Treating Insomnia:

Transdiagnostic Clinical Strategies to Optimize Sleep & Improve Outcomes in Clients with PTSD, Anxiety, Depression, & Chronic Pain

Donn Posner Ph.D., CBSM DBSM
Sleep Well Consultants
Clinical/Research Psychologist
Palo Alto Veterans Institute for Research
Veterans Affairs Palo Alto Health Care System

Disclaimer

Materials that are included in this course may include interventions and modalities that are beyond the authorized practice of mental health professionals. As a licensed professional, you are responsible for reviewing the scope of practice, including activities that are defined in law as beyond the boundaries of practice in accordance with and in compliance with your professions standards.

GROUP

DISCIPLINES ?
Psychology
Social Work
Nursing
LMFT's
MD's
PA's
FORMAL CBT TRAINING ?

Acknowledgements

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Palo Alto, CA

THE SCREEN

A WORD ABOUT THE CONTENT OF THE COURSE

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GIFT BASKET

- Educational info/Research
- Forms and assessment devices
- Videos

Overview

- Sleep 101-Sleep Opportunity, Phase, Continuity, and Architecture
- What is Insomnia?
- Importance of Treating Insomnia
- Evidence for the Efficacy of CBT-I
- Behavioral Model of Chronic Insomnia
- Sleep Regulation
- Conditioned Arousal

SLEEP 101 : THE BASICS

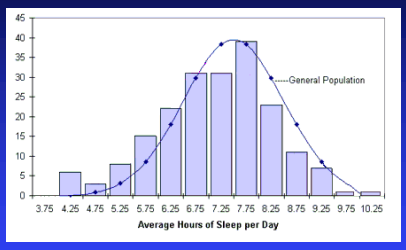
SLEEP
WHAT IS IT ?

JUST 8 HOURS OF UNCONSCIOUSNESS
OR SOMETHING MORE ?

SLEEP OPPORTUNITY
SLEEP PHASE
SLEEP CONTINUITY
SLEEP ARCHITECTURE

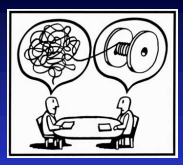
What about sleep need?

HOW MUCH SLEEP DOES ONE NEED ?

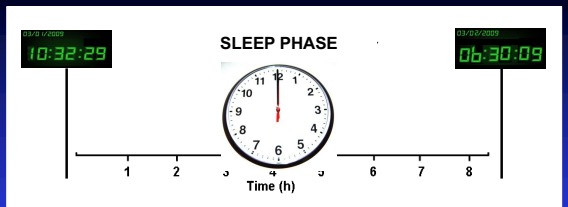


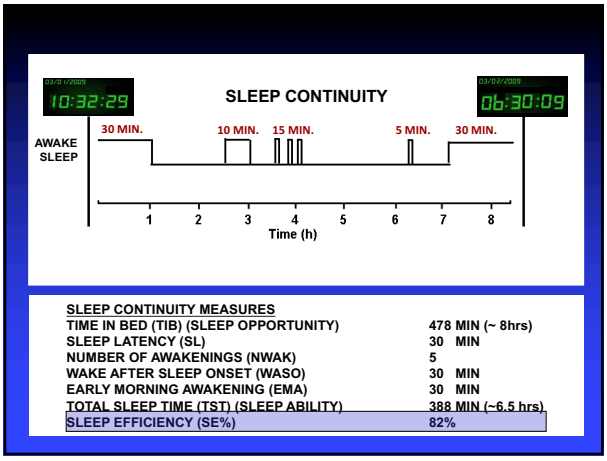
THE POPULATION MODE IS ABOUT 7.5 HOURS

The Problem

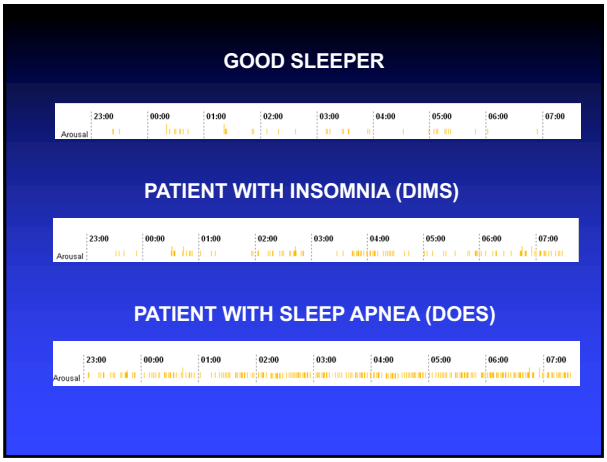


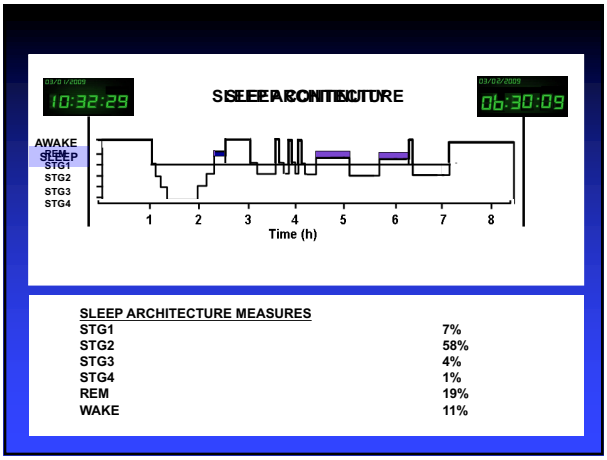
PROBLEMS ARISE WHEN THE INDIVIDUAL GOVERNS WHEN AND HOW MUCH THEY SLEEP BASED ON "UNIVERSAL NORMS".





