

E. Hallowell (2005) *Overloaded Circuits: Why Smart People Underperform*, Harvard Business Review.

David drums his fingers on his desk as he scans the e-mail on his computer screen. At the same time, he's talking on the phone to an executive halfway around the world. His knee bounces up and down like a jackhammer. He intermittently bites his lip and reaches for his constant companion, the coffee cup. He's so deeply involved in multitasking that he has forgotten the appointment his Outlook calendar reminded him of 15 minutes ago.

Jane, a senior vice president, and Mike, her CEO, have adjoining offices so they can communicate quickly, yet communication never seems to happen. "Whenever I go into Mike's office, his phone lights up, my cell phone goes off, someone knocks on the door, he suddenly turns to his screen and writes an e-mail, or he tells me about a new issue he wants me to address," Jane complains. "We're working flat out just to stay afloat, and we're not getting anything important accomplished. It's driving me crazy."

David, Jane, and Mike aren't crazy, but they're certainly crazed. Their experience is becoming the norm for overworked managers who suffer—like many of your colleagues, and possibly like you—from a very real but unrecognized neurological phenomenon that I call attention deficit trait, or ADT. Caused by brain overload, ADT is now epidemic in organizations. The core symptoms are distractibility, inner frenzy, and impatience. People with ADT have difficulty staying organized, setting priorities, and managing time. These symptoms can undermine the work of an otherwise gifted executive. If David, Jane, Mike, and the millions like them understood themselves in neurological terms, they could actively manage their lives instead of reacting to problems as they happen.

As a psychiatrist who has diagnosed and treated thousands of people over the past 25 years for a medical condition called attention deficit disorder, or ADD (now known clinically as attention-deficit/hyperactivity disorder), I have observed firsthand how a rapidly growing segment of the adult population is developing this new, related condition. The number of people with ADT coming into my clinical practice has mushroomed by a factor of ten in the past decade. Unfortunately, most of the remedies for chronic overload proposed by time-management consultants and executive coaches do not address the underlying causes of ADT.

Unlike ADD, a neurological disorder that has a genetic component and can be aggravated by environmental and physical factors, ADT springs entirely from the environment. Like the traffic jam, ADT is an artifact of modern life. It is brought on by the demands on our time and attention that have exploded over the past two decades. As our minds fill with noise—feckless synaptic events signifying nothing—the brain gradually loses its capacity to attend fully and thoroughly to

anything.

The symptoms of ADT come upon a person gradually. The sufferer doesn't experience a single crisis but rather a series of minor emergencies while he or she tries harder and harder to keep up. Shouldering a responsibility to "suck it up" and not complain as the workload increases, executives with ADT do whatever they can to handle a load they simply cannot manage as well as they'd like. The ADT sufferer therefore feels a constant low level of panic and guilt. Facing a tidal wave of tasks, the executive becomes increasingly hurried, curt, peremptory, and unfocused, while pretending that everything is fine.

To control ADT, we first have to recognize it. And control it we must, if we as individuals and organizational leaders are to be effective. In the following pages, I'll offer an analysis of the origins of ADT and provide some suggestions that may help you manage it.

Attention Deficit Cousins

To understand the nature and treatment of ADT, it's useful to know something of its cousin, ADD.

Usually seen as a learning disability in children, ADD also afflicts about 5% of the adult population. Researchers using MRI scans have found that people with ADD suffer a slightly diminished volume in four specific brain regions that have various functions such as modulating emotion (especially anger and frustration) and assisting in learning. One of the regions, made up of the frontal and prefrontal lobes, generates thoughts, makes decisions, sets priorities, and organizes activities. While the medications used to treat ADD don't change the anatomy of the brain, they alter brain chemistry, which in turn improves function in each of the four regions and so dramatically bolsters the performance of ADD sufferers.

ADD confers both disadvantages and advantages. The negative characteristics include a tendency to procrastinate and miss deadlines. People with ADD struggle with disorganization and tardiness; they can be forgetful and drift away mentally in the middle of a conversation or while reading. Their performance can be inconsistent: brilliant one moment and unsatisfactory the next. ADD sufferers also tend to demonstrate impatience and lose focus unless, oddly enough, they are under stress or handling multiple inputs. (This is because stress leads to the production of adrenaline, which is chemically similar to the medications we use to treat ADD.) Finally, people with ADD sometimes also self-medicate with excessive alcohol or other substances.

