

MENTAL HEALTH

PHARMACOLOGY



LITHIUM CARBONATE

MOOD STABILIZER:

Known for its side effects and narrow therapeutic range

THERAPEUTIC RANGE:

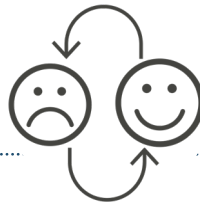
0.6 - 1.2 mEq/L



USES

Bipolar disorder

Helps regulate the "mood swings"
(depression & mania)



ADVERSE REACTIONS

- Nausea
- Vomiting
- Thirst
- Polyuria
- Tremors
- Weight gain

TOXICITY!

- Confusion
- Blurred vision
- Diarrhea
- Tinnitus
Ringing in ears
- Slurred speech
- Coma
- Convulsions

TOXICITY LEVELS

Mild: 1.5 - 2 mEq/L

Moderate: 2 - 3 mEq/L

Severe: > 3 mEq/L

HOW DOES TOXICITY HAPPEN?

- Dehydration
causes ↑ lithium levels in blood
- Hyponatremia
- Old age
↓ kidney function...this means lithium builds up in the blood

EDUCATION

- Carry ID that shows you are taking lithium
- Educate on signs & symptoms of **toxicity**
- Educate and stress importance of taking medication regularly
- Serum lithium levels should be checked every 1-2 months
- Do not operate heavy machinery or drive
- Educate on drinking plenty of water to avoid dehydration (therefore avoiding toxicity)
- Avoid starting a low salt diet
Sudden ↓ in salt = ↑ in lithium

CONTRADICTIONS

- Pregnancy category D:
Contradicted in pregnancy & breastfeeding
- Renal / cardiovascular disease
- Dehydrated patients
Excessive diarrhea or vomiting
- Receiving diuretics
- Sodium depletion
- Hypersensitivity to tartrazine

ANTIDEPRESSANT DRUGS

SSRI's

Selective serotonin reuptake inhibitor

Inhibits uptake of serotonin = ↑ serotonin

Think
Smiley
Serotonin

- Depression
- Anxiety
- OCD
- Eating disorders

SNRI's/DNRI's

Serotonin / Norepinephrine &
Dopamine / Norepinephrine reuptake inhibitor

Affects serotonin, norepinephrine & dopamine

- Depressive episodes
- Anxiety disorders
- Fibromyalgia
- Diabetic neuropathy pain



NEURO

- Headache
- Tremors
- Difficulty sleeping

3 S's of SSRI's

- Serotonin syndrome
- Sexual dysfunction
- Stomach issues



GI

- Nausea
- Dry mouth / thirst
- Constipation
- Urinary retention
- Sexual dysfunction

SEROTONIN SYNDROME

- Too much serotonin in the brain
- Mental changes
- Tachycardia
- Tightness in muscles
- Difficulty walking
- ↑ BP & temp



NEURO

- Headache
- Dizziness
- Vertigo
- Photosensitivity
- Agitation/tremors
- Insomnia



GI

- Dry mouth/thirst
- Dehydration
- Constipation
- Nausea/diarrhea

- May take 4 -6 weeks to take effect
Educate on the importance of compliance
- Take medication in the morning
- **First line** drug for depression/anxiety

⚠ SUICIDE WARNING ⚠

A client who had suicidal plans may now have the **energy** due to the medication to carry out the plans!

- May take 4-6 weeks to take effect
Educate on the importance of compliance
- Do not mix with TCA's or MAOI's
- **Zyban** is used for smoking cessation. Do not use it while taking bupropion for depression – it could cause **overdose**.

