

and (2) the rare condition of narcolepsy. Although adequate studies are not available, the usefulness of amphetamines for the treatment of obesity appears to have short-term value without a lasting effect on weight gain attained during adulthood. The use of amphetamines for cramming for examinations and improving athletic performance cannot be condoned.

The hyperkinetic syndrome is characterized by motor restlessness, short attention span, poor impulse control, learning difficulties, and emotional lability.² It affects an estimated 3% of grade school children,³ and apparently resolves spontaneously in most instances by puberty. Carefully selected patients respond favorably to long-term medication with d-amphetamine or methylphenidate in about 65% of patients.^{2,4} The mechanism of drug action is unknown, although certain inhibitory centers in the brain may be activated. Children responding to medication promptly and unequivocally exhibit increased attention span and control over spontaneous motor activity. Omission of a single dose may result in return of the hyperactivity. Also, academic and behavioral performance may become more productive because treatment may break the vicious cycle caused by the effects of the disturbing restless, impulsive behavior on the family and on the school situation.

In a 12-year follow-up study of 340 hyperkinetic patients,⁵ no major problems resulting from drug toxicity were found. Similarly, follow-up studies on patients treated during childhood give no indication of increased use of amphetamines or other drugs in later years.² In fact, there has been a lack of willful increase in dosage, presumably resulting from the lack of euphoric effect from amphetamine in these patients. A recent paper⁶ documents lesser weight gains in nine children on medication (d-amphetamine, 10 to 15 mg, or methylphenidate, 30 to 40 mg/day) for two years. Although there was a correlation between depression of weight gain with linear growth, further

studies will be needed to ascertain if adult height is compromised by long-term therapy.

Narcolepsy is a lifelong disorder characterized by excessive daytime sleep patterns (narcolepsy proper); in some patients it is accompanied by emotion-induced muscular weakness (cataplexy, 66%), sleep paralysis (20%), and presleep-hypnagogic hallucinations (30%). The exact incidence of this disease in the pediatric-aged population is unknown, although it is a rare condition. In a report from the Mayo Clinic,⁷ 400 narcoleptic patients were seen in a seven-year period. Sixty percent had onset of symptoms before the age of 15, although only 16 of the 400 requiring treatment were under age 15. d-Amphetamine and similar agents provide symptomatic relief of narcolepsy proper and a 50% reduction in cataplexy. The dosage required is in the low range (5 to 10 mg, two or three times a day), similar to that used for the hyperkinetic child. Caffeine is also effective, and the dose of d-amphetamine can be tapered if caffeine is coadministered; caffeine can be given in tablet form, as coffee, or as a cola beverage.

Amphetamines are popularly promoted for the treatment of obesity without proof of lasting benefit; therefore, their use in weight reduction programs cannot be endorsed. Regardless of initiating cause or causes, obesity results from caloric intake exceeding metabolic expenditure. The problem of obesity in childhood is important because 80% of these children become even more obese during childhood.⁸ The relatively few double-blind control studies in adolescents treated with various amphetamines and amphetamine-type drugs have shown that any beneficial effect on weight loss is generally evanescent, lasting four to eight weeks.⁹ Studies purporting to show beneficial effects are almost all of short duration. A familiar pattern is that weight loss occurs during the first few weeks of the trial; the patient then becomes refractory, an increase in dosage is necessary, and this increase causes side effects. No well con-