On the positive side, those with ADD usually possess rare talents and gifts. Those gifts often go unnoticed or undeveloped, however, because of the problems caused by the condition's negative symptoms. ADD sufferers can be remarkably creative and original. They are unusually persistent under certain circumstances and often possess an entrepreneurial flair. They display ingenuity

and encourage that trait in others. They tend to improvise well under pressure. Because they have the ability to field multiple inputs simultaneously, they can be strong leaders during times of change. They also tend to rebound quickly after setbacks and bring fresh energy to the company every day.

Executives with ADD typically achieve inconsistent results. Sometimes they fail miserably because they're disorganized and make mistakes. At other times, they perform brilliantly, offering original ideas and strategies that lead to performance at the highest level.

David Neeleman, the CEO of JetBlue Airways, has ADD. School was torture; unable to focus, he hated to study and procrastinated endlessly. "I felt like I should be out doing things, moving things along, but here I was, stuck studying statistics, which I knew had no application to my life," Neeleman told me. "I knew I had to have an education, but at the first opportunity to start a business, I just blew out of college." He climbed quickly in the corporate world, making use of his strengths—original thinking, high energy, an ability to draw out the best in people—and getting help with organization and time management.

Like most people with ADD, Neeleman could sometimes offend with his blunt words, but his ideas were good enough to change the airline industry. For example, he invented the electronic ticket. "When I proposed that idea, people laughed at me, saying no one would go to the airport without a paper ticket," he says. "Now everyone does, and it has saved the industry millions of dollars." It seems fitting that someone with ADD would invent a way around having to remember to bring a paper ticket. Neeleman believes ADD is one of the keys to his success. Far from regretting having it, he celebrates it. But he understands that he must manage his ADD carefully.

Attention deficit trait is characterized by ADD's negative symptoms. Rather than being rooted in genetics, however, ADT is purely a response to the hyperkinetic environment in which we live. Indeed, modern culture all but requires many of us to develop ADT. Never in history has the human brain been asked to track so many data points. Everywhere, people rely on their cell phones, e-mail, and digital assistants in the race to gather and transmit data, plans, and ideas faster and faster. One could argue that the chief value of the modern era is speed, which the novelist Milan Kundera described as "the form of ecstasy that technology has bestowed upon modern man." Addicted to speed, we demand it even when we can't possibly go faster. James Gleick wryly noted in *Faster: The Acceleration of Just About Everything* that the "close door" button in elevators is often the one with the paint worn off. As the human brain struggles to keep up, it falters and then falls into the world of ADT.

This Is Your Brain

While brain scans cannot display anatomical differences between people with "normal" brains and people suffering from ADT, studies have shown that as the



human brain is asked to process dizzying amounts of data, its ability to solve problems flexibly and creatively declines and the number of mistakes increases. To find out why, let's go on a brief neurological journey.

Blessed with the largest cortex in all of nature, owners of this trillion-celled organ today put singular pressure on the frontal and prefrontal lobes, which I'll refer to in this article as simply the frontal lobes. This region governs what is called, aptly enough, executive functioning (EF). EF guides decision making and planning; the organization and prioritization of information and ideas; time management; and various other sophisticated, uniquely human, managerial tasks. As long as our frontal lobes remain in charge, everything is fine.

Beneath the frontal lobes lie the parts of the brain devoted to survival. These deep centers govern basic functions like sleep, hunger, sexual desire, breathing, and heart rate, as well as crudely positive and negative emotions. When you are doing well and operating at peak level, the deep centers send up messages of excitement, satisfaction, and joy. They pump up your motivation, help you maintain attention, and don't interfere with working memory, the number of data points you can keep track of at once. But when you are confronted with the sixth decision after the fifth interruption in the midst of a search for the ninth missing piece of information on the day that the third deal has collapsed and the 12th impossible request has blipped unbidden across your computer screen, your brain begins to panic, reacting just as if that sixth decision were a bloodthirsty, man-eating tiger.

