



Mountain Plains (HHS Region 8)

MHTTC

Mental Health Technology Transfer Center Network

Funded by Substance Abuse and Mental Health Services Administration

Psychotropic Medications

(What consumers, caregivers and staff should know)

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Objectives

- Identify the different categories of medications used to treat mental illness
- Understand general risks and benefits of psychotropic medications



What this presentation is not...

- An exhaustive, all-inclusive review of psychotropic medications and their risks
- Advice on individual treatment of conditions
- A focus on the conditions for which these meds are used.



Psychotropic Medications

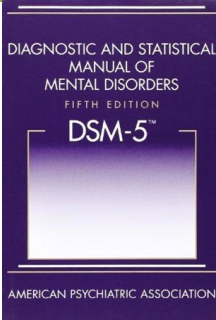
- They have potentially great benefits
- They can have troublesome side effects



I will be mentioning many, but not all of these...



Why use medications?

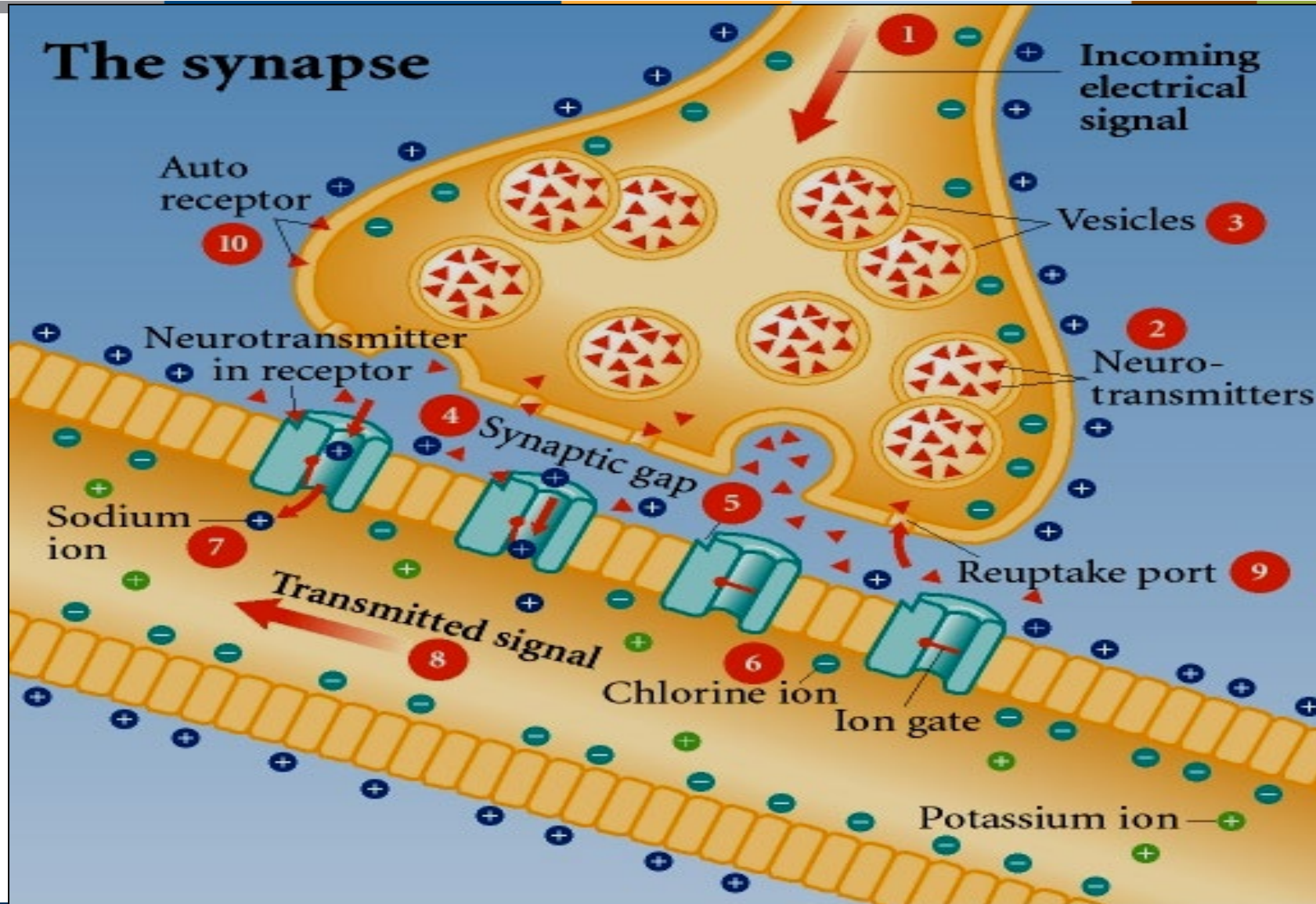


- They are approved for treating certain conditions; the approval for which is called “an indication.”
- Many of the psychotropic medications have been prescribed based on assumptions of “neurotransmitter” theories (chemicals in the brain known to be associated with emotions, behaviors, such as dopamine, serotonin, etc...). However, it is still assumption based.
- Our understanding of why medications work, and the risks and benefits involved continue to evolve . Everything we do (including non-medication treatment of conditions) should be weighed through risks, benefits and alternatives.



An important reminder

- There are many therapies that are as/more effective for certain conditions than medication.
- Depending on severity, often times therapy and medication are more effective than either alone.
- Bottom line-don't forget to ask about therapy, such as cognitive-behavioral therapy, especially for depression and anxiety disorders.





Indications

- Medications are used for specific FDA (Food and Drug Administration) approved indications with specific dose recommendations
- Many medications are used “Off Label,” either for other indications or at doses not recommended by the FDA. This does not *necessarily* mean this is unsafe.
- When the FDA has reasonable evidence of an association between and medication and a serious health hazard, they may require a “**black box warning**” on the prescribing label.
- A number of psychotropic medications carry such a warning.



Pharmacokinetics

(a fancy term for how the body effects the medication taken...)

- Administration--(is it taken by mouth, by injection, etc...?)
- Absorption--(often depends on how taken)
- Time of effect--(not necessarily the time of positive benefit...)