GENERIC	TRADE NAME
sertraline	Zoloft
citalopram	Celexa
escitalopram	Lexapro
fluoxetine	Prozac
vilazodone	Viibryd

SUFFIXES



-talopram, -oxetine, -zodone

GENERIC	TRADE NAME
bupropion	Zyban & Wellbutrin
duloxetine	Cymbalta
venlafaxine	Effexor XR
milnacipran	Savella
nefazodon	–

SUFFIXES

-faxine, -zodone, -nacipran

ANTIDEPRESSANT DRUGS

TCA's Tricyclic antidepressants		MAOI's Monoamine oxidase inhibitor																						
Blocks reuptake of serotonin & norepinephrine in the brain		Blocks monoamine oxidase which causes ↑ in epinephrine, norepinephrine, dopamine, & serotonin, which causes stimulation of the CNS!		ACTION																				
<ul style="list-style-type: none">• Depressive episodes• Bipolar disorder• OCD• Neuropathy• Enuresis		Depression		USES																				
<ul style="list-style-type: none">• Constipation• Dry mouth• Drowsiness• Blurred vision• Orthostatic hypotension• Urine retention• Cardiotoxic <div><p>Causes heart problems in patients with pre-existing cardiac conditions or elderly clients...give with caution!</p></div>		<div><div><p>NEURO</p><ul style="list-style-type: none">• Orthostatic hypotension• Dizziness• Blurred vision</div><div><p>GI</p><ul style="list-style-type: none">• Constipation• Dry mouth• Nausea/ vomiting</div><div><p>HYPERTENSIVE CRISIS</p><ul style="list-style-type: none">• Headache• Stiff neck• Nausea / vomiting• Fever• Dilated pupils<div><p>Seek medical help to ↓ blood pressure</p></div></div></div>		SIDE EFFECTS																				
<ul style="list-style-type: none">• May take 2- 3 weeks to take effect <i>Educate on the importance of compliance</i>• WAIT 14 days after being off MAOI's to start taking TCA's• Amoxapine is not an antipsychotic drug but similar to these drugs, it may cause TD & NMS (D/C the drug immediately if these symptoms occur)		<ul style="list-style-type: none">• Can take up to 4 weeks to reach therapeutic levels <i>Educate on the importance of compliance</i>• Educate on the signs & symptoms of HTN crisis• Avoid foods with Tyramine<ul style="list-style-type: none">• Aged cheese• Fermented meats• Chocolate• Caffeinated beverages• Sour cream & yogurt		NURSING CONSIDERATIONS																				
<table><thead><tr><th>GENERIC</th><th>TRADE NAME</th></tr></thead><tbody><tr><td>amitriptyline</td><td>-</td></tr><tr><td>amoxapine</td><td>-</td></tr><tr><td>clomipramine</td><td>Anafranil</td></tr><tr><td>protriptyline</td><td>Vivactil</td></tr><tr><td>nortriptyline</td><td>Pamelor</td></tr></tbody></table> <div><p>SUFFIXES</p><p>-triptyline, -pramine</p></div>		GENERIC	TRADE NAME	amitriptyline	-	amoxapine	-	clomipramine	Anafranil	protriptyline	Vivactil	nortriptyline	Pamelor	<table><thead><tr><th>GENERIC</th><th>TRADE NAME</th></tr></thead><tbody><tr><td>phenelzine</td><td>Nardil</td></tr><tr><td>tranylcypromine</td><td>Parnate</td></tr><tr><td>isocarboxazid</td><td>Marplan</td></tr></tbody></table>		GENERIC	TRADE NAME	phenelzine	Nardil	tranylcypromine	Parnate	isocarboxazid	Marplan	DRUG TABLE
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ANTIANXIETY DRUGS (ANXIOLYTICS)

BENZODIAZEPINES



RX

Bipolar disorder

Benzo's are mainly prescribed for acute anxiety, sedation/muscle relaxant, seizures, & alcohol withdrawal

Not a first-line drug for treating long-term psychiatric anxiety conditions

ACTION

Binds to cell receptors enhancing the effects of GABA

GABA (inhibitory neurotransmitter)
slows/calms the activity of the nerves in the brain



GENERIC	TRADE NAME
alprazolam	Xanax
lorazepam	Ativan
diazepam	Valium
clonazepam	Klonopin
chlordiazepoxide	Librium

SUFFIXES

-zolam & -zepam

Antidote: FLUMAZENIL

ADVERSE DRUG REACTIONS (ADR'S)

- Mild drowsiness, sedation
- Lightheadedness, dizziness, ataxia
- Visual disturbances
- Anger, restlessness
- Nausea, constipation, diarrhea
- Lethargy, apathy, fatigue
- Dry mouth

