Sleep: The Pathway To Health

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Disclosure

• This presenter has no conflicts of interest or commercial support to disclose

• Discussion of off-label uses will occur in this presentation
Objectives

- Discuss the health effects of sleep and the impact of disordered sleep on mental health
- Explore the mechanisms of human sleep and sleep architecture
- Review common sleep diagnoses and treatment
- Explore sleep psychopharmacology and how psychiatric meds effect sleep
- Review practical solutions for assessing and managing sleep in patients with psychiatric illness
Prevalance

- 6-30% of population
- Male vs. Female
- Young vs. Old
- 20% of U.S population self–medicate with OTC’s
- 40% self-medicate with ETOH
- 30% of Americans are short-sleeping
Healthcare Effects of Impaired Sleep

- Obesity
- Hypertension
- Metabolic syndrome
- Heart disease
- Depression & Mood disorders (suicide)
- Decreased life-expectancy
- Increased injury & accidents
- Decreased pain threshold
- Impaired immune function
- Increased utilization of healthcare resources
- Dementia/Delerium?
- Cancer risk/Survival rate?
Immediate Effects of Sleep Deprivation

- Impaired concentration
- Depressed mood & irritability
- Malaise & fatigue
- Muscle pain
- Increased sensitivity to pain
- Gastrointestinal complaints
- Appetite changes – carbohydrate cravings?
- Impaired emotional regulation
  - Increased activation in amygdala & insular cortex
Most Common Effect: Irritability

http://en.wikipedia.org/wiki/The_Truce_Hurts
Sleep Deprivation and Cognition

- Increased distractibility
- Increased effort to attend to tasks (vigilance & motivation)
- Delayed impulse control and delay of gratification
- Decreased Emotional IQ
- Impaired memory consolidation
Sleep Deprivation and Cognition (Cont’d)

- Impaired “divergent” decision-making skills
  - Unexpected, innovation, revising plans, effective communication, competing distractions
Now the Good News!

• Convergent or Constructive Reasoning remains intact!
  – Rote memory
  – Complex rule-based, complex, logical tasks
  – Requiring heightened interest and compensatory effort
Chronobiology

• Circadian system is responsible for the appropriate expression of genes and hormones
• The circadian system regulates all major organ systems
  – Dysregulation of the circadian system alters metabolic function
  – Dysregulation of the circadian system also effects the limbic system … which in turn effects the mood, anxiety, sleep ….

www.edublogs.misd.net
Which begs the question …

Are psychiatric disorders actually sleep disorders?
Sleep and Psychiatry

• Insomnia affects 80-90% of all hospitalized psychiatric patients

• And 50-70% of psychiatric outpatients

• 4-7 fold risk increase of mental illness if chronic insomnia exists prior
Recommendations

- **NIH Consensus and State-of-the-Science Statement (2005):**
  - Concurrent mental illness and insomnia/sleep disturbances should be treated as *co-morbid* illnesses
  - What does this mean for providers?
    - Treat mental illness and insomnia
    - Don’t assume insomnia is caused by mood d/o
    - Don’t assume sleep will improve with treatment of mood d/o
What does this mean?

- **Treating sleep is a vital healthcare intervention**
- **Code for mood & sleep**
- **Treat sleep as a separate condition**
Sleep Across the Lifespan

- **Newborns & Infants** may sleep up to 14-19 hours a day. Lots of REM sleep.
- **Children** require 10-12 hours of sleep.
- **Teens** require 9-10 hours of sleep (rarely get it) and fall asleep later in the evenings than adults \((Sleep\ Phase\ Delay)\)
- **Adults** require about 7-8 hours of sleep.
- **Elderly** have decreased deep sleep and more fractured sleep and often fall sleep earlier and wake earlier \((Sleep\ Phase\ Advance)\)
Teenagers

- Sleep-Phase Delay – “Night Owls”
  - Later release of melatonin
  - Attenuated melatonin response?
  - Decreased sensitivity to sleep load
  - Stronger arousal response to light
- NSF
  - 87% get less than 8 hours sleep
  - 28% fall asleep in class
  - 1 in 5 fall asleep doing homework
- Teens & young adults: ½ of all fatigue-related car crashes
- Decreased sleep linked to obesity, DM, ADHD
Teen Sleep and Emotional Regulation

- Decreased sleep associated with:
  - Depression
  - Anxiety
  - Suicide
  - Impulsivity
  - Poor judgment
  - Substance use
  - Decreased school performance
  - Decreased school attendance

ADHD and Sleep:
- Poor sleep associated with ADHD, and ADHD symptoms similar to behaviors of sleep-deprived children
- Sleep and ADHD: a bi-directional link?
American Academy of Pediatrics Recommends Later School Starts!

