FACE TO FACE

At first hesitant to go virtual, UConn Health psychiatrists quickly realized screens enabled them to make vital connections and increase access to care. 10
Use it or lose it: muscles, bone, and cartilage all deteriorate when astronauts spend long periods of time in space, away from the ponderous pull of gravity. Muscles and bone gradually recover once astronauts return to Earth, but cartilage rarely does. Now, a group of UConn engineers have a plan to encourage cartilage to regenerate and to test it on the International Space Station.

The researchers have successfully engineered cartilage constructs and tissue chips in the lab on Earth and have received $400,000 from the National Science Foundation and the Center for the Advancement of Science in Space (CASIS), which is also known as the International Space Station National Lab. Their partner, Lexington, Kentucky–based aerospace manufacturer Space Tango, will also receive $415,000. This multi-agency grant will fund the development of an experiment on the space station to begin in 2022. NASA has committed to funding the launch costs.

The researchers — who are part of UConn’s Bioengineering Department, a joint department of the School of Engineering in Storrs and the schools of Dental Medicine and Medicine in Farmington — hope the project can help astronauts as well as earthbound people with arthritis, degenerative joint diseases, and injuries. — KIM KRIEGER

The researchers have filed for a patent on a technique that uses a scaffold with micro channels for cartilage to regrow upon inside a 3D-printed slide. The channels also carry nutrients to the young cartilage cells.

8 STOPPING STROKE DAMAGE

An innovative treatment nearing human clinical trial could put an end to long-term damage by blocking a key brain receptor after a stroke occurs.

10 FACE TO FACE | Cover Story

At first hesitant to go virtual, UConn Health psychiatrists quickly realized that computer screens enabled them to make the vital connections that wearing masks in the office hindered — and allowed access to care for those who faced obstacles.

18 THE IMPORTANCE OF SLEEP

Sleep disorders affect up to one-third of the U.S. adult population, and poor sleep can have serious consequences. Still, the disorders are often undiagnosed or downplayed. The Sleep Disorders Center at UConn Health is here to help.

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Lepowsky Named UConn Dental School Dean

In fall 2020, Dr. Steven Lepowsky was named the eighth dean of the UConn School of Dental Medicine for a five-year term. Lepowsky is a professor in the Division of General Dentistry, and before his appointment as interim dean, he served as senior associate dean for education and patient care for 12 years and as chair of the Division of General Dentistry. During his tenure at UConn, he has been responsible for significant growth of the School’s patient care programs, curriculum revision resulting in earlier clinical experiences, expansion of the general dentistry residency program (now one of the largest in the U.S.), and the development of community-based activity throughout the state.

The appointment was made following a survey within the School of Dental Medicine on how to proceed with appointing a permanent dean.

“We received strong support from constituents with the School to continue Dr. Lepowsky’s leadership, given his long and productive tenure at UConn and his experience and contributions within the School of Dental Medicine. I am very pleased to make this appointment,” said UConn Health CEO Dr. Andy Agwunobi. “We had a leadership role in the School’s past successful accreditation reviews and oversaw the development of the School’s Dental Care Center as well as the satellite practice in Storrs.

“Lepowsky is an accomplished leader and educator. At UConn since 1998, he previously served as associate dean for clinical affairs and as the director of the advanced education in general dentistry residency program. His outreach efforts in the state include initiating resident placement in community sites, directing predictor student community-based experiences, and expanding the clinical faculty through community partnerships. He also initiated collaborations with state agencies to enhance the delivery of care to underserved populations, including adults with acquired and developmental disabilities. He had a leadership role in the School’s past successful accreditation reviews and oversaw the development of the School’s Dental Care Center as well as the satellite practice in Storrs.

“It is an honor and a privilege to be able to help guide the UConn School of Dental Medicine as we explore innovative ways to enhance our educational programs, provide outstanding care to the citizens of Connecticut and beyond, and grow our efforts in research and discovery,” Lepowsky said when his appointment was announced. “I am very confident that we will build on the School’s incredible history of achievement and excellence and harness the School’s collective talents to address the challenges ahead.”