- Metabolism*--(how the med is broken down to be eliminated by the body)
- Half-life--(how long it takes for half a dose of medication to be broken down and leave the body) Example: “the half-life of medication “y” is 5 hours...”
- Steady state—when the rate of drug input and elimination are the same (roughly 4 to 5 half-lives)
- Elimination-the removal of the drug (either broken down, or not) by the body





Types of Psychotropic Medications

- Antidepressants
- Mood Stabilizers
- Antipsychotic meds (neuroleptics)
- Anxiolytics/Hypnotics
- ADHD meds
- Meds used in the treatment of addictions
- Meds used in the treatment of Alzheimer's disease
- Miscellaneous



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Severity

- Antidepressants may not be as effective, nor appropriate for individuals with mild depression. However, this is a general rule, and each situation should be reviewed individually.
- For moderate to severe cases of depression, they seem to be more effective.



Antidepressants and Youth

Current data:

- Review of studies in children and adolescents showed an increased risk of suicidality (thinking/behaving) in this population being treated with antidepressants. 4% vs. 2% placebo.
- Only a couple of antidepressants are FDA approved for adolescents (fluoxetine, escitalopram, the former also for children)
- FDA Black box warning to age 25.
- What does all this mean?



Types of Antidepressants

- **Tricyclics**--older. Now much more commonly used for chronic pain, insomnia rather than depression. Typically more side effects and risk at higher doses.
- **Selective Serotonin Reuptake Inhibitors (SSRIs)**—most commonly prescribed group. Gastrointestinal, sexual side effects common.
- **Serotonin-Norepinephrine Reuptake Inhibitors, (SNRIs)** and other “hybrids.” May be more likely to cause “discontinuation syndrome.”
- **Monoamine Oxidase Inhibitors**--older, rarely used. Require special diet/restrictions.
- **Newest:**--Esketamine. NMDA receptor antagonist.
- Individuals with bipolar affective disorder may be at higher risk for “mood cycling” when using antidepressants.
- Many antidepressants have FDA labeling for anxiety and other disorders.



ANTI-DEPRESSANTS

- *Choosing a Therapy*

“The effectiveness of antidepressant medications is generally comparable between classes and within classes of medications. Therefore, the initial selection of an antidepressant medication will largely be based on the anticipated side effects, the safety or tolerability of these side effects for individual patients, patient preference, quantity and quality of clinical trial data regarding the medication, and its cost.”

