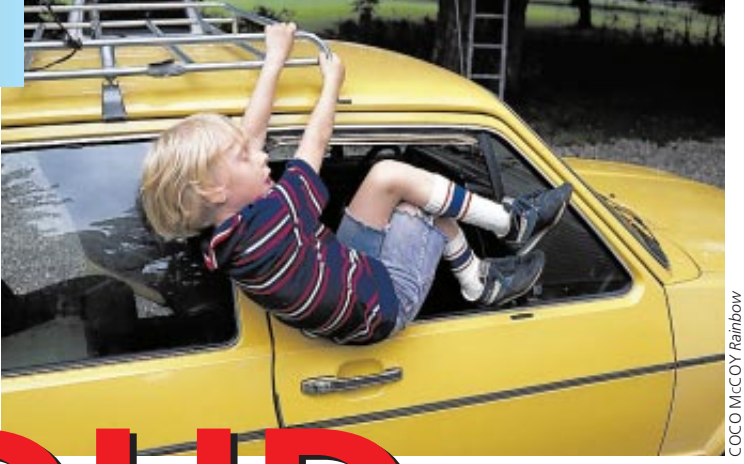

COCO McCOY *Rainbow*

Grappling with ADHD

by Tim Beardsley,
staff writer

Ritalin seems to help affected children in more

More than 1.5 million children in the U.S., 80 percent of them boys, are now medicated to treat attention-deficit hyperactivity disorder (ADHD). The number is growing rapidly. Girls account for about one third of all cases but are less likely to be treated, probably because they are less disruptive.

The alarm that many physicians and parent-advocacy groups feel about this mass medication is not hard to understand. The ultimate cause of the syndrome, which leads to distractibility and impulsivity, is entirely obscure. A prominent researcher, Russell A. Barkley of the University of Massachusetts Medical Center in Worcester, has identified the condition as a developmental failure in brain circuitry that governs inhibition and self-control [see his article "Attention-Deficit Hyperactivity Disorder," SCIENTIFIC AMERICAN, September 1998]. And ADHD often persists into adulthood. Yet although the affliction can be inherited, genetic studies suggest that it is an extreme form of common types of behavior rather than a clear-cut pathology. Rules for diagnosis exist, but physicians probably both overdiagnose and underdiagnose it because of differences in methods of evaluating patients.

The preferred treatment for ADHD has prompted particular anxiety. The drug most commonly used, Ritalin, is a mild stimulant, but others, such as Adderall and dextroamphetamine, are versions of amphetamine, a well-known drug of abuse. Use of stimulants to treat ADHD has increased eightfold in the past decade, and the drugs may be continued for as long as a patient shows symptoms, often for years. The trend has dismayed critics, such as Steven P. R. Rose of the Open University in the U.K.: he describes it as the "medicalization of everyday life." Between 3 and 13 percent of children in the U.S., who in times past would simply have been called ill behaved, inattentive or impulsive, are now diagnosed as victims of ADHD.

The scenario could look like mass child abuse: adults, confounded by the overexuberant behavior of some of their charges, medicate them to boost their academic performance and to make them easier to live with. Most parents initially show reluctance to ply their children with a psychoactive drug, and the raging public controversy has probably deterred many from resorting to Ritalin. A clutch of recent books may fan their fears by airing worries about the long-term effects of the drugs, which have not been thoroughly studied.

Yet spending time with an ADHD-affected child can leave a powerful impression that the youngster, not just the caregiver, carries a burden of troubles. Children with ADHD perform poorly in the classroom and have difficulty making friends. And those whose condition persists into the teen years seem to be at increased risk of abusing drugs and having automobile accidents, according to Rosemary Tannock of the Hospital for Sick Children in Toronto. (Children diagnosed with ADHD are also more likely than others to drop out of high school and to get into trouble with the law, but, Tannock notes, these consequences seem to stem from separate conduct disorders that are often, confusingly, present in children with ADHD.)

The known problems associated with ADHD start to make treatment sound more reasonable. Many conditions besides ADHD that are medically treated are just extreme forms of a common abnormality; hypertension is an example. And a range of studies leaves no doubt that at least in the short term, stimulants work. Medication allows the majority of ADHD children to complete tasks more effectively and to relate better with teachers, parents and other kids. It apparently does not boost long-term academic achievement, however.

Behavior management techniques, such as "time out" for everyone to cool down when things get heated and earning privileges for good behavior, may help somewhat at the time they are used. But a new study of the effects of 14 months of treatment, conducted under the auspices of the National Institute of Mental Health (NIMH), strongly supports drug therapy in conjunction with regular visits to a doctor as the therapy of choice, finding little benefit from behavioral techniques either alone or in combination with medication. Peter S. Jensen of the NIMH and others conducted the study at multiple sites. Other forms of treatment, including dietary supplements, restricted diets, psychotherapy, biofeedback and play therapy, have not shown any beneficial effect.