— KRISTI HENDERSON

Microneedle Covid Vaccine

A single-use, self-administered patch embedded with microneedle technology developed by UConn faculty to provide immunization against infectious diseases such as Covid-19 was recently validated by preclinical research trials. The researchers inserted microneedles loaded with a clinically available vaccine into the skin of rats. The patch application caused no skin irritation during long-term implantation and triggered a high immune protection response against a lethal dose of infectious pneumococcal bacteria. The results from the one-time administration were similar to those from multiple injections of the same vaccine over a period of approximately two months, according to the results published in Nature Biomedical Engineering.

— COURTNEY CHANDLER

Vaccination Efforts Continue Across UConn

Now that all Connecticut adults are eligible for the Covid-19 vaccine, UConn Health continues to do its part to vaccinate as many people as possible.

UConn Health was one of the first four health care institutions in the state to receive shipments of the Pfizer Covid-19 vaccine in December. Initially, UConn Health vaccinated its own health care employees and other local health care workers before expanding to any individuals who were eligible under the state’s guidelines.

By April 1, UConn Health had administered more than 23,000 first doses and more than 15,000 second doses of the vaccine.

UConn Health has been administering all of the available vaccines — those made by Pfizer, Moderna, and Johnson & Johnson/Janssen.

“I am proud of UConn Health’s role in helping turn the corner of this pandemic and protecting front-line health care workers, members of the UConn Health community, and the citizens of our state.”
— Dr. Andy Agwunobi, UConn Health CEO

Students, faculty, and staff from many corners of UConn have played a role in the vaccination efforts.

For instance, students in UConn’s schools of Dental Medicine, Medicine, Nursing, and Pharmacy have been trained and added to the force of those administering shots and in turn gained vital experience that will help them throughout their careers.

Others across the University have helped vaccination efforts in less hands-on but equally important ways.

Among them, UConn Health experts, including infectious diseases physician and hospital epidemiologist Dr. David Banach, have educated health care workers and ordinary citizens alike on the importance of being vaccinated and the nuances of each new vaccine through interviews with UConn’s news office and local news organizations.

Faculty surgeon-scientist Dr. Cato Laurencin advocates for the Covid-19 vaccination and serves as a trusted source to individuals in communities disproportionately affected by the virus. Other faculty at the University are researching strategies to encourage vaccinations among these groups.

While masks and social distancing aren’t disappearing just yet, experts agree that increased vaccinations and the introduction of the one-dose J&J vaccine signal a turning point in the pandemic.

“The addition of an effective single-dose vaccine will help us very quickly increase the total numbers of people who are protected from becoming infected with Covid-19, and also will help to significantly limit the ability of the virus to continue to spread throughout communities,” said Dr. Jeff Aeschlimann, infectious diseases pharmacist specialist at UConn Health and a professor in the UConn School of Pharmacy. “It’s undoubtedly another very important tool that we now have in our toolbox to help arrest the progression of the pandemic and get our society moving back toward some degree of pre-Covid-19 normalcy.”

Visit health.uconn.edu/coronavirus/covid-vaccine for the latest information including FAQs and vaccine scheduling.

— COMBINED REPORTS

Laurencin advocates for the Covid-19
Dementia Rates Higher in Men With Common Genetic Disorder

New research has found that men who have the Western world’s most common genetic disorder are more likely to develop dementia than those who don’t.

Researchers at the University of Exeter in the U.K. and UConn School of Medicine had previously found that men with two faulty genes that cause the iron overload condition hemochromatosis are more likely to develop dementia than women who do not carry any copies of the faulty gene.

The latest study analyzed 2,890 men and women aged 40–70 years with two faulty hemochromatosis genes (called HFE C282Y homozygous) in UK Biobank. The team found that 25 of the 1,294 men with the two faulty genes went on to develop dementia, an 83% greater likelihood than for those without the faulty genes. The team also found a buildup of iron in key areas of the brain linked to dementia in a subset of men with the two faulty genes. The same group of men was also significantly more likely to develop delirium, itself linked to dementia, as of a 10-year follow-up.

Dr. David Steffens, professor and chair of the Department of Psychiatry at UConn School of Medicine and a co-chair of the Department of Justice on the Medical Research Council, said the study adds to the list of modifiable factors that may point to prevention of dementia.