NURSING CONSIDERATIONS TO HELP WITH ADR'S

Take at night if it makes you dizzy/drowsy
Rise slowly from sitting or lying
Do not drive or operate heavy machinery

Fluids, fiber, & exercise!
Give with food to ↓ GI upset

Sips of water, suck on hard candy,
chewing sugar-free gum

SYMPTOMS OF WITHDRAWAL

Withdrawals typically happen when the medication is stopped abruptly or taken for >3 months

- ↑ Anxiety
- ↑ HR
- ↑ BP
- ↑ Temp/sweating
- ↓ Memory
- Agitation
- Seizures/tremors
- Insomnia
- Vomiting
- Muscle aches

NURSING CONSIDERATIONS

- Not meant for long term therapy because ↑ risk for physical & psychological **DEPENDENCE**
- Use of long term therapy leads to **TOLERANCE**
Larger doses of the drug are required to achieve the desired outcome
- Must be **TAPERED**
↓ the dosage gradually.
NEVER stop the medication abruptly!

CONTRAINDICATIONS & PRECAUTIONS

- Pregnant, laboring & lactating women (Preg Category D)
- Elderly (↑ chance of dementia)
- Impaired liver or kidney function
- Debilitation

NONBENZODIAZEPINES

ACTION

Depends on the drug

buspirone (Buspar)
acts on serotonin receptors

hydroxyzine (Vistaril)
acts on the hypothalamus & brainstem reticular formation

GENERIC	TRADE NAME
buspirone	Buspar
doxepin	Silenor
hydroxyzine	Vistaril
meprobamate	—

ANTIPSYCHOTICS

Most commonly used for psychosis (schizophrenia)



REVIEW: Why are SGA's better than FGA's?

SGA's work on both positive & negative symptoms, and have a lower risk of developing tardive dyskinesia (TD).

FIRST GENERATION ANTIPSYCHOTICS (FGA's)

Also called **typical/conventional**

GENERIC	TRADE NAME
chlorpromazine	–
haloperidol	Haldol
loxapine	Adasuve

ACTIONS OF FGA's

- Blocks/inhibits dopamine from being released in the brain
- Helps diminish positive symptoms of schizophrenia

SIDE EFFECTS OF FGA's

- Higher risk of TD, EPS, & NMS
- Orthostatic hypotension

SIDE EFFECTS OF BOTH

- Anticholinergic effects
- Photophobia
- Photosensitivity
- Sedation/lethargy

SECOND GENERATION ANTIPSYCHOTICS (SGA's)

Also called **atypical**

GENERIC	TRADE NAME
risperidone	Risperdal
clozapine	Clozaril
quetiapine	Seroquel
ziprasidone	Geodon
aripiprazole	Abilify

ACTIONS OF SGA's

- Acts on both serotonin & dopamine in the brain
- Helps diminish positive symptoms of schizophrenia & helps negative symptoms as well!

SIDE EFFECTS OF SGA's

- Lower risk of TD, EPS & NMS
- ↑ Weight
- ↑ Cholesterol
- ↑ Triglyceride
- ↑ Blood sugar

TARDIVE DYSKINESIA (TD)

- Involuntary movements of the face, tongue, or limbs that may be irreversible.

EXTRAPYRAMIDAL SYNDROME (EPS)

- Parkinson's like symptoms • Akathisia (restlessness) • Dystonia (muscle twitching)

NEUROLEPTIC MALIGNANT SYNDROME (NMS)

- Combination of symptoms: EPS, high fever, & autonomic disturbance
- One can recover 7-10 days after DC of medication, but it can be fatal if not treated in time

CONTRAINDICATIONS

- Hypersensitivity
- Parkinson's disease
- Comatose client
- Liver problems
- Depressed
- Coronary artery disease
- Bone marrow depression
- Hyper or hypotension
- Blood dyscrasias

NURSING CONSIDERATIONS

- Educate that it may take 6 - 10 weeks to take effect
- Tell client about adverse reactions and emphasize that adherence is very important

FGA's

- Teach S&S of TD, EPDS, & NMS!
- Advise the client to get up slowly

SGA's

- Check labs (blood sugar, LDL, triglycerides)
- To decrease the risk of gaining weight, advise the client about exercise, low-calorie diet, & monitor their weight.