

The Ritalin Controversy

The first report of stimulant use to treat ADHD was in 1937. The action of **methylphenidate (Ritalin)** is virtually identical with cocaine. It acts on the CNS with a dopamine-agonistic effect that is slower in onset, but mechanistically almost identical to cocaine and amphetamines.

Methylphenidate binds to the dopamine transporter and increases dopamine levels in the brain. This is similar in its mechanism to cocaine, but the euphoric effects and addictive potential of cocaine occur because it is administered in ways that result in a very rapid increase in blood levels, with about 60% of dopamine transporters blocked. In contrast, methylphenidate remains bound to the dopamine transporter for several hours; therefore, repeated doses have very little effect. When methylphenidate is administered by mouth at a standard clinical dose, euphoric effects are not present. Although most patients respond well to psychostimulants, a small group has atypical responses or are at increased risk of undesirable side effects.

The adverse reactions related to methylphenidate (Ritalin) use include:

Central Nervous System

- * nervousness
- * insomnia
- * anorexia
- * headaches
- * drowsiness
- * dizziness
- * depressed mood
- * irritability
- * dyskinesia
- * blurring of vision
- * dependence
- * tolerance

Gastrointestinal

- * abdominal pains
- * nausea
- * vomiting
- * dry mouth

Cardiovascular

- * tachycardia
- * palpitation
- * arrhythmia
- * changes in BP and heart rate (usually an increase)

Dermatological and/or hypersensitivity reactions

- * rash
- * pruritus
- * urticaria
- * fever
- * arthralgia
- * alopecia

Other Medications

The FDA is aware that **children have died** after taking the drug **Adderall**, but cannot tell whether the rate is higher in these children than it is in the general population. 20 people taking the drug, including 12 children, had suddenly died between 1999 and 2003. Seven sudden deaths of children taking other ADHD stimulants including **Concerta**, sold by Johnson & Johnson and **Ritalin**, made by Novartis AG have been reported.



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Helping children
achieve their full
potential