This study adds to the list of modifiable factors that may point to prevention of dementia.

— Dr. David Steffens, UConn School of Medicine

 calls for the UK National Screening Committee to recommend screening for the condition, which is currently under consultation.

Blood tests for measuring iron levels and genetic testing are available to identify those at risk. Symptoms of hemochromatosis can include feeling tired all the time, muscle weakness, and joint pains, meaning it is often misdiagnosed as signs of aging. Once diagnosed, the condition is easily treated by lowering iron levels in a process similar to donating blood several times a year.

“We know that a buildup of iron in the brain is linked to dementia in people without hemochromatosis. Our study is the first to show that men with the mutations for hemochromatosis may have a substantially increased risk of dementia, although the numbers of people who develop dementia are still low,” says lead author Dr. Janice Atkins of the University of Exeter Medical School. “We now need more research to establish whether the genetic condition causes brain decline, particularly as hemochromatosis is easy to treat and could be a route to preventing some dementia.”

Hemochromatosis tends to be more serious in men, with women partially protected because they lose iron through menstruation and childbirth, although some younger women do develop the disease.

The study found no increase in dementia risk in women with faulty hemochromatosis genes.

— COMBINED REPORTS

UConn Researcher Developing Rapid Covid Testing Device

With support from the Office of the Vice President for Research’s Covid-19 Research Seed Funding Program, a UConn engineering professor is developing a low-cost, portable Covid-19 testing instrument that uses a finger prick–worth of blood to test for the virus and delivers results in minutes.

Bahram Javidi, Ph.D., is developing the novel technology with the potential to improve Covid-19 testing capacities. Javidi has appointments in the School of Engineering’s departments of Electrical and Computer Engineering and Biomedical Engineering, and he studies exotic optical imaging approaches for a broad array of applications from security systems to biomedicine.

The instrument uses a small blood sample to test for the virus. While still in the early stages of development, the instrument can provide results within minutes.

“More research is needed to establish the accuracy of the instrument Javidi’s team developed,” says Liang.

It’s exciting to collaborate with the research team to test the effectiveness of this simple yet innovative rapid testing technology that holds incredible promise to help our world revolutionize the widespread testing of patients suspected of having Covid-19, whether they live in small towns or big cities, or even for general prevalence testing among certain populations,” says Liang. Javidi is currently collecting data to assess the effectiveness of the device. Once that is proven, he hopes to broaden his efforts to put the device to work in health care settings.

— ZARRA ALDRICH
UConn Health Researchers Track Covid-19 Immunity

No one knows for sure whether a case of Covid-19 makes you immune. Now, a study done at UConn Health finds that antibodies to the coronavirus that causes Covid-19 are universal in survivors of the illness, but that their numbers, and their ability to defend the virus, vary enormously.

The study focused on health care workers at UConn Health. The goal was to understand who developed antibodies to SARS-CoV-2, the coronavirus that causes Covid-19, and correlate the severity of their illness with the concentration of antibodies in their blood.

“The results tell us that the severity of Covid-19 appears to be associated with a higher level of antibodies” after the illness, says Dr. Bruce Liang, dean of the UConn School of Medicine and one of the study’s senior authors. The paper appeared in Nature Communications Biology.

The researchers found that every person they tested who previously had Covid-19 had detectable antibodies for SARS-CoV-2, the virus that causes the disease. No one who hadn’t been infected had antibodies for the virus. And interestingly, almost everyone who had antibodies for SARS-CoV-2 also had antibodies that reacted to the coronavirus that causes SARS, a much deadlier but less transmissible coronavirus that emerged in 2004.

The researchers suspect this is because the two coronaviruses share certain structures that antibodies would grab on to.

But the most dramatic finding was that the more severe the disease, the higher the concentration of antibodies in the person’s blood. Patients hospitalized with severe Covid-19 had antibody levels much higher than health care workers who had recently recovered from a mild case of the disease. It is still unknown whether the relatively low levels of antibodies in survivors are protective against reinfection, and if so for how long.

The researchers are continuing to track antibody levels in UConn Health workers and hope to have more information on the longevity of Covid-19 immunity soon.

