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Medicine; Hyperactivity, grown up; ADHD is most often thought of as a childhood disorder, but many adults must learn to cope with its distractions. Prescription drugs and to-do lists can help.

Judy Foreman

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Home Edition

LIKE many young mothers, Sophie Currier is a busy woman.

There's all the family stuff at the home she shares with her partner and their 7-month-old son. There's work -- a teaching assistantship for a biochemistry course at Harvard University. And there's school. After majoring in biology at the Massachusetts Institute of Technology, Currier got a doctorate in neuroscience from Harvard and is on track to earn her medical degree a year from now.

The striking thing is that Currier does all this not only with severe dyslexia -- she couldn't read until she was 8 -- but with ADHD, or attention-deficit hyperactivity disorder, as well.

Scientists used to think that ADHD, which is often accompanied by dyslexia, or problems with reading, was primarily a problem for children -- about 8% of American children, roughly 4.5 million, have been diagnosed with ADHD. Scientists also used to think that children would grow out of it.

But it's clear now, as more of those children become adults, that many (perhaps more than half of) children with ADHD do not grow out of it, which explains why so many adults -- currently about 8 million in the United States -- have the condition.

With researchers looking for the genes behind ADHD, it's also clear that it's a biological, inherited disorder. It is not, as had been once thought, "caused by bad parenting or weak character," said Dr. David W. Goodman, a psychiatrist and adult ADHD specialist at Johns Hopkins University School of Medicine, who also consults for companies that make ADHD drugs. "It is a neurological condition validated by medical research whose impairments can be reduced by effective treatment."

The sad part is that, unlike children whose teachers often spot the symptoms, many adults do not acknowledge the symptoms in themselves -- even when spouses, friends and co-workers try to tell them. That means that they often aren't diagnosed until their child is diagnosed, Goodman said.

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Marketing drugs to adults

Dr. Ned Hallowell, a psychiatrist in Sudbury, Mass., said drug companies have been marketing their products aggressively to adults as well as to children, "and there are people who are taking the medications who don't need them, but there are also others who take medication and say it changes their lives for the better."

There's no objective screen such as a blood test for ADHD, but psychiatrists have developed clear-cut criteria for determining when a person may have it.

Adults with ADHD live lives characterized by "unexplained underachievement," said Hallowell, who is the author, with Dr. John J. Ratey, of several books on ADHD, including "Driven to Distraction" and "Delivered From Distraction."

People with ADHD are chronically late, said Hallowell, who has ADHD himself. They're disorganized. They lose things. They can't pay attention. They manage money poorly. They can't understand why everybody's always mad at them.

"These people are a pain in the butt," said Hallowell. "But what I've learned in 25 years of treating them is that when you reframe this in a medical context, a life can turn around. They go on to become the kind of person they are meant to be."

Currier obviously appears to be a high achiever, but her days are punctuated by the things -- both small and big -- that she does to overcome her ADHD. She keeps lists of everything. She sets her clocks ahead so that she has a prayer of making it anywhere on time. She uses her PDA constantly to remind her of where she needs to be and what she needs to be doing.

"I am not a fact holder," the Brookline, Mass., resident said. "The biggest thing is distraction.... I have trouble starting a project, then I have a hard time stopping it."

Like many people with ADHD, Currier has family members with the disorder. Her father, Richard, a Cambridge, Mass., real estate broker, has it. (Family members think his father had it, too) as does her brother, Blake, a construction project manager in Wellesley and Framingham. Richard's wife, Barbara, puts up with it all. "I print out a list of what he has to do every day," she said one afternoon in their kitchen. They both laugh. "Then he loses it."

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A genetic risk

Family studies suggest that about three-quarters of the risk of developing ADHD is genetic, said Susan Smalley, a behavioral geneticist at the Semel Institute for Neuroscience and Human Behavior at UCLA.

Smalley's lab is searching among families with ADHD worldwide for the genes that predispose to ADHD. She has estimated that at least 20 to 30 genes are probably linked to ADHD, some of which are involved in the regulation of dopamine, a natural brain chemical that plays a role in attention.

Many studies suggest that people with ADHD have a wide variety of cognitive and behavioral difficulties. Some have trouble with "working memory," the ability to remember a phone number you were just told or where you just put your glasses.

Brain imaging studies suggest that people with ADHD also have less electrical activity in the prefrontal cortex, the area of the brain responsible for planning, organizing and prioritizing tasks. Studies also suggest that people with ADHD perceive the passage of time differently (perhaps accounting for their chronic lateness).

Some people with ADHD also have atypical patterns of brain activity as measured on EEGs (electroencephalographs), said Smalley. These abnormal patterns correspond with the trouble many people with ADHD have suppressing distracting information. For instance, they often do poorly on the Stroop test, in which a person has to name the color ink a word is printed in -- such as blue -- rather than read what the word actually says -- "green."

If you think you may have ADHD, there's much you can do.

First, don't resist the diagnosis. "People with ADHD are not good self-observers," said Hallowell. If your child has been diagnosed with ADHD and your spouse, friends, or co-workers suggest that you might too, take that seriously.

Then, consider medication. An estimated 80% of people with ADHD improve on medications, said Hallowell, who does not take money from drug companies.

The drugs most often used are stimulants called methylphenidates (Ritalin and Concerta) that boost dopamine levels or another class of stimulants called amphetamines (Adderall and Dexedrine) that boost dopamine and the brain hormone norepinephrine. A skin patch containing methylphenidates was approved in April.

A different kind of drug called Strattera also works by boosting norepinephrine. A pine-bark extract called **Pycnogenol** also may help, according to a study published May 13 in the online version of European Child and Adolescent Psychiatry.

But there are non-drug solutions too. Most important: Get help when you need it.

Sophie Currier made it through MIT -- brilliantly -- in part because the school paid other students to read books to her and share their class notes. By the time she was in graduate school, MIT provided computers that scanned books and read them aloud; she was also allowed extra time on exams.

You can also get "a life coach," said Hallowell -- not necessarily a trained mental health professional but someone who can help you get organized, make lists and check up to make sure you get things done.

Do the little things right -- like always putting your keys in a basket by the door. Find a good accountant to help with money matters. Post reminder signs around your house.

And, as Richard Currier put it, "Marry someone without ADHD."

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Symptoms of attention-deficit hyperactivity disorder

In diagnosing attention-deficit hyperactivity disorder, doctors use the following criteria:

- * There must be clear evidence of significant problems in social, academic or occupational functioning.
- * Some of the symptoms were present before age 7.
- * Some impairment from the symptoms is present in two or more settings, such as home and work.
- * The symptoms are not better accounted for by another mental disorder, such as a mood or anxiety disorder.
- * And, either exhibits six or more of the following symptoms of inattention for at least six months:

Often fails to give close attention to details or makes careless mistakes.

Often has difficulty sustaining attention.

Often does not seem to listen when spoken to directly.

Often does not follow through on instructions and fails to finish schoolwork, chores or work duties.

Often has difficulty organizing tasks and activities.

Often avoids tasks that require sustained mental effort.

Often loses important things.

Often is easily distracted.

Often is forgetful.

* Or, exhibits six or more of the following symptoms of hyperactivity or impulsivity for at least six months:

Often fidgets or squirms in seat.

Often leaves seat inappropriately.

Often feels restless.

Often has difficulty playing or engaging in leisure activities quietly.

Often acts as if "driven by a motor."

Often talks excessively.

Often blurts out answers before questions have been completed.

Often has difficulty awaiting turn.

Often butts into conversations or intrudes on others.