IS STRESS NOW A VALID PSYCHIATRIC DISEASE?

The varied responses to last month’s Newsletter discussing the accuracy of diagnosis and the efficacy of treatment of Post Traumatic Stress Disorder predicaments have raised some important issues. Many questioned the legitimacy of stress as a psychiatric disease to explain or justify murder and other violent crimes in lawsuits. Should severe PMS or PTSD be accorded the same status as a "temporary insanity" defense diagnosis?

Some critics argued that suffering from severe stress should not be considered as proof of any real psychopathology, even in patients with sustained or recurrent complaints. Others also feel that a psychiatric diagnosis does not guarantee that the patient has a bona fide disease. This seems particularly true in PTSD, PMS and other stressful states, where the diagnosis is primarily based on self-report and there are no supportive or measurable objective criteria. Fraud is not uncommon, especially when there is potential for significant financial gain.

Everyone agrees that combat veterans or others with proof of significant service-connected mental or emotional disability should be compensated, regardless of what is it called. With respect to civilians, the diagnosis of
PTSD was originally designated as applying **only to unusually stressful experiences that people would not expect to encounter on a frequent or daily basis.** The problem is that it has now come to be associated with a growing list of relatively commonplace events, such as accidents, muggings, a difficult labor (with a healthy baby), verbal sexual harassment, or stress from receiving inaccurate bad news from a doctor, even when the incorrect diagnosis is fairly rapidly rescinded. The workplace is increasingly being portrayed as a source of PTSD for many who are just doing their normal duties, including: paramedics attending to automobile accidents, police and fire personnel responding to disasters, and even employees involved in what would normally be described as a fairly routine dispute with management. Many of these are now seeking compensation for post traumatic stress, and/or for not having been offered counseling. It is estimated that there are currently **close to 8 million PTSD civilian survivors of rape, physical assault, car crashes, fires, floods, hurricanes and earthquakes.**

As noted in the last Newsletter, a recent survey of 11,000 residents who lived near the World Trade Center at the time of the 9/11 tragedy, found that one in eight had PTSD symptoms that now also make them eligible for compensation. This is higher than reported in workers actively involved in direct rescue and recovery activities. Several hundred individuals have been arrested for receiving millions of dollars from fraudulent 9/11 claims and this is undoubtedly just the tip of an iceberg. Our standards for diagnosing PTSD have also spread to other countries. According to a report in the *British Medical Journal*, a survey of doctors involved in treating over 200 survivors of a 1998 car bombing in Northern Ireland, concluded that 25 percent were now suffering from PTSD. With respect to military casualties, a recent independent study by the RAND Corporation reported that some 300,000 Iraq and Afghanistan veterans qualify for what is now the diagnosis *de jour*. The study also found that "Among those who met the diagnostic criteria for PTSD or major depression, only half had seen a physician or mental health provider to seek help for a mental health problem in the past 12 months." That's not surprising, since none of the numerous and varied treatment approaches being offered have been shown to be consistently effective.

The bottom line is that PTSD has become an extremely expensive and contentious diagnosis because it is difficult to prove and even harder to cure. The controversy over what should done to resolve these problems has polarized the public, veterans groups, legislators and other government officials into factions with sharply opposing suggestions and views. Last year's report from the Veterans Disability Commission is the first comprehensive review of veterans' disability benefits in more than a half century. This massive document, which took over two years to complete, recommends an immediate increase in compensation levels that could be as
much as 25 percent for some. It also proposes that all disabled veterans be made eligible for "concurrent receipt" of both disability pay and an annuity based on years spent in service. The President's Commission on Care for America's Returning Wounded Warriors has also asked Congress to provide lifetime TRICARE coverage for anyone discharged as "unfit" due to a service-connected mental or physical health condition. TRICARE is a managed health care program for active duty and retired members of the uniformed services, their families, and survivors. If enacted into law, it would provide permanent military health care to as many as 10,000 new veterans every year, plus their families. The total price tag for these proposals is difficult to predict, but everyone agrees it would be astronomical.