• “… the average adolescent in the United States is chronically sleep deprived and pathologically sleepy …”
• AAP “… recognizes insufficient sleep in adolescents as a public health issue…”

• **Recommendation:**
  – Middle and High School start times: 8:30AM

• **Why?**
  – Improved alertness
  – Improved attendance
  – Decreased absenteeism
  – Improved school performance and improved grades & test scores
  – Decreased car accidents
  – Decreased self-reported depression & anxiety

• **Self-Treatment with light for teens:**
  – Early Morning Light Exposure- use with caution!
Older Adults

• Sleep-Phase Advance – “Larks”
• Frequent complaints of insomnia
• Poor Sleep Continuity/greater sleep fragmentation
• Less deep sleep (SWS), less dense phases of sleep

• Can we improve our assessment and treatment of sleep in the elderly?

• Meds?
Women and sleep

• More likely to report/experience sleep disturbance
• Pregnancy, infant care, menopause – disordered sleep
• More likely to report/experience mental health issues
  – Depression, anxiety, fibromyalgia, chronic pain, RLS, rheumatoid d/o
• Sleep disturbances such as Obstructive Sleep Apnea (OSA) may present differently
Remember

- Sleep is easy to disturb and very difficult to restore

http://theanimalarium.blogspot.com/2012/06/francomatticchio_19.html
What does this mean?

- Adequate sleep for the patient’s age?
- Children – sleep deprivation or ADHD
- Teens – School start times
  - Use of electronics, light pollution
  - Melatonin?
- Seniors – sleep & activity patterns
  - Meds to aid sleep cycles vs. induce sleep
The Evolution of Sleep

http://www.bretfuller.com/2013/01/the-evolution-of-belief-writers-poke-397.html
What is Sleep?

- “Alteration in consciousness”
- Essential for life
- Thalimus
  - Superchiasmatic Nuclei - Pineal Gland (Melatonin)
- Hypothalmus, Thalimus, Hippocampus, Amygdala
- Distinct brain functions
  - REM & Non-REM
  - 90 minute cycles
Why Do We Sleep?

• Restoration of cortical glycogen
  • re-charge the battery!

• Memory Consolidation
  • translation of hippocampal fast-memory into cortical long-term memory

• Cellular repair & house-keeping
Stages of Sleep

Non-REM Sleep

• Deep Sleep
• Each stage progressively deeper
• Growth hormone release
• Deepest early in the sleep cycle

*How long do you sleep before your first awakening?
Stages of Sleep

- REM sleep
  - “Active” sleep
  - Most prominent in late morning
  - Cholinergic driven
    - Think cholinergic meds
  - Shallow sleep
Figure 1

- Awake
- Stage 1
- Stage 2
- Stage 3
- Stage 4
- REM
Mechanisms of Sleep

• Homeostasis
  • Cellular mediated

• Circadian Rhythm
  • Clock-Dependent Alerting
    • Interferes with catch up sleep

• Arousal – external factors i.e., caffeine, artificial light …
Homeostasis

Sleep Load

Arousal
Circadian Rhythm

• Internal Clock – 24.5 hour cycle
  – Light & Hormone-mediated
    • Time, length & intensity of light exposure
  – Core body temperature
    • Temperature nadir
  – Lark vs. Night Owl
    • Sleep phase advance/delay
• Hormone cascade
  • Melatonin, histamine, cortisol, adenosine, orexin…..
Light

» Light has a powerful effect on mood and affect regulation
» SAD is improved with light
» Bright light exposure is associated with mania
Let there be light ….

- Natural light is essential to set and maintain the circadian clock (Zietgieber)
  - Sun light best entrains the circadian cycle
  - But … artificial light, even at low levels, causes phase shift delay
In short, artificial light is just bright enough to disturb the sleep cycle but not bright enough to effectively re-set it!
Clock-Dependent Alerting

» Entrained (learned) sleep patterns … melatonin

» Follows light/dark patterns and entrained patterns of sleep

» Can often interfere with “catch up sleep”
  – Do the math!
Arousal

• Yeah, baby!
• Length of time awake
• Stimulants
• Light Exposure
  – “Blue Light Special”
• Exercise
• Computers, Smart Phones
  – F.Lux

http://www.90s411.com/90s-costumes-austin-powers.html
Sleep occurs when …

- Sleep drive surpasses the arousal drive (homeostasis)
- Inner clock recognizes time for sleep (Circadian Rhythm)
- Individual arousal characteristics are decreased (Arousal)

http://www.lboro.ac.uk/service/healthwellbeing/staff/sleep/
What does this mean?

