

First Generation *Antipsychotics.*

The typical (conventional) neuroleptics — dopamine D_2 blockers that tame positive symptoms of psychosis. Powerful, but their movement side effects are the heart of every NCLEX question.

PHARMACOLOGY

MENTAL HEALTH

SCHIZOPHRENIA SPECTRUM

D_2 RECEPTOR ANTAGONISTS

AKA "TYPICALS" / "NEUROLEPTICS"

Definition & Overview

01 • WHAT

Developed in the 1950s — the first class of drugs to treat schizophrenia; originally called *neuroleptics* ("seizing the neuron").

Mechanism: non-selective blockade of dopamine D_2 receptors in the brain.

Highly effective for **POSITIVE symptoms** — hallucinations, delusions, disorganized speech, agitation.

Minimal effect on **NEGATIVE symptoms** — flat affect, avolition, anhedonia, apathy. May even worsen them.

ONSET OF ACTION

2–6 wks

Full therapeutic effect. Agitation may calm within hours, but psychosis takes weeks.

Pathophysiology — Why It Works & Why It Hurts

02 • HOW

STEP 01

Dopamine Excess

↑ DA in the **mesolimbic** pathway drives hallucinations & delusions.

STEP 02

FGA Blocks D_2

Drug binds D_2 receptors, preventing dopamine activity.

STEP 03

Symptoms ↓

Positive symptoms fade as mesolimbic DA is quieted.

STEP 04

Collateral Damage

But the block is **non-selective** — other DA pathways are hit too.

THE 4 DOPAMINE PATHWAYS AFFECTED ↓

Mesolimbic ✓

Block here = **wanted**

. Reduces positive symptoms.

Nigrostriatal ✗

Block →

EPS

(movement disorders).

Tuberoinfundibular ✗

Block →

↑ prolactin

(gynecomastia, amenorrhea, galactorrhea).

Mesocortical ✗

Block → worsens

negative symptoms

& cognition.

Signs, Symptoms & Adverse Effects

03 · WATCH

Early Reactions HOURS → WKS

HOURS TO 5 DAYS

Acute Dystonia

Sudden severe muscle spasms: torticollis, oculogyric crisis (eyes roll up), laryngospasm (⚠️ airway emergency).

DAYS TO WEEKS

Akathisia

Inner restlessness; patient paces, can't sit still. Often mistaken for worsening psychosis — *don't* raise the dose.

WEEKS TO MONTHS

Pseudoparkinsonism

Resting tremor, cogwheel rigidity, shuffling gait, masked face, bradykinesia.

Late / Severe MOs → YRS

MONTHS TO YEARS

Tardive Dyskinesia

Involuntary lip-smacking, tongue protrusion, facial grimacing, choreiform limb movements. **Often irreversible** — screen with AIMS.

ANY TIME · LIFE-THREATENING

Neuroleptic Malignant Syndrome (NMS)

Hyperthermia >104°F · lead-pipe rigidity · autonomic instability · altered LOC · ↑ CK · myoglobinuria. **STOP the drug. ICU.**

Other Adverse Effects — especially with LOW-potency FGAs

Anticholinergic

Sedation

Orthostatic Hypotension

Photosensitivity

Agranulocytosis

QT Prolongation

Weight Gain

Hyperprolactinemia

↓ Seizure Threshold

Priority Nursing Interventions

04 · ACT

ABCs → AIRWAY (laryngospasm · NMS) · BREATHING · CIRCULATION (orthostatic, QT) · SAFETY · THERAPEUTIC COMMUNICATION

1 ASSESS for NMS every shift ★
Temp, HR, BP, rigidity, LOC. Fever + rigidity = **STOP drug**, cool, notify provider, prep for ICU transfer, anticipate *dantrolene* + *bromocriptine*.

2 TREAT acute dystonia STAT ★
Administer IM **benztropine** (Cogentin) or **diphenhydramine**. Monitor airway — laryngospasm is a medical emergency.

3 SCREEN with AIMS
Abnormal Involuntary Movement Scale at baseline and q3–6 months to catch tardive dyskinesia early.

4 MONITOR labs
CBC (agranulocytosis), LFTs, glucose, lipids, prolactin, baseline & periodic ECG (QT).

5 IMPLEMENT safety
Fall precautions (orthostasis, sedation), seizure precautions, ongoing **suicide risk assessment**.

6 MEASURE orthostatic VS
Lying → sitting → standing. Rise slowly; dangle legs before ambulation.

7 ADMINISTER carefully
Do NOT crush depot IM forms. Z-track IM deep gluteal. Rotate sites. Never give IV push haloperidol without order.

8 USE therapeutic communication
Accept feelings, reality-orient without arguing about delusions, ensure adequate nutrition/hydration, monitor for cheeking.



Pharmacology — Know Your Drugs

05 • DRUGS

MECHANISM

Non-selective D₂ dopamine receptor antagonism — blocks dopamine in all 4 pathways. Side effect profile depends on **potency**.