This comes at a time when PTSD spending by the Veterans Administration has been seriously questioned by Congress and severely criticized by veterans groups. In some instances, PTSD has become a convenient wastebasket diagnosis due to the overlap with depression and anxiety disorders, and in others it can be difficult to detect fraud. As previously noted, one study found that almost 80 percent of depressed people had symptoms that qualified them as having post traumatic stress disorder even though they could not name a single trauma that could have caused them. VA employees are concerned by the overload of PTSD cases from compensation-seeking veterans they have to evaluate and treat. Some dispute the diagnosis and suggest that a different designation would be preferable for many. A psychologist who coordinates such activities sent an e-mail to her staff stating "I'd like to suggest that you refrain from giving a diagnosis of PTSD straight out . . . . We really don't have time to do the extensive testing that should be done to determine PTSD." She suggested that "adjustment disorder" might be more appropriate for many since the treatment is so similar. Veterans have long claimed that the VA downgrades disabilities to save money and at least one such PTSD suit has been filed.

**When Post Traumatic Stress Disorder Goes To Court**

If diagnosing PTSD is a problem for psychiatrists and psychologists, consider how perplexing it must be for judges and juries. This is especially true since there are so many "expert consultants" with conflicting opinions that can testify for either side. Several years ago, I was consulted by a widow who was appealing the rejection of a claim that her husband's service-connected PTSD had contributed to his sudden death from a heart attack. There was no prior history of heart disease or any preponderance of putative risk factors and the sequence of events appeared to justify her objection to this ruling. I submitted an affidavit explaining how stress could cause a heart attack and why stress was the leading cause of sudden death. However, her appeal was denied because VA consultants emphasized that there were no published scientific studies showing that PTSD could cause heart attacks.
I was reminded of this by a report in the current issue of *Psychosomatic Medicine* that might have provided the support she needed. It was a prospective study of 4,328 male Vietnam veterans with no history, signs or symptoms of coronary heart disease at baseline studies done in 1985. In addition to evaluating PTSD by the standard DSM-III criteria and another scale, confounding factors such as family history, age, race, intelligence, obesity, smoking, alcohol abuse, depression and hostility were taken into consideration to determine if any of these predicted death from heart disease at follow-up on December 31, 2000. The only statistically significant association with premature death from heart disease was a diagnosis of PTSD. **Veterans with PTSD were twice as likely to die from heart disease as controls and the more severe the diagnosis, the greater the risk.** In an interview, the author said that having PTSD could be equated with smoking two or three packs of cigarettes a day for more than 20 years. The article cited a study of former prisoners of war showing that those with PTSD were at increased risk of cardiovascular disease. In addition, a retrospective analysis of U.S. Civil War veterans had also found a correlation between greater exposure to battle trauma and an increase in subsequent cardiovascular complaints.

Compensation for service-connected disabilities has been hindered by an 1866 law prohibiting Civil War veterans from obtaining legal assistance in filing initial benefit claims. Lawyers during that era were often self-trained and many were considered unscrupulous. The law stipulated that veterans could not hire a lawyer until the administrative claims process had been exhausted, and even then, could pay them no more than ten dollars. As a result, World Wars, Korean and Vietnam veterans could only get help in filing claims through service organizations such as the Veterans of Foreign Wars and Disabled American Veterans, or from lawyers taking the cases pro bono. In contrast, if you file for disability benefits from the Social Security Administration, an attorney can represent you from the very beginning. The Veterans Administration only permits this following the first final decision from their Board of Appeals. As a result, disabled veterans may not be able to hire a lawyer for years since the appeal process is so slow.

This delay has been getting progressively longer due to the increasing backlog of well over 300,000 cases. For example, a Vietnam veteran patrolling a demilitarized zone had to lug a 40-pound pack on his back in temperatures ranging from 20 below zero to well over 100 degrees. He developed an intermittent pain in his left knee that radiated to his thigh and groin, but nothing abnormal was found and he was discharged in 1969. He then went to work for the Post Office but recurrent attacks of the stabbing pain became more frequent and so excruciating that his leg would collapse and cause him to fall. VA doctors could again find nothing wrong and knee X
rays were normal. Had they been more thorough, they might have discovered that his symptoms were due to degenerative arthritis of the left hip that caused referred pain to the knee and groin. A private doctor who made this diagnosis in 1989 testified that it was service-connected and had been aggravated by the heavy load he constantly carried while on patrol. Although the law states that symptoms arising during service and continuing after discharge are compensable, he has been battling for disability benefits that now total over $300,000 since 1997. The VA has denied his claim three times, claiming that some of his military records are missing, and that his arthritis is not service-connected because he never complained of hip pain. The case is still on appeal, with no clue as to when a decision will be made.