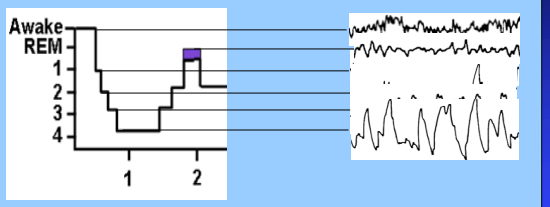
SLEEP CONTINUITY MEASURES	
TIME IN BED (TIB) (SLEEP OPPORTUNITY)	478 MIN (~ 8hrs)
SLEEP LATENCY (SL)	30 MIN
NUMBER OF AWAKENINGS (NWAK)	5
WAKE AFTER SLEEP ONSET (WASO)	30 MIN
EARLY MORNING AWAKENING (EMA)	30 MIN
TOTAL SLEEP TIME (TST) (SLEEP ABILITY)	388 MIN (~6.5 hrs)
SLEEP EFFICIENCY (SE%)	82%





SLEEP ARCHITECTURE MEASURES	
STG1	7%
STG2	58%
STG3	4%
STG4	1%
REM	19%
WAKE	11%

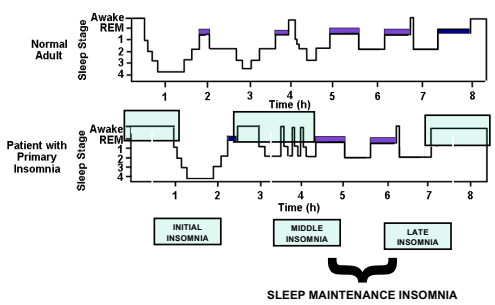
HOW ARE THE STAGES OF SLEEP CLASSIFIED ?



THE DEFINTION OF INSOMNIA

I KNOW IT WHEN I SEE IT

INITIAL - MIDDLE - LATE INSOMNIA



Insomnia Disorder

- Difficulty initiating sleep, maintaining sleep, or waking up too early
  -One or more present at least 3nights/week, for at least 3 months
- Poor sleep occurs despite adequate opportunity
- Associated with daytime impairment or distress

DEFINITION

NEXT DAY CONSEQUENCES

AT LEAST ONE OF THE FOLLOWING

FATIGUE OR MALAISE
DAYTIME SLEEPINESS

ATTENTION, CONCENTRATION OR MEMORY IMPAIRMENT

AT SOCIAL OR VOCATIONAL DYSFUNCTION OR POOR SCHOOL PERFORMANCE

MOOD DISTURBANCE OR IRRITABILITY

MOTIVATION, ENERGY, OR INITIATIVE REDUCTION

PRONENESS FOR ERRORS OR ACCIDENTS AT WORK OR WHILE DRIVING

TENSION HEADACHES AND/OR GI SYMPTOMS WITH SLEEP LOSS

CONCERNS OR WORRIES ABOUT SLEEP

FATIGUE

Sleepy

DEFINITION

WHAT ABOUT

SEVERITY

How long is long and corresponds to "complaint" ?
How long is long enough to correspond to consequence ?

DEFINITION

SEVERITY

CRITERIA

DEFINITION

SEVERITY

RULE OF 30

IS INSOMNIA A PROBLEM ?

Importance of Treating Insomnia

Population PREVALENCE ESTIMATES

30-35% ACUTE INSOMNIA

10-15% CHRONIC INSOMNIA

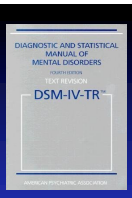
Karacan et al, 1976; Bixler et al., 1979; Mellinger et al 1985; Ford & Kamerow, 1989 Gallup Poll, 1991; Ohayon 1997; Ohayon 2002

Psychosocial Correlates of Insomnia

- **Quality of daily function**
- **Impact on quality of life**
- **Personal safety**
- **Absenteeism**
- **Job performance**

CLINICAL CORRELATES OF INSOMNIA

- **ASSOCIATED WITH INCREASED PSYCHIATRIC MORBIDITY**
- **ASSOCIATED WITH INCREASED MEDICAL MORBIDITY**



PRIMARY INSOMNIA

A. The predominant complaint is difficulty initiating or maintaining sleep, or nonrestorative sleep, for at least 1 month.

