An Overview of Psychotropic Meds for Treatment Court Participants

Joseph Browning, M.D.
Forensic Psychiatrist

2024 Council Of Accountability Court Judges
Annual Training Conference

September 17, 2024

Dr. Browning's Financial Disclosure

- Georgia RISE Program

Jail based competency to stand trial restoration.

- Private Practice

Civil and criminal evaluations and psychiatric treatment.

Presentation Goals

WHAT ARE PSYCHOTROPIC MEDICATIONS AND WHAT PURPOSE DO THEY SERVE?

WHAT MEDICATIONS ARE APPROPRIATE FOR USE FOR THOSE WITH SEVERE AND PERSISTENT MENTAL ILLNESS (SPMI)?

WHAT SIDE EFFECTS CAN THE COURT EXPECT TO SEE?

Presentation Outline

ANTIDEPRESSANT MEDICATIONS

MOOD STABILIZING MEDICATION

ANTIPSYCHOTIC MEDICATIONS

ANXIOLYTICS

SLEEP AIDS

SUBSTANCE ABUSE TREATMENT

STIMULANTS

Presentation Outline

ANTIDEPRESSANT MEDICATIONS

MOOD STABILIZING MEDICATION

ANTIPSYCHOTIC MEDICATIONS

ANXIOLYTICS

~~SLEEP AIDS~~ NOT COVERED TODAY

~~SUBSTANCE ABUSE TREATMENT~~ NOT COVERED TODAY

~~STIMULANTS~~ NOT COVERED TODAY

Antidepressant Medication

WORKS BEST IN COMBINATION WITH THERAPY.

ANTIDEPRESSANTS ALSO TREAT ANXIETY, OBSESSIVE-COMPULSIVE DISORDER, PANIC DISORDER, PTSD, BULIMIA, BINGE EATING DISORDER, AND SEVERAL OTHERS.

LOTS OF DIFFERENT ANTIDEPRESSANT OPTIONS.

FIRST LINE: SELECTIVE SEROTONIN REUPTAKE INHIBITORS (SSRI). FIRST LINE BECAUSE OF TOLERABILITY, EFFICACY, AND GENERAL SAFETY IN OVERDOSE.

- FIRST LINE ANTIDEPRESSANTS
  - SSRIs (Selective Serotonin Reuptake Inhibitors)
- SECOND LINE ANTIDEPRESSANTS
  - SNRIs (Serotonin-Norepinephrine Reuptake Inhibitors)
  - Atypical Antidepressants
  - Serotonin Modulators
- OLDER ANTIDEPRESSANTS
  - TCAs (Tricyclic Antidepressants)
  - MAOIs (Monoamine Oxidase Inhibitors)
- THE NEW STUFF!
  - NMDA Receptor Antagonists
  - Serotonin Receptor Agonists
  - GABA Modulators

- FIRST LINE ANTIDEPRESSANTS
  - SSRIs (Selective Serotonin Reuptake Inhibitors)
- SECOND LINE ANTIDEPRESSANTS
  - SNRIs (Serotonin-Norepinephrine Reuptake Inhibitors)
  - Atypical Antidepressants
  - Serotonin Modulators
- OLDER ANTIDEPRESSANTS
  - TCAs (Tricyclic Antidepressants)
  - MAOIs (Monoamine Oxidase Inhibitors)
- THE NEW STUFF!
  - NMDA Receptor Antagonists
  - Serotonin Receptor Agonists
  - GABA Modulators

How SSRIs Work:

(gross oversimplification)

- Serotonin is a neurotransmitter – it transmits messages from one neuron to another in the brain.
- Serotonin is involved in providing a sense of happiness and wellbeing.
- Serotonin Specific Reuptake Inhibitors keep the body from reabsorbing serotonin after the message has been transmitted, thus causing the downstream neuron to have more contact with serotonin.
- More serotonin ostensibly causes more happiness and more wellbeing.