SSRIs (Serotonin-Specific Reuptake Inhibitors)

- -Easier to prescribe than most other antidepressants
- -Less severe side effects (in general)
- -Effective for many anxiety disorders
- -Common side effects - stomach upset, headache, sweating, overstimulation, sexual dysfunction.
- -Less common side effects: bleeding problems, low sodium, slow heart beat, and others previously mentioned.
- Fluoxetine (Prozac)
- Paroxetine (Paxil/Pexeva)
- Sertraline (Zoloft)
- Citalopram (Celexa)
- Escitalopram (Lexapro)
- Fluvoxamine (Luvox)



Non-SSRIs/Hybrids

- Vilazodone (Viibryd)
- Bupropion (Wellbutrin/Zyban)
- Venlafaxine (Effexor)
- Desvenlafaxine (Pristiq)
- Duloxetine (Cymbalta)
- Mirtazapine (Remeron)
- Trazodone (Desyrel)
- Levomilnacipram (Fetzima)
- Vortioxetine (Trintellix)



“Discontinuation Syndrome”

- Often, when people have been on antidepressants for a while, abruptly stopping them might cause “discontinuation syndrome.”
- People might have flu-like symptoms, feel “spacey,” odd sensations, changes in mood, behavior...
- *Typically*, restarting and tapering more slowly takes care of the problem.



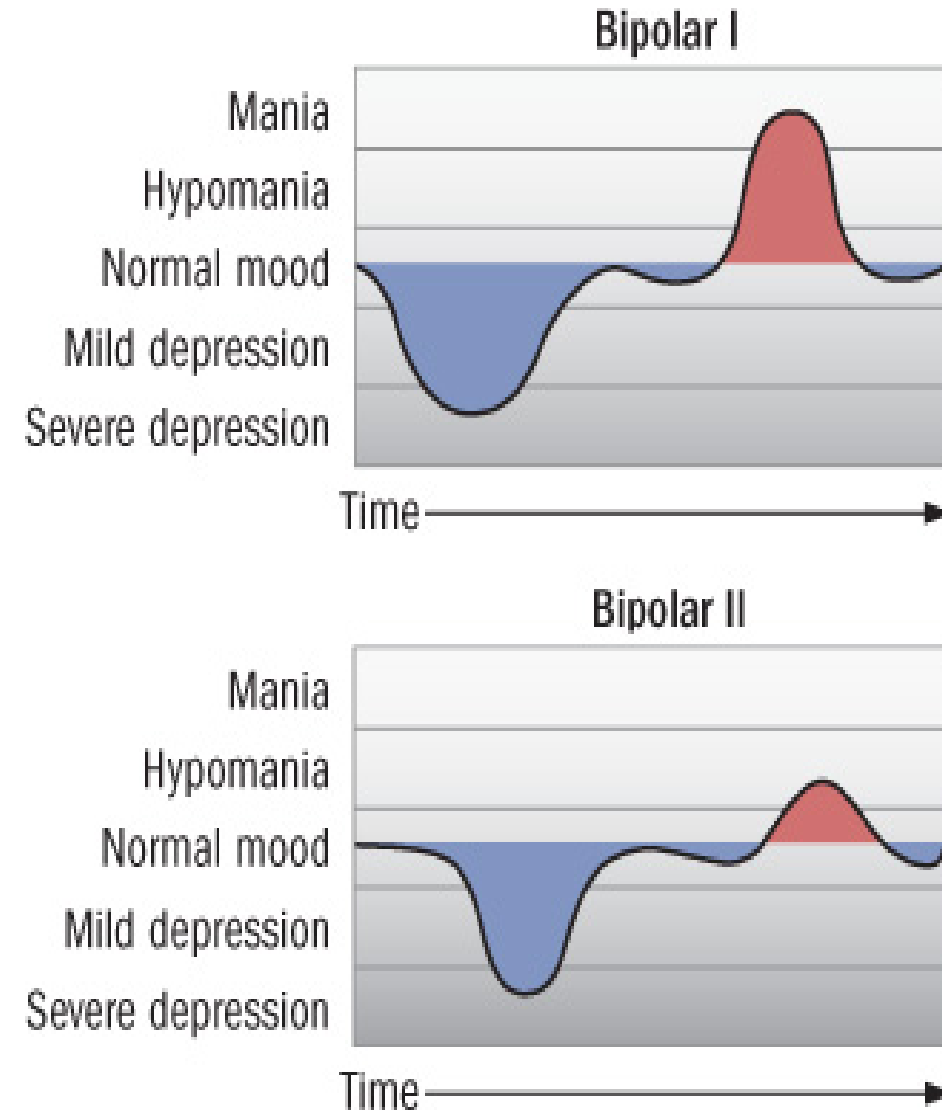
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Mood Stabilizers*