B. The sleep disturbance (or associated daytime fatigue) causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

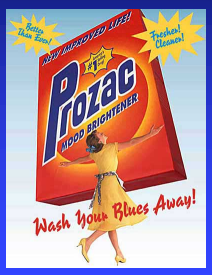
C. The sleep disturbance does not occur exclusively during the course of Narcolepsy, Breathing-Related Sleep Disorder, Circadian Rhythm Sleep Disorder, or a Parasomnia.

D. The disturbance does not occur exclusively during the course of another mental disorder (e.g., Major Depressive Disorder, Generalized Anxiety Disorder, a delirium).

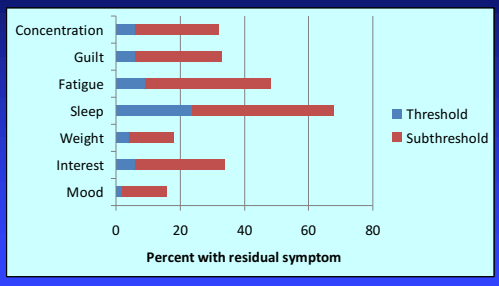
E. The disturbance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition.

TRADITIONAL WISDOM

TREAT THE ILLNESS= CURE THE INSOMNIA

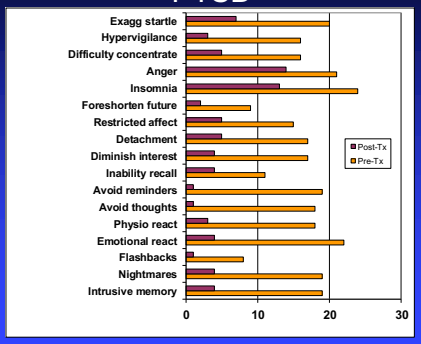


Residual Insomnia After Treatment for Depression



Nierenberg, 1999. J Clin. Psych

Residual Insomnia After Treatment for PTSD



Zayfert & Deviva, 2004

Importance of Treating Insomnia

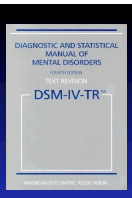
- Disturbed sleep is common in depression, PTSD, and other psychiatric conditions
- In depression, disturbed sleep is associated with:
  - Greater severity (increased suicide risk)
  - Slower and lower rates of remission
  - Higher treatment dropout rates
  - Less stable response to treatment
  - Greater relapse
- Disturbed sleep may not fully resolve with treatment of depression, anxiety and/or PTSD

Clinical Correlates of Insomnia

Insomnia confers a two-four fold risk for future depression

When co-morbid with depression, insomnia is associated with poorer response to depression treatment

Poor sleep is associated with several medical conditions (e.g., hypertension, obesity, metabolic syndrome, type 2 diabetes mellitus, all-cause mortality)



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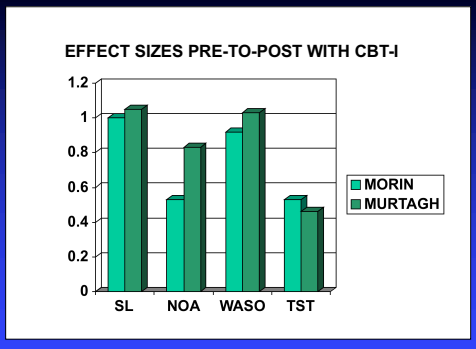
D. The disturbance does not occur exclusively during the course of another mental disorder (e.g., Major Depressive Disorder, Generalized Anxiety Disorder, a delirium).

E. The disturbance is not due to the direct physiologic effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition.

Evidence for CBT-I

Evidence for Efficacy of CBT-I



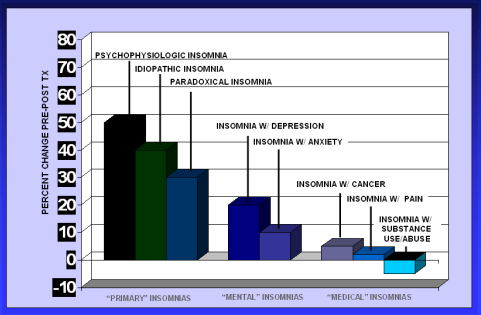
Morin et al. Am J Psychiatry 1994;151(8): 1172-1180
Murtagh et al. J Consult Clin Psychol 1995; 63(1):79-89.

EFFICACY – 9 META-ANALYSES

Author	Year	Title	Journal
Morin et al.	1994	Nonpharmacological interventions for insomnia: a meta-analysis of treatment efficacy	Am J Psychiatry, 151, 1172-1180
Murtagh & Greenwood	1995	Identifying effective psychological treatments for insomnia: a meta-analysis	J Consult Clin Psychol, 1995, 79-89
Pallesen et al.	1998	Nonpharmacological interventions for insomnia in older adults: a meta-analysis of treat-ment efficacy	Psychotherapy, 35, 472-481
Montgomery & Dennis	2003	Cognitive behavioral interventions for sleep problems in adults aged 60+	Cochrane Library, 1, 1-39/ Sleep Med Rev,8, 47-62
Irwin et al.	2006	Comparative meta-analysis of behavioral interventions for insomnia and their efficacy in middle-aged adults and in older adults 55+ years of age	Health Psychology, 25,3-14.
Okajima et al.	2011	A meta-analysis on the treatment effective-ness of cognitive behavioral therapy for primary insomnia	Sleep & Biol Rhythms, 9,24-34
Mitchell et al	2012	Comparative effectiveness of cognitive behavioral therapy for insomnia: a systematic review	BMC Family Practice, 13, 40-51
Miller et al.	2014	The evidence base of sleep restriction therapy for treating insomnia disorder	Sleep Med Rev, 18, 415-424
Koffel et al.	2015	A meta-analysis of group cognitive behavioral therapy for insomnia	Sleep Med Rev, 19 epub

