



 **Antipsychotics**
Forensic Toxicology Perspectives

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Disclosures 



I have no relevant financial or nonfinancial relationships to disclose.

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Learning Objectives 


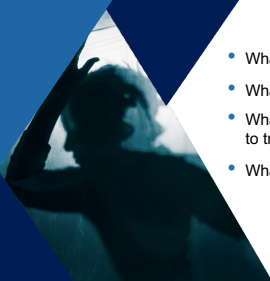


After attending this presentation...

- Understand the uses for antipsychotic medications (also known as neuroleptics or tranquilizer drugs) and terminology used to describe them
- Know the most often prescribed antipsychotics and their specific side effects
- Understand the impairment characteristics of first, second, and third generation antipsychotics

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Overview

- What is psychosis?
- What is an antipsychotic?
- What conditions are antipsychotics used to treat?
- What other terminology may be used?

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How do they work?

- Pharmacology of antipsychotics

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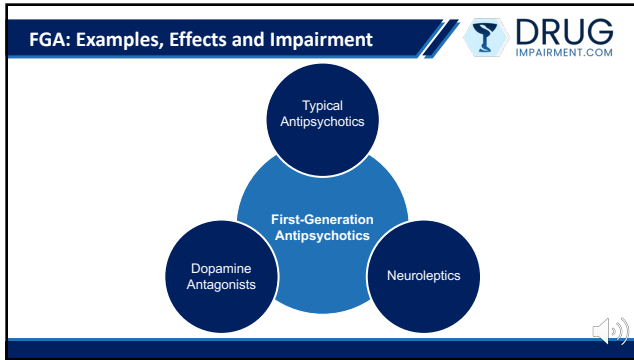
First and Second Generation Antipsychotics

First-Generation (FGA)	Second/Third-Generation (SGA)
Chlorpromazine*	Monotherapy
Droperidol	Aripiprazole*
Fluphenazine	Asenapine
Haloperidol*	Clozapine
Loxapine	Iloperidone
Perphenazine*	Lurasidone
Pimozide	Olanzapine*
Prochlorperazine	Paliperidone
Thioridazine	Quetiapine*
Thiothixene	Risperidone*
Trifluoperazine	Ziprasidone
	Combination Therapy
	Olanzapine plus fluoxetine

Source: First-Generation Versus Second-Generation Antipsychotics in Adults: Comparative Effectiveness Research, No. 63. Aho-Salti AJ, Mousavi SS, Spitzer C, et al. Rockville, MD: Agency for Healthcare Research and Quality; 2012 Aug.

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FGA: Chlorpromazine

- Calming effect (in hospitalized mental health patients)
- Typical doses, cause sedation and drowsiness
 - May improve with continued use
 - Sedating at high doses
- Uncontrollable muscle movements
- Severe muscle stiffness
- Fast heartbeat
- Inability to move eyes/increased blinking or spasm of eyelid
- Loss of balance control, shuffling walk, trembling/shaking of hands and fingers
- Dry mouth

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FGA: Haloperidol

- Sedation (more frequently in elderly patients)
- Difficulty speaking/swallowing
- Uncontrollable muscle movements
- Severe muscle stiffness (arms and legs)
- Fast heartbeat
- Inability to move eyes
- Twisting movements of the body
- Loss of balance control, shuffling walk, trembling/shaking of hands and fingers
- Dry mouth
- Agitation
- Hypotension (low blood pressure)
- Oculogyric crises

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FGA: Perphenazine




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- Trouble keeping balance
- Blurred vision, loss of night vision
- Widening/narrowing of the pupils
- Falsely feeling threatened by others
- Muscle stiffness, falling, uncontrollable, rhythmic face, mouth or jaw movements
- Dry mouth/excess saliva
- Shuffling walk
- Unusual, slowed, or uncontrollable movements of any part of the body (tongue that sticks out of mouth, etc.)

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FGA: Common Characteristics

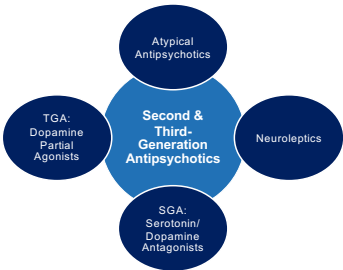


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- Drowsiness/Sedation
- Effects vision and/or eye movement
- Uncontrollable muscle movements, muscle stiffness, shuffling walk
- Loss of balance
- Dry mouth

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S/TGA: Examples, Effects and Impairment



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S/TGA: Aripiprazole




Vnr 18 02 89
Aripiprazole Teva 15 mg
aripiprazol

- Blurred vision
- Increased saliva or drooling
- Muscle stiffness
- Uncontrolled muscle movements, shaking, anxiety, feeling restless (i.e. Parkinsonian features)
- Drowsiness

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S/TGA: Olanzapine



Olanzapine Mylan
comprimés pelliculés
olanzapine
Voie orale


28 x 1 comprimés pelliculés

- Difficulty walking, restlessness, pain in arms/legs/back/joints
- Dizziness, feeling unsteady, trouble keeping balance
- Dry mouth
- Body temperature (heat and cold)
- Drowsiness, slurred speech, increase heart rate, sudden uncontrollable movements in large doses/overdose

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S/TGA: Quetiapine



Quetiapin - 1 A Pharma® 50
Filmtabletten
Quetiapin
50 mg
100 Filmtabletten N3

- Blurred vision
- Difficulty swallowing
- Muscle stiffness
- Uncontrolled muscle movements (face, tongue, other body parts)
- Decreased blood pressure or sudden change in heart rate and blood pressure. In children, increase in blood pressure.
- Drowsiness, feeling fatigued, difficulty thinking and doing normal activities.

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S/TGA: Risperidone



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- Vision problems
- Muscle or joint pain
- Dizziness, feeling unsteady, inability to keep balance
- Drowsiness
- Dry mouth and increased saliva
- Anxiety, agitation, restlessness

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S/TGA : Common Characteristics

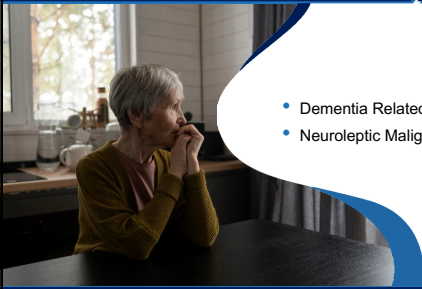


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- Uncontrollable movements in the body, including the face/tongue/eyes
- Body temperature, heart rate, and blood pressure
- Drowsiness, fatigue
- Dizziness and loss of balance
- Dry mouth, difficulty swallowing, drooling

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Serious Side Effects





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- Dementia Related Psychosis
- Neuroleptic Malignant Syndrome (NMS)

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Summary

- Antipsychotic medications are used to treat severe mental health conditions
- They share side effects that can manifest as:
 - Drowsiness/sedation/fatigue
 - Vision and/or eye movement
 - Uncontrollable muscle movements, muscle stiffness, shuffling walk
 - Body temperature, heart rate, and blood pressure
 - Dizziness and loss of balance
 - Dry mouth, difficulty swallowing, drooling



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THANK YOU

Sabra Jones – Regional Toxicology Liaison, Region 5 sabra@soft-tox.org	National Safety Council's Alcohol, Drugs, and Impairment Division- Immediate Past-Chair	Academy Standards Board- Toxicology Consensus Body- Vice Chair
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