• Ask about perception of sleep
• Time to sleep onset? (TSO), how long before you wake? Tired but wired?
• Number and length of awakenings?
• Quality of sleep in 1\textsuperscript{st} and 2\textsuperscript{nd} half of the night?
• Nightmares, parasominas
• Learning the character of sleep determines the treatment of sleep
Sleep Architecture in Mood Disorders

» Increased total REM time (shortened REM latency)
» Decreased total non-REM time
» Increased time to sleep onset, increased awakenings
» Fragmented sleep (initial, middle, terminal arousal)
» Non-restorative sleep
» Daytime fatigue
Major Depression:
- Increased total REM and Decreased SWS
- Decreased time to 1st REM episode
- Decreased REM latency
- Increased REM Density

Residual Insomnia in Depression:
- Increased risk of relapse
- Increased risk of suicide
- Lower remission rates/diminished response
MDD and Sleep

- Too much REM! (Dream Sleep)
- Too little deep sleep (SWS)!
**Bipolar:**
- Increased total REM and Decreased SWS
- Decreased time to 1st REM episode
- Decreased REM latency
- Increased REM Density

**Lithium treatment:**
- Decreases total REM
- Increased SWS
- Increased REM latency
Schizophrenia:
- Changes in circadian rhythm
- Decreased total sleep
- Decreased REM latency
- Onset insomnia

Positive Symptoms:
- associated onset insomnia, decreased total sleep, shortened REM latency

Negative Symptoms:
- decreased non-REM slow wave amplitude
GAD:
– difficulty falling and staying asleep
– increased awakenings
– increased time to return to sleep after awakening

» No change to REM latency or REM percentage
What does this mean?

- Mood disorders = disordered sleep
- Treat mood and sleep. Improving sleep improves mood
- Bipolar
  - Sleep is hallmark for Bipolar
- GAD
  - Treat anxiety to improve sleep
- Schizophrenia
  - Can improve sleep aid the course?
» **ETOH:**
  - ETOH decrease time to sleep, increases non-REM sleep and decreases REM in 1st half of night
  - In 2nd half of night: Increased REM, awakenings

» **Abstinence:** Insomnia predisposes to relapse in 1st and 5th month
  - Relapse associated with onset insomnia, decreased SWS, increased REM percentage and density, decreased sleep efficiency

» **Acamprosate:** decreases REM but not onset insomnia
DSM-IV Sleep Disorders

- Primary Sleep Disorders
  - Primary Insomnia
  - Sleep Apnea
  - Restless Leg/Periodic Limb Movement
  - Narcolepsy
  - Parasomnias

- Secondary Sleep Disorders
  - COPD, CHF
  - Depression
DSM-V Sleep Disorders

- Sleep-Wake Disorders
  - Insomnia
  - Hypersomnia
  - Narcolepsy
- Breathing-Related Sleep Disorders
  - OSA
- Circadian Rhythm
  - Sleep phases, shift work, non-24
- Parasomnias
  - RLS/PLMD
  - Nightmares, sleep arousal disorders
INSOMNIA
Maybe you could sleep if you had some normal pajamas?

MotivatedPhotos.com
What is Insomnia?

• Inability to initiate or maintain restful sleep
  – Functional sequela
  – 3-5 days per week
  – 3 months
  – Onset, Middle, Terminal

• Precipitant may leave but insomnia remains

• Insomniacs have more aroused brains

http://alert.psychiatricnews.org/
2013/07/fda-says-new-insomnia-drug-must-be.html
What does this mean?