Compiled by Dieter Riemann

DOES TREATMENT OUTCOME VARY AS A FUNCTION OF INSOMNIA TYPE AND/OR COMORBID ILLNESS ?



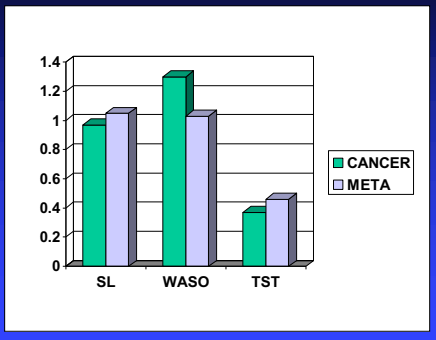
SUCCESSFUL TREATMENT OF "SI" WITH CBT-I

- Cannici et al., 1983
- Currie et al., 2000; 2004
- Dashevsky & Kramer, 1998
- Davidson et al., 2001
- De Berry, 1981-82
- Dopke et al., 2004
- Edinger et al., 2005
- French & Tupin, 1974
- Germain et al. 2006; 2007
- Kolko, 1984
- Krakow et al., 2001
- Lichstein et al., 2000
- Morawetz, 2001
- Morin et al., 1989
- Morin et al., 1990
- Perlis et al., 2001
- Quesnel et al., 2003
- Rybarczyk et al., 2002
- Stam & Bultz, 1986
- Savard et al. 2005
- Tan et al., 1987
- Varni, 1980

SLIDE ADAPTED FROM KEN LICHSTEIN

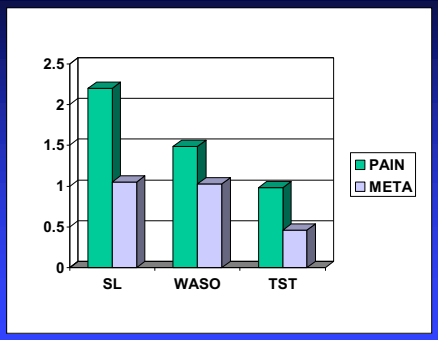
- Cancer
  - Cannici et al., 1983
  - Stam & Bultz, 1986
  - Davidson et al., 2001
  - Quesnel et al., 2003
  - Savard et al., 2005
- Various psychiatric disorders
  - Tan et al., 1987
  - Dashevsky & Kramer, 1998
  - Perlis et al., 2001
  - Krakow et al., 2001(PTSD)
  - Morawetz, 2001 (Depression)
  - Currie et al. 2004 (Alcoholism)
  - Dopke et al., 2004
  - Germain et al., 2006;2007 (PTSD)
  - Manber et al. 2008
- Various medical problems
  - Varni, 1980
  - Kolko, 1984
  - De Berry, 1981-82
  - Lichstein et al., 2000
  - Perlis et al., 2001
  - Rybarczyk et al., 2002
- Pain
  - French & Tupin, 1974
  - Morin et al., 1989
  - Morin et al., 1990
  - Currie et al., 2000
  - Edinger et al., 2005
  - Junaquist et al. 2010

CBT-I FOR INSOMNIA IN CANCER SURVIVORS



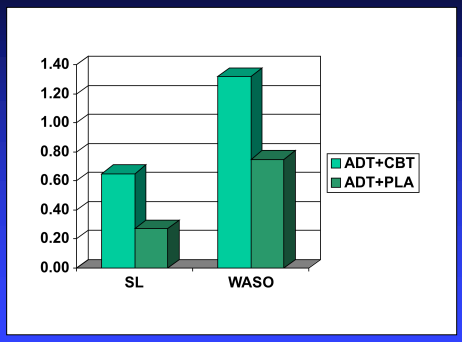
SAVARD ET AL. JCO 2005

CBT-I FOR INSOMNIA IN PATIENTS WITH CHRONIC PAIN



JUNGQUIST ET AL. 2010

CBT-I FOR INSOMNIA IN PATIENTS WITH MAJOR DEPRESSION



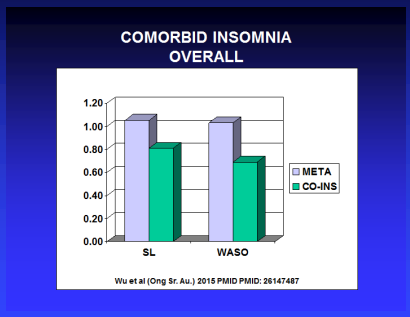
MANBER ET AL. 2008

BUT HOLD YOUR HORSES !

