ANTIPSYCHOTICS MASTER INFOGRAPHIC

1st • 2nd • 3rd Generation | System: Neurological / Psychiatric | NCLEX-RN 2026 High-Yield

💊 QUICK CLASS SNAPSHOT

- **Drug Class:** Antipsychotics (Neuroleptics) — Dopamine receptor antagonists/modulators
- **Primary Use:** Schizophrenia, schizoaffective disorder, bipolar mania, acute psychosis, severe agitation, Tourette's, N/V (some)
- **Target Receptor:** Dopamine D2 (↓ positive symptoms) ± Serotonin 5-HT2A (↓ negative symptoms & EPS risk)
- **High-Alert Class?** YES — Risk of NMS, agranulocytosis, QT prolongation, tardive dyskinesia

🟧 1. DRUG OVERVIEW — Indications & Clinical Use

INDICATIONS (WHY we give it):

- Schizophrenia — first-line treatment for positive AND negative symptoms
- Bipolar disorder — acute mania (Quetiapine, Olanzapine, Risperidone, Aripiprazole)
- Acute agitation / psychosis — IM Haloperidol, Olanzapine, Ziprasidone
- Major depressive disorder (adjunct) — Aripiprazole, Brexpiprazole, Quetiapine XR
- Tourette's syndrome — Haloperidol, Pimozide, Aripiprazole
- Severe nausea/vomiting — Prochlorperazine, Promethazine (low-dose FGA)
- Treatment-resistant schizophrenia — Clozapine (gold standard after 2 failed trials)

HIGH-YIELD CLINICAL PEARLS:

- ⬇️ Positive symptoms
  - Hallucinations, delusions, disorganized speech, agitation
- ⬇️ Negative symptoms (better controlled by 2nd & 3rd gen)
  - Flat affect, social withdrawal, avolition, anhedonia, alogia
- Clozapine reduces suicide risk in schizophrenia (only antipsychotic with this indication)

🟥 2. MECHANISM OF ACTION (Simplified)

1ST GENERATION (TYPICAL / FGA) ➡️ Pure D2 blockers

- Block dopamine D2 receptors in mesolimbic pathway → ↓ positive symptoms
- ALSO block D2 in nigrostriatal pathway → HIGH EPS RISK
- ALSO block D2 in tuberoinfundibular pathway → ↑ prolactin

2ND GENERATION (ATYPICAL / SGA) ➡️ D2 + 5-HT2A antagonists

- Block D2 (weaker) + 5-HT2A receptors → ↓ positive AND negative symptoms
- 5-HT2A blockade → ↑ dopamine in nigrostriatal path → LOWER EPS risk
- TRADE-OFF: ↑ metabolic effects (weight gain, diabetes, dyslipidemia)

3RD GENERATION (DOPAMINE STABILIZERS) ➡️ D2 PARTIAL agonists

- D2 partial agonist + 5-HT1A partial agonist + 5-HT2A antagonist
- Acts like a thermostat: where dopamine is HIGH → blocks it; where LOW → mildly stimulates it
- LOWEST metabolic & EPS risk of all generations, no hyperprolactinemia

⚡ FLOW-OF-ACTION (Memorize This)

- Dopamine excess in mesolimbic pathway → PSYCHOSIS
- Drug blocks D2 receptor → ↓ dopamine signal → ↓ hallucinations, delusions
- BUT…same blockade in nigrostriatal pathway → EPS (tremor, dystonia, akathisia)
- AND same blockade in tuberoinfundibular pathway → ↑ prolactin (gynecomastia, galactorrhea, amenorrhea)
- AND same blockade in hypothalamus → NMS risk (autonomic dysregulation)

🟧 3. THERAPEUTIC EFFECTS — What 'Working' Looks Like

- ✓ Positive symptom reduction
  - ↓ hallucinations, delusions, paranoia within 1–3 weeks
- ✓ Negative symptom improvement (mainly SGA/3rd gen)
  - ↑ social engagement, affect, motivation over 4–6+ weeks
- ✓ Mood stabilization in bipolar/depression adjunct use
- ✓ Improved sleep and ↓ agitation (often first noted by family)
- ✓ Functional improvements: job, relationships, ADLs

⏱️ ONSET TIMELINE (NCLEX FAVORITE):

- Sedation/agitation control: hours to days
- Positive symptoms: 1–3 weeks
- Full therapeutic effect: 4–6 weeks (teach patient NOT to stop early!)