As a specialist in learning disabilities, I have found that the most dangerous disability is not any formally diagnosable condition like dyslexia or ADD. It is fear. Fear shifts us into survival mode and thus prevents fluid learning and nuanced understanding. Certainly, if a real tiger is about to attack you, survival is the mode you want to be in. But if you're trying to deal intelligently with a subtle task, survival mode is highly unpleasant and counterproductive.

When the frontal lobes approach capacity and we begin to fear that we can't keep up, the relationship between the higher and lower regions of the brain takes an ominous turn. Thousands of years of evolution have taught the higher brain not to ignore the lower brain's distress signals. In survival mode, the deep areas of the brain assume control and begin to direct the higher regions. As a result, the whole brain gets caught in a neurological catch-22. The deep regions interpret the messages of overload they receive from the frontal lobes in the same way they interpret everything: primitively. They furiously fire signals of fear, anxiety, impatience, irritability, anger, or panic. These alarm signals shanghai the attention of the frontal lobes, forcing them to forfeit much of their power. Because survival signals are irresistible, the frontal lobes get stuck sending messages back to the deep centers saying, "Message received. Trying to work on it but without success." These messages further perturb the deep centers, which send even more powerful messages of distress back up to the frontal lobes.

Meanwhile, in response to what's going on in the brain, the rest of the body—particularly the endocrine, respiratory, cardiovascular, musculoskeletal, and peripheral nervous systems—has shifted into crisis mode and changed its baseline physiology from peace and quiet to red alert. The brain and body are locked in a reverberating circuit while the frontal lobes lose their sophistication, as if vinegar were added to wine. In this state, EF reverts to simpleminded black-and-white thinking; perspective and shades of gray disappear. Intelligence dims. In a futile attempt to do more than is possible, the brain paradoxically reduces its ability to think clearly.

This neurological event occurs when a manager is desperately trying to deal with more input than he possibly can. In survival mode, the manager makes impulsive judgments, angrily rushing to bring closure to whatever matter is at hand. He feels compelled to get the problem under control immediately, to extinguish the perceived danger lest it destroy him. He is robbed of his flexibility, his sense of humor, his ability to deal with the unknown. He forgets the big picture and the goals and values he stands for. He loses his creativity and his ability to change plans. He desperately wants to kill the metaphorical tiger. At these moments he is prone to melting down, to throwing a tantrum, to blaming others, and to sabotaging himself. Or he may go in the opposite direction, falling into denial and total avoidance of the problems attacking him, only to be devoured. This is ADT at its worst.

In survival mode, the manager is robbed of his flexibility, his sense of humor, his ability to deal with the unknown. He desperately wants to kill the metaphorical tiger.

Though ADT does not always reach such extreme proportions, it does wreak havoc among harried workers. Because no two brains are alike, some people deal with the condition better than others. Regardless of how well executives appear to function, however, no one has total control over his or her executive functioning.

Managing ADT

Unfortunately, top management has so far viewed the symptoms of ADT through the distorting lens of morality or character. Employees who seem unable to keep up the pace are seen as deficient or weak. Consider the case of an executive who came to see me when he was completely overloaded. I suggested he talk the situation over with his superior and ask for help. When my client did so, he was told that if he couldn't handle the work, he ought to think about resigning. Even though his performance assessments were stellar and he'd earned praise for being one of the most creative people in the organization, he was allowed to leave. Because the firm sought to preserve the myth that no straw would ever break its people's backs, it could not tolerate the manager's stating that his back was breaking. After he went out on his own, he flourished.



How can we control the rampaging effects of ADT, both in ourselves and in our organizations? While ADD often requires medication, the treatment of ADT certainly does not. ADT can be controlled only by creatively engineering one's environment and one's emotional and physical health. I have found that the following preventive measures go a long way toward helping executives control their symptoms of ADT.

Promote positive emotions.

The most important step in controlling ADT is not to buy a superturbocharged BlackBerry and fill it up with to-dos but rather to create an environment in which the brain can function at its best. This means building a positive, fear-free emotional atmosphere, because emotion is the on/off switch for executive functioning.

