
METHYLPHENIDATE IR (Methylin, Ritalin) Fact Sheet [G]

BOTTOM LINE:

Better side effect profile and somewhat lower misuse potential than amphetamines. However, patients often prefer the “kick” they get from Adderall.

PEDIATRIC FDA INDICATIONS:

ADHD (6–17 years).

ADULT FDA INDICATIONS:

ADHD; narcolepsy.

OFF-LABEL USES:

Obesity; treatment-resistant depression.

DOSAGE FORMS:

- **Tablets (Ritalin, [G]):** 5 mg, 10 mg, 20 mg.
- **Chewable tablets (Methylin CT, [G]):** 2.5 mg, 5 mg, 10 mg.
- **Oral solution (Methylin, [G]):** 5 mg/5 mL, 10 mg/5 mL.

PEDIATRIC DOSAGE GUIDANCE:

- ADHD: Children 6–17 years: Start 0.3 mg/kg BID or 2.5–5 mg BID before breakfast and lunch, increase by 0.1 mg/kg/dose or 5–10 mg/day at weekly intervals to a max of 2 mg/kg/day or 60 mg/day.
- Narcolepsy: Same dosing as ADHD.

MONITORING: Weight, height, BP/P; ECG.

COST: \$; chewable tablets: \$\$\$

SIDE EFFECTS:

- Most common: Insomnia, headache, nervousness, abdominal pain, nausea, vomiting, anorexia, weight loss, affect lability, tics.
- Serious but rare: See class warnings in chapter introduction.

MECHANISM, PHARMACOKINETICS, AND DRUG INTERACTIONS:

- Stimulant that inhibits reuptake of dopamine and norepinephrine.
- Hepatic metabolism via carboxylesterase CES1A1, not CYP450 isoenzymes; $t_{1/2}$: 2–4 hours.
- Avoid use with MAOIs, antacids.

EVIDENCE AND CLINICAL PEARLS:

- FDA approved with many studies and long history of clinical use supporting its efficacy and safety, with a larger treatment effect size than non-stimulant medications.
- Methylphenidate generally causes fewer side effects than amphetamine preparations—patients are less likely to report feeling “wired.”
- While all stimulants may unmask tics, a Cochrane review of eight randomized trials showed that methylphenidate did not worsen tics in children with ADHD and a tic disorder; in some cases it even improved tics.
- Methylin chewable tablet: Administer with at least 8 ounces of water or other fluid.

FUN FACT:

Methylphenidate was synthesized by Ciba (now Novartis) chemist Leandro Panizzon. His wife, Marguerite, had low blood pressure and would take the stimulant before playing tennis. He named the substance “Ritaline” (yes, with the “e” on the end) after his wife’s nickname, Rita.