The study was performed in collaboration with Dr. Derya Unutmaz, a researcher at The Jackson Laboratory for Genomic Medicine.

— KIM KRIEGER

THE ROOTS OF HOMELESSNESS DISPARITIES

While studies have suggested that Black homeless men have higher rates of drug abuse than white homeless men, a study published in the Journal of Epidemiology and Community Health by UConn assistant professor of public health sciences T. Greg Rhee, Ph.D., with Dr. Robert Rosenheck of Yale School of Medicine found that Black-white disparities in lifetime homeless risk are associated with traumatic events and sociostructural factors such as income and incarceration, not psychiatric or substance use disorders. The study found Black adults were nearly 1.5 times more likely to have been homeless than white adults, with the disparity primarily explained by the Black adults having lower incomes, greater incarceration histories since the age of 18, and a greater risk of traumatic events.

— JULIE BARTUCCA

INFECTION CONTROL IS WORKING FOR DENTISTS

Despite high risk of transmission, fewer than 1% of dentists nationwide were found to be Covid-19 positive, according to a first-of-its-kind report published in the Journal of the American Dental Association (ADA). The report found that 99% of dentists are using enhanced infection control procedures, such as screenings and enhanced disinfections. The research, carried out by Dr. Elfie Ioannidou of the UConn School of Dental Medicine and researchers from the ADA and the University of Alabama, suggests that current infection control recommendations from the Centers for Disease Control and Prevention will continue to contribute to the reduced risk of developing infection during the delivery of oral health care. Risks associated with nonclinical and community spread, the report finds, must pose the most substantial risk for the exposure of dentists to Covid-19.

— COURTNEY CHANDLER

KEEPING STEM CELLS IN LINE

Stem cells help renew our tissues, spawning fresh young cells to replace old, worn-out ones. Stem cells are both essential for maintaining our bodies and yet dangerous, with the potential to grow tumors if unchecked. UConn School of Medicine cell biologist Dr. Mayu Inaba and colleagues identified a way the stem cells’ environment helps them behave: surrounding niche cells degrade receptors on the stem cells’ surface, preventing them from receiving too many growth signals and so keeping them in check. The work was published in PLOS Biology in December 2020.

— KIM KRIEGER
Stopping Stroke Damage

BY LAUREN WOODS

PHOTOGRAPHY BY TINA ENCARNACION

Every year, strokes strike 800,000 Americans and are the leading cause of long-term disability in the United States because of the lingering brain injury they leave behind. But what if a medication targeting the brain could help heal a stroke’s damage?

Innovative stroke therapy being developed at the UConn School of Medicine aims to inhibit an important receptor implicated in ischemic stroke damage, reducing the brain damage that a stroke inflicts while also expanding the treatment window for stroke victims. It could reduce stroke size and combat stroke effects, such as paralysis of one side of the body, speech and language problems, vision problems, and memory loss.

The majority of strokes are ischemic strokes, which occur when a blockage in an artery leading to the brain results in damage or death of brain cells because of reduced blood flow and oxygen supply. The damaged or dying brain cells release excessive amounts of stored adenosine triphosphate, a molecule that serves as a danger signal, leading to over-stimulation of its receptor, P2X4, mainly found on immune cells of the blood and brain. When P2X4 receptors are overactive, they cause a cascade of detrimental effects in brain cells, leading to a large stroke.

A team led by Rajkumar Verma, Ph.D., assistant professor of neuroscience at the School of Medicine and the Pat and Jim Calhoun Cardiology Center at UConn Health; Dr. Bruce Liang, dean of the School of Medicine and director of the Cardiology Center; and collaborator Kenneth Jacobsen, Ph.D., of the National Institutes of Health, found inhibiting P2X4 can reduce stroke damage and enhance longer term function in an animal model of stroke.

The researchers have found blocking this receptor for a short time after a stroke limits the overstimulated immune response, improving both acute and chronic stroke recovery. Additionally, this intervention seems to work during this period of over-activation and does not inhibit normal functions of P2X4 receptors during long-term recovery.

“Our mouse model and human cell laboratory research results both show hope for this promising short-term intervention to prevent brain damage immediately after stroke and as during long-term recovery,” says Liang.