🟩 4. SIDE EFFECTS & ADVERSE REACTIONS

🟢 COMMON SIDE EFFECTS (all generations)

- **Anticholinergic:** Dry mouth, constipation, urinary retention, blurred vision ('Can't see, can't pee, can't spit, can't sh*t')
- **Sedation:** Esp. low-potency FGA (chlorpromazine), quetiapine, olanzapine

- **Orthostatic hypotension:** ↑ fall risk — alpha-1 blockade
- **Weight gain:** Olanzapine & Clozapine = WORST offenders
- **Sexual dysfunction:** ↓ libido, erectile dysfunction, amenorrhea
- **Photosensitivity:** Especially chlorpromazine — teach sunscreen

🚨🚨 SERIOUS / LIFE-THREATENING ADVERSE EFFECTS

- **1. NEUROLEPTIC MALIGNANT SYNDROME (NMS) — FATAL** Hyperthermia (>104°F) + muscle RIGIDITY + autonomic instability + altered mental status + ↑↑CK. STOP drug, cool, dantrolene/bromocriptine. Mortality 10–20%.
- **2. EXTRAPYRAMIDAL SYMPTOMS (EPS) — progressive** Acute dystonia (hrs–days), Akathisia (days–wks), Pseudoparkinsonism (wks–mos), Tardive Dyskinesia (months–years = IRREVERSIBLE)
- **3. AGRANULOCYTOSIS — Clozapine-specific** ANC <1,000 = HOLD drug. Fever/sore throat = life-threatening infection. Weekly CBC required.
- **4. QT PROLONGATION → Torsades de pointes** Ziprasidone, IV haloperidol, thioridazine. Check baseline ECG + K^+/Mg^{2+}.
- **5. METABOLIC SYNDROME** Weight gain + diabetes + dyslipidemia (SGA — esp. olanzapine, clozapine)
- **6. HYPERPROLACTINEMIA** Risperidone worst offender. Gynecomastia, galactorrhea, amenorrhea, ↓bone density
- **7. ANTICHOLINERGIC TOXICITY** 'Hot as a hare, blind as a bat, dry as a bone, red as a beet, mad as a hatter'
- **8. SEIZURE RISK** Clozapine > Chlorpromazine — dose-dependent, ↓ seizure threshold
- **9. MYOCARDITIS / CARDIOMYOPATHY** Clozapine — chest pain, SOB, tachycardia in first 8 weeks
- **10. STEVENS-JOHNSON SYNDROME** Rare but possible — any rash warrants STOP and notify provider

⚠️ EPS BREAKDOWN — Timeline & Treatment (Memorize: A-D-A-P-T)

EPS Type	Onset	Signs/Symptoms	Treatment
Acute Dystonia	Hours–4 days	Muscle spasms, torticollis, oculogyric crisis, laryngospasm (EMERGENCY)	IM/IV Benztropine or Diphenhydramine STAT
Akathisia	Days–weeks	Inner restlessness, pacing, inability to sit still (NOT anxiety)	↓ dose, β-blocker (propranolol), benzodiazepine
Pseudoparkinsonism	Weeks–months	Tremor, rigidity, bradykinesia, shuffling gait, mask face	Anticholinergics: Benztropine, Trihexyphenidyl

EPS Type	Onset	Signs/Symptoms	Treatment
Tardive Dyskinesia (TD)	Months–years	Lip-smacking, tongue protrusion, choreoathetoid movements — IRREVERSIBLE	STOP drug, switch to SGA/3rd gen, Valbenazine/Deutetrabenazine

5. PRIORITY NURSING CONSIDERATIONS

→ ASSESS

- Baseline VS, ECG (especially QTc), weight, BMI, waist circumference
- Baseline AIMS exam (Abnormal Involuntary Movement Scale) → repeat q 3–6 months
- Suicide risk — mandatory for every psych medication
- Mental status, LOC, orientation, affect

