

PSYCHOTROPIC MEDICATIONS BY CATEGORY: PEDIATRIC INDICATIONS, DOSING AND CLINICAL GUIDELINES

ADHD Treatments – Stimulant (strong evidence)

Generic name (trade name)	Pediatric FDA Indication	Monitoring	Monthly Visit Medication/Class-Specific Questions
methylphenidate (Ritalin, Methylin, Metadate, methylphenidate ER (Ritalin LA, Concerta, Aptensio XR, Metadate CD, Jornay) methylphenidate patch (Daytrana) Methylphenidate liquid- chewable (Quillivant)	ADHD (≥ 6)	No laboratory Height/weight/blood pressure/pulse at appointments	Changes in appetite Weight loss Nausea Headache Irritability Nervous Habits (nail biting, skin picking) Sleep changes Heart (fast, skipped beats, chest pain) Tic movements Supervision to avoid mis-use
Dexmethylphenidate (Focalin) (Focalin XR)	ADHD (≥ 6)	As above	See above
dexedrine (Dextrostat) (Dexedrine spansule)	ADHD (≥ 3)	As above	See above
mixed amphetamine salts (Adderall) (Adderall XR)	ADHD (≥ 3)	As above	See above
Lisdexamfetamine (Vyvanse)	ADHD (≥ 6) Binge Eating D/O (adult)	As above	See above

ADHD Treatments – Non-stimulant (strong evidence)

Generic name (trade name)	Pediatric FDA Indication	Monitoring	Monthly Visit Medication/Class-Specific Questions
atomoxetine (Strattera) viloxazine (qelbree)	ADHD (>6)	Liver enzyme levels (varies between providers)	Nausea Headache Sedation Jitteriness Appetite change New/changed suicidal thoughts Severe nausea, vomiting, abdomen pain
guanfacine (Tenex) (Intuniv)	None ADHD (>6)	No laboratory monitoring Blood pressure/pulse at appointments	Sedation Lightheaded/fainting Should not stop abruptly
clonidine (Catapres) (Kapvay)	None ADHD (>6)	No laboratory monitoring Blood pressure/pulse at appointments	Sedation Lightheaded/fainting Should not stop abruptly

Selective Serotonin Reuptake Inhibitors (moderate to strong evidence)

Generic name (trade name)	Pediatric FDA Indication	Monitoring	Monthly Visit Medication/Class-Specific Questions
citalopram (Celexa)	(depression and anxiety off label)	No routine laboratory monitoring – may measure electrolytes (sodium, potassium) in some circumstances	Nausea Headache Sedation Jitteriness New/changed suicidal thoughts
escitalopram (Lexapro)	MDD ($\geq 12y$)	As above	See above
fluoxetine (Prozac)	MDD ($\geq 8y$) OCD ($\geq 7y$)	As above	See above
fluvoxamine (Luvox)	OCD ($\geq 8y$)	As above	See above
paroxetine (Paxil)	(see citalopram)	As above	See above
sertraline (Zoloft)	OCD ($\geq 6y$)	As above	See above

Other Antidepressants – moderate to limited support (depending on medication/indication)

Generic name (trade name)	Pediatric FDA Indication	Monitoring	Monthly Visit Medication/Class-Specific Questions
duloxetine (Cymbalta)	GAD (7-17y)	No routine laboratory monitoring	Nausea Headache Sedation Jitteriness New/changed suicidal thoughts
trazodone (Desyrel)	-	No routine laboratory monitoring	See above + Persistent erection
imipramine (Tofranil)	Enuresis (>6y)	No routine laboratory monitoring at enuresis (low) doses – if antidepressant doses – levels + EKG	See above + EKG/blood levels may be needed for higher doses*
clomipramine (Anafranil)	OCD ($\geq 10y$)	EKG baseline and during dose changes Blood levels during dose changes and periodically once at stable dose	See above + See note below re: dosing*
bupropion (Wellbutrin) (Wellbutrin SR) (Wellbutrin XL)	-	No routine laboratory monitoring	See above + May increase risk of seizure – discuss with provider
venlafaxine (Effexor) (Effexor XR)	-	No routine laboratory monitoring Blood pressure at visits at visits Height/weight for 6-17 year olds	See above
desvenlafaxine (Pristiq)	-	No routine laboratory monitoring Blood pressure/pulse at visits	See above
Vilazodone (Viibryd)	-	No routine laboratory monitoring	See above
Vortioxetine (Trintellix)	-	No routine laboratory monitoring	See above