Who Determines If Stress Is Disabling And The Amount Of Compensation?
That's not surprising, since, according to Craig Kabatchnick, the senior appellate attorney for the VA's Office of General Counsel from 1990-95, "Our job was to deny claims. We celebrated beating veterans, especially those representing themselves." He indicated that while there was no official policy, ranking attorneys instructed their staff to fight and deny cases—even though the law mandated that they give veterans the benefit of the doubt. Lawyers were under tremendous pressure to process claims because of the high turnover of rating officers, the need to train new ones and the large number of frivolous claims. Ratings officers rely on a 182-page book to determine if a claim should be granted and what the monthly payment should be, based on the percentage of disability that could range from zero to one hundred. According to Kabatchnick, "They get a stack of cases every day and are told to adjudicate them, even if a file is thousands of pages thick. And it's easier to deny than grant. You have to present evidence to grant, but for denial you can just write 'insufficient evidence.'" If a claim is denied, veterans receive a letter explaining why and they can appeal it. Appeal decisions take at least a year to be received and, "More often than not, it's denial."

In an attempt to improve things, Congress finally passed legislation last year to correct these 142 year-old restrictions on obtaining legal assistance. This new law changes the way veteran’s disability cases are handled and by whom. It now allows hiring a lawyer as soon as a veteran disagrees with a decision denying benefits or if the benefits are deemed inadequate. Kabatchnick and others who previously worked for the VA, or are familiar with the process, are now representing veterans, and since attorneys' fees can now be up to 20 percent of past due benefits instead of $10.00, a new industry specializing in this has sprung up, such as www.ptsdlawyers.com Critics claim that many are "merely trolling for profits, eyeing the thousands of future Iraq and Afghanistan war veterans who will apply for benefits." As
one complained, "The problem with attorneys is greed gets in the way. Vets need the money and this is a particular problem with homeless vets."

But the new law also empowered the Department of Veterans Affairs to insure that lawyers and others had the correct qualifications to represent veterans before accrediting them. This has stirred up a hornet's nest since the VA has interpreted this provision to mean that they could make lawyers sit for a written test to prove that they understood the procedures for handling benefit claims for vets. They point out that to be a certified attorney in Social Security Disability, a lawyer must pass an exam dealing with this in addition to having certain qualifications. On the other hand, a lawyer does not need this certification to represent someone for a Social Security claim, so why should an exam be required for lawyers to pursue VA claims? This controversy is likely to continue and few are optimistic that this new law will significantly speed things up or reduce the backlog. Indeed, many feel that the situation will worsen due to an increase in suits being filed and repeatedly appealed by eager lawyers who know all the loopholes.

The Diagnostic and Statistical Manual of Mental Disorders (DSM) is the official listing of all mental diseases recognized by the American Psychiatric Association, and has enormous power. Now in its fourth major revision, it has become the bible for determining reimbursement for any psychiatric disorder by insurance companies and other fiscal intermediaries and is mandatory for all mental health professionals. DSM-IV is also utilized by courts to help determine insanity, as well as schools, prisons, social service agencies and governments to determine mental fitness. As emphasized in a previous Newsletter detailing its evolution, its accuracy and value, DSM-IV has been severely criticized, especially with respect to the arbitrary distinction between acute stress disorder and post traumatic stress disorder.

The diagnosis of PTSD is based as much on sociopolitical views as psychiatric criteria and it is unlikely that DSM-V will clarify things or prevent this from again being labeled "The Dictionary of Disorder." That's not just my opinion since it is reflected in a recent editorial by three distinguished psychiatrists that were largely responsible for DSM-III and DSM-IV. They are concerned about the future of this wastebasket diagnosis, which now includes "virtually anyone suffering an unpleasant experience of which they have disagreeable memories." They are particularly critical of the lack of specificity in its cause as well as criteria to justify it as a distinct clinical syndrome because of the significant overlap with depression and phobias. As they concluded, "Defining PTSD criteria in DSM-V so that they reflect current findings, while limiting the construct’s susceptibility to misuse, expansion and reification, will be a difficult challenge."
Describing this goal as a "difficult challenge" is putting it mildly. There is no solution in sight that will satisfy various veterans groups, governmental agencies, and psychiatrists who want to develop a diagnosis that will prevent fraud. Stay tuned for any updates on this costly and perplexing problem.