→ MONITOR

- Temperature — fever may signal NMS or agranulocytosis
- Muscle tone — rigidity = NMS red flag
- Movement disorders — EPS, tardive dyskinesia
- Fasting glucose, lipids, weight (baseline → 3 mo → annually)
- Clozapine → WEEKLY CBC × 6 months, then bi-weekly, then monthly
- Orthostatic BP — sit/stand before ambulation

→ HOLD the drug if…

- 🛑 Temp ≥ 101°F + muscle rigidity + altered LOC → HOLD + suspect NMS
- 🛑 QTc > 500 ms or prolonged >60 ms from baseline → HOLD ziprasidone/haloperidol IV
- 🛑 ANC < 1,500 (clozapine) → HOLD per REMS protocol
- 🛑 New rash, jaundice, seizure, tardive dyskinesia → HOLD + notify
- 🛑 SBP < 90 or symptomatic orthostasis → HOLD

→ CONTRAINDICATIONS

- Dementia-related psychosis in elderly — BLACK BOX WARNING (↑ death risk)
- Severe CNS depression, coma, prolonged QTc
- Parkinson's disease (use quetiapine or clozapine cautiously if needed)
- Pregnancy (Category C) — weigh risk/benefit
- Bone marrow suppression (for clozapine)

→ DRUG INTERACTIONS (NCLEX Hot Spots)

- CNS depressants (alcohol, opioids, benzos) → additive sedation/resp. depression
- Other QT-prolonging drugs (ondansetron, methadone, macrolides, fluoroquinolones)
- Anticholinergics → additive anticholinergic toxicity
- Levodopa/dopamine agonists → antagonistic effect
- Smoking → induces CYP1A2 → lowers olanzapine/clozapine levels (stopping smoking = ↑ levels)
- Grapefruit juice → ↑ levels of many SGAs

6. LABS & DIAGNOSTICS

Lab / Test	Why	Critical Value / Action
CBC with differential	Clozapine → agranulocytosis	ANC <1,500 = HOLD; <1,000 = DISCONTINUE
Fasting glucose / A1c	Metabolic syndrome (SGA)	A1c >6.5% → intervene; glucose >126 fasting
Fasting lipid panel	Dyslipidemia (SGA)	Baseline, 3 mo, then annually
Weight / BMI / waist	Weight gain	>7% gain from baseline = red flag
ECG — QTc	Torsades risk	QTc >500 ms or ↑>60 ms from baseline = HOLD
Liver enzymes (AST/ALT)	Hepatotoxicity (esp. chlorpromazine)	>3× upper limit = notify
Prolactin level	Hyperprolactinemia (risperidone, FGA)	If symptomatic elevation → switch
CPK (Creatine kinase)	NMS marker	>1,000 U/L = strongly suggests NMS
Electrolytes (K^+, Mg^{2+}, Ca^{2+})	Correct BEFORE QT drugs	Hypo-K/Mg ↑ torsades risk
Thyroid panel (TSH)	Baseline — affects symptoms	Before starting long-term therapy
Pregnancy test	Teratogenic risk	Before starting in females of childbearing age

7. ADMINISTRATION & SAFETY

ROUTES & FORMULATIONS:

- PO — most common (tablets, ODTs, liquids)
- IM acute — Haloperidol, Olanzapine, Ziprasidone for agitation/psychosis
- IM LONG-ACTING (depot) — Haloperidol decanoate, Fluphenazine decanoate, Risperidone Consta, Paliperidone (Invega Sustenna/Trinza/Hafyera), Aripiprazole (Abilify Maintena) — GIVEN Q 2-4 WEEKS for adherence
- IV — ONLY haloperidol (off-label, ↑ QT risk — cardiac monitoring required)
- Sublingual — Asenapine (Saphris) — do NOT eat/drink 10 min after
- Transdermal — Asenapine patch (Secuado)

SPECIAL INSTRUCTIONS:

