PHARMACOLOGY · MENTAL HEALTH · CNS

Antianxiety Medications

Anxiolytics across the lifespan — mechanisms, monitoring, and clinical judgment

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FRAMEWORK: NCJMM 6-STEP CLINICAL JUDGMENT

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1

SECTION ONE · FOUNDATION

Definition & Overview

- **Antianxiety (anxiolytic) medications** reduce the physiologic and psychological symptoms of anxiety, panic, and acute stress by modulating CNS neurotransmitters — primarily *GABA, serotonin, and norepinephrine*.
- They span **five classes**: benzodiazepines, non-benzodiazepine anxiolytics (buspirone), SSRIs/SNRIs (first-line for chronic anxiety), beta-blockers (situational/performance anxiety), and sedating antihistamines (hydroxyzine).
- **Goal of therapy:** lowest effective dose for the shortest duration that controls symptoms — especially with benzodiazepines, which carry high *dependence, tolerance, and abuse* potential.

Why this matters on the NCLEX

Antianxiety drugs appear in NGN items as **medication reconciliation**, **safety**, and **elderly fall-risk** scenarios. The exam consistently tests: *SSRIs as first-line for chronic anxiety*, *benzo overdose reversal with flumazenil*, *buspirone's delayed onset*, and *never abruptly stop a benzo*.

SECTION TWO · MECHANISM

2 Pathophysiology of Anxiety & Drug Action

Anxiety arises when the brain's **excitatory drive (glutamate, norepinephrine)** overwhelms its **inhibitory brake (GABA, serotonin)**. The result: a hyperaroused limbic system — amygdala firing, sympathetic surge, cortisol release.

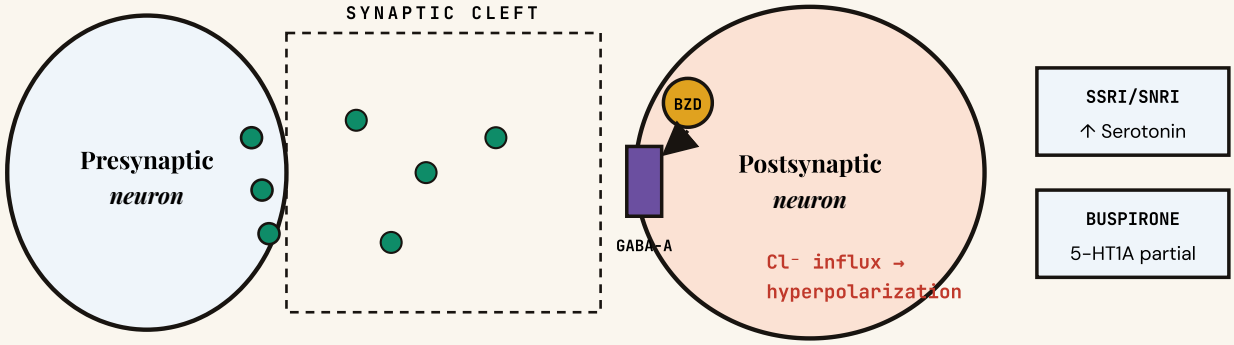
STEP 01
Trigger / Stressor
Perceived threat activates the amygdala and HPA axis.

STEP 02
↑ Excitatory Output
Glutamate and norepinephrine flood limbic circuits.

STEP 03
↓ GABA Inhibition
Insufficient GABA brake → runaway neuronal firing.

STEP 04
Symptoms Emerge
Tachycardia, tremor, dyspnea, dread, sleep loss.

SYNAPTIC VIEW · HOW ANXIOLYTICS INTERVENE



Benzodiazepines bind the GABA-A receptor at the BZD site → enhance chloride influx → neuronal hyperpolarization → CNS depression. SSRIs/SNRIs and buspirone act on serotonin instead — explaining their delayed onset.

SECTION THREE · ASSESSMENT

3 Anxiety Severity — Drug Selection Guide

MILD · +1
Heightened Awareness
- Restless, fidgety
- Mild ↑ HR & RR
- Learns and problem-solves
- **Rx:** usually no med — therapy

MODERATE · +2
Narrowed Focus
- Trembling, sweating, ↑ BP
- Selective attention
- Voice tremor
- **Rx:** SSRI / SNRI / buspirone

SEVERE · +3
Distorted Perception
- Headache, nausea, dizziness
- Hyperventilation
- Cannot redirect easily
- **Rx:** short-term benzo + SSRI

PANIC · +4
Dread & Terror
- Chest pain, depersonalization
- Inability to communicate
- Safety risk
- **Rx:** IV/IM benzo · stay with pt

SECTION FOUR · DRUG CLASS

4 Benzodiazepines — Fast Acting, High Risk

CLASS CNS depressants · Schedule IV controlled substances · short-term use only (2–4 weeks ideally)

Alprazolam *(Xanax)*

SHORT-ACTING · PO

MECHANISM

Potentiates GABA at GABA-A receptor → ↑ Cl^- influx → CNS depression, anxiolysis, sedation.