**Stress, Insomnia, Nocturia And Heart Attacks**

Difficulty falling asleep, waking up frequently, and having distressing dreams or nightmares, are common in PTSD. As has also been emphasized in previous Newsletters, stress is the leading cause of insomnia and insomnia is a frequent source of stress. Both are associated with an increased incidence of heart attacks and heart disease can cause sleep disturbances as well as stress. These intricate interrelationships can lead to a vicious repetitive and self-perpetuating cycle in some individuals. Most studies demonstrating this have been limited to men but women also suffer. When Harvard researchers followed 122,000 women for over ten years, they found that those who slept five or less hours a night were 82 percent more likely to have a heart attack compared to controls who slept eight or more hours. Even women who got at least six hours of sleep nightly had a 30 percent increase in heart attacks.

The increased incidence of heart disease and hypertension seen in workers with second and third shift jobs has also been attributed to decreased and disturbed sleep. Just five successive nights of sleep deprivation can impair cardiac function. In one study, 40 healthy volunteers were evaluated after one night of getting at least eight hours of sleep and again after five night of only four hours of shut-eye. All subjects had much faster heart rates following the sleep deprivation nights, but more importantly, they showed a progressive drop in HRV (heart rate variability). HRV is the most accurate and objective way to assess stress levels because it measures miniscule beat-to-beat changes that normally occur during respiration that reflect the body's ability to automatically adapt to these changes. Sleep deprivation lowers HRV and diminished HRV is a significant risk factor for heart attacks and a powerful predictor of sudden death in humans and animals.

Heart attack patients often report having experienced insomnia in the period immediately prior to the event. Rapid eye movement (REM) sleep, which is associated with dreaming, is most frequent in the period immediately before waking up in the morning. It is accompanied by a rise in sympathetic nervous system activity and the secretion of stress related hormones like cortisol and adrenaline that increase blood pressure, heart rate, platelet clumping and clot formation. This is why most heart attacks and strokes occur in the morning shortly after waking up, and especially on Mondays. In one study, heart attack risk was 20 percent greater for men and 15 percent higher for women on Mondays. This is attributed to the added stress of returning to a hectic workweek after two days of relative relaxation. Cortisol
levels are generally high immediately upon waking, increase over the next hour or two, and fall to much lower values at bedtime. Stress can alter this normal healthy pattern in several ways. One study showed that when older adults went to bed feeling lonely, sad or overwhelmed, they had much higher levels of cortisol than normal shortly after waking the next morning. Lack of sleep may also contribute to coronary disease by promoting free radical production and inflammation. Levels of C-reactive protein (CRP), a marker of inflammation that predicts coronary events more accurately than cholesterol, are significantly higher following sleep deprivation.

One of the most common causes of sleep deprivation is nocturia, the need to get up several times a night to urinate. Adults normally void about four to six times a day but healthy individuals can usually sleep eight hours or more without having to wake up to visit the bathroom. Prostate enlargement, diabetes, heart failure, urinary tract infections and other diseases can cause nocturia, but in many instances, it is simply a normal manifestation of aging. The urge to urinate results from a complex combination of influences. When its muscles are relaxed, the bladder is soft and stretchy and the feeling that it had to be emptied doesn't even begin until it is three-quarters full. As the bladder gets fuller, it sends nerve impulses to signal the need to void but the brain is able to suppress this urge until it is more convenient or the bladder becomes totally full and distended. The bladder tends to get smaller, stiffer and more sensitive with advancing age, so signals to empty it may be sent much sooner. In addition, senior citizens may not be able to fully empty the bladder unless they make several attempts or wait for long periods to complete the process, so less urine is needed to send a subsequent signal.

When people get up at night to urinate they usually assume that it is due to a full bladder. However, elderly people tend to be lighter sleepers and may sense the urge to void when their bladder is less than half full. When researchers monitored 80 patients with suspected sleep disorders, they recorded an average of one-and-a half episodes of urination per night. Although most patients claimed they were awakened by the urge to void, a review of the data documented that disturbed sleep was actually responsible for four out of five of these premature awakenings. Nocturia can be due to drinking more fluids or taking diuretic drugs late in the day and since alcohol and caffeine are diuretics, cocktails and wines with dinner or espresso with dessert can also contribute. But even without coffee, alcohol, medications, or lots of liquids, elderly people often produce excessive amounts of urine while sleeping. Most don't understand why they can get away with going once or twice during the day but have to get up several times after midnight.

