

HEALTH

Television, **B3**
Obituaries, **B4**
Comics, **B6-7**
Weather, **B8**

Health newsletter
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PROVIDED

Gabe Hogan received his first Deep TMS treatment in January 2021 at an MUSC clinic in West Ashley. In total he received 35 treatments and underwent a second round of TMS in February 2022.

The case for TMS

Mental health experts say therapy that reaches a deeper part of the brain could have a larger public health impact

BY ZHARIA JEFFRIES
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North Charleston resident Gabe Hogan was one of the millions of Americans who saw an increase in symptoms of anxiety and depression during the first year of the COVID-19 pandemic.

But for Hogan, who has battled major depressive disorder since he was a teenager, the pandemic just made an already

ments in my life, just feeling absent or despondent," Hogan said.

Hogan is part of an estimated 10-30 percent of patients with major depression who don't respond to typical antidepressant medications like Zoloft or Prozac.

But since starting a rather new therapy in 2020, deep transcranial magnetic stimulation, he's felt better than he ever has.

Deep TMS therapy is a noninvasive

"We really haven't been able to have a big public health impact with it," George said. "Rates of depression, suicide and drug overdoses are continuing to go through the roof."

Mental Health America, a nonprofit dedicated to helping people living with mental illness, has an online screening tool people can use to screen themselves for different problems.

In total, over 4 million people from

Common PFAS may be harmful to women

High exposure could raise blood pressure

American Heart Association News

Exposure to man-made chemicals found in common household products and in soil, air, food and water may raise the risk for high blood pressure in middle-aged women, a new study suggests.

The study found middle-aged women with higher blood concentrations of per- and polyfluoroalkyl substances, or PFAS, were 71 percent more likely to develop high blood pressure than their peers with lower levels of these substances. The findings appeared Monday in the American Heart Association journal Hypertension.

"PFAS are known as 'forever chemicals' because they never degrade in the environment and contaminate drinking water, soil, air, food and numerous products we consume or encounter routinely," lead study author Ning Ding said in a news release.

"One study estimated that two of the most common 'forever chemicals' are found in most household drinking water and are consumed by more than two-thirds of Americans," said Ding, a postdoctoral fellow in the department of epidemiology at the University of Michigan School of Public Health in Ann Arbor.

Senior study author Sung Kyun Park said scientists have known for some time that PFAS disrupt metabolism in the body. "Yet, we didn't expect the strength of the association we found," he said in the release.

"We hope that these findings alert clinicians about the importance of PFAS and that they need to understand and recognize PFAS as an important potential risk factor for blood pressure control," said Park, an associate professor of epidemiology and environmental health sciences at the University of Michigan School of Public Health.

According to the U.S. Environmental Protection Agency, thousands of PFAS are used in common household products, such as some shampoos, dental floss, cosmetics, non-stick cookware, food packaging, stain-resistant coatings for carpeting, upholstery and clothing. They also are found in fish caught in PFAS-contaminated water and dairy products from cows that have been exposed to PFAS-containing fertilizer.

Nearly all people tested in the U.S. have detectable concentrations of at least one PFAS in their blood, according to previously published data from the National Health and Nutri-

circuit situation worse.

Over the course of six to nine months of struggling with the disorder and reeling with the loss of mental health support systems, he felt the depression coming back "worse than it ever had."

He and his wife had just welcomed a new baby boy. Life was supposed to be good, he thought.

"I found myself, in the moments that should've been the most joy-filled mo-

depression treatment that uses magnetic waves to target nerve cells in the brain to improve depression symptoms. The therapy was approved by the Food and Drug Administration for use in treatment-resistant depression in 2008, and pioneered by two researchers at the Medical University of South Carolina.

Dr. Mark George and Dr. Baron Short were key figures in getting the technology on the market.

the United States chose to be screened through MHA Screening in 2021. Of them, 32 percent took a depression screen, followed by the anxiety screen (20 percent), and the bipolar screen (16 percent).

George said while the TMS treatment isn't new, many people, doctors included, remain unaware of how effective it can

Please see **TMS**, Page B2

tion Examination Survey, but even at low levels, PFAS have been shown to have negative health impacts. They have been linked to cardiovascular risks such as impaired blood vessel function and high cholesterol. However, little was known about how they may impact blood pressure levels.

In the new study, researchers analyzed blood concentrations of seven PFAS and the risk of high blood pressure among 1,058 middle-aged

Please see **CHEMICALS**, Page B2

Trans kids' treatment can start younger, new guidelines say

Health group says transition treatment in teens could begin at age 14

BY LINDSEY TANNER
Associated Press

A leading transgender health association has lowered its recommended minimum age for starting gender transition treatment, including sex hormones and surgeries.