The most important step in controlling ADT is to create an environment in which the brain can function at its best.

There are neurological reasons why ADT occurs less in environments where people are in physical contact and where they trust and respect one another. When you comfortably connect with a colleague, even if you are dealing with an overwhelming problem, the deep centers of the brain send messages through the pleasure center to the area that assigns resources to the frontal lobes. Even when you're under extreme stress, this sense of human connection causes executive functioning to hum.

By contrast, people who work in physical isolation are more likely to suffer from ADT, for the more isolated we are, the more stressed we become. I witnessed a dramatic example of the danger of a disconnected environment and the healing power of a connected one when I consulted for one of the world's foremost university chemistry departments. In the department's formerly hard-driven culture, ADT was rampant, exacerbated by an ethic that forbade anyone to ask for help or even state that anything was wrong. People did not trust one another; they worked on projects alone, which led to more mistrust. Most people were in emotional pain, but implicit in the department's culture was the notion that great pain led to great gain.

In the late 1990s, one of the department's most gifted graduate students killed himself. His suicide note explicitly blamed the university for pushing him past his limit. The department's culture was literally lethal.

Instead of trying to sweep the tragedy under the rug, the chair of the department and his successor acted boldly and creatively. They immediately changed the structure of the supervisory system so that each graduate student and postdoc was assigned three supervisors, rather than a single one with a death grip on the trainee's career. The department set up informal biweekly buffets that allowed people to connect. (Even the most reclusive chemist came out of hiding for food,



one of life's great connectors.) The department heads went as far as changing the architecture of the department's main building, taking down walls and adding common areas and an espresso bar complete with a grand piano. They provided lectures and written information to all students about the danger signs of mental wear and tear and offered confidential procedures for students who needed help. These steps, along with regular meetings that included senior faculty and university administrators, led to a more humane, productive culture in which the students and faculty felt fully engaged. The department's performance remained first-rate, and creative research blossomed.

The bottom line is this: Fostering connections and reducing fear promote brainpower. When you make time at least every four to six hours for a "human moment," a face-to-face exchange with a person you like, you are giving your brain what it needs.

Take physical care of your brain.

Sleep, a good diet, and exercise are critical for staving off ADT. Though this sounds like a no-brainer, too many of us abuse our brains by neglecting obvious principles of care.

You may try to cope with ADT by sleeping less, in the vain hope that you can get more done. This is the opposite of what you need to do, for ADT sets in when you don't get enough sleep. There is ample documentation to suggest that sleep deprivation engenders a host of problems, from impaired decision-making and reduced creativity to reckless behavior and paranoia. We vary in how much sleep we require; a good rule of thumb is that you're getting enough sleep if you can wake up without an alarm clock.

Diet also plays a crucial role in brain health. Many hardworking people habitually inhale carbohydrates, which cause blood glucose levels to yo-yo. This leads to a vicious cycle: Rapid fluctuations in insulin levels further increase the craving for carbohydrates. The brain, which relies on glucose for energy, is left either glutted or gasping, neither of which makes for optimal cognitive functioning.

The brain does much better if the blood glucose level can be held relatively stable. To do this, avoid simple carbohydrates containing sugar and white flour (pastries, white bread, and pasta, for example). Rely on the complex carbohydrates found in fruits, whole grains, and vegetables. Protein is important: Instead of starting your day with coffee and a Danish, try tea and an egg or a piece of smoked salmon on wheat toast. Take a multivitamin every day as well as supplementary omega-3 fatty acids, an excellent source of which is fish oil. The omega-3s and the E and B complex contained in multivitamins promote healthy brain function and may even stave off Alzheimer's disease and inflammatory ills (which can be the starting point for major killers like heart disease, stroke, diabetes, and cancer). Moderate your intake of alcohol, too, because too much kills brain cells and accelerates the development of memory



loss and even dementia. As you change your diet to promote optimal brain function and good general health, your body will also shed excess pounds.