- IM decanoates → deep IM into GLUTEAL (Z-track) using 21G needle
- Separate oral FGA liquid from antacids by ≥ 2 hrs
- Do NOT crush XR formulations (Seroquel XR, Invega)
- Clozapine → REMS program registration REQUIRED before dispensing

- Lurasidone (Latuda) → MUST take with ≥ 350 calories of food
- Ziprasidone → MUST take with food (≥ 500 calories) for absorption

🚨 HIGH-ALERT PRECAUTIONS:

- Fall precautions — orthostatic hypotension + sedation
- Seizure precautions — clozapine especially
- Temperature regulation — impaired thermoregulation (heat stroke risk)
- Cardiac monitoring — IV haloperidol, ziprasidone
- NEVER abruptly discontinue — taper to prevent rebound psychosis / cholinergic rebound

🟦 8. PATIENT EDUCATION

📘 MUST-TEACH SAFETY POINTS

- **Timing:** Effects take 2–6 WEEKS. Don't stop early even if you 'feel better.'
- **NEVER stop abruptly:** Causes rebound psychosis & cholinergic rebound (N/V, sweating, insomnia). Always taper.
- **Alcohol/illicit drugs:** AVOID — additive CNS depression
- **Hydration:** Drink plenty of water — anticholinergic dry mouth + heat intolerance
- **Sun protection:** Sunscreen, hats, long sleeves — photosensitivity (esp. chlorpromazine)
- **Diet & exercise:** Monitor weight weekly; metabolic syndrome can be severe
- **Positional changes:** Rise slowly from bed/chair — orthostatic hypotension & fall risk
- **Dental care:** Regular visits — dry mouth ↑ caries
- **Pregnancy:** Notify provider if pregnant/planning pregnancy

🚨🚨 CALL 911 / GO TO ER IMMEDIATELY IF:

- FEVER + muscle stiffness + confusion → NMS (life-threatening)
- Sore throat, fever, flu-like illness (clozapine pt) → agranulocytosis
- Chest pain, rapid heartbeat, fainting → QT/arrhythmia
- Uncontrollable facial/tongue movements → tardive dyskinesia
- Difficulty breathing, throat tightness → acute dystonia of larynx
- Severe rash, blistering, peeling skin → Stevens-Johnson
- Thoughts of suicide or self-harm

🟧 9. NCLEX TEST TRAPS ⚠️

⚠️ COMMON STUDENT MISTAKES

- **TRAP 1:** Confusing AKATHISIA (inner restlessness) with anxiety. ➡️ DON'T give benzos reflexively; ↓ dose or add propranolol. Increasing antipsychotic dose WORSENS it.
- **TRAP 2:** Confusing NMS (rigid, hyperthermic, ↑CK) with SEROTONIN SYNDROME (clonus, hyperreflexia, diaphoresis). Antipsychotic = NMS; SSRI = SS.
- **TRAP 3:** Thinking tardive dyskinesia 'wears off'. IT IS IRREVERSIBLE — must catch EARLY with AIMS exam.
- **TRAP 4:** Choosing 'give antipyretic' for NMS. Wrong — it's CENTRAL hyperthermia. Action: STOP drug, cooling, dantrolene.
- **TRAP 5:** Missing that SORE THROAT / FEVER on clozapine = emergency (agranulocytosis), not a simple cold.
- **TRAP 6:** Forgetting to hold ziprasidone / IV haloperidol when QTc > 500 ms.
- **TRAP 7:** Starting olanzapine/clozapine in a patient with diabetes or obesity without checking labs — metabolic syndrome risk.
- **TRAP 8:** Stopping antipsychotic abruptly when pt 'feels fine' → rebound psychosis + cholinergic rebound.
- **TRAP 9:** Choosing haloperidol for elderly dementia pt — BLACK BOX WARNING ↑ death rate.
- **TRAP 10:** Missing NEGATIVE symptoms as a treatment target — SGA/3rd gen preferred over FGA for this.
- **TRAP 11:** Forgetting Lurasidone & Ziprasidone MUST be taken WITH FOOD (absorption).
- **TRAP 12:** Giving anticholinergic (benztropine) for TARDIVE DYSKINESIA — WORSENS it. Benztropine is for acute dystonia & pseudoparkinsonism ONLY.