* large inter-individual variation after standard dose – close monitoring warranted

Other antidepressants – less clear evidence in pediatric age group – use with more caution

Generic name (trade name)	Pediatric FDA Indication	Monitoring	Monthly Visit Medication/Class-Specific Questions
mirtazapine (Remeron)	-	Glucose and lipids (optional, will vary between prescribing clinicians)	Nausea Headache Sedation Jitteriness Increased appetite/weight gain (may need lab monitoring) New/changed suicidal thoughts
amitriptyline (Elavil)	-	If used at low doses (sometimes for migraine headaches) – no monitoring If used at antidepressant doses should have baseline EKG, repeated as doses near therapeutic, blood levels to adjust dosing	Nausea Headache Sedation Jitteriness New/changed suicidal thoughts EKG, levels monitoring during titration if used at higher dosing ranges
desipramine (Norpramin)	-	See just above	See above
nortriptyline (Pamalar)	-	See just above	See above
doxepin (Sinequan)	-	Rare use – no monitoring	See above
tranylcypromine (Parnate)	-	No laboratory monitoring – note – will need to be on restricted diet – prescriber should provide specific instructions	Nausea Headache Sedation Jitteriness New/changed suicidal thoughts Some foods could cause high blood pressure, check with prescriber
Phenelzine (Nardil)	-	See just above	See above
selegiline (Emsam Patch)	-	See just above (diet less restricted)	See above

Mood Stabilizing Agents (non-antipsychotic) – moderate evidence

Generic name (trade name)	Pediatric FDA Indication	Monitoring	Monthly Visit Medication/Class-Specific Questions
lithium carbonate (Eskalith, Eskalith CR, Lithobid)	Bipolar m/m* acute (≥12y) Bipolar m/m* maint (≥12y)	Before starting: laboratory kidney and thyroid functioning During adjusting dose: lithium levels When dose is stable: lithium levels, kidney and thyroid function (usually twice a year) If concerns about level/toxicity: emergency medical assessment and lab work	Headache Nausea Mild tremor Increased thirst Weight gain Maintaining hydration Secure/supervise supply Watch with other medications like aspirin, ibuprofen – check with prescriber
Divalproex sodium (VPA) (Depakote) (Depakote ER) (Depakene)	-	Before starting: laboratory liver functioning and blood cell counts During adjusting dose: medication levels When dose is stable: liver functioning and blood cell counts (usually twice a year) If any concerns about side effects in between usual times, may get labs	Headache Nausea Mild tremor Weight gain Severe nausea, abdominal pain, yellow skin Changes in bruising/bleeding
Carbamazepine (Tegretol, Tegretol XR, Carbatrol, Eptol, Equetro)	-	Before starting: laboratory liver functioning and blood cell counts During adjusting dose: medication levels When dose is stable: liver functioning and blood cell counts (usually twice a year) If any concerns about side effects in between usual times, may get labs	Headache Nausea Mild tremor Weight gain Severe nausea, abdominal pain, yellow skin Changes in bruising/bleeding, frequent infections
Lamotrigine (Lamictal)	-	No routine laboratory work If rash develops will need medical assessment and attention	Headache Nausea Sedation Rash – if rash check with prescriber

*m/m – mixed/manic

Mood Stabilizing Agents (Non Antipsychotic) – moderate evidence (Continued)