If you think you can't afford the time to exercise, think again. Sitting at a desk for hours on end decreases mental acuity, not only because of reduced blood flow to the brain but for other biochemical reasons as well. Physical exercise induces the body to produce an array of chemicals that the brain loves, including endorphins, serotonin, dopamine, epinephrine, and norepinephrine, as well as two recently discovered compounds, brain-derived neurotrophic factor (BDNF) and nerve growth factor (NGF). Both BDNF and NGF promote cell health and development in the brain, stave off the ravages of aging and stress, and keep the brain in tip-top condition. Nothing stimulates the production of BDNF and NGF as robustly as physical exercise, which explains why those who exercise regularly talk about the letdown and sluggishness they experience if they miss their exercise for a few days. You will more than compensate for the time you invest on the treadmill with improved productivity and efficiency. To fend off the symptoms of ADT while you're at work, get up from your desk and go up and down a flight of stairs a few times or walk briskly down a hallway. These quick, simple efforts will push your brain's reset button.

Organize for ADT.

It's important to develop tactics for getting organized, but not in the sense of empty New Year's resolutions. Rather, your goal is to order your work in a way that suits you, so that disorganization does not keep you from reaching your goals.

First, devise strategies to help your frontal lobes stay in control. These might include breaking down large tasks into smaller ones and keeping a section of your workspace or desk clear at all times. (You do not need to have a neat office, just a neat section of your office.) Similarly, you might try keeping a portion of your day free of appointments, e-mail, and other distractions so that you have time to think and plan. Because e-mail is a wonderful way to procrastinate and set yourself up for ADT at the same time, you might consider holding specific "e-mail hours," since it isn't necessary to reply to every e-mail, right away.

When you start your day, don't allow yourself to get sucked into vortices of e-mail or voice mail or into attending to minor tasks that eat up your time but don't pack a punch. Attend to a critical task instead. Before you leave for the day, make a list of no more than five priority items that will require your attention tomorrow. Short lists force you to prioritize and complete your tasks. Additionally, keep torrents of documents at bay. One of my patients, an executive with ADD, uses the OHIO rule: Only handle it once. If he touches a document, he acts on it, files it, or throws it away. "I don't put it in a pile," he says. "Piles are like weeds. If you let them grow, they take over everything."

Pay attention to the times of day when you feel that you perform at your best; do

your most important work then and save the rote work for other times. Set up your office in a way that helps mental functioning. If you focus better with music, have music (if need be, use earphones). If you think best on your feet, work standing up or walk around frequently. If doodling or drumming your fingers helps, figure out a way to do so without bothering anyone, or get a fidget toy to bring to meetings. These small strategies sound mundane, but they address the ADT devil that resides in distracting details.

Protect your frontal lobes.

To stay out of survival mode and keep your lower brain from usurping control, slow down. Take the time you need to comprehend what is going on, to listen, to ask questions, and to digest what's been said so that you don't get confused and send your brain into panic. Empower an assistant to ride herd on you; insist that he or she tell you to stop e-mailing, get off the telephone, or leave the office.

If you do begin to feel overwhelmed, try the following mind-clearing tricks. Do an easy rote task, such as resetting the calendar on your watch or writing a memo on a neutral topic. If you feel anxious about beginning a project, pull out a sheet of paper or fire up your word processor and write a paragraph about something unrelated to the project (a description of your house, your car, your shoes—anything you know well). You can also tackle the easiest part of the task; for example, write just the title of a memo about it. Open a dictionary and read a few definitions, or spend five minutes doing a crossword puzzle. Each of these little tasks quiets your lower brain by tricking it into shutting off alarmist messages and puts your

Finally, be ready for the next attack of ADT by posting the sidebar “Control Your ADT” near your desk where you can see it. Knowing that you are prepared diminishes the likelihood of an attack, because you're not susceptible to panic.

Control Your ADT

In General

- >> Get adequate sleep.
- >> Watch what you eat. Avoid simple, sugary carbohydrates, moderate your intake of alcohol, add protein, stick to complex carbohydrates (vegetables, whole grains, fruit).
- >> Exercise at least 30 minutes at least every other day.
- >> Take a daily multivitamin and an omega-3 fatty acid supplement.

