorten sleep latency
Avoid caffeine, nicotine, and alcohol	All can negatively impact sleep
Eat a light bedtime snack	Avoids awakenings from drops in blood sugar at night
Avoid trying to sleep	Reduces development of anxiety/worry about sleep
Limit / avoid napping	Napping reduces nighttime sleepiness
Sleep in a cool, quiet, dark, comfortable bedroom	Noise and light cause awakenings

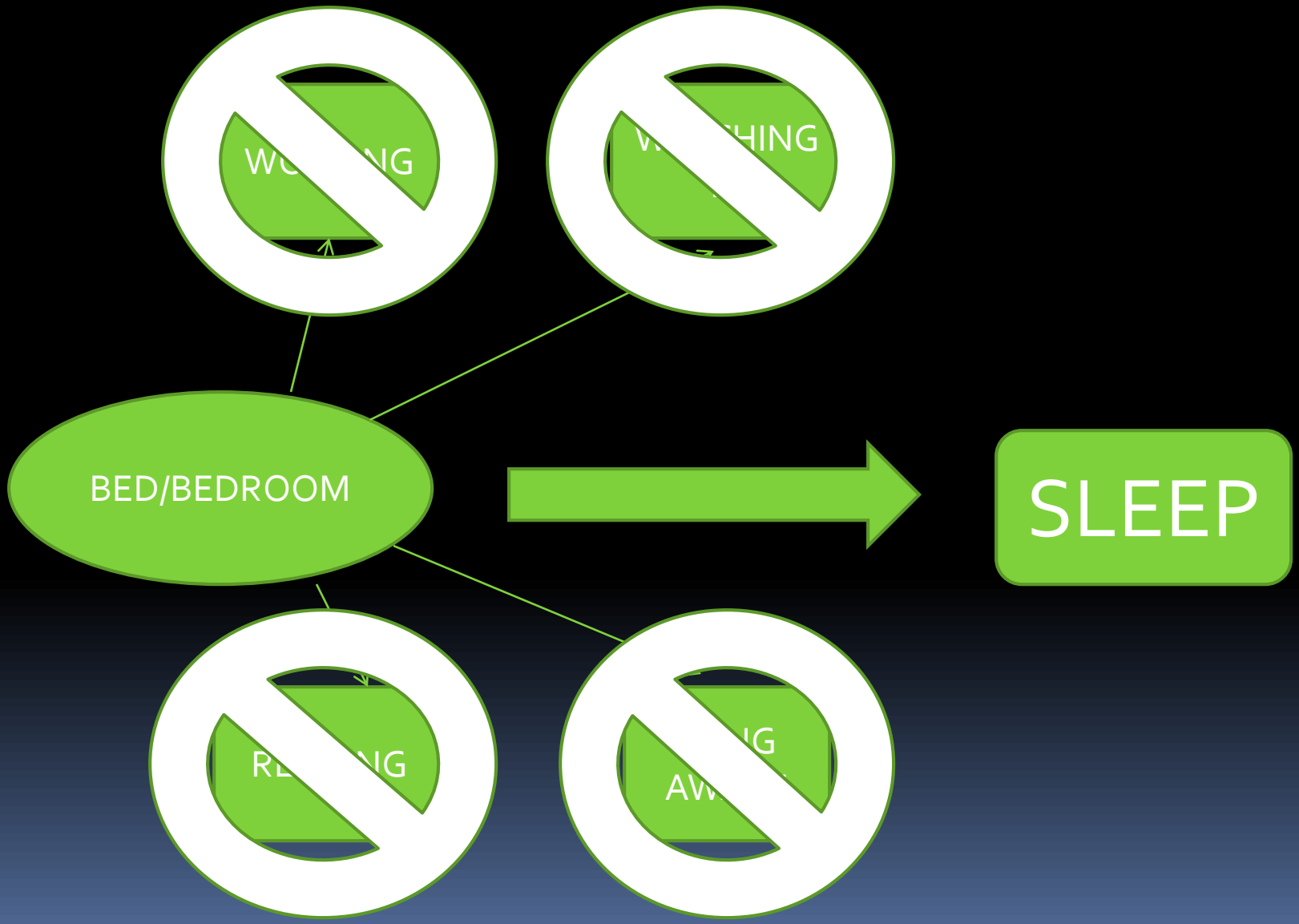
STIMULUS CONTROL

- Considered one of the most effective behavioral treatments
- Based on behavioral principle of conditioning
  - Insomnia leads to stress, anxiety, wakefulness
  - This takes place in bed (stimulus)
  - Bed becomes associated with stress, anxiety, wakefulness
- Consists of 5 simple instructions that help the patient reassociate sleep stimuli with the proper behavior - falling asleep

STIMULUS CONTROL

1. Go to bed only when sleepy