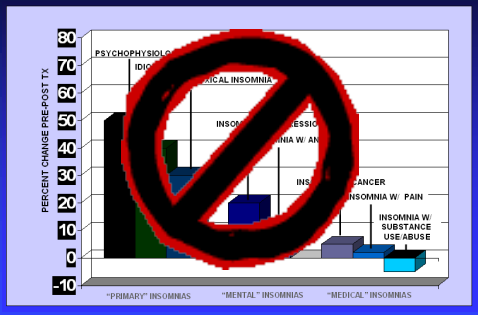
2015-2018 META-ANALYSES

Author	Year	Title	Journal
Ma ZR, Shi LJ, Deng MH.	2018	Efficacy of cognitive behavioral therapy in children and adolescents with insomnia: a systematic review and meta-analysis	Braz J Med Biol Res. 51(6)
Ballesio A, Aquino MRJV, Feige B, et al.	2018	The effectiveness of behavioural and cognitive behavioural therapies for insomnia on depressive and fatigue symptoms: A systematic review and network meta-analysis	Sleep Med Rev. 114-129
Zachariae R, Lyby MS, Ritterband LM, et al.	2016	Efficacy of internet-delivered cognitive-behavioral therapy for insomnia - A systematic review and meta-analysis of randomized controlled trials	Sleep Med Rev. 1-10
Johnson JA, Rash JA, Campbell TS, Savard J, et al.	2016	A systematic review and meta-analysis of randomized controlled trials of cognitive behavior therapy for insomnia (CBT-I) in cancer survivors	Sleep Med Rev. 20-8
Wu JQ, Appleman ER, Salazar RD, et al.	2015	Cognitive behavioral therapy for insomnia comorbid with psychiatric and medical conditions: A meta-analysis	JAMA Intern Med. 175(9): 1461-72
Trauer JM, Qian MY, Doyle JS, et al.	2015	Cognitive behavioral therapy for chronic insomnia: A systematic review and meta-analysis	Ann Intern Med. 163(3): 191-204
Geiger-Brown JM, Rogers VE, Liu W, Ludeman EM, et al.	2015	Cognitive behavioral therapy in persons with comorbid insomnia: A meta-analysis	Sleep Med Rev. 54-67

NOT ALL STUDIES SHOW THAT CBT-I WORKS AS WELL FOR "SI" AS "PI"



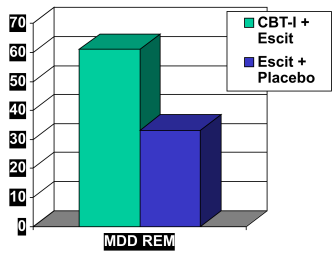
WHATEVER IT IS – IT'S NOT THIS



“BUT WAIT – THERE’S MORE !”

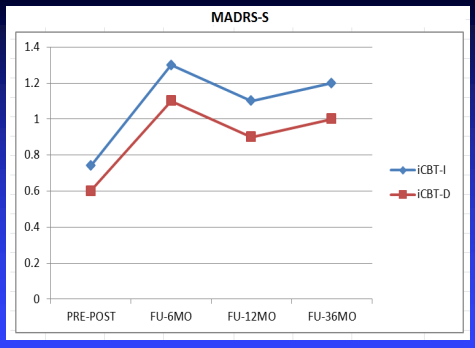
When treating Insomnia what happens to the “Primary” Disorder?

Cognitive Behavioral Therapy for Insomnia Enhances Depression Outcome in Patients with Comorbid Major Depressive Disorder and Insomnia



"BUT WAIT – THERE'S MORE !"

CBT-I VS. CBT-D IN MDD



Blum et al. 2017

Effect of insomnia treatments on depression: A systematic review and meta-analysis.

Hamilton Depression Rating Scale (ES = -1.29)
Beck Depression Inventory (ES = -0.68)

Gebara, et. Al., 2018

The New York Times

TUESDAY, NOVEMBER 19, 2013

Sleep Therapy Seen as an Aid For Depression

Study Finds Big Benefit in Treating Insomnia

By BENEDICT CAREY

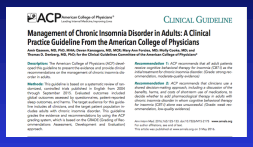
Curing insomnia in people with depression could double their chance of a full recovery, scientists are reporting. The findings,

Evidence for Efficacy

CBT-I *vs.* Hypnotics

- Efficacy equivalent to medications
- Longer-lasting effects
- No drug side-effects or drug-drug interactions
- Cost effective

American College of Physicians Clinical Guidelines



ACP American College of Physicians

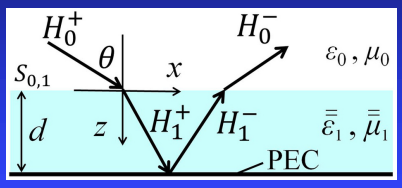
CLINICAL GUIDELINE

Management of Chronic Insomnia Disorder in Adults: A Clinical Practice Guideline From the American College of Physicians

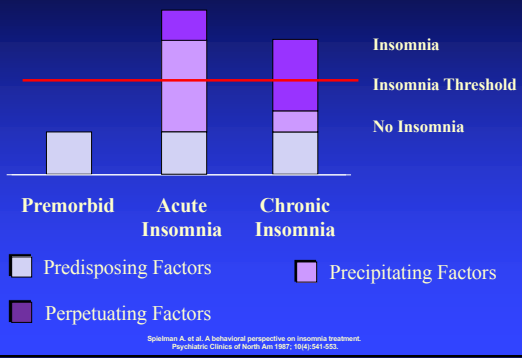
1. Insomnia is a major healthcare problem and should be a focus of treatment.