Currently, to limit brain injury after a stroke, a patient must receive an injection of clot-dissolving tissue plasminogen activator, or tPA, medication within 4.5 hours or have the stroke-causing clot mechanically removed with thrombectomy surgery within 24 hours. Because of these tight treatment-time windows, not all stroke patients qualify for care, resulting in permanent injury for many survivors. There is currently no other therapy, and new stroke treatment is sorely needed, the researchers say.

Following a stroke, the blood-brain barrier remains leaky and open for several days before resealing itself, according to Verma. This gives practitioners more time to deliver this drug to the brain.

“This means there is more time available than there is for current treatments, allowing a promising medication like our inhibitors to indeed cross the blood-brain barrier and reach the brain to help heal it,” Verma says. The team is currently working to make its medication more easily able to cross the blood-brain barrier and reach the brain.

“At left, neuroscientist Rajkumar Verma, Ph.D., in his lab at the UConn School of Medicine; at right, Verma points to stroke damage in a mouse brain.

If proven successful in human clinical trials, this neuroprotective drug intervention would have a groundbreaking impact on stroke patient care.

An innovative treatment nearing human clinical trial at UConn Health could help drastically reduce long-term stroke damage.

This research innovation is supported by an NIH STTR phase 1 small-business grant (titled “A New Anti-Inflammatory Therapy for Ischemic Stroke”) to the company Cornovus, in consort with the UConn School of Medicine under the leadership of Dr. Bruce Liang and Rajkumar Verma, Ph.D.
At first hesitant to go virtual as the pandemic set in, UConn Health psychiatrists quickly realized screens enabled them to make vital connections and increase access to care.
When the Covid-19 pandemic has been, in effect, a slow-motion traumatic event, except the grizzly bear is invisible, and he’s everywhere. We can’t fight the virus, we can’t run away or hide from it, and we can’t deploy the third line of defense by banding together for protection, the way social animals do instinctively, because only distancing keeps us safe. Covid presented Dr. Neha Jain, assistant professor of psychiatry at the UConn School of Medicine and director of telehealth services for psychiatry at UConn Health, with a problem unlike anything she’d ever encountered. How do you provide psychiatric care to patients who are unable to come in to receive it? The answer was telehealth, but putting that in motion was a bit like building an airplane while you’re flying it. “We were doing a very small number of telehealth visits even before Covid, but once it hit, we moved fast,” says Jain. “We shifted into high gear. The biggest problem was the buy-in, convincing people to use it. “That required education and outreach, both for providers and patients, as well as IT support. “The more I talk to people, the more I realize how extraordinarily smooth our transition was,” Jain says. “By March 16, 2020, most of us had gone virtual. We typically have about 3,000 visits a month, to about 300 doctors, therapists, social workers, trainees. Most people will see an average of 5 to 15 patients a day, typically anywhere from 150 to 200 a day total.” Numbers for nonessential hospital visits nationwide dropped at first, with people knowing only that they were safe if they stayed home. Once telehealth became widely available, the patients returned. But for UConn psychiatry, numbers remained steady due to the team’s rapid and smooth transition, Jain says. “We had 170 virtual visits today and about 20 in-person visits,” right in line with the pre-pandemic average, Jain said in January. The initial introduction period involved some trial and error. Not everyone had the technology, or a space or barrier issues and needed interpreters. Some patients were hard of hearing, while others had language issues. Jain and her clinicians scrambled to accommodate everyone. The transaction itself remained consistent. Of all the medical disciplines, psychiatric treatment relies primarily on verbal communication for diagnosis and treatment, and as such might be the most amenable to video-conferencing. “The basic question,” says Jain, “was, can we get enough information from the patient to come up with a treatment plan? What’s going on with them? What do they need?” I can do that on a video visit. Everything else changes. Now the patient is at home. That can both add challenges and create opportunities. “It’s much easier now for me to get information from family members, because they’re right there. On the other hand, there are situations where you may have to reestablish some boundaries. For the provider, it’s very tiring, because now, you’ve got the patient in this little window, and they’ve got you in this little window, so we really hyper-focus. Almost everybody finds it more exhausting.”