The World Professional Association for Transgender Health said hormones could be started at age 14, two years earlier than the group's previous advice, and some surgeries done at age 15 or 17, a year or so earlier than previous guidance. The group acknowledged potential risks but said it is unethical and harmful to withhold early treatment.

The association provided The As-

sociated Press with an advance copy of its update ahead of publication in a medical journal, expected later this year. The international group promotes evidence-based standards of care and includes more than 3,000 doctors, social scientists and others involved in transgender health issues.

The update is based on expert opinion and a review of scientific evidence on the benefits and harms of transgender medical treatment in teens whose gender identity doesn't match the sex they were assigned at birth, the group said. Such evidence is limited but has grown in the last decade, the group said, with studies suggesting the treatments can im-

prove psychological well-being and reduce suicidal behavior.

Starting treatment earlier allows transgender teens to experience physical puberty changes around the same time as other teens, said Dr. Eli Coleman, chair of the group's standards of care and director of the University of Minnesota Medical School's human sexuality program.

But he stressed that age is just one factor to be weighed. Emotional maturity, parents' consent, longstanding gender discomfort and a careful psychological evaluation are among the others.

Please see **TRANS**, Page B2



LAURA SHORT VIA AP

Eli Bundy visits Deception Pass in Washington in April. In South Carolina, where a proposed law would ban transgender treatments for kids under age 18, Bundy hopes to get breast removal surgery next year before college.

B2: Monday, June 20, 2022

HEALTH

The Post and Courier

Group: Trans kids' treatment can start younger

TRANS, from B1

"Certainly there are adolescents that do not have the emotional or cognitive maturity to make an informed decision," he said. "That is why we recommend a careful multidisciplinary assessment."

The updated guidelines include recommendations for treatment in adults, but the teen guidance is bound to get more attention. It comes amid a surge in kids referred to clinics offering transgender medical treatment, along with new efforts to prevent or restrict the treatment.

Many experts say more kids are seeking such treatment because gender-questioning children are more aware of their medical options and facing less stigma.

Critics, including some from within the transgender treatment community, say some clinics are too quick to offer irreversible treatment to kids who would otherwise outgrow their gender-questioning.

Psychologist Erica Anderson resigned her post as a board member of the World Professional Association for Transgender Health last year after voicing concerns about "sloppy" treatment given to kids without adequate counseling.

She is still a group member and supports the updated guidelines, which emphasize comprehensive assessments before treatment. But she says dozens of families have told her that doesn't always happen.

"They tell me horror stories. They tell me, 'Our child had 20 minutes with the doctor' before being offered hormones, she said. 'The parents leave with their hair on fire.'"

Estimates on the number of trans-



FILE/AP

Dr. David Klein (right), an Air Force Major and chief of adolescent medicine at Fort Belvoir Community Hospital, listens as Amanda Brewer (left) speaks with her daughter, Jenn Brewer, 13, as the teenager has blood drawn during a monthly appointment for monitoring her treatment at the hospital in Fort Belvoir, Va., in 2016.

"forced to jump through arbitrary hoops and barriers to treatment by gatekeepers ... and subjected to scru-

medical professionals," they said. "It definitely makes sense for there to be fewer restrictions, because then

puberty and give kids time to decide about additional treatment; their effects end when the medication is

mends starting a year or two later, although it recently moved to start undating its own guidelines. The

gender youth and adults worldwide vary, partly because of different definitions. The association's new guidelines say data from mostly Western countries suggest a range of between a fraction of a percent in adults to up to 8 percent in kids.

Anderson said she's heard recent estimates suggesting the rate in kids is as high as 1 in 5 — which she strongly disputes. That number likely reflects gender-questioning kids who aren't good candidates for lifelong medical treatment or permanent physical changes, she said.

Still, Anderson said she condemns politicians who want to punish parents for allowing their kids to receive transgender treatment and those who say treatment should be banned for those under age 18.

"That's just absolutely cruel," she said.

Dr. Marci Bowers, the transgender health group's president-elect, also has raised concerns about hasty treatment, but she acknowledged the frustration of people who have been

gender-questioning because of a tiny that is not applied to another medical diagnosis."

Gabe Poulos, 22, had breast removal surgery at age 16 and has been on sex hormones for seven years. The Asheville, North Carolina, resident struggled miserably with gender discomfort before his treatment.

Poulos said he's glad he was able to get treatment at a young age.

"Transitioning under the roof with your parents so they can go through it with you, that's really beneficial," he said. "I'm so much happier now."