Stimulants also appear to be remarkably safe. At the therapeutic dosage, they rarely cause dependence, nor do they cause euphoria. Sixty years of experience with prescribing the drugs have revealed no obvious long-term side effects, points out Alan J. Zametkin of the NIMH. Moreover, a study by Jan Loney of the State University of New York at Stony Brook seems to quash a long-standing worry that Ritalin could push kids toward subsequent abuse of illegal drugs. An

earlier study had raised that alarming possibility, but its design was not able to distinguish adequately the effect of treatment with stimulants on illegal drug abuse from the effect of ADHD itself, according to Loney. Her study, in contrast, constituted a "natural experiment" that made the distinction clear. Boys in Iowa with behavior problems had been assigned, effectively at random, to see one of three physicians. Two prescribed stimulants for most cases of ADHD; the other almost never did. Loney's data indicate that treatment with prescription stimulants seems to reduce by a third the risk of drug abuse years after treatment has ended: 58 percent of those with ADHD who had not received stimulant treatment had some experience with illegal drugs, as compared with only 38 percent of those who had been treated. Timothy E. Wilens of Harvard Medical School likewise finds that treating childhood ADHD with stimulants reduces (by an impressive 68 percent) the subsequent risk of drug or alcohol dependence in adolescents. Wilens says he does not know whether the protective effect will persist.

In essence, the controversy over short-term effectiveness and safety of drug therapy for ADHD has drawn to a close. Drugs have won the day over any of the myriad alternatives proposed. Yet other controversies surrounding the condition and its treatment are unlikely to dissipate soon. Multiyear studies on the safety of stimulants are needed, notes John Heavener of Children and Adults with Attention Deficit/Hyperactivity Disorder, a patient-advocacy organization. And some doubters, such as Donald A. Berry of Duke University Medical Center, are still troubled by the possibility of unrecognized long-term side effects. Berry, who participated last year in a 13-member panel organized by the National Institutes of Health that issued a consensus statement on ADHD, says he was the lone member who resisted recommending the use of stimulants. Still, the lack of formal evaluations on long-term side effects is hardly unique to Ritalin and other stimulants.

The inconsistencies in ADHD diagnosis and treatment remain a problem, according to the draft report of the NIH consensus panel. Some practitioners do not use structured questionnaires that would provide a more definitive diagnosis but instead rely on parents' assessments to guide their decisions. Moreover, family practitioners are more likely to prescribe medication than psychiatrists or pediatricians are. "People have been slipshod sometimes about diagnosis," comments Virginia Douglas, a pioneer researcher at McGill University. "There is a tendency to start using [stimulants] whenever people have difficulties with a child." Drug therapy succeeds in inhibiting behavior but at the cost of sapping natural spontaneity. "It makes for a more regulatory style," Douglas says, "and makes carefree kids cautious." But she does endorse stimulant treatment with appropriate monitoring. And most physicians, parents and teachers contend that the opponents of stimulant treatment have no good arguments left. The drugs' clear benefits, Zametkin asserts, make hypothetical fears nothing more than "inflammatory" rhetoric.

ways than one, but doubts still persist about long-term effects

Another priority, the NIH consensus panel reports, is sorting out the links between ADHD and other coexisting conditions, including depression and oppositional-defiant disorder (basically, chronic disobedience). And there remains the possibility that as prescription stimulants are more widely used, more of them may be abused. But many families who confront the dilemmas of ADHD-induced unruliness and worry about possible consequences should take comfort that current therapies appear to be safe and to control symptoms. For some children, they may spell the difference between a measure of calm at school and at home and an existence of unrelenting chaos. SA

Diagnosing ADHD

Psychiatrists suspect attention-deficit hyperactivity disorder (ADHD) if the individual persistently displays six or more of the following symptoms of inattention or six or more symptoms of hyperactivity and impulsivity. The signs must occur often. (Adapted with permission from the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders.* ©1994 American Psychiatric Association.)

INATTENTION

- Fails to give close attention to details or makes careless mistakes in schoolwork, work or other activities
- Has difficulty sustaining attention in tasks or play activities
- Does not seem to listen when spoken to directly
- Does not follow through on instructions and fails to finish schoolwork, chores or duties in the workplace
- Has difficulty organizing tasks and activities
- Avoids, dislikes or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork)
- Loses things necessary for tasks or activities (such as toys, school assignments, pencils, books or tools)
- Is easily distracted by extraneous stimuli
- Is forgetful in daily activities

HYPERACTIVITY AND IMPULSIVITY

- Fidgets with hands or feet or squirms in seat
- Leaves seat in classroom or in other situations in which remaining seated is expected
- Runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, subjective feelings of restlessness)
- Has difficulty playing or engaging in leisure activities quietly
- Is "on the go" or acts as if "driven by a motor"
- Talks excessively
- Blurts out answers before questions have been completed
- Has difficulty awaiting turns
- Interrupts or intrudes on others