2. Use the bed or bedroom only for sleeping
3. Get out of bed when unable to sleep
4. Arise at the same time every morning
5. Do not nap during the day

STIMULUS CONTROL



SLEEP RESTRICTION

- Limits the amount of time in bed to the amount of time sleeping
- Initial sleep diary
  - BT- 10:00pm WT - 7:30am
  - TIB – 9.5 hours TST – 6.5 hours
  - SE – 68%
- Initial restricted schedule
  - Desired awake time – 7:00am
  - Bedtime – 12:30am (only if sleepy)
  - No napping

SLEEP RESTRICTION

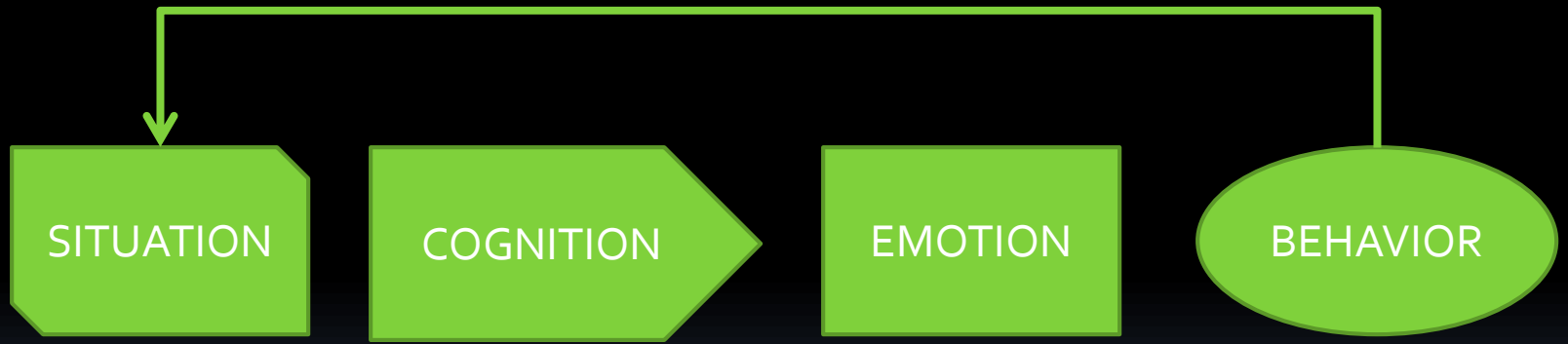
- Initial restricted schedule (week 1)
  - TIB – 12:30 am - 7:00am = 6.5 hours
  - TST – 6 hours
  - SE – 93%
- Modified schedule (week 2)
  - TIB – 12:15am – 7:00 am
- When sleep efficiency > 85% over one week, then increase sleep periods by 15 min
- If SE < 85%, then decrease sleep period by 15 min
- Sleep window should not be reduced below 5 hours