In South Carolina, where a proposed law would ban transgender treatments for kids under age 18, Eli Bundy has been waiting to get breast removal surgery since age 15. Now 18, Bundy just graduated from high school and is planning to have surgery before college.

Bundy, who identifies as nonbinary, supports easing limits on transgender medical care for kids.

"Those decisions are best made by patients and patient families and

doctors, not politicians," Poulos said. "Kids and physicians can figure it out together."

Dr. Julia Mason, an Oregon pediatrician who has raised concerns about the increasing numbers of youngsters who are getting transgender treatment, said too many in the field are jumping the gun. She argues there isn't strong evidence in favor of transgender medical treatment for kids.

"In medicine ... the treatment has to be proven safe and effective before we can start recommending it," Mason said.

Experts say the most rigorous research — studies comparing treated kids with outcomes in untreated kids — would be unethical and psychologically harmful to the untreated group.

The new guidelines include starting medication called puberty blockers in the early stages of puberty, which for girls is around ages 8 to 13 and typically two years later for boys. That's no change from the group's previous guidance. The drugs delay

puberty and can be reversed if stopped.

The blockers can weaken bones, and starting them too young in children assigned males at birth might impair sexual function in adulthood, although long-term evidence is lacking.

The update also recommends:

- Sex hormones — estrogen or testosterone — starting at age 14. This is often lifelong treatment. Long-term risks may include infertility and weight gain, along with strokes in trans women and high blood pressure in trans men, the guidelines say.

- Breast removal for trans boys at age 15. Previous guidance suggested this could be done at least a year after hormones, around age 17, although a specific minimum age wasn't listed.

- Most genital surgeries starting at age 17, including womb and testicle removal, a year earlier than previous guidance.

The Endocrine Society, another group that offers guidance on transgender treatment, generally recom-

ended similar guidance. The American Academy of Pediatrics and the American Medical Association support allowing kids to seek transgender medical treatment, but they don't offer age-specific guidance.

Dr. Joel Frader, a Northwestern University pediatrician and medical ethicist who advises a gender treatment program at Chicago's Lurie Children's Hospital, said guidelines should rely on psychological readiness, not age.

Frader said brain science shows that kids are able to make logical decisions by around age 14, but they're prone to risk-taking and they take into account long-term consequences of their actions only when they're much older.

Coleen Williams, a psychologist at Boston Children's Hospital's Gender Multispecialty Service, said treatment decisions there are collaborative and individualized.

"Medical intervention in any realm is not a one-size-fits-all option," Williams said.

Common PFAS may be harmful to women

CHEMICALS, from B1

women enrolled in the Study of Women's Health Across the Nation-Multi-Pollutant Study.

The women — who were Black, Chinese, Japanese or White — were recruited from health institutions in Boston, Pittsburgh, southeast Michigan, Los Angeles and Oakland, California. They were 45 to 56 years old and had normal blood pressure when the study began. They were followed almost annually from 1999 to 2017.

The researchers chose to study middle-aged women because menopause is a period when a woman's risk for high blood pressure begins to rise, along with other cardiovascular risks.

"It's important to note that we examined individual PFAS as well as several PFAS together, and we found that the combined exposure to multiple PFAS had a stronger effect on blood pressure," Park said.

"Some states are beginning to ban the use of PFAS in food packaging and cosmetic and personal care products," he said. "Our findings make it clear that strategies to limit the widespread use of PFAS in products need to be developed. Switching to alternative options may help reduce the incidence of high blood pressure risk in midlife women."

Mental health experts make case for TMS therapy

TMS, from B1

be. In some cases, even more effective than antidepressant medications and talk therapy.

What is TMS?

TMS therapy reaches deeper parts of the brain that help regulate emotional response and are directly correlated with anxiety and depression.

Patients sit in a chair like they would in a dentist's office. There is no IV or blood pressure set up to monitor the patient, just a helmet-like apparatus lined with patented H-coil technology.

"It's a tapping sensation," Hogan said. "It was uncomfortable but it wasn't painful."

The tapping most patients feel is the magnetic pulses being delivered to the brain. It's different than electric shock therapy, which sends electric currents to the brain while the patient is sedated or immobilized.

The process can occur two ways, through repetitive TMS or Deep TMS. Both are considered noninvasive forms of therapy, but are built to reach different areas of the brain.

Traditional rTMS uses a figure-8 coil design and treats a narrower range of the brain, usually the dorsal lateral prefrontal cortex located in the left side.

Deep TMS uses a patented H-coil helmet design from a company called BrainsWay, which goes 2½ times deeper and wider in the brain than rTMS. Both forms of the treatment have proven successful and usually last anywhere from six to 10 weeks, depending on the patient.

