

Wisconsin Public Psychiatry Network Teleconference
(WPPNT)

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Part II: Cognitive-Behavioral Therapy for Insomnia

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Outline

- A brief review from Part I
 - Insomnia definition
 - The two-part process of sleep
 - A cognitive-behavioral model of insomnia
 - Multi-component CBT for insomnia

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Outline

- Part II—focusing on “In Practice”
 - Typical sleep patterns during treatment
 - Calculation of sleep logs
 - Stimulus control case example
 - Sleep restriction case example
 - Cognitive therapy case example

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A Brief Review

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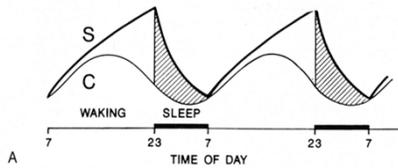
DSM-5 Criteria for Insomnia Disorder

- One or more:
 - difficulty initiating sleep
 - difficulty maintaining sleep
 - waking up too early
- Sleep difficulty occurs:
 - despite adequate opportunity for sleep
 - at least 3 nights a week
 - at least 3 months
- Daytime consequences
- Not explained by another sleep-wake disorder or substance use
- Co-existing mental disorders and medical conditions do not adequately explain the predominant complaint of insomnia

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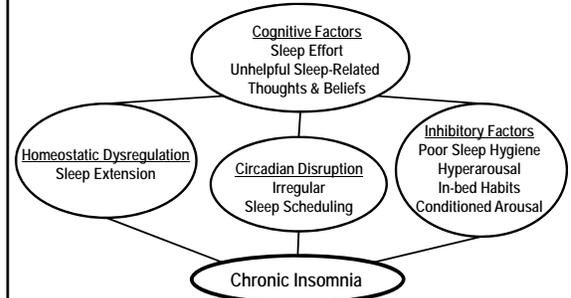
The Two-Part Process of Sleep

- Homeostatic regulation (the sleep drive)
- Circadian regulation (the body's clock)
- Keeping in mind hyperarousal/conditioning



Borbély (1982) *Human Neurobiol* 7

A Cognitive-Behavioral Model of Insomnia



Edinger & Means, *Clin Psychol Rev* (2005) 25: 539-558.
Webb, *Sleep* (1988) 11: 488-496.

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Cognitive-Behavioral Therapy for Insomnia (CBT-I): A Multi-Component Treatment

- Typically includes:
 - Stimulus control
 - Sleep restriction therapy
 - Cognitive therapy
 - Sleep hygiene
- May or may not include:
 - Relaxation therapies

Morin C et al., *JAMA* (1999) 281: 991-999.

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Efficacy of Cognitive-Behavioral Approaches

- Well-established treatments
 - Relaxation
 - Stimulus Control
 - Sleep Restriction
 - CBT-I
- Not efficacious as a stand alone treatment
 - Sleep Hygiene only
 - Cognitive Therapy only

Morin C et al., *Sleep* (2006) 26: 1398-1414.

Steps of Treatment

- Steps:
 - #1: Assessment and Conceptualization
 - #2: Rationale, rationale, rationale!
 - #3: Core Strategies
 - #4: Follow-up

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Typical Patterns During Treatment

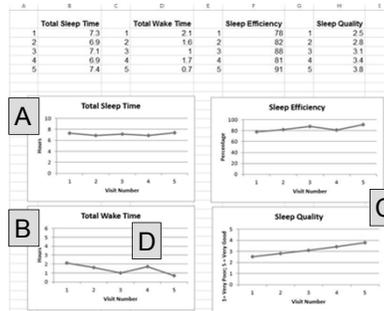
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Typical patterns during treatment

- Insomnia and daytime consequences often get a little worse before they get better (A)
 - Exercise analogy: Starting CBT-I is like when you return to exercise after not exercising for awhile and feel sore at first
- Main effect of treatment is decreasing total wake time (B & C); total sleep time usually does not increase greatly (A)
- Setbacks happen and are an opportunity to practice working with intermittent sleep challenges (D)