Typical SSRIs Include:

- Fluoxetine (Prozac)
- Sertraline (Zoloft)
- Paroxetine (Paxil)
- Citalopram (Celexa)
- Escitalopram (Lexapro)
- Fluvoxamine (Luvox)

Typical SSRIs Include:

- Fluoxetine (Prozac): In 1987 was the first SSRI approved by FDA. Long half life. (False positive UDS for LSD)
- Sertraline (Zoloft): May upset stomach. (False +UDS for benzos, LSD)
- Paroxetine (Paxil): Constipation and sedation.
- Citalopram (Celexa): Can cause cardiac issues at higher dosages.
- Escitalopram (Lexapro): Aversion of citalopram.
- Fluvoxamine (Luvox): Approved for treatment of Obsessive-Compulsive Disorder in 1993, not depression. Twice daily dosing. Lots of drug-drug interactions.

Things to Know About SSRIs:

- Typically takes from 1 week to 2 months to work.
- May or may not be safe in pregnancy.
- No clear standouts in terms of efficacy.
- Choose which SSRI to use based on prior response, family history, or side effect profile.
- Start with a lower dosage and gradually increase; likewise taper slowly off meds when stopping.
- SSRIs may cause drug-drug interactions; monitor closely with HIV meds, antibiotics, chemotherapy, etc.
- Overdose of ONLY an SSRI rarely causes death.

SSRI Side Effects:

- Nausea / Diarrhea / Constipation: serotonin can be very active in the gut.
- Sexual Dysfunction: may require change to another agent if problematic.
- Weight Gain: psychiatric medication is rarely weight neutral.
- Insomnia: typically dosed in the morning.
- Headache, Dizziness, Dry Mouth, Sedation, Agitation
- Serotonin Syndrome: life threatening emergency.

- FIRST LINE ANTIDEPRESSANTS
  - SSRIs (Selective Serotonin Reuptake Inhibitors)
- SECOND LINE ANTIDEPRESSANTS
  - SNRIs (Serotonin-Norepinephrine Reuptake Inhibitors)
  - Atypical Antidepressants
  - Serotonin Modulators
- OLDER ANTIDEPRESSANTS
  - TCAs (Tricyclic Antidepressants)
  - MAOIs (Monoamine Oxidase Inhibitors)
- THE NEW STUFF!
  - NMDA Receptor Antagonists
  - Serotonin Receptor Agonists
  - GABA Modulators

Second Line Antidepressants:

- SNRIs: Serotonin-Norepinephrine Reuptake Inhibitors
  - Venlafaxine (Effexor)
  - Duloxetine (Cymbalta)
  - Desvenlafaxine (Pristiq)
  - Levomilnacipran (Fetzima)
  - Milnacipran (Savella)
- Atypical Antidepressants
- Serotonin Modulators

SNRIs

- Used for depression.
- Also used for chronic pain syndromes like diabetic neuropathy, fibromyalgia, neuropathy, etc.
- Like SSRIs, they increase transmission of serotonin, but they work on norepinephrine as well.
- Side effects and adverse effects very similar as with SSRIs. Also can cause increased blood pressure and tend to feature nausea as a prominent side effect.
- May be more lethal in overdose than SSRIs.
- Venlafaxine can cause false positive UDS for PCP.

Second Line Antidepressants:

- SNRIs: Serotonin-Norepinephrine Reuptake Inhibitors
- Atypical Antidepressants
  - Bupropion (Wellbutrin)
  - Mirtazapine (Remeron)
- Serotonin Modulators

Atypical Antidepressants

- Bupropion (Wellbutrin):
  - Bupropion does not work on serotonin—it works on norepinephrine and dopamine instead.
  - Bupropion is often used for people with sexual side effects from other antidepressants.
  - Bupropion lowers seizure threshold more (contraindicated in anorexia and bulimia).
  - Bupropion can be stimulating.
  - Can cause false +UDS for amphetamines, LSD

Atypical Antidepressants

- Mirtazapine (Remeron):
  - Causes the neuron to release more serotonin and norepinephrine.
  - Has fewer drug-drug interactions.
  - Frequently causes the taker to be hungry and sedated.
  - Can be used as a sleep aid, but sleep effects work best at low dosages.