» Timing of insomnia determines treatment
  – SSRI, Sleep Benzo, TCA

» Character of sleep determines treatment
  – What are you actually treating

» Understand patient expectations of treatment and sleep
Hypersomnolence

• Excessive sleepiness despite adequate sleep time
• Prolonged sleep periods: > 9 hours
• Recurrent periods of sleep in same day
• Tx: sleep hygiene
  • Stimulants (Modafinil, Armodafinil, Amphetamines)
  • Bupropion (Wellbutrin 300-450mg XL)?
Narcolepsy

• Narcolepsy
  • Destruction of orexin neural pathways leading to excessive sleepiness
  • Poor nighttime sleep and inappropriate sleepiness during the day
  • Microsleep, **rapid decent into REM sleep**
  • Hypnogogic/Hypnopompic hallucinations
  • With or without cataplexy
    • Somnography, sleep latency test
    • Tx with Stimulants: Modafinal/Armodafinal, amphetamines/methylphenadates
Breathing Related Sleep Disorders

- Obstructive Sleep Apnea (OSA)
  - Snoring, apneas, fractured sleep, excessive fatigue
    TX: CPAP
- Hypoventilation
- Central Sleep Apnea
Sleep Movement Disorders

• Non-REM Sleep Arousal Disorder
  • Sleepwalking
  • Sleep terror “Night Terror”
  • Sleep Paralysis
• Nightmare Disorder
• REM Sleep Behavior Disorder
• RLS/PLMD
Non-REM Sleep Arousal Disorder

• Sleepwalking
  • 1-2/3 of night
• Sleep terror “Night Terror”
  • First 1/3 of night

Tx: Sleep hygiene, stress-reduction/relaxation, limit caffeine
Rx: TCA’s – Amitriptyline, Doxepin, Melatonin? - Avoid Trazodone?
REM Sleep Arousal Disorders

- Nightmare D/O
  - Last 3rd of sleep

- Sleep Paralysis

- REM-Sleep Behavior D/O
  - Sleep violence- Parkinson’s
Treating Nightmares

» Prazosin (Minipress)
  – 1-18mg
  – Start low and go slow
  – Increase by 1 mg every 4-6 nights

» Melatonin

» Clonidin?e
  – Probably not effective
Non-REM Sleep Arousal Disorder

- Sleep Paralysis
  - Tx: Sleep hygiene, TCA (?), Trazodone (?)

- REM-Sleep Behavior D/O
  - Sleep violence- Parkinson’s
Restless Leg Syndrome/PLMD

- Itchy, creepy-crawly feeling
- Worse at night and when sitting
- Relieved with movement
- Can worsen with antidepressants
  - SSRI’s, TCA’s

Rx:
- Iron/Ferritin
- Vitamin: D, C, Mg, Zn
- Dopamine agonists
  - Pramipexole, Rotigotine, Cabergoline, gabapentin encarbil
- Clonazepam
  - Bupropion?
  - Pregablin & Ropinole – weak evidence

Sleep Hygiene: What is It?

- Behaviors to decrease arousal
- Condition sleep response
- Increase sleep load
- Align circadian rhythms
Sleep Hygiene: Decreasing Arousal

• *Bed only for sleep & sex*
• Avoid noise, temp extremes, bright lights
• No caffeine after 3pm
• Exercise regularly but not later than 5-6 hours before bedtime (*Is this true?*)
• **No TV or electronics in bed**
• Keep bedroom cool and dark
• Light carbo snack
• Create “worry period” – away from bedroom
Sleep Hygiene: Conditioning

• Goal: Condition bedtime with positive sleep emotions/response
  – Maintain regular bedtime and awakening time, even on weekends
  – Incorporate relaxing rituals into bedtime
  – Do not remain in bed longer than 10-15 minutes if unable to sleep — Limit time in bed!
  – Bed only for sleep & sex
  – Break anxiety cycle related to sleep
Sleep Hygiene: Increase Sleep Load

• Avoid early bedtimes following a bad night’s sleep
  – Sleep restriction
• Increase day-time sunlight exposure
• Exercise
• Avoid napping

Sleep Hygiene: Circadian Rhythms

- Regular bed-time and awakenings
- Properly timed sun-light exposure
- Regular meal schedules
- Avoid naps
- Lark or Night owl
- Medications

http://engagementworx.com/cash_rewards_are_not_rewarding/
Why Avoid Alcohol?

- Alcohol increases desire to sleep but fragments sleep architecture & increases total REM exposure

http://galleryhip.com/alcohol-pictures.html
Joe’s Theory of Sleep Hygiene

- Time awake
- Naps
- Routine
- TV in bed
- Exercise
- Caffeine
- Light
FDA-Approved Medications for Insomnia

**Antihistamine**
- Diphenhydramine
- Doxylamine

**Benzodiazepines**
- Estazolam (ProSom)
- Flurazepam (Dalmane)
- Quazepam (Doral)
- Temazepam (Restoril)
- Triazolam (Halcion)

**Tricyclic Antidepressant**
- Doxepin (Silenor)

**Melatonin Agonists**
- Ramelteon (Rozerem)
- Tasimelteon (Hetlioz)
  - 24 hour sleep-wake

**Benzo Agonists**
- Zolpidem (Ambien)
- Zaleplon (Sonata)
- Eszopiclone (Lunesta)

**Orexin Agonists**
- Suvorexant (Belsomra)
# Other FDA-Approved Medications for Insomnia

<table>
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<th>Barbituate</th>
<th>Unknown MOA</th>
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<td>Pentobarbital</td>
<td>Chloral Hydrate</td>
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<td>Secobarbital</td>
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<td>Butalbital</td>
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What is Sedation?