One reason may be that they produce less of an antidiuretic hormone made in the posterior pituitary gland called vasopressin. Vasopressin causes the
kidneys to reabsorb water, which results in a smaller output of urine that is more concentrated. Diabetes insipidus is a disease due to lack of vasopressin in which copious amounts of very dilute pale urine are constantly produced. Despite restricting fluid intake, urine output can exceed over a gallon a day. Infants and young children also produce urine at a steady rate night and day, which is why they wet themselves while sleeping but are often oblivious to this because it is normal. After the age of 6, things change as more vasopressin is secreted at night and the kidneys make less urine. Healthy young adults produce urine three times faster during the day than at night because there is more nocturnal vasopressin secretion. You can see this effect when you sleep right through the night and void a surprisingly small amount of concentrated, darkish yellow urine after waking up. With advancing age, the circadian rhythms that control vasopressin secretion change, and many older people revert to the juvenile pattern of steady urine production around the clock. They may void less during the day because they can control bladder function, but they pay for this convenience by having to go more frequently at night.

When middle-aged or elderly men complain of having to get up frequently, it is usually considered to be due to an enlarged prostate. Many patients are therefore surprised to find that following corrective surgery, they get up just as often, despite improvement in other symptoms like a weak stream, dribbling and getting things started. If an enlarged prostate was a major cause of nocturia, then many more men than women would be affected. However, nocturia is related more to age than gender since surveys show there is relatively little difference between men and women. In one large study, the frequency of nocturia was essentially the same in men and women under the age of 30 and 7.2 percent for women and 5.7 percent for men in the 30-59 age group. Over the age of 60, nocturia was significantly increased in both, but the balance shifted to 27 percent for women and 32 percent for men. In another survey of healthy American senior citizens, 65 percent of men and 63 percent of women reported that the number of nighttime trips to the bathroom was similar. Complaints of having to void two or more times in a typical night was about 25 percent in both groups Desmopressin, a synthetic form of vasopressin that can be administered orally or by nasal spray, can reduce bedwetting in children and nocturia in adults, but can have undesirable side effects. In addition, getting up at night because of the urge to void is usually harmless, even if it has a fancy name like nocturia. Most people fall back to sleep fairly quickly and do not wake up feeling tired or exhibit any prolonged signs or symptoms of sleep deprivation. There are few adverse effects unless they fracture a hip or an extremity from a fall. This is usually due to tripping on something because it is dark and this can usually be prevented by providing a small night light.
Myths About Sleep And Why Ambien Is Not The Answer To Insomnia

Although we spend a third of our lives sleeping, little is known about exactly why we sleep, and more importantly, why we don't, except for the fact that sleep deprivation interferes with brain function. **Much of what we do believe about sleep is probably erroneous**, as explained in *Insomniac*, a recent book by Gayle Green. For example, most people think that animals, fish and insects don't suffer from insomnia. But since insomnia is a symptom and only humans can complain, determining its presence in other species is difficult, although some pet owners might disagree. In addition, when researchers bred "short-sleeping fruit flies" down 90 generations so that they would act like insomniacs, they lost their balance, memory and ability to learn. It's generally believed that falling asleep is a gradual process, but for most of us, sleep is more apt to switch on and off like a light switch. The switch doesn't always work for insomniacs and narcoleptics, so they inhabit the space in between and are neither entirely awake, nor entirely asleep. It's often assumed that if you sleep less you will lose weight because you are burning up more calories. While that may be true in the short run, sleep deprivation blocks natural appetite suppressants and being awake longer provides more opportunity to eat, especially high calorie fast foods.

**One of the most common myths is that everyone needs eight hours of uninterrupted sleep a night but surprisingly few cultures do this.** In Bali and New Guinea, people tend to sleep only when they feel the need to, and they nap frequently during the day and get up more at night. A few centuries ago, many Europeans divided the night into "the first sleep" and the "second sleep." They would go to bed soon after dark, sleep for four hours then wake for an hour or so to write, pray, smoke, have sex or even visit neighbors before going back to bed.