Second Line Antidepressants:

- SNRIs: Serotonin-Norepinephrine Reuptake Inhibitors
- Atypical Antidepressants
- **Serotonin Modulators**
  - Trazodone (Desyrel)
  - Nefazodone (Serzone)
  - Vilazodone (Viibryd)
  - Vortioxetine (Trintellix)

Serotonin Modulators:

- Trazodone
  - Not used as an antidepressant anymore—best for sleep aid.
  - Can cause priapism, a medical emergency.
  - Blocks reuptake of serotonin and also acts on serotonin receptors in downstream neuron.
  - Can cause false +UDS for amphetamine, LSD.
- Nefazadone
  - Can cause liver failure. No reason to use this medication.
- Vilazodone (Viibryd) and Vortioxetine (Trintellix)
  - New medications relatively recently added to the market.
  - Vortioxetine may improve cognitive dysfunction.

- FIRST LINE ANTIDEPRESSANTS
  - SSRIs (Selective Serotonin Reuptake Inhibitors)
- SECOND LINE ANTIDEPRESSANTS
  - SNRIs (Serotonin-Norepinephrine Reuptake Inhibitors)
  - Atypical Antidepressants
  - Serotonin Modulators
- OLDER ANTIDEPRESSANTS
  - TCAs (Tricyclic Antidepressants)
  - MAOIs (Monoamine Oxidase Inhibitors)
- THE NEW STUFF!
  - NMDA Receptor Antagonists
  - Serotonin Receptor Agonists
  - GABA Modulators

Older Antidepressants

- Tricyclic Antidepressants (TCAs)
  - Amitriptyline (Elavil)
  - Nortriptyline (Pamelor)
  - Imipramine (Tofranil)
  - Desipramine (Norpramin)
  - Clomipramine (Anafranil)
  - Trimipramine (Surmontil)
  - Doxepin (Sinequan)
  - Amoxapine (Asendin): Technically a tetracyclic antidepressant, this is a derivative of the antipsychotic loxapine (Loxitane) and can cause side effects similar to antipsychotic meds.
- Monoamine Oxidase Inhibitors (MAOIs)

Tricyclic Antidepressants (TCAs)

- These have been around since the 1950s.
- Were first-line for 30 years until SSRIs were developed.
- Work by inhibiting reuptake of serotonin and norepinephrine.
- Known to be sedating. Also cause constipation.
- Lethal in overdose – cause cardiac arrhythmias.
- Can draw blood level to see if in therapeutic range.
- Still useful for refractory cases, sleep, and pain.
- False +UDS for amphetamine in desipramine, trimipramine.
- False +UDS for LSD in amitriptyline, desipramine, imipramine, and doxepin.
- False +UDS for opiates with clomipramine.
- False +UDS for PCP with imipramine.

Older Antidepressants

- Tricyclic Antidepressants (TCAs)

- Monoamine Oxidase Inhibitors (MAOIs)
  - Tranylcypromine (Parnate)
  - Phenelzine (Nardil)
  - Selegeline (Eldepryl)
  - Isocarboxazid (Marplan)

Monoamine Oxidase Inhibitors (MAOIs)

- Monoamine Oxidase (MAO) is an enzyme that breaks down serotonin (and other substances). Inhibiting this enzyme leaves more serotonin for the body.
- These were the first class of antidepressants in clinical use, discovered in 1952 by accident.
- "Cheese Reaction" where a patient ingests cheese which contains tyramine. Tyramine can cause a hypertensive crisis if not broken down by MAO. Therefore, patients on MAOIs have strict dietary restrictions.
- Because of the irreversible block of MAO by MAOIs, care must be taken when changing meds to another antidepressant to avoid causing serotonin syndrome.
- Used for atypical depression and treatment resistance.
- Selegiline can cause false +UDS for amphetamines.