2. CBT-I should be the first treatment of choice for insomnia before pharmacotherapy.

WHAT IS THE MODEL FOR THIS ?

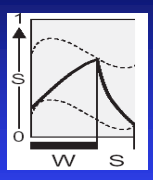


The Evolution of Insomnia

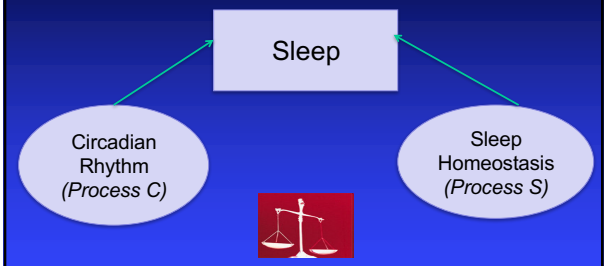


Spielman A. et al. A behavioral perspective on insomnia treatment. Psychiatric Clinics of North Am 1987; 10(4):541-553.

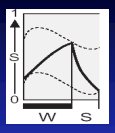
SLEEP REGULATION



Sleep Regulation



Process S: The Sleep Drive

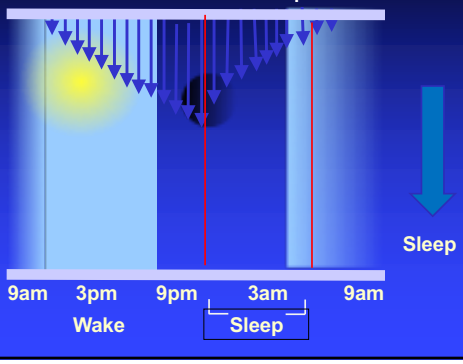


Sleep drive increases during the day as more time elapses after waking
- Adenosine accumulates in brain during waking hours
- This increases sleep drive and causes sleepiness

Sleep drive decreases during the night, as sleep progresses across the night
- Adenosine stores in brain diminish. This decreases sleep drive and leads to alertness

Sleep Drive is a homeostatic drive akin to hunger

Sleep/Wake Regulation: *Process S*: The Sleep Drive



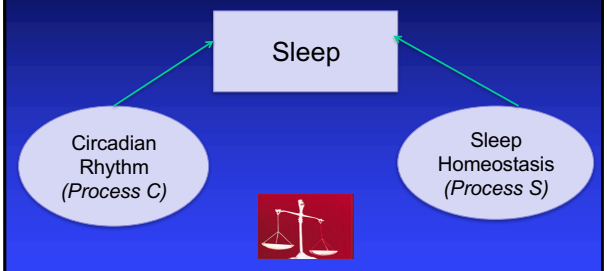
Sleep/Wake Regulation: *Process S*: The Sleep Drive

What factors weaken the sleep drive?

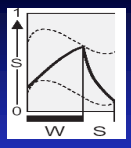
Factors that Weaken the Sleep Drive

- Excess time in bed
- Napping (excess or too close to BT)
- Dozing (particularly close to bedtime)
- Sleeping in on weekends

Sleep Regulation



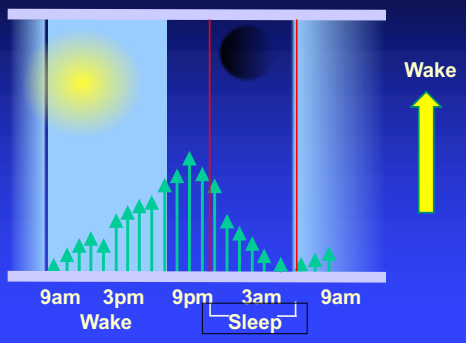
Process C: The Circadian Clock



The circadian clock regulates sleep/wake by sending alerting signals of varying strength across the 24-hour day

- Alerting signals increase across the day starting at wake time
- Alerting signals decrease across the night until the early morning