- Sedation is NOT fatigue
  - Calming of the CNS
- Sedation is mediated through:
  - Opiod, gaba, orexin, histamine, muscarnic, melatonin receptors
- Sedation=anxiolytic?
- Are sedating antidepressants sedating? Or just disturbing restful sleep? Or both?
AASM Rx Recommendations

Sleep Onset Insomnia

- Eszopiclone (Lunesta)
- Zaleplon (Sonata)
- Zolpidem (Ambien)
- Triazolam (Halcion)
- Temazepam (Ristoril)
- Ramelteon (Rozerem)

AASM Rx Recommendations

Sleep Maintenance

Insomnia

- Suvorexant (Belsomra)
- Eszopiclone (Lunesta)
- Zolpidem (Ambien)
- Temazepam (Ristoril)
- Doxepin (Silenor/Sinequen)

AASM Rx Recommendations

**NOT Recommended for Sleep**

- Trazodone
- Tigabine (Gabitril)
- Diphenhydramine (Benadryl)
- Melatonin
- Tryptophan
- Valerian

Non-Benzo Sleep Hypnotics

- **Zolpidem** (Ambien)
  - Parasomnias
  - Inhibits fear extinction?
  - Long-term use data

- **Eszopiclone** (Lunesta)
  - Metallic taste
  - May enhance antidepressants

- **Zaleplon** (Sonata)
  - May enhance antidepressants
Rx for Insomnia

- **Benzos** (in general decrease stage 2 sleep)
  - Alprazolam (Xanax)
  - Temazepam (Restoril)
  - Triazolam (Halcion)
  - Lorazepam (Ativan)
  - Clonazepam (Klonipin)
    - Enhances sleep cycles
Issues with Benzo’s + Non-Benzo’s

• Addiction potential
  – Addiction potential- greater with short-acting benzo’s
  – No addictive behaviors seen with non-benzo’s but abuse has been observed
  – Suicide risk?
• Fall Risk – Elderly?
• Dementia risk?
• PTSD – Impair Fear Extinction
• Tolerance
  – Tolerance not identified with non-benzo’s but “rebound” insomnia noted
  – Tolerance observed in short-acting benzo’s
Non-Benzo Sleep Aids

Ramelteon (Rozerem)
- $M_{1-2}$ agonist
- 7-10 day onset of action

Belsomra (Suvorexant)
- 10mg @ 30 mins before sleep with 7 hours of sleep available

Hetlloz (Tasimelatonin)
- Non-24 hour circadian disruption in blindness
- 20mg
Antidepressants and Sleep
SSRI’s & SNRI’s

- Impair sleep continuity
- Decrease sleep efficiency
- Increase time to sleep onset
- Sleep fragmentation
- Decrease total time asleep
- Decrease total REM and expand/decrease time to REM sleep
- Less deep sleep
Yet, patients’ report more restful sleep?
SSRI’s

- **Fluoxetine** (Prozac)
  - Most activating
- **Paroxetine** (Paxil)
  - Most histaminic
  - Sedation?
- **Zoloft** (Sertaline)
- **Celexa** (Citalopram)
- **Lexapro** (Escitalopram)
  - Least likely to disrupt sleep
SNRI’s

- **Venlafaxine** (Effexor)
  - Primarily an SSRI until 200mg

- **Duloxetine** (Cymbalta)

- **Levomilnacipran** (Fetzima)
TCA’s

- **Sedating TCA’s**
  - Amitriptyline
  - Nortriptyline
  - Doxepine (approved as *Silenor* for sleep continuity)

- **Stimulating TCA’s**
  - Desipramine
    - Most noradenergic
    - Immipramine, trimipramine (?), protriptyline
  - Clomipramine
    - Most serotonergic, strongest REM suppression
SARI’s

• Block reuptake of 5HT and 5HT 2 post receptors

• Vortixoetine (Trintellix)
  – Insomnia, intense dreams, increased REM & Non-REM latency