ROUTE

PO (tablets, ODT, oral solution, XR).

SIDE / ADVERSE EFFECTS

- Drowsiness, dizziness, ataxia
- Anterograde amnesia, confusion
- **Respiratory depression**
- Paradoxical agitation (esp. elderly/peds)
- Dependence, tolerance, withdrawal

CONTRAINDICATIONS

- Pregnancy (Category D) & lactation
- Narrow-angle glaucoma
- Severe respiratory disease / sleep apnea
- Concurrent opioids (boxed warning)
- Hx of substance use disorder

ANTIDOTE: Flumazenil (Romazicon) — competitive GABA-A antagonist. Use cautiously: may precipitate seizures in chronic users.

Lorazepam *(Ativan)*

INTERMEDIATE · PO / IM / IV

MECHANISM

GABA-A potentiation. *Drug of choice for status epilepticus* and alcohol withdrawal because safe in hepatic impairment (no active metabolites).

ROUTE

PO, IM, IV push (slow — max 2 mg/min).

SIDE / ADVERSE EFFECTS

- Sedation, hypotension, bradycardia
- Respiratory depression with IV push
- Propylene glycol toxicity (high-dose IV)

NURSING CARE

- Have **flumazenil & resuscitation equipment** at bedside for IV use
- Continuous pulse ox / VS during IV admin
- Fall precautions; bed in low position

Diazepam *(Valium)*

LONG-ACTING · PO / IM / IV / PR

MECHANISM

GABA potentiation; long half-life (20–80 hr) with active metabolites — risk of accumulation, especially in elderly and hepatic disease.

INDICATIONS

Anxiety · alcohol withdrawal · skeletal muscle spasm · preoperative sedation · status epilepticus (PR form for home).

SIDE / ADVERSE EFFECTS

- Profound sedation, ataxia
- Phlebitis / tissue necrosis if extravasates
- Hepatic enzyme elevation

NURSING CONSIDERATIONS

- Do **not** mix IV diazepam with other drugs in same syringe
- Inject into a large vein, slowly
- Avoid in elderly (Beers criteria)

Midazolam *(Versed)*

ULTRA-SHORT · IV / IM / INTRANASAL

MECHANISM / USE

Rapid-onset GABA potentiator. Procedural sedation, anesthesia induction, severe agitation. Causes **anterograde amnesia** — desired effect for procedures.

ADVERSE EFFECTS

- **Respiratory arrest** with rapid IV push
- Profound hypotension
- Hiccups, paradoxical excitement in peds

NURSING CARE

- Continuous SpO_2, capnography, ECG
- Resuscitation equipment + flumazenil at bedside
- Titrate per LOC (see *Titration Medication* deck)

TEACHING

- Will not remember the procedure — that's expected
- No driving / decisions × 24 hr
- Responsible adult must escort home

Clonazepam *(Klonopin)* · Chlordiazepoxide *(Librium)*

LONG-ACTING · PO

CLONAZEPAM

Panic disorder, seizures, restless legs. Long half-life smooths "between-dose" anxiety but ↑ accumulation risk in elderly.

CHLORDIAZEPOXIDE

Classic agent for **alcohol withdrawal** (CIWA-Ar protocol). Long half-life provides smooth taper and reduces seizure risk.

SHARED ADVERSE EFFECTS

- Drowsiness, ataxia, confusion
- Dependence; rebound anxiety on stop
- Withdrawal: seizures, tremor, delirium

NURSING CARE

- **Never abruptly discontinue** — taper over weeks
- Assess for suicidal ideation
- Caution with CYP3A4 inhibitors (grapefruit, azole antifungals)

SECTION FIVE · NON-BENZO

5 Buspirone (BuSpar) — The Patient Anxiolytic

Buspirone *(BuSpar)*

NON-BENZO · NOT CONTROLLED · PO

MECHANISM

Partial 5-HT1A serotonin *agonist* + weak D2 dopamine activity. **No GABA effect** → no sedation, no abuse potential, no withdrawal syndrome.