- FIRST LINE ANTIDEPRESSANTS
  - SSRIs (Selective Serotonin Reuptake Inhibitors)
- SECOND LINE ANTIDEPRESSANTS
  - SNRIs (Serotonin-Norepinephrine Reuptake Inhibitors)
  - Atypical Antidepressants
  - Serotonin Modulators
- OLDER ANTIDEPRESSANTS
  - TCAs (Tricyclic Antidepressants)
  - MAOIs (Monoamine Oxidase Inhibitors)
- THE NEW STUFF!
  - NMDA Receptor Antagonists
  - Serotonin Receptor Agonists
  - GABA Modulators

The New Stuff!

- Esketamine (Spravato): NMDA Receptor Antagonist; nasal spray; requires supervision
- Bupropion-Dextromethorphan (Auvuelty): NMDA Receptor Antagonist paired with Bupropion
- Gepirone (Exxua): 5-HT1A Receptor Agonist
- Psilocybin: 5-HT2a Receptor Agonist; Benefits promising, but may be offset by addictive potential
- Zuranolone (Zurzuvae): GABA-A Receptor Modulator; 14-day treatment for post-partum depression

Experimental

- Esmethadone
  - Pipeline NMDA receptor antagonist.
- Navacaprant
  - Pipeline K-opioid receptor antagonist
- Omega 3 Fatty Acids (Fish Oil):
  - Possible treatment for mood disorders and post-partum depression. Evidence is NOT there to use it.

Presentation Outline

- ANTIDEPRESSANT MEDICATIONS
- MOOD STABILIZING MEDICATION
- ANTIPSYCHOTIC MEDICATIONS
- ANXIOLYTICS
- ~~SLEEP AIDS~~
- ~~SUBSTANCE ABUSE TREATMENT~~
- ~~STIMULANTS~~

Mood Stabilizing Medication

MOOD STABILIZERS ARE ESSENTIAL FOR MAINTENANCE TREATMENT OF BIPOLAR DISORDER.

THE SAME MEDS USED FOR ACUTE STABILIZATION ARE ALSO TYPICALLY USED FOR MAINTANENCE.

LITHIUM, VALPROATE (DEPAKOTE), CARBAMAZEPINE (TEGRETOL), AND LAMOTRIGINE (LAMICTAL) ARE IN THIS CLASS.

ANTIPSYCHOTIC MEDS ARE ALSO USED.

Lithium

- More widely studied than any other treatment for bipolar disorder, though remains underutilized.
- Mechanism of action is unknown.
- Evidence shows that Lithium reduces risk of suicide.
- Adjust dose to get blood level to 0.8 to 1.2 mEq/L.
- Lithium can harm kidneys and lead to thyroid dysfunction. Monitor drug-drug interactions closely!
- Monitor dose in cases of vomiting or dehydration.
- Can cause fetal malformations.

Valproate (Depakote)

- Large body of evidence for efficacy in mania.
- Original indication was for seizure disorder.
- Works by increasing availability of GABA, an inhibitory neurotransmitter.
- Lots of drug-drug interactions – monitor blood levels.
- Common side effects: stomach upset, sedation. Can also cause hair loss.
- Can fatally impact the liver, cause pancreatitis, impact blood sodium levels, and suppress blood counts.
- Associated with fetal malformations. Not appropriate for females of childbearing potential.

Carbamazepine (Tegretol)

- Original indication was for seizure disorder.
- Works by influencing voltage-dependent sodium channels.
- Lots and lots of drug-drug interactions – monitor blood levels.
- Common side effects: stomach upset, sedation, rash, and low sodium concentration in the blood.
- Can suppress blood cell counts and cause a fatal skin condition.
- Associated with fetal malformations.

Lamotrigine (Lamictal)

- Used for bipolar depression and bipolar maintenance but NOT acute stabilization of bipolar mania.
- Originally used as a seizure medication.
- PRO: Well tolerated.
- CON: Some complaints of limited efficacy.
- Typical side effects include headache, nausea, and sedation.
- Has problematic drug-drug interactions.
- Titrate dose slowly due to risk for life threatening skin conditions.
- May cause false +UDS for PCP, synthetic cannabinoids.