In many parts of the world, especially where the weather is very warm, a nap or siesta is traditionally taken in the afternoon. This is usually after the midday meal, which is often more like a full dinner with liberal amounts of wine, rather than a light lunch, so people get sleepy. In some areas, stores and businesses shut down for a few hours during this afternoon rest period, as illustrated to the right for a dentist and pharmacist sharing similar work hours on the Greek Island of Lipsi.

Siesta is a Spanish word derived from the Latin *hora sexta*, or "sixth hour", 

![Siesta Sign](image)
which is noon if you count up from dawn. This is when the sun is at its height and cattle and other livestock sought relief from its unbearable heat in the shade, and those who tended them took naps. The adjective "calm" comes from the Greek *kauma*, meaning "a burning heat, the heat of the day when beasts are at rest, winds fallen, and fields quiet." In regions like Northern Spain, Southern Argentina, and Chile where the climate is similar to Canada and Northern Europe, afternoon naps are common, especially in farming areas, where lunch is usually the largest meal for practical reasons.

The origin of "nap" (to sleep lightly for a brief time) is less clear, but many people do this in the afternoon and at other times, regardless of the temperature, because they feel it rejuvenates them. Leonardo da Vinci, Thomas Edison, Albert Einstein and Winston Churchill all took such "power naps". Studies suggest that napping does provide health benefits, including decreased risk for heart attacks, but naps won't make up for sleep hours lost at night. If you lose sleep one night, your body makes up for it by increasing the amount of deep sleep you get the next night. Daily napping may interfere with this, especially if you frequently feel sleepy or naps last longer than 40 minutes. Everyone needs a certain amount of sleep every night to perform optimally but this varies for each of us. For some people, six hours or less might be adequate while others may need more than eight.

Many mistakenly believe that the best way to get a good night's sleep is to take a sedative hypnotic like Ambien. Most have usually tried warm milk, other home remedies, herbal supplements or non-prescription drugs without success. Ambien works in around 15 minutes and does the trick, so they keep taking it, even though it should only be used for a few days and not more than two weeks. Because tolerance can build up, the dose often has to be increased to get the same effect, which increases dependency. Addiction to Ambien comes on gradually and may not be recognized because symptoms can be subtle, such as: false feelings of self-confidence; marked reduction in anxiety; mood changes ranging from a sustained sense of well-being to periods of belligerence; fluctuating from sleeping over 12 hours to bursts of frenzied activity. There may be unpleasant withdrawal symptoms when trying to stop it or constant fear of running out of your supply before you can get a refill. Ambien is readily available without a prescription on the web from Mexican and Canadian pharmacies. Last year, the FDA approved 13 generic versions that are less expensive. In some localities, these and Ambien have become popular street drugs that are used for recreational purposes.

Regardless of the dosage, side effects are not uncommon and tend to be increased with alcohol or taking other medications like antidepressants and
tranquilizers. Elderly individuals are especially susceptible and are at much greater risk for adverse side effects, that can include:

- Memory loss
- Impaired judgment
- Increased impulsivity
- Euphoria
- Uncharacteristic extroversion in social or interpersonal settings
- A false belief that is strongly held in spite of invalidating evidence
- Hallucinations or believing you see something that nobody else does
- Rebound and more severe insomnia after stopping Ambien
- Difficulty in maintaining balance, especially when moving quickly
- Poor motor coordination
- Decreased libido
- Increased appetite

Remembering where you left your keys or glasses and familiar names are frequent and disturbing problems but are often blamed on age or stress. It is not unusual to take extra Ambien doses because of forgetting when you took the last one. And if you are awakened prematurely, there may be blackouts and amnesia for recent events, as in "traveler's amnesia", when it is taken on overnight flights of less than eight hours. People on Ambien might seem in control while driving but because of slower reaction times and decision-making, they are considered more dangerous than the average drunk driver.

Ambien and Ambien-CR sales bring in $2 billion a year, which is a pretty good return on the $123 million/year spent for advertising. The Centers for Disease Control estimates that 70 million Americans suffer from insomnia, but only a total of $20 million is spent on sleep research. Much of this is devoted to developing new drugs rather than finding better ways to prevent and manage sleep problems, or stress, their leading causes. In that regard, new bioelectromagnetic and heart rate variability feedback approaches promise to be much safer and more effective – so stay tuned!

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