- **Lithium Carbonate**
- **Anticonvulsants**
 - **Valproic Acid/Divalproex Na+ (Depakote)**
 - **Carbamazepine (Tegretol)**
 - **Lamotrigine (Lamictal)**
 - **Oxcarbazepine (Trileptal)?**
 - **Gabapentin (Neurontin)?**
 - **Topiramate (Topamax)?**
- **Antipsychotics**





Lithium Side Effects

- Narrow Therapeutic Window
- Labs required (0.6-1.2 mEq/L)*

Drug interactions (certain pain and blood pressure meds)

- Therapeutic dose side effects: tremor, weight gain, excess thirst and urination
- Hypothyroidism
- Long term use: kidney problems
- Teratogenic



Valproic Acid

- Problems:
- Weight gain, tremor, G.I. side effects
- Edema, sedation, ataxia
- Hepatic
- Hematologic (esp. platelets)
- Pancreatitis
- P.C.O.
(watch menstrual issues, acne, hair-growth)
- Hair loss- selenium may help
- Teratogenicity
- Elevations in ammonia levels
- Interactions



Carbamazepine

- Tegretol/Carbatrol/Equetro
- Useful in mania, mixed states
- Chronic pain treatment



Lamotrigine

- Used for maintenance treatment of bipolar affective disorder.
- Often used off-label for Bipolar II depression treatment
- Concerns about rash, both mild and severe conditions...



So,

- With lithium, valproic acid and carbamazepine there are:
 - Birth Defect Riskz
 - Periodic Lab work necessary
- With lamotrigine, the greatest risk is serious rash and immune system problem.



Medications in Bipolar Affective Disorder Phases

Generic Name	Trade Name	Mania	Mixed	Maintenance	Depression
Valproate	Depakote	X			
Carbamazepine Ext. release	Equetro	X	X		
Lamotrigine	Lamictal			X	*
Lithium		X		X	*
Aripiprazole	Abilify	X	X	X	X (TRD)
Ziprasidone	Geodon	X	X		
Risperidone	Risperdal	X	X		
Quetiapine	Seroquel	X			X, plus TRD
Chlorpromazine	Thorazine	X			
Olanzapine	Zyprexa	X	X	X	
Olanzapine/ Fluoxetine comb.	Symbyax				X, plus TRD
Lurasidone	Latuda				X
Cariprazine	Vraylar	X	X		X



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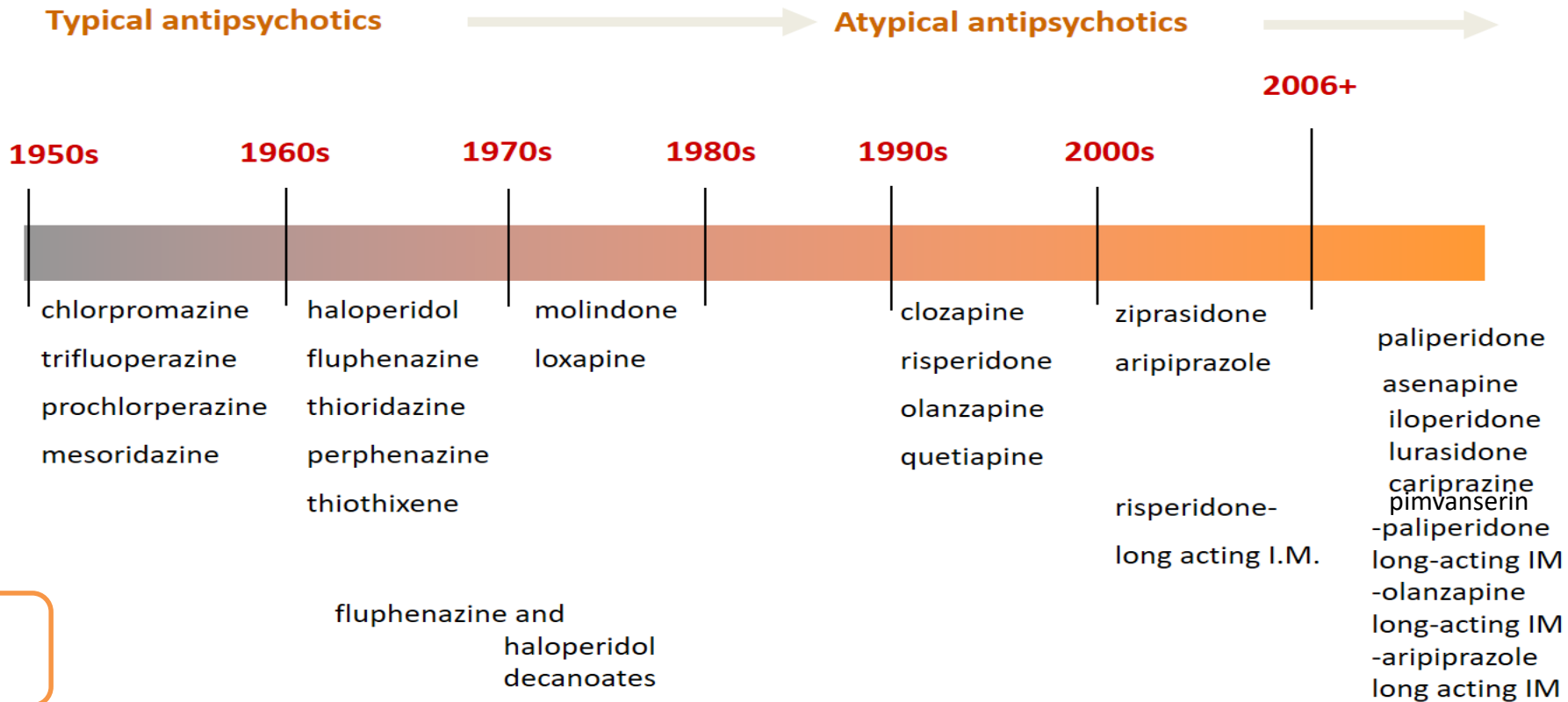