Other Meds

- Antipsychotic Medication (Zyprexa, Seroquel, Risperdal, etc.): They work, but they have their own side effect burden.
- Oxcarbazepine (Trileptal): Limited evidence this is effective. NOT FDA indicated for bipolar disorder.
- Topiramate (Topamax): Not FDA approved for anything except seizures. Often used to reverse weight gain.
- Gabapentin (Neurontin): The subject of an illegal marketing lawsuit. No evidence it works for bipolar d/o.
- Add-On Treatment: Allopurinol or tamoxifen are options as add-ons to first line treatment.
- Natural Remedies: Science does NOT currently support omega-3 fatty acids.

Presentation Outline

- ANTIDEPRESSANT MEDICATIONS
- MOOD STABILIZING MEDICATION
- ANTIPSYCHOTIC MEDICATIONS
- ANXIOLYTICS
- ~~SLEEP AIDS~~
- ~~SUBSTANCE ABUSE TREATMENT~~
- ~~STIMULANTS~~

Antispychotic Medication

USED TO TREAT PSYCHOSIS SINCE THORAZINE WAS DISCOVERED IN 1950.

ALSO EFFECTIVE FOR TREATMENT OF ACUTE AGITATION AND BIPOLAR MANIA.

WIDELY PRESCRIBED (ON AND OFF LABEL) FOR DEMENTIA, DELIRIUM, ANXIETY, AGGRESSION, DEPRESSION, AND TICS.

2 TYPES: FIRST GENERATION VERSUS SECOND GENERATION. ALSO KNOWN AS TYPICAL VERSUS ATYPICAL.

Antipsychotic Medications

- First Generation Antipsychotic Medication
  - Older
  - More likely to cause extrapyramidal side effects (EPS)
  - More likely to cause tardive dyskinesia (TD)
- Second Generation Antipsychotic Medication
  - Newer
  - Less likely to cause EPS and TD
  - Lots of overlap in side effects, mechanism of action, and efficacy with first generation antipsychotic medication
- The New Stuff!
  - Emraclidine: using muscarinic acetylcholine 4 receptor (M4) to modulate acetylcholine and dopamine pre-synaptically

First Generation Antipsychotics

- These medications typically work by dopamine (D2) blockade. The idea is that too much dopamine in the brain causes psychotic symptoms and blocking the dopamine receptors will return the brain to normal.
- Also have actions on other receptors in brain (histaminic, muscarinic, etc.).
- High potency antipsychotics act mostly on dopamine; low potency antipsychotics impact more histaminic and muscarinic receptors.
- Side effects correspond to receptors.

Examples of First Generation Antipsychotics

- Haloperidol (Haldol) (False +UDS for LSD)
- Fluphenazine (Prolixin)
- Chlorpromazine (Thorazine) (False +UDS for amphetamine, opiates, LSD)
- Loxapine (Loxitane)
- Perphenazine (Trilafon)
- Trifluoperazine (Stelazine)
- Thiothixene (Navane)
- Thioridazine (Mellaril) (False +UDS for amphetamines, opiates, LSD, PCP)
- Pimozide (Orap)

Second Generation Antipsychotics

- Also known as "atypical antipsychotics."
- Comparable to first generation antipsychotics in clinical efficacy (with the exception of clozapine).
- Work on multiple types of receptors in the brain using multiple different mechanisms—not just dopamine!
- More variation in terms of mechanism of action, dosing, and clearance from the body when compared with first generation antipsychotic medication.
- Generally considered to have a milder side effect profile.