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Typical patterns during treatment



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Calculation of Sleep Logs

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Sample		Concussion Sleep Diary (Care Items Only)								ID#Name
Today's date	4/5/10									
1. What time did you get into bed?	10:15 p.m.									
2. What time did you go to sleep?	11:30 p.m.									
3. How long did it take you to fall asleep?	1 hour 15 min.									
4. How many times did you wake up, not counting your final awakening?	3 (times)									
5. In total, how long did these awakenings last?	1 hour 10 min.									
6. What time was your final awakening?	6:25 a.m.									
7. What time did you get out of bed for the day?	7:00 a.m.									
8. How would you rate the quality of your sleep?	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	

Carney et al., *Sleep* (2012) 35: 287-302.

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Sample		Concussion Sleep Diary (Care Items Only)								ID#Name
Today's date	4/5/10									
1. How many times did you wake up during the night?	3 (times)									
2. In total, how long did these awakenings last?	1 hour 15 min.									
3. How many times did you wake up, not counting your final awakening?	3 (times)									
4. In total, how long did these awakenings last?	1 hour 10 min.									
5. What time was your final awakening?	6:30 a.m.									
6. What time did you get out of bed for the day?	7:20 a.m.									
7. How would you rate the quality of your sleep?	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	
8. Comments (if applicable)	I have a cold									

Carney et al., *Sleep* (2012) 35: 287-302.

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Sleep Log Calculations

- To calculate **Time in Bed** for each day:
 - Compute the minutes between #1's time and #7's time
 - From sample: 10:15pm to 7:20am = 9 hours, 5 minutes = **545 minutes**

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Sample	
Today's date	4/5/10
1. What time did you get into bed?	10:15 p.m.
2. What time did you try to go to sleep?	11:30 p.m.
3. How long did it take you to fall asleep?	1 hour 15 min.
4. How many times did you wake up, not counting your final awakening?	3 (times)
5. How long did these awakenings last?	1 hour 10 min.
6. What time was your final awakening?	6:35 a.m.
7. What time did you get out of bed for the day?	7:20 a.m.
8. How would you rate the quality of your sleep?	<input type="checkbox"/> Very poor <input checked="" type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good

Sleep Log Calculations

- To calculate **Total Wake Time** for each day:
 - Add the minutes for #3 and #5
 - From sample: 75 + 70 = **145 minutes**
 - Compute the minutes between #1's time and #2's time
 - From sample: 10:15 to 11:30pm = **75 minutes**
 - Compute the minutes between #6's time and #7's time
 - From sample: 6:35 to 7:20am = **45 minutes**
 - Add up minutes from A, B, and C
 - 145 + 75 + 45 = **265 minutes**

Sleep Log Calculations

- To calculate **Total Sleep Time** for each day:
 - Subtract **Total Wake Time** from **Time in Bed**
 - From sample: 545 – 265 = **280 minutes**
- To calculate **Sleep Efficiency** for each day:
 - Divide **Total Sleep Time** by **Time in Bed** and multiply by 100
 - From sample: 230/545 = **51%**

Stimulus Control Case Example

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Stimulus Control:

Reassociating the Bedroom with Sleeping & Setting the Body's Clock

- Select a standard wake-up time
- Avoid sleep-incompatible activities in bed
- Get out of bed when unable to sleep
 - If relaxed, get out of bed after 20-30 minutes
 - If activated, get out of bed directly
- Avoid napping
- Go to bed only when sleepy

Bootzin (1972)
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Case Example

- Amy is a 46 year old female who has experienced periods of insomnia and anxiety throughout her life, sometimes together, sometimes apart. She was feeling fairly good over the summer and then insomnia returned in the fall when her work became more intense and she also started to worry more about her school age son. She found herself with a very active mind at night as she developed worse and worse insomnia. She reached out to make an appointment with a therapist, desiring non-medication treatment. Between making the appointment and coming in for the appointment, insomnia and anxiety increased significantly, and she started having thoughts of harming herself regularly when she was up at night. She related this experience openly at her first appointment and stated she was now open to both non-medication and medication (no medications currently) options as she knew she could not go on like this.