Why are antipsychotic medications prescribed?

- For treatment of psychosis
- For treatment of severe agitation
- For mood stabilization, including both bipolar affective disorder and treatment resistant depression.



The History of Antipsychotics





Antipsychotic medications

- Conventionals



- Atypicals





Side Effects--Very Serious.

- Neuroleptic Malignant Syndrome
- Seizures
- Heart Problems
- Tardive Dyskinesia and other movement problems.
- Increased risk of death in elderly with dementia
- Swallowing problems



Briefly, Conventionals (older)

- Haloperidol, fluphenazine, chlorpromazine, thiothixene, perphenazine, loxapine, thioridazine*, trifluoperazine, etc...
- Extrapyramidal side effects (parkinsonian), sedation, pulse and blood pressure changes, galactorrhea (milk production), etc...
- Often require side-effect medication to treat shakiness, etc...



Atypicals

- Clozapine
- Risperidone
- Paliperidone
- Olanzapine
- Quetiapine
- Ziprasidone
- Aripiprazole
- Asenapine
- Iloperidone
- Lurasidone
- Cariprazine

- All atypicals have a warning re: hyperglycemia risk.
- Metabolic syndrome might be a concern with all.
- Some have cardiac side-effects
- Hypertriglyceridemia might be more of a concern with the dibenzothiazepines
- Most atypicals useful in mania, often used for augmentation with treatment resistant depression.



Metabolic Syndrome

- 3 of the following:
 - Abdominal obesity
 - Elevated triglycerides
 - Low HDL
 - Hypertension
 - Elevated Fasting Glucose
- Periodic screening for:
 - Abnormal labs and vital signs
 - Movement changes



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Antianxiety Medications

- Benzodiazepine (potentially habit forming)
- Non-Benzodiazepine (less likely to be habit-forming)





~Dose equivalents of common benzodiazepines

- Chlordiazepoxide
12.5/25mg?
- Diazepam 5mg
- **Lorazepam 1mg**
- Alprazolam 0.5mg
- Clonazepam 0.25mg

- These medications come in different forms (pill, injection, etc...) and some have different indications (anxiety, epilepsy, alcohol withdrawal, etc...)
- For longer-term treatment of anxiety disorders, anti-depressants are actually the drugs of choice...



Non-benzodiazepines

- Anxiolytics

- Antidepressants
- Buspirone
- Antihistamines
- Blood pressure medications
(B-blockers, $\alpha 2$ – receptor meds)
- Antipsychotics
- Anticonvulsants
- Barbiturates

- Some of these medications have FDA approved indications for treating anxiety. Some do not.