Examples of Second Generation Antipsychotics

- Olanzapine (Zyprexa)
- Risperidone (Risperdal)
- Paliperidone (Invega)
- Aripiprazole (Abilify)
- Ziprasidone (Geodon)
- Quetiapine (Seroquel)
- Lurasidone (Latuda)
- Asenapine (Saphris)
- Iloperidone (Fanapt)
- Brexpiprazole (Rexulti)
- Cariprazine (Vraylar)
- Lumateperone (Caplyta)

Commonly Used Antipsychotic Meds

- Haldol – Cheap; ubiquitous; long-acting injectable formulation.
- Thorazine – Sedating and great for agitated people.
- Zyprexa – Very effective but causes diabetes.
- Risperdal – Very effective but causes lactation; has some very expensive long-acting formulations. Can cause false + UDS for LSD.
- Seroquel – Patients love it because it's sedating; very commonly abused. Can cause false positive UDS for opiates.
- Abilify – Not always a great antipsychotic, but worth a try. Also used for autistic agitation and adjunctive treatment for depression. May cause false positive UDS for amphetamines.
- Invega – Popular in its long-acting injectable formulation.
- Geodon – Give with food for better absorption.
- Clozapine – The most effective of all, but it requires extensive lab work and monitoring.

Clozapine

- Clozapine (Clozaril) is indicated for the treatment of people with treatment resistant schizophrenia.
- Also good for schizoaffective disorder and for psychotic illnesses accompanied by persistent suicidal or self-injurious behavior.
- Side effect profile requires weekly monitoring of white blood cells.
- Can cause cardiomyopathy, lower seizure threshold, cause weight gain, and cause other side effects common to antipsychotic medication.
- Clozapine is the most effective antipsychotic we have.

Long-Acting Injectable Antipsychotics

- Haldol Decanoate
- Prolixin Decanoate
- Zyprexa Relprevv
- Aripiprazole
  - Abilify Maintena, Aristada, Abilify Asimtufii
- Risperidone
  - Risperdal Consta, Perseris, Rizvan, Uzedy, Rykindo
- Paliperidone
  - Invega Sustenna, Invega Trinza, Invega Hafyera

Side Effects

- Sedation
- Orthostatic Hypotension
- Weight Gain / Diabetes
- Drooling
- Hyperprolactinemia
- Sexual Dysfunction
- Extrapyramidal Side Effects (EPS)
  - Parkinson's Disease: Bradykinesia, Rigidity, Tremor
- Dystonia
- Akathisia
- Seizures
- Cataracts
- Agranulocytosis
- QT Prolongation (Heart Problems)
- Tardive Dyskinesia (TD)
- Neuroleptic Malignant Syndrome

Treatment for EPS from Antipsychotic Meds:

- Benztropine (Cogentin)
  - Useful but can cause cognitive clouding and constipation.
- Diphenhydramine (Benadryl)
  - Sedating and great for agitated people.
  - May cause false +UDS for opiates, PCP.
- Trihexyphenidyl (Artane)
  - Less used because dosing requires three times daily.
- Amantadine
  - Antiviral medication.
  - Good for dystonias.
  - May cause false +UDS for amphetamines.

Treatment for Tardive Dyskinesia:

Valbenazine (Ingrezza)

- Approved for treatment of tardive dyskinesia.
- Acts as a vesicular monoamine transporter 2 inhibitor to modulate the presynaptic packaging and release of dopamine into the nerve synapse.
- Well tolerated.
- Adverse effects: sleepiness and QT prolongation.

How do I choose?

- What is the diagnosis?
- Which one worked before?
- Can clozapine safely be used?
- Are there any side effects we want to exploit (sedation or weight gain)?
- Are there any side effects we want to avoid (cardiac, weight gain)?
- Is the patient voluntary or involuntary?
- Is there a family history of successful treatment?
- Is a long acting injectable available?
- Is cost a concern?
- Plan for the future!

Presentation Outline

- ANTIDEPRESSANT MEDICATIONS
- MOOD STABILIZING MEDICATION
- ANTIPSYCHOTIC MEDICATIONS

ANXIOLYTICS

~~SLEEP AIDS~~

~~SUBSTANCE ABUSE TREATMENT~~

~~STIMULANTS~~

Anxiolytic Medication

SSRI ANTIDEPRESSANTS ARE GREAT FOR USE IN TREATMENT OF ANXIETY DISORDERS AND ANXIOUS DEPRESSION.