Generic name (trade name)	Pediatric FDA Indication	Monitoring	Monthly Visit Medication/Class-Specific Questions
Oxcarbazepine (Trileptal)	-	No routine laboratory monitoring	Headache Nausea Sedation Tremor
Gabapentin (Neurontin)	-	No routine laboratory monitoring	See above
Tiagabine (Gabatril)	-	No routine laboratory monitoring	See above
Topiramate (Topamax)	-	No routine laboratory monitoring	See above + Appetite change

2nd Generation Antipsychotics – FDA approved indications – moderate/strong evidence

Generic name (trade name)	Pediatric FDA Indication	Monitoring	Monthly Visit Medication/Class-Specific Questions
aripiprazole (Abilify)	Agitation in autism (6-17y) Bipolar m/m* acute (≥10y) Schizophrenia (≥10y)	Before starting: blood lipids, glucose (fasting/non fasting/Hemoglobin A1c), some providers will also get liver enzymes, blood counts and prolactin During treatment: blood lipids and glucose (6 months or annually) If significant changes in weight, or concerns – repeat labs Before starting and regularly (every 3-6 months), check for new abnormal involuntary movements (happens at appointments)	Headache Nausea Jitteriness sedation Increased appetite/eating Regular laboratory work – check with prescriber New/changed suicidal thoughts New uncontrolled movements
risperidone (Risperdal)	Agitation in autism (5-16y) Schizophrenia (≥13y) Bipolar m/m* acute (≥10y)	See above	See above (aripiprazole) + Changes in breasts Unexpected breast milk production
olanzapine (Zyprexa)	Schizophrenia (≥13y) Bipolar m/m* acute (13-17y) Bipolar m/m* maint (13-17y)	See above	See above (aripiprazole)
quetiapine (Seroquel)	Schizophrenia (≥13y) Bipolar m/m* acute (≥10y)	See above	See above (aripiprazole) + New/changed problems tolerating heat
paliperidone (Invega)	Schizophrenia (12-17y)	See above	See above (aripiprazole)
asenapine (Saphris)	Bipolar Mania (10-17y)	See above	See above (aripiprazole)
lurasidone (Latuda)	Bipolar Depression (10-17y)	See above	See above (aripiprazole)

*m/m - mixed/manic

2nd Generation Antipsychotics – No FDA approved indications for pediatric age groups – limited evidence

Generic name (trade name)	Pediatric FDA indication	Monitoring	Monthly Visit Medication/Class-Specific Questions
clozapine (Clozaril)	-	<p>Before starting: same labs as for 2nd generation antipsychotics (above) + CBC with differential (absolute neutrophil count or ANC), also need to enroll youth in Clozapine REMS*</p> <p>During treatment, CBC+differential weekly for 6 months, then every other week for 6 months then monthly afterwards – re-assess if any drop in blood cell counts.</p> <p>Before and throughout treatment also assess for abnormal movement as for other medications.</p>	<p>Headache Nausea Jitteriness Sedation Increased appetite/eating Tremor Drooling Lightheadedness when sitting or standing up Regular laboratory work – check with prescriber – required to dispense New/changed suicidal thoughts New uncontrolled movements</p>
iloperidone (Fanapt)	-	See aripiprazole in above section	See aripiprazole
cariprazine (Vraylar)	-	See aripiprazole in above section	See aripiprazole
brexiprazole (Rexulti)	-	See aripiprazole in above section	See aripiprazole
ziprasidone (Geodon)	-	See aripiprazole in above section + EKG before starting and while titrating to effective dose	See above aripiprazole + Heart (fast, skipped beats)

^ch – children, ad – adolescents, ^dosing range recommendation on consensus or FDA adult max

*Clozapine REMS is a program to monitor and manage the possibility of drop in some white blood cells, which can be permanent.