At Work

- >> Do all you can to create a trusting, connected work environment.
- >> Have a friendly, face-to-face talk with a person you like every four to six hours.
- >> Break large tasks into smaller ones.
- >> Keep a section of your work space or desk clear at all times.
- >> Each day, reserve some “think time” that’s free from appointments, e-mail, and phone calls.
- >> Set aside e-mail until you’ve completed at least one or two more important tasks.
- >> Before you leave work each day, create a short list of three to five items you will attend to the next day.
- >> Try to act on, file, or toss every document you touch.
- >> Don’t let papers accumulate.
- >> Pay attention to the times of day when you feel that you are at your best; do your most important work then, and save the rote work for other times.
- >> Do whatever you need to do to work in a more focused way: Add background music, walk around, and so on.
- >> Ask a colleague or an assistant to help you stop talking on the telephone, e-mailing, or working too late.

When You Feel Overwhelmed

- >> Slow down.
- >> Do an easy rote task: Reset your watch, write a note about a neutral topic (such as a description of your house), read a few dictionary definitions, do a short crossword puzzle.
- >> Move around: Go up and down a flight of stairs or walk briskly.
- >> Ask for help, delegate a task, or brainstorm with a colleague. In short, do not worry alone.

Control Your ADT

What Leaders Can Do

All too often, companies induce and exacerbate ADT in their employees by demanding fast thinking rather than deep thinking. Firms also ask employees to work on multiple overlapping projects and initiatives, resulting in second-rate thinking. Worse, companies that ask their employees to do too much at once tend to reward those who say yes to overload while punishing those who choose to focus and say no.

Moreover, organizations make the mistake of forcing their employees to do more and more with less and less by eliminating support staff. Such companies end up losing money in the long run, for the more time a manager has to spend being his own administrative assistant and the less he is able to delegate, the less effective he will be in doing the important work of moving the organization forward. Additionally, firms that ignore the symptoms of ADT in their employees suffer its ill effects: Employees underachieve, create clutter, cut corners, make careless mistakes, and squander their brainpower. As demands continue to increase, a toxic, high-pressure environment leads to high rates of employee illness and turnover.

To counteract ADT and harness employee brainpower, firms should invest in amenities that contribute to a positive atmosphere. One company that has done an excellent job in this regard is SAS Institute, a major software company in North Carolina. The company famously offers its employees a long list of perks: a 36,000-square-foot, on-site gym; a seven-hour workday that ends at 5 PM; the largest on-site day care facility in North Carolina; a cafeteria that provides baby seats and high chairs so parents can eat lunch with their children; unlimited sick days; and much more. The atmosphere at SAS is warm, connected, and relaxed. The effect on the bottom line is profoundly positive; turnover is never higher than 5%. The company saves the millions other software companies spend on recruiting, training, and severance (estimated to be at least 1.5 times salary in the software industry). Employees return the favors with high productivity. The forces of ADT that shred other organizations never gain momentum at SAS.



Leaders can also help prevent ADT by matching employees' skills to tasks. When managers assign goals that stretch people too far or ask workers to focus on what they're not good at rather than what they do well, stress rises. By contrast, managers who understand the dangers of ADT can find ways of keeping themselves and their organizations on track.

Neeleman, for example, has shamelessly and publicly identified what he is not good at and found ways to deal with his shortcomings, either by delegating or by empowering his assistant to direct him. Neeleman also models this behavior for everyone else in the organization. His openness about the challenges of his ADD gives others permission to speak about their own attention deficit difficulties and to garner the support they need. He also encourages his managers to match people with tasks that fit their cognitive and emotional styles, knowing that no one style is best. Neeleman believes that helping people work to their strengths is not just a mark of sophisticated management; it's also an excellent way to boost worker productivity and morale.

ADT is a very real threat to all of us. If we do not manage it, it manages us. But an understanding of ADT and its ravages allows us to apply practical methods to improve our work and our lives. In the end, the most critical step an enlightened leader can take to address the problem of ADT is to name it. Bringing ADT out of the closet and describing its symptoms removes the stigma and eliminates the moral condemnation companies have for so long mistakenly leveled at overburdened employees. By giving people permission to ask for help and remaining vigilant for signs of stress, organizations will go a long way toward fostering more productive, well-balanced, and intelligent work environments.

A version of this article appeared in the January 2005 issue of Harvard Business Review.
