# High Potency Antipsychotic Drugs

High potency antipsychotics are an antiquated class of medications used to treat schizophrenia, mania, and agitation. Other less common uses for these drugs include delirium, anxiety, and Tourette syndrome. These drugs work by blocking D2 receptors, which, by various pathways, lead to increased cAMP. Examples of high potency antipsychotic medications are fluphenazine, trifluoperazine, and haloperidol. These drugs have a large side effect profile and can lead to extrapyramidal symptoms and neuroleptic malignant syndrome. Extrapyramidal symptoms observed with the administration of these drugs can evolve over time. Short-term symptoms, which evolve over hours to days, are exemplified by dystonia and torticollis. Over longer periods of administration (weeks to months), patients can develop Parkinsonian symptoms and can display various forms of tardive dyskinesia. A looming risk with the administration of antipsychotic medications is the development of neuroleptic malignant syndrome.




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## High Potency Drugs

**Fluphenazine**
Fluffy-nectarine
Fluphenazine is a high potency antipsychotic medication used to treat psychosis and schizophrenia. It has a long half-life of 15-30 hours.

**Trifluoperazine**
Truffle-purse
Trifluoperazine is a high potency antipsychotic medication used in the treatment of schizophrenia and anxiety.

**Haloperidol**
Halo-poodle
Haloperidol is a medication used to treat schizophrenia, acute psychosis, and delirium. This drug has many serious side effects and is very potent. It is a derivative of butyrophenone, which was an original antipsychotic developed in the 1950s.

**Pimozide**
Pimento-slide
Pimozide is a high-potency antipsychotic medication primarily used to treat schizophrenia and delusional disorders. It works by blocking dopamine receptors in the brain, alleviating symptoms like hallucinations and delusions. Its long duration of action allows for once-daily dosing. Pimozide is sometimes used off-label for Tourette syndrome. Side effects include extrapyramidal symptoms, sedation, weight gain, and rarely, cardiac arrhythmias, necessitating close cardiac monitoring due to its potential to prolong the QT interval on an ECG.

## Side Effects

**Extrapyramidal Symptoms**
X-Pyramid
Extrapyramidal symptoms are movement disorders related to the administration of medications with anti-dopaminergic activity, including antipsychotics (especially high potency ones), as well as other medications, for example, metoclopramide (an antiemetic). The extrapyramidal side effects of dystonia, torticollis, akathisia, and Parkinsonism are seen more often in high potency antipsychotics.

**Short Term**
Short-term X-Pyramid with Clock and Date
Short-term symptoms such as dystonia and torticollis can occur within hours to days after treatment.

**Dystonia**
Dice-stone
Dystonia is described as sustained muscle contraction, which can present as repetitive twitching and abnormal posture. This side effect is an acute extrapyramidal symptom.

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**Restlessness (Akathisia)**

Restless-wrestler

Akathisia is a short-term extrapyramidal symptom commonly associated with high-potency antipsychotic medications. It is characterized by distressing inner restlessness, compelling individuals to constantly move their limbs or pace. This sensation can be profoundly uncomfortable and may lead to agitation and an inability to sit still. Akathisia typically emerges shortly after initiation of treatment with high-potency antipsychotics. While it is often transient, it can significantly impact a person's quality of life and adherence to medication regimens.

**Torticollis**

Tortoise-collar

Patients with torticollis display an asymmetric neck position and have a fixed tilt of the head. Torticollis may be present in patients suffering from an acute extrapyramidal reaction after short-term treatment with high potency antipsychotics.

**Long Term**

Tall X-pyramid with Calendar

Long-term treatment with high potency antipsychotics can lead to parkinsonism and tardive dyskinesia.

**Tardive Dyskinesia**

Tar-dive Disc-kite

Tardive dyskinesia is described as repetitive, involuntary movements typically of the mouth or face but potentially of the trunk or extremities as well. Patients often have characteristic lip-smacking or hand movements. These symptoms typically occur months into high potency antipsychotic treatment.

**Parkinson's-Like Symptoms**

Park-in-sun garage

Parkinson's-like symptoms occur after weeks of treatment with high potency antipsychotics. Patients with this side effect display muscle stiffness, pill-rolling tremor, and decreased movement.

**Neuroleptic Malignant Syndrome**

Nerve-leopard Malignant-man

Neuroleptic Malignant Syndrome (NMS) is a potentially life-threatening neurological disorder associated with the use of high-potency antipsychotic drugs, which are a class of medications primarily employed in the treatment of psychiatric conditions such as schizophrenia. NMS is characterized by a spectrum of severe symptoms, including hyperthermia (elevated body temperature), autonomic dysregulation, altered mental status, and generalized muscle rigidity. This syndrome is most commonly linked to the administration of high-potency antipsychotic medications, which exert a strong blockade of dopamine receptors in the central nervous system.

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