1st Generation Antipsychotics (limited data/support in pediatric population)

Generic name (trade name)	Pediatric FDA Indication	Monitoring	Monthly Visit Medication/Class-Specific Questions
chlorpromazine (Thorazine)	Severe behavior problems <12	Usually used as needed, if so, don't really need blood work or to monitor for abnormal movement.	Headache Nausea Jitteriness Sedation Tremor Increased appetite/eating Regular laboratory work – check with prescriber New uncontrolled movements
fluphenazine (Prolixin)	-	Less often monitored with labs, though may get the same as the 2 nd generation meds Also monitor for abnormal movements as for 2 nd generation meds	See above
perphenazine (Trilafon)	-	See just above	See above
thioridazine (Mellaril)	-	See just above	See above + Changes in breasts Unexpected breast milk production
thiothixine (Navane)	-	See just above	See above
haloperidol (Haldol)	Schizophrenia (≥ 3)* Tic Disorders (≥ 3)* Severe Aggression (≥ 3)^	If used as needed, don't really need blood work. If used regularly, same as above	See above + Changes in breasts Unexpected breast milk production

*FDA indication

^FDA lists as "effective"

Anxiolytics/Sedatives – note no pediatric guidance, little evidence, use with caution

Generic name (trade name)	Pediatric FDA Indication*	Monitoring	Monthly Visit Medication/Class-Specific Questions
flurazepam (Dalmane)	-	No lab monitoring	Sedation Intoxicated feeling Risk of tolerance/dependence if used regularly
estazolam (ProSom)	-	See above	See above
lorazepam (Ativan)	-	See above	See above
temazepam (Restoril)	-	See above	See above
zolpidem (Ambien) (Ambien CR)	-	See above	See above + Associated with hallucinations in about 10% of children/adolescents, therefore not FDA approved for youth
eszopiclone (Lunesta)	-	See above	See above
zaleplon (Sonata)	-	See above	See above
alprazolam (Xanax)	-	See above	
diazepam (Valium)	-	See above	
clonazepam (Klonopin)	-	See above	
chlordiazepoxide (Librium)	-	See above	
choral hydrate	insomnia	See above	Note: potential for reduced breathing, requires careful monitoring
bupirone (BuSpar)	-	See above	Nausea Headache Sedation Jitteriness

*Note – some of these medications (lorazepam, diazepam, clonazepam) can be used to shorten seizures – this would be under the care of a neurologist

Lab/Procedure Order Glossary:

Complete Blood Count + Differential (CBC) – recommended for non-antipsychotic mood stabilizing medications (valproate, carbamazepine), sometimes obtained for antipsychotic medications

Comprehensive Metabolic Panel (CMP) – contains multiple measures, including liver enzymes (recommended for non-antipsychotic mood stabilizing medications and sometimes ordered for atomoxetine. Also contains blood sugar (glucose) sometimes ordered for 2nd generation antipsychotic medications. Also contains measures of salt/water control in the body and kidney function, recommended when prescribing lithium

Liver Function Tests (LFT) – more focused than CMP – just the liver enzymes (AST, ALT, Alk Phos) – these might also be ordered separately

Hemoglobin A1c (HgbA1c) – one measure of average sugar (glucose) levels in the blood – might be ordered when taking 2nd generation antipsychotics

Lipid Profile - measures two blood fats (cholesterol and triglycerides) – usually recommended for antipsychotic medications, may be listed separately

Thyroid Function (TSH and/or T4) – these are usually obtained for people taking Lithium (non-antipsychotic mood stabilizing medication)

Prolactin level – may be ordered for people taking antipsychotic medications

Electrocardiogram (ECG or EKG) – measures heart rhythm – only used for a few medications listed above

Labs/Procedures that are NOT usually part of medication monitoring:

Urinalysis (UA) – measures items in urine, can measure kidney function, evidence of urinary tract infection

Imaging (x-ray, CT, MRI) – looks for structural problems in bones, tissues, organs – not routine for any medication monitoring