ROUTE & ONSET

PO, fixed schedule (BID–TID). **Onset 2–4 weeks** — must take daily, not PRN.

SIDE / ADVERSE EFFECTS

- Dizziness, headache, nausea
- Restlessness, lightheadedness
- Serotonin syndrome (with SSRIs/MAOIs)

CONTRAINDICATIONS / CAUTIONS

- MAOI use (separate by 14 days)
- Severe hepatic / renal impairment
- Grapefruit juice — ↑ levels significantly

KEY TEACHING: BuSpar is *not* a "take it when I'm anxious" drug. It must be taken every day; it will not work in a crisis. Best for **chronic generalized anxiety** in patients with substance use history.

SECTION SIX · FIRST-LINE CHRONIC

6 SSRIs & SNRIs — Long-Term Anxiety Control

SSRIs and SNRIs are the **first-line pharmacologic treatment** for chronic GAD, panic disorder, social anxiety, OCD, and PTSD. Benzodiazepines may bridge the 4–6 week onset window.

SSRIs — *sertraline (Zoloft), paroxetine (Paxil), escitalopram (Lexapro), fluoxetine (Prozac)*

FIRST-LINE · PO

MECHANISM

Selectively block serotonin reuptake at presynaptic neuron → ↑ synaptic 5-HT → improved mood / anxiolysis over 4–6 weeks.

SIDE / ADVERSE EFFECTS

- *Early:* nausea, headache, insomnia, agitation
- *Sexual dysfunction* (very common)
- Weight gain (paroxetine), hyponatremia (SIADH)
- **Serotonin syndrome** 🚨 — fever, clonus, agitation, autonomic instability
- Boxed warning: ↑ **suicidal ideation** in patients < 25 yrs

CONTRAINDICATIONS

- MAOI within 14 days
- Paroxetine in pregnancy (Cat D)
- Concurrent linezolid, methylene blue, St. John's wort

NURSING & TEACHING

- Effect in 4–6 wks; take daily even when feeling well
- Do not stop abruptly → discontinuation syndrome (flu-like, dizziness, "brain zaps")
- Monitor mood, especially first weeks
- Report fever + agitation + tremor immediately

SNRIs — *venlafaxine (Effexor), duloxetine (Cymbalta)*

FIRST-LINE · PO

MECHANISM

Block both serotonin and norepinephrine reuptake. Useful when anxiety coexists with chronic pain (duloxetine) or depression.

ADVERSE EFFECTS

- Nausea, dry mouth, dizziness
- ↑ BP (venlafaxine — dose dependent)
- Hepatotoxicity (duloxetine + alcohol)
- Serotonin syndrome; discontinuation syndrome

CONTRAINDICATIONS

- MAOI use
- Uncontrolled HTN, narrow-angle glaucoma
- Hepatic disease, heavy alcohol use

NURSING CARE

- Monitor BP at every visit (venlafaxine)
- Assess LFTs (duloxetine)
- Slow taper to discontinue

7

SECTION SEVEN · ADJUNCTS

Hydroxyzine & Beta-Blockers

Hydroxyzine *(Vistaril / Atarax)*

ANTIHISTAMINE · PO / IM

MECHANISM

H1 receptor antagonist with anticholinergic + sedative properties. **No dependence**, no abuse — safe in substance-use history.

USE & ROUTE

Short-term anxiety, preoperative sedation, pruritus. PO or **deep IM only** — never IV or SubQ (causes tissue necrosis).

ADVERSE EFFECTS

- Dry mouth, blurred vision, urinary retention
- Sedation, dizziness, hypotension
- QT prolongation at high doses

CONTRAINDICATIONS

- BPH, narrow-angle glaucoma
- Early pregnancy
- Prolonged QT interval

Propranolol *(Inderal)* — Beta-Blocker

PERFORMANCE ANXIETY · PO

MECHANISM

Non-selective beta-antagonist. Blocks **peripheral** sympathetic symptoms (tachycardia, tremor, sweating) — does not affect the cognitive experience of anxiety.

USE & ROUTE

Situational / performance anxiety (public speaking, exams). PO 30–60 min before event.