↑ HIGH POTENCY

More EPS · Less sedation, anticholinergic, orthostatic

Haloperidol (*Haldol*)

Gold standard for acute agitation · IM **Decanoate** depot q4 wks

Fluphenazine (*Prolixin*)

Depot available · high EPS risk

Trifluoperazine (*Stelazine*)

Also used for short-term anxiety

Pimozide (*Orap*)

Tourette's · monitor QT closely

↓ LOW POTENCY

Less EPS · More sedation, anticholinergic, orthostatic hypotension

Chlorpromazine (*Thorazine*)

The FIRST FGA · intractable hiccups · photosensitivity

Thioridazine (*Mellaril*)

⚠️ Pigmentary retinopathy · significant QT prolongation

Loxapine (*Loxitane*)

Inhaled form for acute agitation

Perphenazine (*Trilafon*)

Moderate potency · also antiemetic



NCLEX Test Traps

06 • AVOID

01 Haldol is HIGH potency → MORE EPS

Students flip this. High potency = **more** movement disorders, **less** sedation/anticholinergic.

02 Acute dystonia ≠ seizure

✗ **Lorazepam** → ✓ **Benztropine** or **diphenhydramine IM**. Muscle spasms respond to anticholinergics, not benzos.

03 NMS vs Serotonin Syndrome

NMS = **lead-pipe rigidity**, bradykinesia, slower onset (days). SS = **clonus + hyperreflexia**, rapid onset (hours), on SSRIs/MAOIs.

04 Tardive dyskinesia is often IRREVERSIBLE

Don't wait for it to get worse. Screen with AIMS; report new movements early so the drug can be changed.

05 Never stop abruptly

Causes cholinergic rebound (N/V, diaphoresis) and withdrawal dyskinesias. Always taper.

06 Depot = non-adherence, NOT emergency

Haldol Decanoate is a **long-acting** IM for patients who won't take PO — it is NOT for acute agitation. Acute agitation = Haldol lactate IM.

07 Restlessness ≠ worsening psychosis

It may be **akathisia**. Raising the dose makes it worse. Reduce dose or add β-blocker / benzotropine.

08 FGAs don't cure — they manage

Lifelong treatment + psychosocial support. Know this for teaching questions.



Patient Education

07 • TEACH



Give it time

Full effect takes 2–6 weeks. Don't stop even if you feel better.



Never stop abruptly

Call your provider to taper — stopping cold causes rebound symptoms.



Rise slowly

Dangle legs, stand gradually to prevent dizziness from orthostatic hypotension.



Sun protection

Sunscreen SPF 30+, long sleeves, hats — photosensitivity causes severe burns.



No alcohol

Avoid alcohol and CNS depressants — additive sedation can be dangerous.



Hydrate & chew

Sugar-free gum/ice chips for dry mouth; fiber & fluids for constipation.



Track your weight

Regular weigh-ins; watch for diabetes signs (↑ thirst, ↑ urination).



Attend labs & AIMS

CBC, LFTs, glucose, AIMS screening are not optional — they catch serious effects early.



Call 911 / ER — fever + muscle stiffness

Sign of NMS. Life-threatening.



Call provider today

Sore throat + fever (infection risk), yellow eyes/skin, uncontrolled mouth/tongue movements, intense restlessness, or rash.



Memory Boosters

08 • RECALL



NMS = “FEVER”



Fever — hyperthermia $>104^{\circ}\text{F}$



Encephalopathy — altered LOC



Vitals unstable — autonomic instability



Elevated enzymes — ↑ CK, ↑ WBC



Rigidity — lead-pipe, diffuse



Anticholinergic — “Can’t...”



Can't SEE — blurred vision, mydriasis



Can't SPIT — dry mouth



Can't PEE — urinary retention



Can't POOP — constipation



Hot as a hare, red as a beet — ↓ sweating, flushing

Tip: “Mad as a hatter, blind as a bat, hot as a hare, dry as a bone, red as a beet, full as a flask.”



EPS Timeline — “4 Hours • 4 Days • 4 Weeks • 4 Months”



HOURS

Acute Dystonia



DAYS

Akathisia



WEEKS

Pseudoparkinsonism



MONTHS+

Tardive Dyskinesia



Pattern Recognition

Typical = treats Positive (both hard “T/P” — TYPICAL for POSITIVE symptoms).

Haldol = HIGH = Hyperkinetic (high potency, high EPS).

Low potency = Low EPS, BUT Loaded anticholinergic + sedation.



Drug Shortcuts

“-azine” endings (chlorpromazine, flufenazine, thioridazine) = phenothiazine FGAs.

Haldol + Benadryl + Ativan = “B-52” — classic ER cocktail for acute agitation (IM).

Dystonia → think “D” for Diphenhydramine / Benztropine.