Quick Facts about Psychotropic Pharmacokinetics

The majority of medications used for mental health undergo primarily hepatic metabolism. Many of these medications act not only as substrates, but as inhibitors and inducers of hepatic processes. The potential for interactions should not prevent a medications use, but should be considered when managing each patient. Below are lists of medications that are commonly used in pediatric mental health and their pharmacokinetic interactions.

Antidepressants

Medication	**Metabolism**	**Common Pharmacokinetic Interactions**
Fluoxetine	Strongly inhibits CYP2D6, CYP3A4	Amphetamines, Aripiprazole, Atomoxetine, Beta-blockers, Hydrocodone/Codeine, Hormone-based contraceptives (3A4 only)
Sertraline	Inhibits CYP2D6, more likely at higher doses	Same as fluoxetine, lesser extent
Escitalopram	Minimal CYP interactions, most often CYP2D6	Far less likely to occur
Bupropion	Strongly inhibits CYP2D6	Same as fluoxetine, same extent
Venlafaxine	Minimal inhibition of CYP2D6	Same as fluoxetine, lesser extent
Duloxetine	Inhibits CYP2D6, also metabolized by CYP2D6	Same as fluoxetine, lesser extent

Stimulants and Other ADHD Medications

Medication	**Metabolism**	**Common Pharmacokinetic Interactions**
Methylphenidate, Dexmethylphenidate	Minimal P450 interactions, primarily metabolized by esterification	Minimal, although many pharmacodynamic interactions are possible
Amphetamine salts, Lisdefamfetamine	Metabolized by CYP2D6, absorption and excretion affected by pH	Urine acidifying drugs increase excretion, Urine alkalinizing drugs decrease excretion, Gastric absorption increases with alkalinizing agents, Serum levels will be affected by 2D6 inducers and inhibitors
Guanfacine	Metabolized by CYP3A4	Serum levels will be affected by 3A4 inducers and inhibitors
Clonidine	Metabolized by CYP2D6	Serum levels will be affected by 2D6 inducers and inhibitors
Atomoxetine	Metabolized by CYP2D6	Serum levels will be affected by 2D6 inducers and inhibitors