BENZODIAZEPINES CAN CAUSE ADDICTION AND DEPENDENCE--USE WITH CAUTION IN SUBSTANCE ABUSE DISORDERS, PERSONALITY DISORDERS, AND DEMENTIA.

CONSIDER USING THERAPY AS A WAY TO AVOID MEDICATION IN ANXIETY DISORDERS.

Anxiolytics

- SSRIs: First line treatment for anxiety disorders. These have been previously covered.
- Benzodiazepines: Can develop tolerance and dependence—use with caution.
- Antipsychotics: Quetiapine (Seroquel).
- Tricyclic Antidepressants: Doxepin (Sinequan).
- Beta Blockers: Propranolol (Inderal), Pindolol, etc.
- Antihistamines.
- Buspirone (Buspar).
- Gabapentin (Neurontin).

Anxiolytics

- SSRIs: First line treatment for anxiety disorders. These have been previously covered.
- Benzodiazepines: Can develop tolerance and dependence—use with caution.
- Antipsychotics: Quetiapine (Seroquel).
- Tricyclic Antidepressants: Doxepin (Sinequan).
- Beta Blockers: Propranolol (Inderal), Pindolol, etc.
- Antihistamines.
- Buspirone (Buspar).
- Gabapentin (Neurontin).

Benzodiazepines

- Great medications for sedation, anesthesia, anxiety, alcohol withdrawal, seizures, and agitation.
- Some of the most widely prescribed medications in the U.S.
- Work by increasing the effects of gamma-aminobutyric acid (GABA) in the brain. GABA is a tranquilizing neurotransmitter.

Benzos: The Dark Side

- Benzos are widely abused.
- Hospitalizations for benzodiazepine misuse have tripled over the past 20 years.
- Chronic use is associated with tolerance, dependence, and life-threatening withdrawal.
- Can cause respiratory depression and death if mixed with alcohol.
- Decrease cognition and increase risk for falls in the elderly.
- Side effects: drowsiness, confusion, dizziness, headache, impaired coordination.

Benzodiazepines

- Chlordiazepoxide (Librium): Used frequently for alcohol withdrawal.
- Diazepam (Valium): Has active metabolites that remain in the body for extended periods.
- Clonazepam (Klonopin): Long acting and often used in the hospital to calm chronically agitated people.
- Lorazepam (Ativan): Used frequently for acute agitation in the hospital. Has an injectable formulation.
- Alprazolam (Xanax): The most prescribed benzo in the U.S. Quick onset with a rapid metabolism. Highly addictive.
- So many more: flurazepam (Dalmane), temazepam (Restoril), triazolam (Halcion), midazolam (Versed), etc.

Anxiolytics

- SSRIs: First line treatment for anxiety disorders. These have been previously covered.
- Benzodiazepines: Can develop tolerance and dependence—use with caution.
- Antipsychotics: Quetiapine (Seroquel).
- Tricyclic Antidepressants: Doxepin (Sinequan).
- Beta Blockers: Propranolol (Inderal), Pindolol, etc.
- Antihistamines.
- Buspirone (Buspar).
- Gabapentin (Neurontin).

Anxiolytics

- SSRIs: First line treatment for anxiety disorders. These have been previously covered.
- Benzodiazepines: Can develop tolerance and dependence—use with caution.
- Antipsychotics: Quetiapine (Seroquel).
- Tricyclic Antidepressants: Doxepin (Sinequan).
- Beta Blockers: Propranolol (Inderal), Pindolol, etc.
- Antihistamines.
- Buspirone (Buspar).
- Gabapentin (Neurontin).

Anxiolytics

- SSRIs: First line treatment for anxiety disorders. These have been previously covered.
- Benzodiazepines: Can develop tolerance and dependence—use with caution.
- Antipsychotics: Quetiapine (Seroquel).
- Tricyclic Antidepressants: Doxepin (Sinequan).
- Beta Blockers: Propranolol (Inderal), Pindolol, etc.
- Antihistamines.
- Buspirone (Buspar).
- Gabapentin (Neurontin).