Hypnotics:

- Zolpidem (Ambien) and other names...
- Zaleplon (Sonata)
- Eszopiclone (Lunesta) lower starting doses recommended
 - The above 3 have a “black box warning” regarding “complex sleep behaviors.”
- Ramelteon (Rozerem) Less habit-forming; more “melatonin-like”
- Melatonin
- Suvorexant (Belsomra) –orexin receptor antagonist...
- Benzodiazepines
- Other- Antihistamines
- Antidepressants-most are not FDA approved for sleep- commonly used are trazodone, mirtazapine and low dose doxepin-(Silenor)
- Chloral hydrate





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ADHD medications

- Stimulant
- Non-Stimulant
- All FDA approved medications for ADHD carry warning guides re: cardiac and mental problems.
- Vitals (need to track blood pressure, pulse, height, weight...)



Stimulant medication

- - Methylphenidate (there are 10 brand names with various formulations)
- - Dexmethylphenidate (Focalin)
- - Amphetamine compounds (Adderall)
- - Dextroamphetamine (Dexedrine/Dextrostat)
- - Lisdexamfetamine (Vyvanse)
- - Methamphetamine (Desoxyn)
- - Magnesium Pemoline (Cylert)-essentially compassionate use only, due to liver concerns



Stimulant Medications

- The various formulations include short-acting, long-acting, patch, liquid, dissolvable, etc...
- Common side effects and concerns include insomnia, anxiety, decreased appetite, habituation
- Less common side effects: psychosis, cardiovascular, other...



Non-stimulants

- Atomoxetine (Strattera) SNRI
- Antidepressants, including bupropion, venlafaxine, TCAs (IMI, DMI)
- α 2A agonists: caution re: abrupt d/c.
- Clonidine (both pill and patch)-watch dosing!
- Guanfacine--short acting-Tenex
--long acting-Intuniv
- Modafinil (Provigil) Armodafinil (Nuvigil)
- Not all are FDA approved for the indication of treating ADHD



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- **Meds used in the treatment of substance use disorders**
- Meds used in the treatment of Alzheimer's disease



Medication Assisted Treatment:

We have MAT

- Tobacco
- Alcohol
- Opioids

We don't have MAT

- Marijuana
- Cocaine
- Methamphetamine
- Synthetics
- Inhalants



Most successful if used with a smoking cessation program.

- Nicotine replacement
- **Gum, nasal spray, patch, lozenge, etc...**
 - Bupropion (Zyban/Wellbutrin)
 - Varenicline (Chantix)
- Many other non-pharmacologic treatments including acupuncture, hypnosis, etc..
- Vaping –not FDA approved;



- **Disulfiram (Antabuse) Aversive therapy.**
- 1500mg/week

- **Naltrexone (Revia) 50mg/day**
- (Vivitrol)- monthly injection 380mg – issue of pain meds*

- **Acamprosate (Campral) (2) 333mg tabs T.I.D**

- Others-



MAT for Opioids (Heroin, Prescription Drugs, etc...)

- **Replacement Therapies:**
- **Methadone:** Special outpatient treatment center
- **Buprenorphine:** (partial agonist)/naloxone (antagonist) =
- Indicated for maintenance treatment in opioid use disorder.
Office-based
- 1) Induction 2) Stabilization 3) Maintenance
- **Opiate blockade:**
- Naltrexone (Revia/Depade) and monthly injection Vivitrol



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Treatments-at-a-glance

Generic	Brand	Approved For	Side Effects
Donepezil	Aricept	All stages	Nausea, vomiting, loss of appetite and increased frequency of bowel movements.
Galantamine	Razadyne	Mild to moderate	Nausea, vomiting, loss of appetite and increased frequency of bowel movements.
Memantine	Namenda	Moderate to severe	Headache, constipation, confusion and dizziness.
Rivastigmine	Exelon	Mild to moderate	Nausea, vomiting, loss of appetite and increased frequency of bowel movements.
Memantine + Donepezil	Namzaric	Moderate to severe	Nausea, vomiting, loss of appetite, increased frequency of bowel movements, headache, constipation, confusion and dizziness.



Questions to ask

- What is the condition for which this medication is being prescribed?
- Are there non-medication treatments for this condition?
- What are the main side-effects to watch for with this med?
- How soon will we see improvement?
- What's the duration of treatment?
- Are there any labs or tests needed when using this med?
- What's the potential interaction with my other medications?
- Who informs the healthcare decision-maker (if it is not the client)?
- When looking at a medication change, are there non-medication changes that can occur first?



Five D's

- Diagnosis
- Drug
- Dosage
- Duration
- D



Questions/Comments?