It is normal for patients already doing medication

therapy to simultaneously receive TMS. In fact, doctors are hesitant to completely remove these medications from a patient's treatment plan, as it can increase side effects of depression and worsen withdrawal symptoms.

But patients can talk with their psychiatrist to gradually decrease the dosage of their antidepressants within months of seeing success with TMS.

One-third of patients treated with TMS get remission and will likely never need the therapy again. For another third of patients, symptoms will come back within a year or two years of undergoing treatment.

"The good news is that if it works once, it's likely to work again," George said.

For patients whose symptoms reappear, George said doing a second round of TMS usually staves off depression for the rest of their lives.

Then there are those whose depression never truly ends, and they are only without symptoms for periods at a time. In this case, George said patients can increase the frequency of their treatments to maintain its effects.

Most of the time this looks like treatments every week to every few weeks.

'It's just like cancer'

Depression in its treatment resistant form is a "recurrent condition," Short said.

While some forms of depression can be treated with antidepressants for a select amount of time, many patients with the disorder only experience periods of temporary relief.

Hogan's symptoms started

to reside after three weeks into his first TMS treatment.

"Life wasn't as heavy and things weren't as dark," Hogan said. "Sleep was coming easier and I was able to wake up and have more energy."

However, after months or even years of complete remission of symptoms, the depression can resurface. Hogan is part of the third of patients who need more than one round of TMS.

"Anybody with depression will tell you it's just like cancer," Hogan said. "But I'm so grateful to have treatment options that don't feel like I'm numbing myself to the world."

Angel Oak Counseling in West Ashley also offers TMS therapy and has about seven patients currently in treatment. Dr. Daniel Uderitz is one of the psychiatrists at the facility.

"I have patients who have been depressed for 20 to 30 years, trying everything under the sun," Uderitz said. "They come and do TMS and say, 'Oh my gosh, it's the first time in 20 years I haven't felt depressed.'"

Charleston resident Jeff Wyatt was one of those patients. Wyatt was depressed for over 30 years before seeking treatment after retiring from the Navy in 2013.

He was a machinist mate, working on nuclear submarines. The job was hard and taxing, "but you didn't use the words depression and anxiety," Wyatt said.

"A lot of my co-workers battled depression, anxiety and bipolar disorders," Wyatt said. "And they suffered through it because they didn't want to give up their careers."

In 2019, Wyatt reached his boiling point. He engineered a plan to end his life.

At the time, he'd already tried five different antidepressants, with varied relief and side effects that included profuse sweating, weight gain and problems with intimacy.

"It was the lowest I've ever felt in my life," Wyatt told The Post and Courier.

Wyatt sought in-patient treatment at MUSC's Institute of Psychiatry. He was given new medication, a brand-new psychiatrist and was seeing a therapist. But the depression returned in the summer of 2021.

So he made an appointment to see Dr. Uderitz at Angel Oak, who said there was a less than 10 percent chance that another medication would work for Wyatt's depression and recommended TMS therapy.

Albeit hesitant at first, he said the experience was "life changing," with some symptoms subsiding just four weeks into his treatment. In total, Wyatt completed 36 sessions of rTMS therapy from August 2021 to February 2022.

The process is going so well, he is on track to begin tapering off his anti-depressant medication.

"I'm excited," Wyatt said. "I don't like being attached to a drug."

Access to treatment

While TMS is currently covered by multiple major insurance carriers, the treatment is less accessible for those who don't meet certain criteria.

In order to qualify for the insurance-covered TMS, patients need to have exhausted a number of different antide-

pressants and fit the diagnostic criteria for treatment-resistant depression by a licensed psychiatrist.

Out-of-pocket costs for TMS treatment account for upward of \$7,000, which eliminates millions of people who are either undiagnosed or not interested in antidepressant medications.

The problem has left many doctors scratching their heads, especially since TMS is accompanied by few to no side effects and has a higher success rate than many of the anti-depressant medications on the market.

Common side effects from antidepressants range from dizziness and diarrhea to headaches, insomnia and weight gain. Those are just a few.

Common side effects of TMS include soreness of the scalp, headaches and lightheadedness.

TMS was also approved by the FDA for treatment of obsessive-compulsive disorder in 2018 and studies are ongoing about using TMS to treat depression in pregnant women, postpartum depression and Alzheimer's disease.

Now experiencing remission from the disorder for the longest period in decades, both Wyatt and Hogan are excited for the future. Hope is a rare feeling for people with severe depression, but its return can be a sign that symptoms are lessening.

"I know where I was and I know how close I got to doing the unthinkable," Wyatt said. "I'm definitely in a better place than I was a year ago."

Follow **Zharia Jeffries** on Twitter @Zharia_Jeffries.