SLEEP RESTRICTION

- Thought to be effective for two reasons:
  - Prevents patients from coping with insomnia by extending their sleep opportunity which leads to shallow fragmented sleep
  - Initial sleep loss that occurs is thought to increase homeostatic pressure for sleep
- Warning
  - Drowsiness is normal & temporary in first couple of weeks
- Contraindicated
  - Mania, OSA, Seizure disorder, parasomnias, or those at risk of falls

COGNITIVE THERAPY

- Faulty beliefs and unrealistic expectations about sleep and insomnia bolster maladaptive sleep behaviors
- Targets these erroneous beliefs and attempts to alter them
  - Identify cognition, which leads to faulty belief, then offer alternative interpretations



Wide awake at 2 am	"I won't be able to function tomorrow"	Anxiety Frustration	Tries harder to get back to sleep

UNDERLYING BELIEF: "I can't function during the day if I don't have at least 8 hours of sleep"

COGNITIVE THERAPY: RESTRUCTURING AN EXAMPLE

- Identify and record catastrophic thoughts
  - Stay awake all night, wreck the car, get fired
- Calculate number of days with insomnia
  - 1000 days
- Assess the patient's probability estimates
  - Stay awake all night – 85%, wreck the car - 80%, get fired-90%
- Determine the actual frequency of the anticipated catastrophes
  - Stay awake all night – once, wreck the car - never, get fired-never
- Mismatch between the patient's estimates and the probability of catastrophic outcomes
  - Incidence of not falling asleep is 0.1% (vs 85%)
  - Incidence of wrecking the car is 0% (vs 80%)
  - Incidence of getting fired is 0% (vs 90%)

COGNITIVE THERAPY

- In general, helps to change the underlying ideas that perpetuate insomnia
- Insomniacs should learn 6 basics cognitive strategies:
  - Keep realistic expectations
  - Do not blame insomnia for all impairments
  - Never try to fall asleep
  - Do not give to much importance to sleep
  - Do not catastrophize after a poor night's sleep
  - Develop tolerance to the effects of insomnia

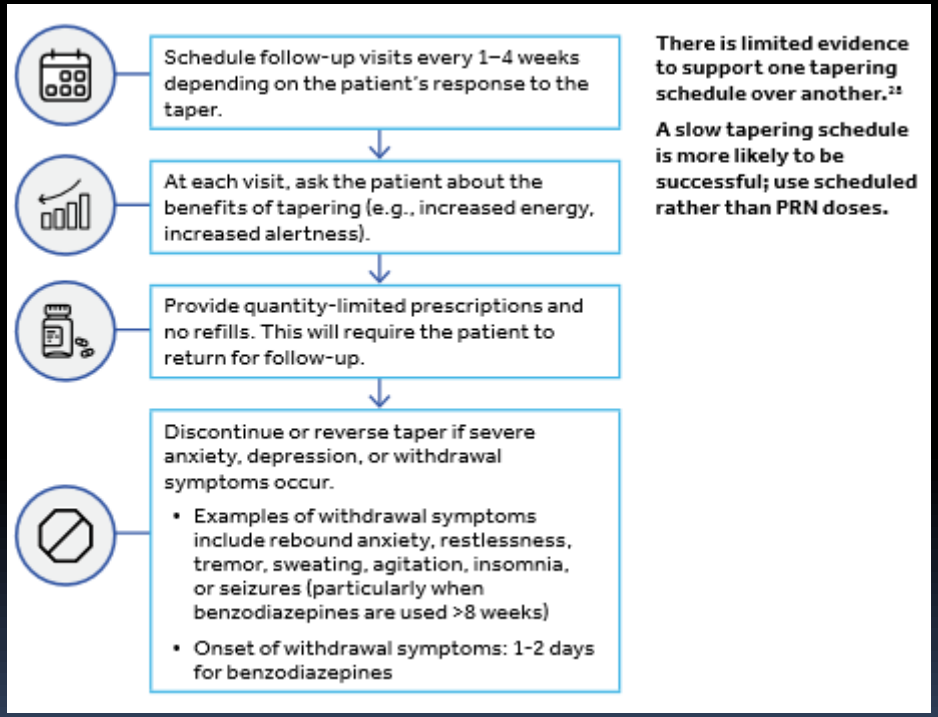
RELAXATION THERAPY

- Goal is to reduce arousal that interferes with sleep
  - Autonomic
  - Cognitive
- Entails conducting specific treatment exercises and teaching relaxation skills over multiple treatment sessions
- Requires training and daily practice, so patient should not expect immediate results
- PMR, Mindfulness, worry time, lists