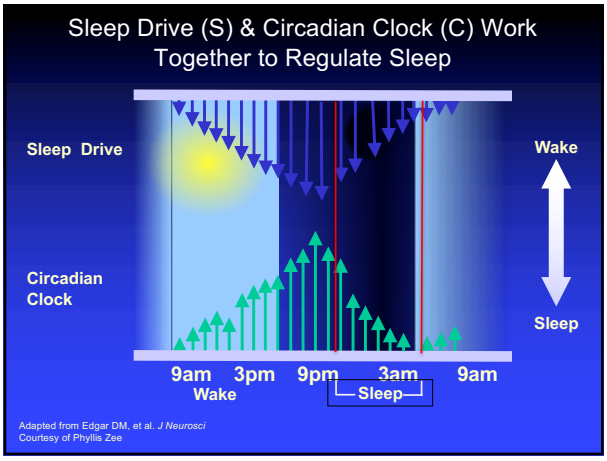
Process C: The Circadian Clock

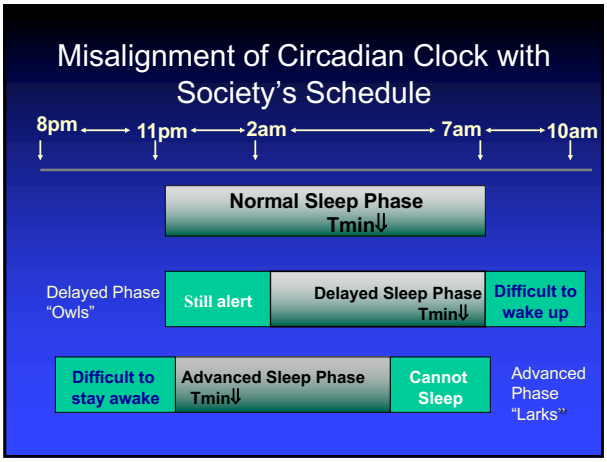


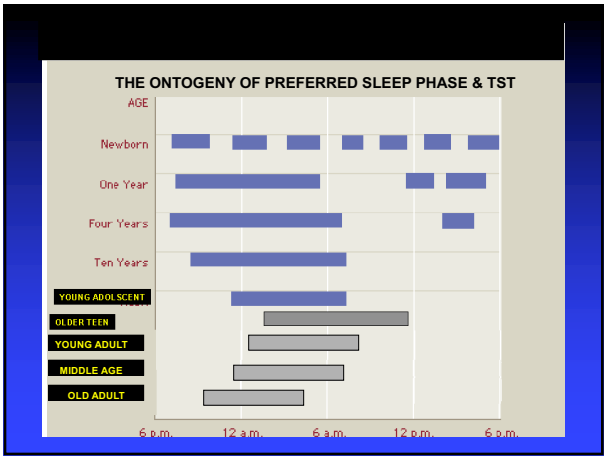
Circadian Clock: Signal Strength

The signal of the circadian clock strengthened by:

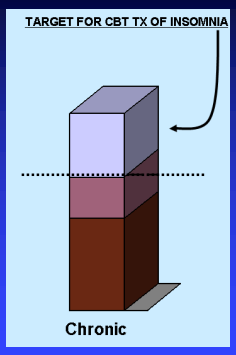
- Waking up and getting out of bed at a regular time
- Timing and amount of light exposure
- Regularity of other activities (eating, exercising, etc.)


Sleep Drive (S) & Circadian Clock (C) Work Together to Regulate Sleep
Sleep Drive
Circadian Clock
Wake
Sleep
9am
3pm
9pm
3am
9am
Wake
Sleep
Adapted from Edgar DM, et al. J Neurosci
Courtesy of Phyllis Zee


Misalignment of Circadian Clock with Society's Schedule
8pm
11pm
2am
7am
10am
Normal Sleep Phase
Tmin⇓
Delayed Phase "Owls"
Still alert
Delayed Sleep Phase
Tmin⇓
Difficult to wake up
Difficult to stay awake
Advanced Sleep Phase
Tmin⇓
Cannot Sleep
Advanced Phase "Larks"


THE ONTOGENY OF PREFERRED SLEEP PHASE & TST
AGE
Newborn
One Year
Four Years
Ten Years
YOUNG ADOLSCENT
OLDER TEEN
YOUNG ADULT
MIDDLE AGE
OLD ADULT
6 p.m.
12 a.m.
6 a.m.
12 p.m.
6 p.m.

WHAT ARE PERPETUATING FACTORS?



Sleep/Wake Regulation
Process W: The Arousal System

Arousal system can trump sleep-promoting system in order to allow us to respond to danger

BUT -- over-active arousal system can interfere with the two processes regulating sleep (Sleep Drive and Circadian Clock)

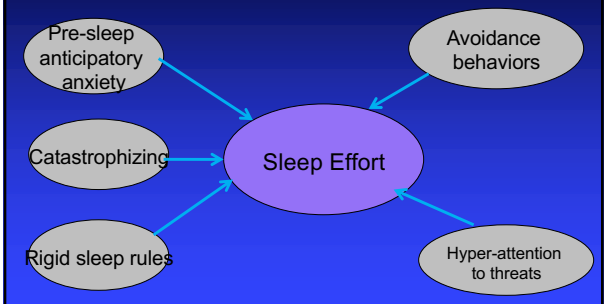
Cognitive Arousal

- Pre-sleep anticipatory anxiety
- Negative emotions about sleep
- Intrusive thoughts in bed
- Catastrophizing at night about potential negative consequences of poor sleep
- Rigid sleep-related rules
  - Critical sleep window

