

# PEDIATRIC NEUROLOGY BRIEFS

## A MONTHLY JOURNAL REVIEW

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### ATTENTION DEFICIT DISORDERS

#### **REDUCTION OF DRUG ABUSE IN ADOLESCENTS PREVIOUSLY TREATED WITH STIMULANTS FOR ADHD**

The effects of early stimulant medication on subsequent risk for cigarette smoking and substance use disorders (SUDs) were evaluated in a 5-year, case-controlled, follow-up study of adolescent girls with ADHD at the Pediatric Psychopharmacology Program, Massachusetts General Hospital, Boston, MA, and Department of Psychiatry, New York State University, Syracuse, NY. Of 114 ADHD subjects (mean age 16.2 years; range 10 to 24 years at follow-up), 94 were treated with stimulants. No differences in age, rates of conduct disorder, ethnicity (95% white), socioeconomic status, parental history of SUDs, or severity of ADHD were identified at follow-up among those exposed or unexposed to stimulants. Subjects with ADHD receiving stimulants were more likely to have parents with a history of ADHD.

Stimulant-exposed adolescents with ADHD were 73% less likely to be diagnosed with SUD compared with those unexposed. Stimulant exposure provided a significant protective effect on development of any SUD and cigarette smoking ( $P=0.001$ ), and this effect was maintained when controlling for conduct disorder. Furthermore, no increase in risk of class or severity of dependence was identified. Similarly, stimulant exposure had no significant effect on risk of alcohol abuse or alcohol dependence, and patients receiving prior therapy had a 72% lower risk and later onset of cigarette smoking. Age at onset or duration of stimulant therapy had no effect on risk of any SUD or cigarette smoking. In subjects who developed SUDs or started smoking, stimulant therapy had no effect on the duration of abuse. (Wilens TE, Adamson J, Monuteaux MC, et al. Effect of prior stimulant treatment for attention-deficit/hyperactivity disorder on subsequent risk for cigarette smoking and alcohol and drug use disorders in adolescents. *Arch Pediatr Adolesc Med* Oct 2008;162:916-921).

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COMMENT. If we start stimulant treatment, will it increase the risk of drug abuse in my child with ADHD at a later age? This is a common concern and question of parents faced with the prospect of long-term therapy with stimulants for ADHD in a child of school age. Studies have demonstrated that ADHD is a risk for SUDs (Wilens TE et al. *J Nerv Ment Dis* 1997;185:475-482). Since stimulants are potential drugs of abuse, the assumption follows that they may increase the risk of cigarette smoking and SUDs when used to treat ADHD. Opinions vary but most studies, including a meta-analysis, show no increase or even a protective effect against subsequent cigarette smoking or SUDs in adolescents and adults following early stimulant therapy for ADHD. (Wilens TE et al. *Pediatrics* 2003;111:179-185). The above group of investigators previously demonstrated a reduced risk for SUDs in adolescent boys who previously received stimulant therapy for ADHD (Biederman J, Wilens TE, et al. *Pediatrics* 1999;104:e20). The present study finds similar results in adolescent girls with ADHD who had received early stimulant treatment, even in those with comorbid conduct disorder. In addition to a reduction in risk of SUDs, cigarette smoking was also reduced, and risk of alcohol abuse or dependence was not increased. The results of this and similar studies should allay parental concerns about risk of later development of substance abuse in a child treated with stimulants for ADHD.

**“Around the clock” or “intermittent” stimulant therapy: Pros and Cons.** In the above study, “a life-time history of stimulant medication” was a criterion for selection of drug-exposed subjects. A continuous or intermittent dose regimen (with drug holidays) was not itemized. Opinions vary on the pros and cons of each method of treatment. Baron, David A, Temple University School of Medicine, at a recent Annual Chairs in Psychiatry Summit, favors “need to treat around the clock” “because the symptoms of the ‘disease’ are continuous.” (*NeuroPsychiatry Review* Oct 2008;9(10): courtesy of Millichap, Martin G, Dept Health and Human Services, Waukesha, WI). Many would characterize ADHD as a ‘syndrome’ or ‘symptom complex,’ not a disease, and justification is tenuous for “around the clock” drug treatment, with its attendant adverse effects. Further studies are needed, comparing long-term effectiveness and toxicity of ‘continuous’ and ‘intermittent’ therapy of ADHD.

## **CARDIOVASCULAR RISK SCREENING BEFORE STARTING STIMULANTS FOR ADHD IN CANADIAN PRACTICE**

Health Canada released a statement advising against stimulants in ADHD patients with cardiac disease in May 2006, after isolated reports of sudden death. The impact of this advisory on 1) physicians’ cardiovascular assessment of all children with ADHD before starting stimulant medications, and 2) on the treatment of children with potential or real cardiac disease was assessed by questionnaires mailed to noncardiologists and pediatric cardiologists in Canada from the Department of Pediatrics, IWK Health Centre, Dalhousie University, Halifax, Nova Scotia. Of a total of 2326 questionnaires distributed, 717 (31%) were returned. The proportion performing a full screen increased for both noncardiologists