Reaching More People

When you’re working screen to screen instead of face to face, the empathetic conversation suffers. Sometimes it’s the loss of human connection that drives people to seek help in the first place; even so, telepsychiatry has compensatory strengths. “The day I approached the idea of video visits,” Jain recalls, “some of my colleagues were saying, ‘We can’t do that — I need to see my patient in person.’ On day three, they came back and said, ‘I’d rather do video, because in person, I have a mask and a face shield on, and my patient has a mask on, and I can’t tell a thing, even when I’m in the same room. I’d much rather be on video and be able to see their full face.’”

— Dr. Neha Jain

“We would have people, when we were meeting in person, who couldn’t make it. When you remove that barrier, you can reach more people than you ever could before.”

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“In many ways, telepsych has helped people to connect every,” says Stephanie Paul, LCSW, UConn Health’s Behavioral Health Intensive Outpatient Program manager. Paul works with people in crisis: people whose lives are destabilizing, who are suffering from

FACE TO FACE

FACE TO FACE
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Multiple mental health issues including depression and anxiety, as well as addiction, who might benefit from group therapy.

“When we were meeting in person we would have people who struggled to make it to group. It was too much for them, sometimes due to physical limitations, or they became overwhelmed with anxiety at the thought of coming into the physical space. People would set up an appointment, but they wouldn’t show,” Paul says. “When you remove that barrier, you can reach more people than you ever could before. You are not limited to your local three-town radius, both to reach patients and to provide a specific kind of support.”

Different populations respond differently to telepsych. Jain’s clinical work is primarily geriatric, servicing a demographic likely to find the technology disorienting but not necessarily more than in-person visits requiring them to leave their homes, get in a car, drive to the clinic, climb a flight of stairs, and be checked in at the office. “If they have advanced dementia,” Jain says, “all of these things are very disorienting for them. Sometimes when they are at home, and they are in a familiar comfortable space, it works better.”

Paul facilitates therapy for groups of people 18–55 years of age and for adults over 65. Anyone who has done a Zoom meeting in the last 12 months knows how hard it is to coordinate and regulate more than a few people on the same screen. Group therapy can be difficult.

“Generationally,” FitzGerald says, “they’re more comfortable with that. In terms of a particular teen, or child, the presentation can vary. We have kids who are socially anxious and have difficulty being on the screen. For them, we might have them gradually increase the amount of their face on camera while using some of the coping skills they are learning. It’s also important to establish that patients have a private space that’s not accessible to other people. If you have a house, all one floor and open, and a kid’s trying to have a conversation that’s private, some things can be more difficult, situations where someone could be just out of frame, and we can’t see. In contrast, there are certainly times where, if a teen is having a problem with a parent, it might be helpful to have time to have both together, to help them work it out if they can’t do it on their own.”

Video conferencing can also work better than seeing a masked doctor in person for kids on the autism spectrum who have trouble reading emotions. “For kids who struggle with those kinds of communications,” FitzGerald says, “it would be even more difficult if you obscure half of the field of what they can choose from for information. That might be a reason to emphasize the opportunity to do something virtually.”

Outpatient Clinic, addresses a younger population sometimes described as “digital natives,” familiar (some might say too familiar) with screens and webcams.
“For kids [on the autism spectrum who have trouble reading emotions] it would be even more difficult if you obscure half of the field of what they can choose from for information [with a mask]. That might be a reason to emphasize the opportunity to do something virtually.”

— Dr. David FitzGerald

“We anticipated there would be issues,” says Paul. “We tell the group members what the guidelines are, and there are still people who struggle with it. We will often say, ‘We’re going to ask you to mute yourself, and if you’re having difficulty with that, we can help and do it for you.’

“Sometimes people have a lot of anxiety, when they’re first starting, if they haven’t had the online experience yet. So we reach out ahead of time. I send the whole group an email, welcoming them, with some tips on how to participate. If there are any issues, or people are having difficulty getting on, we have a system within our team where one person will call them, and we’ll walk them through it,” she says. “But the sessions are interactive, so we encourage group participation. A day or two in, most people get comfortable with the platform, and there’s a good flow of discussion going on that starts to occur and is therapeutic.”