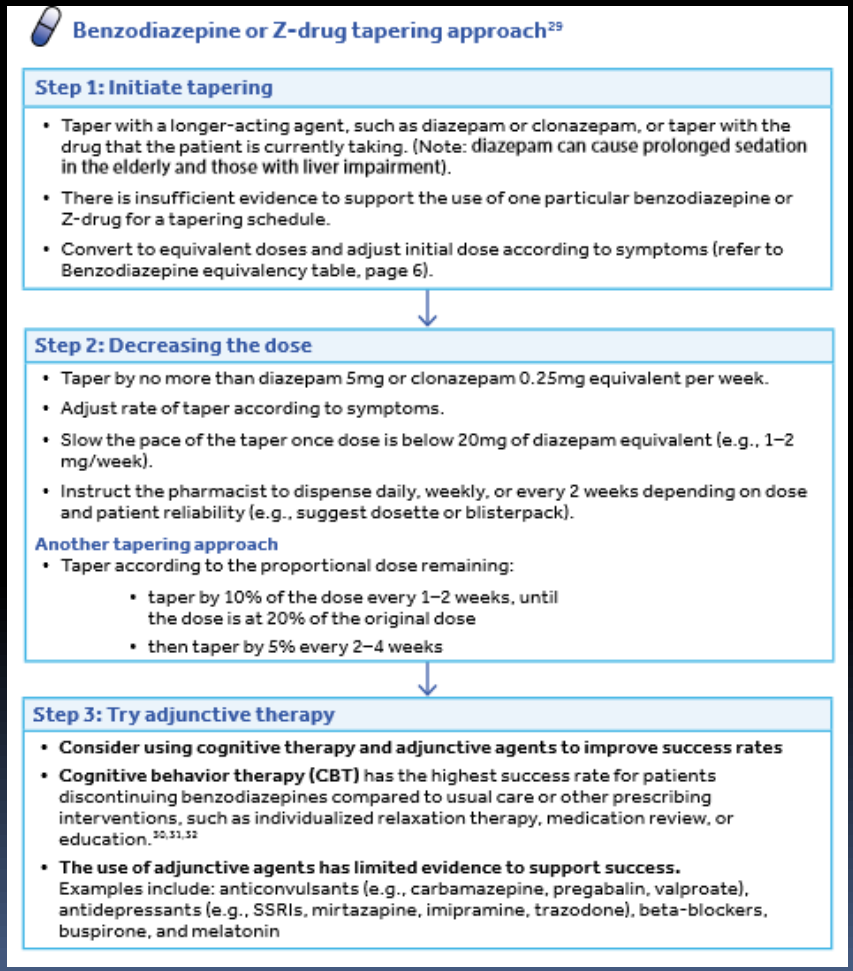
HYPNOTIC TAPERING

- Factors sustaining hypnotic dependence:
  - Unhelpful beliefs about sleep and causes of insomnia
  - Sleep disruptive habits
  - Fears of sleeping without medicine
  - Unsuccessful self-initiated withdrawal attempts
- Slow guided taper
  - Change multiple meds to one medication
  - Reduce dose by 25% every 2 weeks – but this is highly variable depending on the pnt

HYPNOTIC TAPERING – GENERAL APPROACH



BENZODIAZEPINE OR Z-DRUG TAPERING APPROACH



Benzodiazepine or Z-drug tapering approach[29]

Step 1: Initiate tapering

- Taper with a longer-acting agent, such as diazepam or clonazepam, or taper with the drug that the patient is currently taking. (Note: diazepam can cause prolonged sedation in the elderly and those with liver impairment).
- There is insufficient evidence to support the use of one particular benzodiazepine or Z-drug for a tapering schedule.
- Convert to equivalent doses and adjust initial dose according to symptoms (refer to Benzodiazepine equivalency table, page 6).