ADVERSE EFFECTS

- Bradycardia, hypotension
- **Bronchospasm** — avoid in asthma/COPD
- Masks hypoglycemia symptoms (caution in DM)
- Fatigue, depression, sexual dysfunction

CONTRAINDICATIONS

- Asthma, COPD, bronchospastic disease
- Heart block, bradycardia, decompensated HF
- Brittle diabetes

8

SECTION EIGHT · QUICK COMPARE

Class Comparison Table

CLASS	ONSET	DEPENDENCE RISK	BEST FOR	KEY CAUTION	ANTIDOTE / REVERSAL
Benzodiazepines	Minutes (IV) – 1 hr (PO)	**HIGH**	Acute anxiety, panic, status epilepticus, alcohol withdrawal	Respiratory depression; never with opioids	**Flumazenil**
Buspirone	2–4 weeks	None	Chronic GAD; pts with SUD history	Avoid grapefruit; MAOI interaction	—
SSRIs	4–6 weeks	None (but discontinuation syndrome)	GAD, panic, OCD, PTSD, social anxiety	Suicide risk < 25 yrs; serotonin syndrome	Cyproheptadine (serotonin sx)
SNRIs	4–6 weeks	None (but discontinuation syndrome)	GAD with comorbid pain or depression	↑ BP, hepatotoxicity	Cyproheptadine (serotonin sx)
Hydroxyzine	15–30 min	None	Short-term anxiety, preop, pruritus	Deep IM only; anticholinergic load	—
Beta-blockers	30–60 min	None	Performance anxiety, somatic sx	Asthma; masks hypoglycemia	Glucagon / atropine

9

SECTION NINE · ABCS & SAFETY

Priority Nursing Interventions

A

Airway / Breathing

- ✓ Monitor RR & SpO_2 continuously during IV benzos
- ✓ Capnography for procedural sedation
- ✓ Keep **flumazenil + ambu bag** at bedside
- ✓ Hold dose if RR < 12
- ✓ Assess for paradoxical agitation in elderly

B

Circulation / Behavior

- ✓ Monitor BP & HR (orthostatic checks)
- ✓ Assess LOC every 15 min during IV titration
- ✓ Suicide screen before & during SSRI/SNRI start (esp. < 25 yrs)
- ✓ Watch for serotonin syndrome triad: *mental status, autonomic, neuromuscular*

C

Safety / Comfort

- ✓ Fall precautions — bed low, call light, no bath without assist
- ✓ No driving until effect known
- ✓ Avoid alcohol & other CNS depressants
- ✓ Therapeutic communication: stay, calm tone, simple sentences
- ✓ Taper — **never** abrupt stop

10

SECTION TEN · EXAM PITFALLS

NCLEX Test Traps ⚠️

✗ WRONG THINKING	✓ NCLEX ANSWER
"Buspirone works fast like Xanax — give it PRN when the patient feels anxious."	Buspirone takes **2–4 weeks** for full effect and must be taken on a **scheduled** basis. It will not relieve acute anxiety.
"My patient on lorazepam is doing well — let's discontinue it today."	**Never abruptly stop a benzodiazepine.** Withdrawal can cause seizures, delirium, and death. Taper slowly over weeks.
"This patient is on sertraline and feels great after one week — the SSRI is working."	Full SSRI effect takes **4–6 weeks**. Early "energy" can be dangerous — patients gain energy *before* mood lifts, raising suicide risk.
"Patient with COPD is anxious — give propranolol."	Non-selective beta-blockers cause **bronchospasm**. Contraindicated in asthma/COPD. Choose hydroxyzine or low-dose SSRI instead.
"Give hydroxyzine IV for fast anxiety relief."	Hydroxyzine is **deep IM only** (or PO). IV/SubQ administration causes tissue necrosis and hemolysis.
"Patient on SSRI started St. John's Wort — just monitor."	Combination risks **serotonin syndrome** — fever, agitation, clonus, hyperreflexia. Hold the SSRI and notify the provider immediately.