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Stimulus Control In Practice

- Stimulus control is often helpful when working with someone with anxiety as it helps to separate out the ****habit**** of anxious thoughts and feelings in bed, and it is helpful to offer this rationale
- With someone highly anxious, stimulus control alone may be a good starting place to prevent increasing anxiety further with too many changes, but helpful to understand how anxiety provoking even just stimulus control alone might be for someone like Amy
- Of course, with Amy, anxiety-related treatment would be important to combine with insomnia treatment

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Stimulus Control In Practice

- Talking through options for out of bed activity and encouraging individuals to prepare activities prior to sleep so they are ready when needed (and not eliciting more anxiety in the middle of the night)
 - Common activities: short sitcoms, magazines, surface-level books, relaxation practice, simple knitting, quiet music, and deep breathing
- Individuals may become anxious at night trying to determine if they are sleepy enough to return to bed, so often helpful to suggest:
 - (1) getting out of bed for 20-30 minutes and then going back to bed to see what happens (and then getting out of bed again if needed); and
 - (2) trying at least one awakening out of bed and then building up from there

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Sleep Restriction Therapy Case Example

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Sleep Restriction Therapy:

Increasing Sleep Drive &
Setting the Body's Clock

- Patient completes sleep logs
- Compute average total sleep time (TST)
- Limit time in bed (TIB) to TST + 30 min
 - Best to never go below 5.5 hours
- Increase TIB 30 min when sleep efficiency $\geq 85\%$ and patient remains sleepy
- Decrease TIB 30 min. when sleep efficiency is $< 80\%$

Spielman et al. (1987)

Case Example

- Dave is a 65 year old male who has struggled with insomnia since his divorce about 6 years ago. He notes insomnia was at its worst about 5 years ago. At this time, he experienced a severe depressive episode lasting over a year. With the help of depression and insomnia medication and therapy addressing his divorce, he was able to recover from this episode. He continued on his medication with benefit, but recently started having insomnia symptoms again. He would rather not increase his medication further as increased doses made him feel too groggy, and, although he has a much better perspective on his divorce, he fears his current insomnia will result in another severe depressive episode. So, he has been going to bed early many nights if he feels even somewhat tired to try to catch sleep. If he has had a poor night, he also sleeps in and/or takes a nap if possible. However, he is finding he is awake more and more in bed, and thinking about his current insomnia symptoms and fear of depression returning when awake at night and also with quieter moments during the day.

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Sleep Restriction In Practice

- Sleep restriction is often helpful for someone who has really lengthened the amount of time he/she is in bed without getting more sleep (and most likely getting less sleep like Dave)
- Pizza dough analogy: Our sleep is like pizza dough in that you can only spread it out so far until it has holes in it

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Sleep Restriction In Practice

- Check in with individuals about the time in bed prescription the sleep restriction equation produces (total sleep time + 30 minutes)
 - Keep the current sleep pattern in mind when collaborating on the bedtime and wake-up time
 - If the time in bed recommendation is overwhelming for an individual, consider allowing for more time in bed, particularly if time in bed is much larger than total sleep time (e.g., 10 hours of time in bed when sleeping only 5)
 - Often helpful to talk with the individual about this more gentle start and the possible need to continue to decrease time in bed over the course of treatment
 - Remember to not start below 5.5 hours as going lower is often not sustainable and leads to treatment frustration and drop-out

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Cognitive Therapy Case Example

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Cognitive Therapy: Addressing Sleep-Related Thoughts and Beliefs