Step 2: Decreasing the dose

- Taper by no more than diazepam 5mg or clonazepam 0.25mg equivalent per week.
- Adjust rate of taper according to symptoms.
- Slow the pace of the taper once dose is below 20mg of diazepam equivalent (e.g., 1–2 mg/week).
- Instruct the pharmacist to dispense daily, weekly, or every 2 weeks depending on dose and patient reliability (e.g., suggest dosette or blisterpack).

Another tapering approach

- Taper according to the proportional dose remaining:
  - taper by 10% of the dose every 1–2 weeks, until the dose is at 20% of the original dose
  - then taper by 5% every 2–4 weeks

Step 3: Try adjunctive therapy

- **Consider using cognitive therapy and adjunctive agents to improve success rates**
- **Cognitive behavior therapy (CBT)** has the highest success rate for patients discontinuing benzodiazepines compared to usual care or other prescribing interventions, such as individualized relaxation therapy, medication review, or education.[30,31,32]
- **The use of adjunctive agents has limited evidence to support success.** Examples include: anticonvulsants (e.g., carbamazepine, pregabalin, valproate), antidepressants (e.g., SSRIs, mirtazapine, imipramine, trazodone), beta-blockers, buspirone, and melatonin

REAL WORLD CBT-I

CBT LIMITATIONS

- Accurate diagnosis
- Physician/patient reluctance to consider "psychological interventions"
- Time – not a quick fix
- Multiple visits
- Cost
- Cognitive or physical limitations
- Limited availability of clinicians with CBT skills
- Requires patient motivation

CBT-I MODALITIES

- Face to face – deemed most efficacious
- Group
- Telehealth
- Self-help
  - Books
    - Overcoming Insomnia and Sleep Problems
  - Internet delivered*
    - CBTforinsomnia.com
  - Mobile Apps
    - SleepRate

Zachariae R, et al. Efficacy of internet-delivered cognitive-behavioral therapy for insomnia - a systematic review and meta-analysis of randomized controlled trials. Sleep Medicine Reviews 2016;30:1.1-10

BENEFITS OF CBT-I

- Improving comorbid Chronic Pain*
- Improving comorbid Fibromyalgia and Chronic Fatigue**
- Improving comorbid Depression and Anxiety**
- Improving Quality of Life***

*Finan PH, et al. Cognitive Behavioral Therapy for Comorbid Insomnia and Chronic Pain. Sleep Medicine Clinics 214;9(2):261-274
**Geiger-Brown JM, et al. Cognitive Behavioral Therapy in Persons with Comorbid Insomnia: A meta-analysis. Sleep Medicine Reviews 2015;23:54-67
***Morin CM et al. Cognitive Behavior Therapy singly and combined with medication for persistent insomnia: Impact on Psychological and Daytime Functioning. Behavior Research 2016;87:109-116

PHARMACOTHERAPY

PHARMACOTHERAPY

- Appropriate for short-term and transient insomnia (<4wks)
- Rational pharmacotherapy for insomnia:
  - Use of the lowest effective dose
  - Use of intermittent dosing (2 to 4 times weekly)
  - Short-term medication prescribing (1-2 weeks)
  - Evidence suggests not more than 1 mos due to risk of dependence and tolerance
  - Meds with shorter ½ lives to minimize daytime sedation
  - Principles of behavioral management should remain the focus