Beta Blockers

- Beta blockers block the effects of epinephrine, thus causing your heart to beat more slowly and with less force.
- A slower heart rate lessens anxiety and agitation.
- Great for use with test anxiety or performance anxiety.
- People taking tests or giving oral presentations frequently take beta blockers.
- Titrate slowly.

Anxiolytics

- SSRIs: First line treatment for anxiety disorders. These have been previously covered.
- Benzodiazepines: Can develop tolerance and dependence—use with caution.
- Antipsychotics: Quetiapine (Seroquel).
- Tricyclic Antidepressants: Doxepin (Sinequan).
- Beta Blockers: Propranolol (Inderal), Pindolol, etc.
- Antihistamines.
- Buspirone (Buspar).
- Gabapentin (Neurontin).

Antihistamines

Diphenhydramine (Benadryl)

Hydroxyzine (Vistaril)

- Used to treat anxiety, itching, hives, allergic reaction.
- Sedating.
- Frequently given to people who are drug seeking as they have little potential for tolerance or abuse.

Anxiolytics

- SSRIs: First line treatment for anxiety disorders. These have been previously covered.
- Benzodiazepines: Can develop tolerance and dependence—use with caution.
- Antipsychotics: Quetiapine (Seroquel).
- Tricyclic Antidepressants: Doxepin (Sinequan).
- Beta Blockers: Propranolol (Inderal), Pindolol, etc.
- Antihistamines.
- Buspirone (Buspar).
- Gabapentin (Neurontin).

Buspirone

- Complex mechanism of action, believed to be involving serotonin.
- Abuse, dependence, and withdrawal symptoms are low.
- Side effect frequency is low.
- Reputedly not very effective in clinical use, though research indicates efficacy comparable to benzos.
- Can cause false positive UDS for LSD.

Anxiolytics

- SSRIs: First line treatment for anxiety disorders. These have been previously covered.
- Benzodiazepines: Can develop tolerance and dependence—use with caution.
- Antipsychotics: Quetiapine (Seroquel).
- Tricyclic Antidepressants: Doxepin (Sinequan).
- Beta Blockers: Propranolol (Inderal), Pindolol, etc.
- Antihistamines.
- Buspirone (Buspar).
- Gabapentin (Neurontin).

Gabapentin

- Indicated for seizures and postherpetic neuralgia.
- Often used for neuropathic pain.
- NOT a mood stabilizer.
- Lots of dose ranges.
- Sedating.
- Many patients love it.
- Subject of class action lawsuit over allegations of fraudulent marketing.

Presentation Outline

- ANTIDEPRESSANT MEDICATIONS
- MOOD STABILIZING MEDICATION
- ANTIPSYCHOTIC MEDICATIONS
- ANXIOLYTICS

~~SLEEP AIDS~~

~~SUBSTANCE ABUSE TREATMENT~~

~~STIMULANTS~~

False Positive UDS

- Amphetamines
  - Bupropion (& Atomoxetine)
  - Trazodone
  - Desipramine
  - Trimipramine
  - Selegiline
  - Chlorpromazine
  - Thioridazine
  - Aripiprazole
  - Amantadine
- Benzodiazepines
  - Sertraline
- Cannabinoids
  - NSAIDS
- PCP
  - Venlafaxine
  - Imipramine
  - Lamotrigine
  - Thioridazine
  - Diphenhydramine
- LSD
  - Fluoxetine
  - Sertraline
  - Bupropion
  - Trazodone
  - Amitriptyline
  - Imipramine
  - Desipramine
  - Doxepin
  - Haloperidol
  - Chlorpromazine
  - Thioridazine
  - Risperidone
  - Buspirone
- Opiates
  - Clomipramine
  - Chlorpromazine
  - Thioridazine
  - Quetiapine
  - Diphenhydramine
- Synthetic Cannabinoids
  - Lamotrigine

Thank You!

Additional questions?

Joseph Browning, M.D.

Atlanta Adult and Forensic Psychiatry

(404) 913-6240

joebrowning@josephbrowningmd.com