- Constructive worry time ("the daily wrap-up")
 - Nightly, taking time several hours before bedtime to write down the day's top 3-5 concerns/responsibilities and then the next logical step
- Allowing for time prior to bed to wind down
 - Nightly, having 30 to 60 minutes of time to relax and unwind from the day
- Exploration of thoughts and feelings related to insomnia with possible restructuring or acceptance-based strategies
 - Really focusing in on verbals and non-verbals reflecting thoughts and feelings related to insomnia and asking more about experience

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Case Example

- Eric is a 26 year old male with trouble sleeping since he was a child. He reports that he has several periods of more significant insomnia, including one period in his early 20's, which led to hospitalization due to significant anxiety and depressive symptoms with suicidality. His insomnia has been worse over the last 6 months after relocating to a new city for work, and his anxiety and depressive symptoms have also increased. His main form of treatment has been medication-based, and he comes to his first visit having recently restarted anti-depressant therapy and also taking trazodone nightly. About 50% of nights, he wakes up and really struggles to fall back to sleep. He find his mind is often planning and thinking. He also can find himself worried about his sleep and how it may impact him the next day and if it will lead to more anxiety and depressive symptoms. So, on the nights he struggles more, he has prescriptions for zaleplon, zolpidem, and eszopiclone to take as needed, and he will select one depending on the time of night he wakes up. He is clear he takes only trazodone as prescribed and then one of these medications as prescribed. During the day, he often thinks about his sleep when he feels tired or has difficulty concentrating. He states he is doing fairly well at his job, but is concerned that his performance may be affected at some point. He also becomes very anxious when he is aware of something that may interfere with his sleep (e.g., he occasionally has shoulder pain from a past injury or when going to a social event that may make him break from his routine).

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Cognitive Therapy in Practice

- Again, cognitive therapy does not stand alone as an efficacious treatment, so best to combine with stimulus control and/or sleep restriction
 - Often you see a large shift in thoughts and feelings just through behavioral strategies alone (i.e., people often think and feel less about their sleep if it is going better!)
 - Also, getting out of bed when awake with stimulus control can help many people break the active mind habit and sleep restriction can help to consolidate sleep so awakenings with an active mind are less likely

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Cognitive Therapy in Practice

- To help with an active mind at night:
 - Allowing for time to wind down and checking to make sure time is spent with more relaxing activities and away from screens
 - Walking through use of constructive worry time with emphasis that the next best step is not necessarily going to solve the problem and may be something like, "There's nothing I can do about this problem at this point, so I need to work on letting go."

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Cognitive Therapy in Practice

- For deeper exploration of thoughts and feelings (and bodily sensations, urges, and behavior), considering:
 - What is the worst outcome if insomnia continues?
 - What do you fear the most about your insomnia?
 - What frustrates you the most about your insomnia?
 - What is it like for you when you notice fatigue (or concentration issues or other insomnia symptoms)?
 - Tell me more about when you struggle the most with insomnia
 - Tell me more about the darkest moments you have had with insomnia
 - Tell me more about the process of how you decide to take a sleep medication
 - What would it be like for you to not have the option of a second sleep medication?

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Cognitive Therapy in Practice

- Possible therapeutic responses:
 - Validation
 - A mindful approach with familiar and unhelpful thoughts and feelings
 - Coping statements

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Resources

- Included in handouts:
 - sleep logs, sleep log calculation instructions and worksheet, and a patient CBT-I handout
- CBT-I self-help books:
 - Edinger, J. & Carney, C. (2008). *Overcoming Insomnia: A Cognitive-Behavioral Therapy Approach Workbook*. Oxford: New York.
 - Carney, C., & Manber, R. (2009). *Quiet Your Mind and Get to Sleep: Solutions to Insomnia for Those with Depression, Anxiety, or Chronic Pain*. New Harbinger: California.
- Acceptance-based strategies for worry:
 - LeJeune, C. (2007). *The Worry Trap: How to Free Yourself from Worry & Anxiety Using Acceptance and Commitment Therapy*. New Harbinger: California.

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