PHARMACOTHERAPY

Risks vs. benefits of benzodiazepines & Z-drugs (zopiclone and zolpidem)

Meta-analyses* of sedative hypnotics identified that:[19,20]

- **The number needed to harm (NNH) = 6** (95% CI [4.7, 7.1] compared to placebo (drowsiness, fatigue, headache, nightmares, nausea, GI disturbances and cognitive effects))
- Other serious adverse events such as falls and motor vehicle accidents have been reported after benzodiazepine use
- New use of sedative hypnotics is associated with approximately two times the risk of motor vehicle accidents[21,22,23,24,25]

- **The number needed to treat (NNT) = 13** (95% CI [6.7, 62.9] for a sedative to improve sleep quality)
- **Sedative hypnotics can increase total sleep time by 25 minutes** (95% CI [13,38 minutes] compared with placebo)
- Sedative hypnotics can decrease sleep latency by ~10 minutes
- The mean number of awakenings decreased by 0.63 (95% CI [-0.48, -0.77])

*Length of treatment in studies ranged from 5 days to 9 weeks

Sedatives

PHARMACOTHERAPY

	Pharmacotherapy options for insomnia[2,3,4,14,15] (low to moderate quality of evidence)		
	Generic	Notes, adverse effects	Usual dose
NON-BENZODIAZEPINES (Z-drugs)	Zopiclone[x] 5, 7.5mg T	• Indicated for insomnia • Improves sleep onset latency (~19 min), total sleep time (~45 min), wake after sleep onset (~11 min)[3] • Risk of physical tolerance and dependence • A/E: metallic aftertaste	3.75 - 7.5mg **Max:** 5.0mg in elderly or patients with kidney/liver disease
	Zolpidem[x] 5, 10mg S	• Indicated for insomnia • Improves sleep onset latency (~15 min), total sleep time (~23 min)[3] • Oral disintegrating tablet - cannot be split • Less chance of morning hang-over effect • Risk of physical tolerance and dependence • A/E: daytime drowsiness, dizziness/vertigo, amnesia, nausea, headache, falls	5 - 10mg
ANTIDEPRESSANTS	Doxepin 10, 25, 50, 100mg C 3, 6mg T	• 3mg: improve total sleep time (~12 min), wake after sleep onset (~10 min)[3] • 6mg: improve total sleep time (~17 min), wake after sleep onset (~14 min)[3] • Not to be taken within 3 hours of a meal due to delayed absorption and potential for next day drowsiness • Minimal risk of physical tolerance/dependence; consider doxepin if substance abuse or dependence is a concern • A/E: anticholinergic side effects with higher doses	10 - 50mg C 3 - 6mg T
	Trazodone 50, 100, 150mg T	• Trazodone is indicated for depression; **limited evidence** for insomnia • Lower risk of morning hangover effect due to short half-life • Minimal risk of tolerance/dependence • Low anticholinergic activity • A/E: orthostatic hypotension, priapism in men (rare)	25 - 150mg
	L-Tryptophan[x] 500mg C 250, 500, 750, 1g T	• Indicated as an adjunct for affective disorders • **Conflicting evidence** for insomnia • Caution: Serotonin syndrome with SSRI or MAOIs • A/E: dry mouth, drowsiness, dizziness, GI upset	500mg - 2g