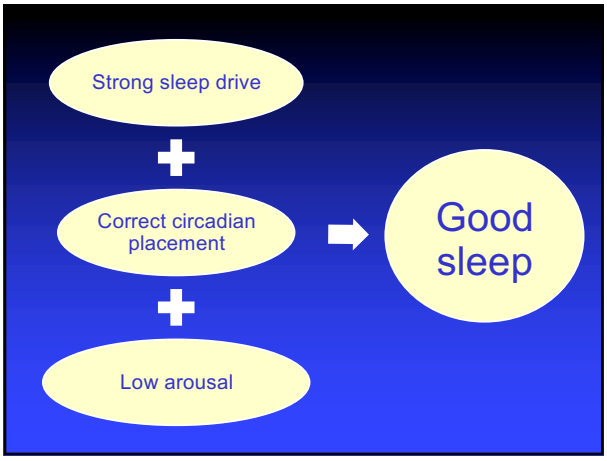
Cognitive Arousal

- Avoidance behaviors (Safety Behaviors)
  - To prevent poor sleep
  - Following poor sleep
- Arousal producing cognitions
  - Attributing poor daytime function, negative mood, and "ill-being" to poor sleep
- Hyper-attention to "threats" to sleep
  - Clock monitoring

Cognitive Arousal



SLEEP EFFORT

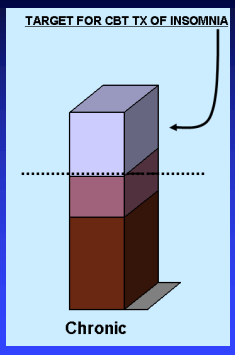


Explaining Sleep Regulation to Your Patient

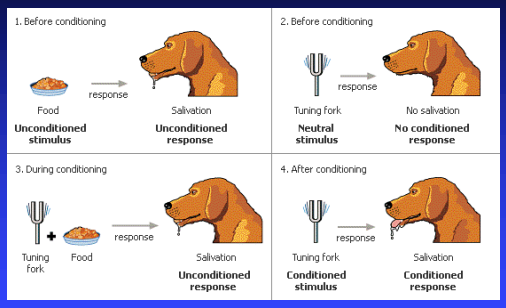
Tailor to patient's presentation and comprehension (give examples relevant to patient)

- Explain sleep drive
- Explain circadian clock
- Explain how hyperarousal can trump the other two

WHAT ARE PERPETUATING FACTORS?



CLASSICAL CONDITIONING



Conditioned Insomnia

With repeated pairing of bed with wakefulness (high arousal)

The bed becomes a cue for hyperarousal, rather than sleep

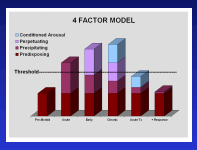
Examples of classical conditioning can help patients understand this idea (e.g., Pavlov's dog)

Conditioned Insomnia

Bed + Tossing Turning Sleepless = Conditioned Insomnia

Also known as conditioned arousal

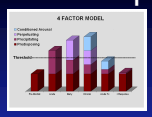
From Symptom to Insomnia Disorder: The Case of Depression



Sleep disturbance symptoms may:

- Precede Major Depressive Disorder (MDD)
- Emerge as a symptom of MDD
- Emerge as a side effect of antidepressant meds

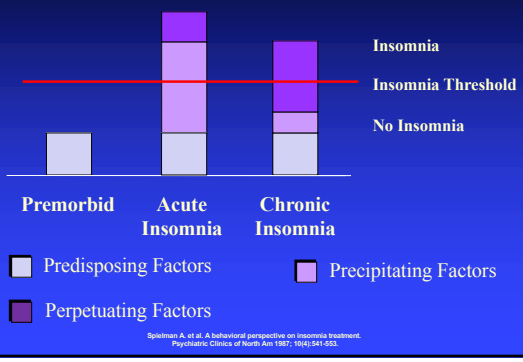
The Case of Depression



Sleep disturbance symptom then evolves into a disorder worthy of targeted treatment due to

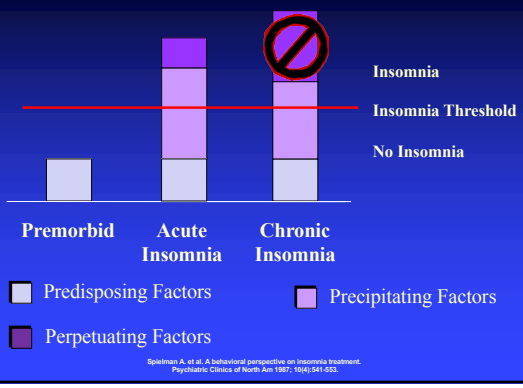
- sleep extension
- circadian dysrhythmia
- conditioned arousal
- sleep effort
- worry
- avoidance

The Evolution of Insomnia



Spielman A. et al. A behavioral perspective on insomnia treatment. Psychiatric Clinics of North Am 1987; 10(4):541-553.

The Evolution of Insomnia



Spielman A, et al. A behavioral perspective on insomnia treatment. Psychiatric Clinics of North Am 1987; 10(4):541-553.

BREAK

QUESTIONS