SECTION ELEVEN · TEACH BACK

11 Patient & Family Education

For All Antianxiety Drugs

- Take exactly as prescribed; never share medication
- Avoid alcohol and other CNS depressants
- Do not drive or operate machinery until effects are known
- Rise slowly to prevent orthostatic hypotension
- Carry medication list & alert bracelet
- Never stop abruptly — contact provider for taper

Benzodiazepines Specifically

- Highly addictive — use only as ordered, for short periods
- Avoid grapefruit juice (raises drug levels)
- Report extreme drowsiness, slowed breathing, slurred speech
- Safe-store away from children & adolescents
- Tolerance can develop within weeks

SSRIs / SNRIs

- Takes 4–6 weeks for full effect — be patient
- Take in morning to reduce insomnia
- Report worsening mood or suicidal thoughts immediately
- Watch for fever + tremor + agitation = serotonin syndrome
- Sexual side effects are common — discuss, don't stop suddenly

Buspirone & Adjuncts

- BuSpar: take daily, not PRN; effect in 2–4 weeks
- BuSpar: avoid grapefruit juice
- Propranolol: monitor pulse; do not stop abruptly (rebound HTN)
- Hydroxyzine: expect drowsiness and dry mouth
- Lifestyle: sleep hygiene, caffeine reduction, therapy adjuncts

12

SECTION TWELVE · MEMORY BOOSTERS

Mnemonics & Pattern Recognition

BENZO

- **B** · Breathing depressed
- **E** · Elderly falls
- **N** · Never abrupt stop
- **Z** · Zzz – sedation
- **O** · Opioids = don't combine

BENZODIAZEPINE RED FLAGS

PAM

If the drug name ends in **pam** or **lam** →

it's a **benzodiazepine**

diaze**pam**, lora**zepam**, alpra**zolam**, mida**zolam**

DRUG-NAME PATTERN

SAD

- **S** · Sweating, shivering
- **A** · Agitation, autonomic instability
- **D** · Delirium, diarrhea

SEROTONIN SYNDROME CUES

CALM

- **C** · CNS depressants — avoid mixing
- **A** · Alcohol forbidden
- **L** · LOC monitoring
- **M** · Mouth dry / mood watch

ANTIANXIETY NURSING PRIORITIES

SLOW

- **S** · SSRI = Slow (4–6 wks)
- **L** · Lasting daily dosing
- **O** · Off slowly — taper
- **W** · Watch for suicide < 25

SSRI/SNRI RULES

BUSY

- **B** · BuSpar / buspirone
- **U** · Use daily, not PRN
- **S** · Slow onset (2–4 wks)
- **Y** · Yes to chronic GAD

BUSPIRONE ESSENTIALS

13

SECTION THIRTEEN · NGN PRACTICE

NCJMM 6-Step Clinical Judgment Scenario

UNFOLDING CASE STUDY

A **72-year-old woman** with generalized anxiety disorder is admitted from a long-term care facility for "increasing confusion." Home medications include *alprazolam 1 mg PO TID* (started 6 weeks ago), *sertraline 100 mg daily*, and *tramadol 50 mg PRN* for arthritis. Vital signs: **BP 92/58, HR 56, RR 10, SpO_2 89% on RA, T 99.2°F**. The patient is somnolent, arouses to voice but does not follow commands, and has horizontal nystagmus. The family reports she fell twice last week.

STEP 1 · RECOGNIZE CUES

What is relevant?

↓ BP, ↓ HR, ↓ RR, ↓ SpO_2; somnolence, nystagmus, falls; benzo + opioid + SSRI combination; elderly with new alprazolam; 6-week duration risks accumulation.

STEP 2 · ANALYZE CUES

What do the cues mean?

Pattern = **benzodiazepine over-sedation** in an elderly patient. Beers-criteria drug; potentiated by tramadol (opioid + serotonergic) and SSRI. Hypoventilation explains hypoxia; nystagmus & ataxia are classic benzo signs.

STEP 3 · PRIORITIZE HYPOTHESES

What is most urgent?

1. **Respiratory depression** from benzodiazepine toxicity.
2. Fall / injury risk from sedation.
3. Possible serotonin syndrome from tramadol+SSRI overlap.

STEP 4 · GENERATE SOLUTIONS

What should the nurse do?

Hold next alprazolam dose; apply O_2 via NC; raise HOB; obtain ABG; notify provider; anticipate **flumazenil** if RR < 8 or unresponsive; fall precautions; review med list for taper plan.

STEP 5 · TAKE ACTION

Implement priorities

Stop sedating PRN orders; place on continuous SpO_2 + cardiac monitor; obtain provider order to **taper** alprazolam over 2–4 weeks; discontinue tramadol; consider switch to buspirone or hydroxyzine for ongoing anxiety.

STEP 6 · EVALUATE OUTCOMES

Did it work?

Goal: RR ≥ 14, SpO_2 ≥ 94%, awake & alert, no falls. Reassess every 15 min × 1 hr, then q1h × 4. Teach family: never abruptly stop the alprazolam at home; coordinate taper schedule.