PHARAMCOTHERAPY

BENZODIAZEPINES (BZD)	**Avoid in the elderly due to risk of cognitive and behavioural adverse effects, falls and fractures** Flurazepam, oxazepam, triazolam are indicated for primary insomnia, but are not recommended[2]		
	Temazepam 15, 30mg C	• Indicated for insomnia • Risk of physical tolerance and dependence • Low-to-moderate risk of morning hangover due to intermediate half-life • A/E: dizziness, confusion, memory impairment, falls/fractures	15 - 30mg hs
OVER-THE-COUNTER (limited evidence for use)	Melatonin[x] 1, 3, or 5mg C 2mg controlled release C 3mg S, various formulations	• Modest effect on sleep (may decrease sleep onset latency [~7 min], increase total sleep time [~8 min], and improve sleep quality)[16] • Melatonin has no effect on benzodiazepine discontinuation while the effect of melatonin on sleep quality is inconsistent[17] • No apparent physical tolerance and dependence • Purity concerns • A/E: fatigue, headache, dizziness, irritability, abdominal cramps	0.3 - 5mg (usual dose 1 - 3mg), 30-90 min before hs or if shift in circadian rhythm, take 4-5 hours before hs
	Valerian Root[x] Herbal Sleepwell, Herbal Nerve, etc.	• **Limited evidence for insomnia**[18] • Purity concerns • A/E: dizziness, nausea, headache, upset stomach, hepatotoxicity (rare)	400 - 900mg, 30 - 60min before hs

A TAKE HOME APPROACH

SLEEP DIARY

Sleep diary for your patient's use

Date						
Did you nap today?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
If yes, when and for how long?						
Did you exercise today?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
If yes, when and for how long?						
Time into bed						
Time of "lights out"						
Time to fall asleep						
Number of awakenings						
Longest awakening						
Time of "lights on"						
Time out of bed						
Total sleep time						
Sleep Quality (0-10) 0=worst, 10=best						

STEP BY STEP APPROACH – Week 1

- Collect 2 weeks of sleep diary before getting started
- Educate patient:
  - Model of chronic insomnia
  - Regulation of sleep
  - Hypnotics worsen the problem
  - CBT is considered gold standard and first line treatment
- Anchor wake up and out of bed to the earliest time pnt needs to wake or has woken up in last 2 weeks

STEP BY STEP APPROACH – Week 1

- Teach the difference between fatigue and sleepiness
  - Set an earliest to bed-time based on average sleep times over the last 2 weeks (no less than 5 hour window)
- Relevant sleep hygiene factors
  - No clock watching, caffeine, substance, exercise
- Initially leave hypnotics and encourage patient to take once patient feels their own sleepiness each night

STEP BY STEP APPROACH – Week 2

- Review sleep diary
- Identify and problem solve barriers to week 1 homework
- Challenge faulty ideas and beliefs
- If complied well, then introduce SCT
  - May need to further restrict sleep window by moving earliest to bed later
- If didn't comply well, then repeat week 1
- If patient on board and buying in, then consider initial hypnotic taper
  - As small as possible

STEP BY STEP APPROACH – Week 3 and Onwards

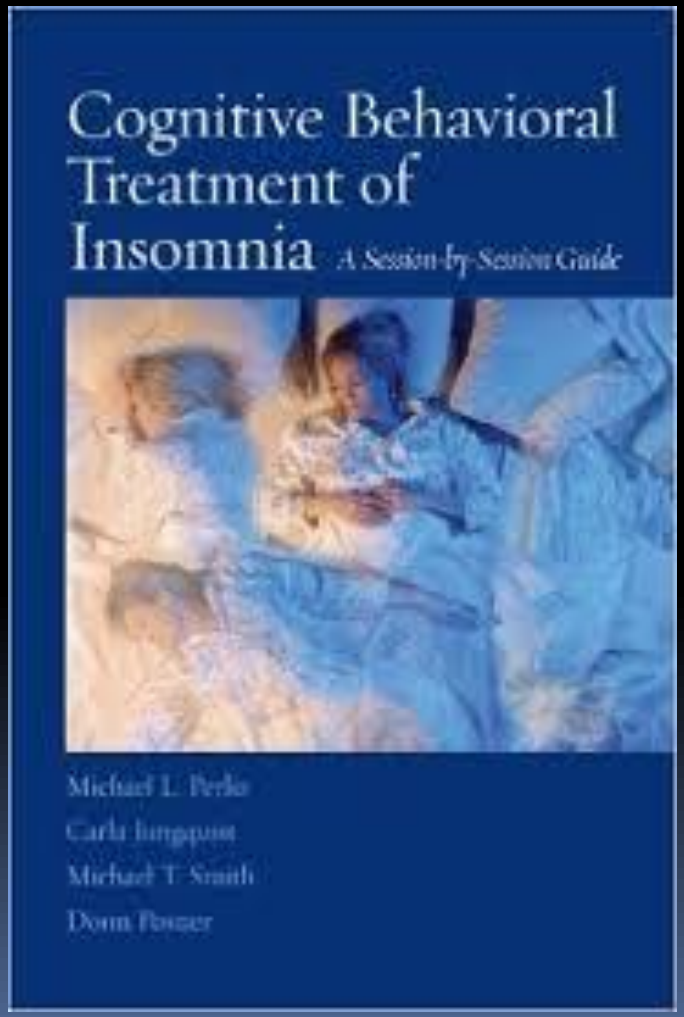
- Review sleep diary and identify barriers
- Ensure all relevant sleep hygiene factors identified and modified
- Review stimulus control
  - Requires follow up each session in terms of correct use
- Each session may require modification of earliest to bedtime based on sleep restriction principles
  - Keep wake up consistent
  - Once patient has achieved ~90% SE, begin increasing TIB
- Continue to challenge faulty cognitions
- Taper hypnotics each week at lowest increment
  - Patient dependent