• Trazodone (Desyrel)
  – Preserves normal sleep architecture yet enhances slow-wave sleep

• Vilazodone (Viibryd)
  • Significant suppresses REM, increased awakening, increased SWS

• Nefazodone (Serzone)
  – Improved quality & quantity of sleep
  – Liver toxicity & CYP450
Atypicals

- Bupropion (Wellbutrin)
  - increased REM density

- Mirtazapine (Remeron)
  - Inverse sedation/dose response
Sleep Neutral Antidepressants (like Switzerland)

- **Escitalopram** (Lexapro)
- **Buproprion** (Wellbutrin)
- **Levomilnacipran** (Fetzima) ?
MAOI’s

• Who cares?

• REM suppression with increased awakenings and diminished sleep efficiency

• Diet restrictions
Antidepressants with Positive Effects on Sleep

- **SSRI**’s
  - Escitalopram *

- **SARI**’s
  - Trazodone
  - Serzone
  - Vilazodone?

- **TCA**’s
  - Amitriptyline/Nortrip
  - Doxepin
  - Imipramine
  - Trimipramine?

- **SNRI**
  - Levomilnacipran *

- **Atypical**’s
  - Buproprion *
  - Mirtzapine
Anti-Psychotics Meds

» 1\textsuperscript{st} generation anti-psychotics
  - Enhance sleep but worth the risk of EPS/Sedation?

» 2\textsuperscript{nd} generation anti-psychotics
  - Enhance sleep but metabolic risks?
  - New agents?
Mood Stabilizers

- **Gabapentin** (Neurontin)
  - Increased sleep efficiency & SWS, increased REM
- **Lamotrigine** (Lamictal)
  - Increased REM density, decreased REM time, shifts. Too activating?
- **Carbamezazpine** (Tegretol)
  - Decreased REM, increased sleep stage shifts
- **Valproate** (Depakote)
  - Decreased REM, increased arousals, decreased sleep efficiency
- **Phenytoin**
  - Decreased sleep efficiency, increased non-REM
- **Tigabine, Topiramate**?
OTC’s

- Diphenhydramine
- Doxylamine
- Magnesium?
- Zinc?
- Calcium?
- Vit D?
Have you heard about Melatonin?

» Regulates circadian rhythm
» Activates T Lymphocytes, monocytes, natural killer cells, granuocytes, interleukin
» Protective from Oxidative Stress & Ionizing radiation
» Oncostatic and cytoxic effect on cancer cells
» Alzheimer’s Protection?
» Improved metabolic on antipsychotics
» Fertility?
So who shouldn’t take melatonin?

• Rheumatoid arthritis?

• Auto-immune disorders?

• Drug interactions?

• Sexual disorders?
Drugs that impair sleep

- Beta Blockers
- Stimulants
- Corticosteroids
- Theophyline
- Nicotine
- Thyroid hormone
Summary: Antidepressants

» Good
  - Sedating Tricyclics
    • Amitriptyline, Nortryptiline, Doxepine
  - Mirtazapine
  - Trazodone
  - Bupropion
  - Escitalopram
  - 2nd generation antipsychotics
  - Gabapentin?
  - Vilazodone?
  - Levomilnaciprin?

» Bad
  - SSRI’s (except Lexapro)
  - SNRI’s
  - Stimulating TCAs
Benzo’s & Sleep Hypnotics

» Good
- Effective
- Limited evidence of tolerance
- Long-term use

» Bad
- Abuse potential
- Sedation
- Parasomnias
- Dementia?
Summary: Antipsychotics & Mood Stabilizers

» Good
  – Newer atypicals
  – Older atypicals - metabolics?
  – Lamotrigine?
  – Gabapentin?

» Bad
  – First generation antipsychotics – SE
  – Carbamezapine?
  – Valproic acid?
Strategies for Treating Sleep

- Set reasonable expectations
- Consider insomnia as a co-morbid disorder
- Assess sleep thoroughly
  - Trouble falling, time to sleep onset, sleep behaviors, environment
  - Feelings about sleep, beliefs about sleep
  - Staying asleep, how many arousals, return to sleep
  - Terminal insomnia
  - Sleep hygiene
- Is your diagnosis correct? Anxiety? Depression?
- Consider non-SSRI’s first
- Consider rapid augmentation or dual starts
- Educate patients on sleep hygiene
- Educate patients on the effects of sleep
Issues in Treating Sleep

• Sleep Hangover?

• Rebound Insomnia?

• Sedation?
Questions?