🎯 PRIORITY vs NON-PRIORITY (NCLEX Decision Logic)

- **ALWAYS PRIORITY:** Airway (laryngeal dystonia), Temperature >101°F + rigidity (NMS), QTc >500 ms, ANC drop, acute suicidality
- **SECOND PRIORITY:** Orthostatic hypotension with fall, new-onset TD, metabolic derangements
- **LATER:** Dry mouth, mild constipation, weight gain counseling, adherence teaching

🟩 10. MEMORY BOOSTERS & MNEMONICS

🧠 NMS = 'FEVER'

- F – Fever (high)
- E – Encephalopathy (altered LOC)
- V – Vitals unstable (autonomic)
- E – Elevated CK / enzymes
- R – Rigidity (lead-pipe)

🧠 EPS Timeline = 'A-D-A-P-T'

- A — Acute Dystonia (hours–4 days)
- A — Akathisia (days–weeks)

- P — Pseudoparkinsonism (weeks–months)
- T — Tardive Dyskinesia (months–years, IRREVERSIBLE)

🧠 Anticholinergic Toxicity = 'Hot, Blind, Dry, Red, Mad'

- Hot as a hare → hyperthermia
- Blind as a bat → mydriasis, blurred vision
- Dry as a bone → no sweat, dry mouth
- Red as a beet → flushed skin
- Mad as a hatter → confusion, delirium

🧠 Clozapine Watch = 'CLOZ'

- C — CBC weekly (agranulocytosis)
- L — Lowers seizure threshold
- O — Orthostatic hypotension + Obesity (metabolic)
- Z — Zero tolerance: STOP if ANC <1000 or myocarditis signs

🧠 'PINES, DONES, PIPS' — SGA/3rd Gen Drug-Name Pattern

- -pine endings (olanzaPINE, clozaPINE, quetiaPINE) → SEDATION + WEIGHT GAIN
- -done endings (risperiDONE, paliperiDONE, ziprasiDONE, luraSIDONE) → fewer metabolic effects, but risperidone = ↑ prolactin
- -pip endings (ariPIPrazole, brexPIPrazole, cariPRAZine) → 3rd gen = dopamine stabilizers, lowest side effects

💊 MOST TESTED DRUGS IN THIS CLASS (Quick Compare)

Drug (Generic / Brand)	Gen	Key Use	Top Warning
Haloperidol / Haldol	1st (high-potency)	Acute psychosis, agitation, Tourette's	High EPS, QT prolongation (IV), NMS
Chlorpromazine / Thorazine	1st (low-potency)	Schizophrenia, severe N/V, hiccups	Sedation, anticholinergic, photosensitivity
Fluphenazine (decanoate)	1st	Schizophrenia — long-acting IM	EPS, tardive dyskinesia
Risperidone / Risperdal	2nd	Schizophrenia, bipolar, autism irritability	Hyperprolactinemia (WORST), weight gain, EPS at ↑ doses
Olanzapine / Zyprexa	2nd	Schizophrenia, bipolar, IM agitation	Metabolic syndrome (SEVERE weight gain, T2DM)
Quetiapine / Seroquel	2nd	Schizophrenia, bipolar, MDD adjunct, insomnia (off-label)	Sedation, orthostasis, weight gain
Clozapine / Clozaril	2nd	TREATMENT-RESISTANT	AGRANULOCYTOSIS, myocarditis, seizures,