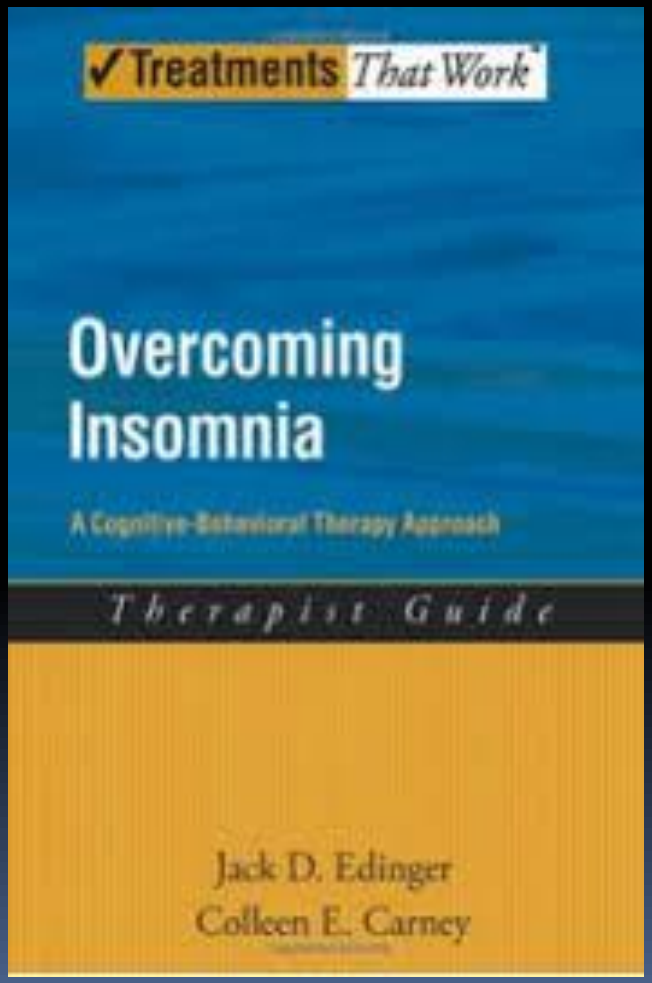
RESOURCES

- LHSC Sleep Medicine Clinic
  - Jennifer.barr@lhsc.on.ca
- Canadian Sleep Society
  - www.css-scs.ca
- American Academy of Sleep Medicine
  - www.aasmnet.org
- National Sleep Foundation
  - www.sleep.org

RESOURCES

- Excellent session by session guides:





THE END