Drug (Generic / Brand)	Gen	Key Use	Top Warning
		schizophrenia; ↓ suicide	drooling (REMS required)
Ziprasidone / Geodon	2nd	Schizophrenia, bipolar	QT PROLONGATION; take with food (≥500 cal)
Lurasidone / Latuda	2nd	Schizophrenia, bipolar depression	Must take with food (≥350 cal); less weight gain
Paliperidone / Invega	2nd (active risperidone metabolite)	Schizophrenia (PO + LAI)	Hyperprolactinemia, QT
Asenapine / Saphris	2nd (SL/patch)	Schizophrenia, bipolar mania	Oral hypoesthesia; no food/drink × 10 min
Aripiprazole / Abilify	3rd	Schizophrenia, bipolar, MDD adjunct	Akathisia (MOST COMMON), impulse-control disorders
Brexpiprazole / Rexulti	3rd	Schizophrenia, MDD adjunct, Alzheimer's agitation	Akathisia, restlessness
Cariprazine / Vraylar	3rd	Schizophrenia, bipolar (mania AND depression)	Akathisia, long half-life (weeks)

🔑 KEY DIFFERENCES — 1st vs 2nd vs 3rd Generation

Feature	1st Gen (FGA)	2nd Gen (SGA)	3rd Gen (Dopamine Stabilizers)
Mechanism	D2 antagonist	D2 + 5-HT2A antagonist	D2 + 5-HT1A partial agonist, 5-HT2A antagonist
Prototype	Haloperidol, Chlorpromazine	Risperidone, Olanzapine, Clozapine	Aripiprazole, Brexpiprazole, Cariprazine
Positive symptoms	Excellent	Excellent	Good
Negative symptoms	Poor	Better	Best
EPS risk	HIGH (esp. high-potency)	Low–moderate	LOW (but akathisia common)
Metabolic risk	Low	HIGH (olanzapine, clozapine worst)	LOW
Hyperprolactinemia	HIGH	Moderate (risperidone=high)	Minimal / none

Feature	1st Gen (FGA)	2nd Gen (SGA)	3rd Gen (Dopamine Stabilizers)
Sedation	High (low-potency FGA)	Variable (quetiapine/olanzapine = high)	Low
QT prolongation	Haloperidol IV, thioridazine	Ziprasidone (highest)	Lower risk
Cost	$	$$–$$$	$$$

🧠 CLINICAL JUDGMENT SNAPSHOT 🧠

NCJMM-aligned priority reasoning for NGN items

🚨 #1 PRIORITY RISK WITH ANTIPSYCHOTICS

- **ANSWER:** NEUROLEPTIC MALIGNANT SYNDROME (NMS) — rare but potentially FATAL.
- Tetrad: (1) Hyperthermia >101–104°F (2) Lead-pipe muscle rigidity (3) Autonomic instability (4) Altered mental status
- ↑↑ CK (>1,000), ↑ WBC, metabolic acidosis
- Why it kills: rhabdomyolysis → acute kidney injury → hyperkalemia → arrhythmia

⏱️ WHAT WILL HARM THE PATIENT FIRST?

- **ACUTE:** Airway (laryngeal dystonia) or cardiac arrhythmia (QT → torsades)
- **SUBACUTE:** NMS (hours–days), agranulocytosis (weeks → lethal infection), seizures
- **LONG-TERM:** Tardive dyskinesia (IRREVERSIBLE), metabolic syndrome → CV disease

⚡ FIRST NURSING ACTION BY SCENARIO

- **Temp 103°F + rigidity + altered LOC:** STOP drug FIRST → cool patient → notify provider → prep for dantrolene/bromocriptine
- **Acute laryngeal dystonia / stridor:** Airway FIRST → IM/IV benztropine or diphenhydramine STAT
- **Restlessness, can't sit still:** Assess for akathisia → notify MD → anticipate β-blocker, DO NOT ↑ dose
- **Clozapine pt with sore throat + fever:** HOLD clozapine → STAT CBC → notify provider → isolation/infection workup
- **Lip smacking, tongue protrusion:** Perform AIMS → HOLD drug → notify provider (tardive dyskinesia — irreversible)

- **Orthostatic drop + dizziness on standing:** Safety FIRST (lay patient down) → recheck BP → fall precautions → hold next dose if severe
- **QTc 520 ms on ECG:** HOLD drug → check/correct K^+ & Mg^{2+} → notify provider → continuous cardiac monitoring
- **Patient says 'I feel better, I'm stopping':** Educate — NEVER stop abruptly → risk of rebound psychosis → involve provider for taper

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