Stepping up for Survival

Dr. Surita Rao is program director of the psychiatry residency training program at UConn Health, in charge of training doctors to specialize in psychology. She is proud of the residents for how they stepped up and adapted, suddenly forced to take on more responsibility than usual. In her clinical practice, working with people with substance abuse issues, she has found that some of her patients also have stepped up as a result of the pandemic, although the national trend is that patients with substance use disorders are struggling to remain in recovery.

“A lot of my patients have been doing really well,” Rao says. “For some people, the lockdown has actually helped them to build up more sober time than before. One person said it gave her a chance to really reevaluate her life and ask herself, ‘Do I really want to be using, or sober?’” For people who have a lot of social anxiety, experiencing stress from going into work or interacting with other people, working from home has helped them maintain sobriety.

While there are silver linings, however, concerns about isolation due to pandemic precautions persist. If we didn’t know it before, we know now that living apart from each other runs contrary to human nature. Some people have continued to socialize, fully (and not-so-failly) aware that they are putting themselves and others at risk. Telemedicine can mitigate and remediate the isolation we have all felt during quarantine.

“One of the big concerns, in the beginning,” says Paul, “was the isolation. We didn’t want the people who we’re treating to sink further and further into isolation. Even though you’re on a screen, you’re still seeing people every day, and you’re still able to talk about what you need to talk about.”

Psychotherapists are required to give their patients their undivided attention, which can be a challenge when you’re working from home, with young children in the next room trying to attend remote school, or dogs barking in the background. Such issues tend to resolve themselves over time as everyone finds a routine that works, according to the UConn team. As both providers and consumers grow more familiar and more comfortable with telepsychology, it seems telemedicine, while it will never replace face-to-face meetings between doctor and patient, will nevertheless remain an option for any standardized treatment plan. As Paul says, “That genie is out of the bottle.”

Surviving the pandemic, without dismissing the widespread grief it has caused, has also reminded all of us how resilient we can be.

“People need a purpose to live and a higher goal,” Jain says. “Denying that, we become depressed. Folks feel a sense of purpose by connecting to their community. Loneliness draws us to each other. But we know wellness is impacted by one’s capacity to be grateful. That’s what I’m seeing now.”

“It shocks me, when I’m talking to people who haven’t seen me in six months, and they’ll say, ‘I’m so grateful that you’re healthy, and my family’s healthy, and I can talk to you.’ I’m seeing them relying so much more on gratitude. I’ve seen them relying so much more on their faith. When we have a collective trauma, there is that sense that to survive, we need to help each other. We need to come together in some way.”

— Dr. Surita Rao

For some people, the lockdown has actually helped them to build up more sober time than before. One person said it gave her a chance to really reevaluate her life and ask herself, ‘Do I really want to be using, or sober?’”

— Dr. Surita Rao
The Importance of Sleep

In the United States, sleep disorders affect one-third of the population. Despite how common they are, they often go undiagnosed or are not taken seriously. But poor sleep can have serious consequences. Drowsiness related to a lack of sleep can be a contributing factor in car accidents and work injuries and can create a strain on relationships with family. Poor sleep is also a factor in serious health issues such as heart disease, obesity, and diabetes.

Dr. Adrian Salmon, director of the Sleep Disorders Center at UConn Health, sees patients every day whose quality of life is negatively impacted by lack of quality sleep. “Many of my patients report fatigue, problems with concentration, lowered levels of alertness, and increased occurrences of anxiety and depression,” he says.

On average, an adult needs seven to eight hours of sleep every night, yet more than a third of adults in the U.S. get fewer than seven hours. There are many reasons why a person might not get enough sleep, such as too much time spent on social media, the need to work multiple jobs, or family demands. But a subset of people also suffers from a sleep disorder that can prevent them from falling asleep and staying asleep. Salmon says sleep problems can be complex. “A significant amount of patients have underlying chronic medical problems such as heart, lung, or mood disorders that can make managing sleep disorders more complicated. And sometimes a combination of therapies is necessary to combat sleep problems. Also, some medications prescribed for other medical conditions can negatively affect sleep, so it is important to consult with a sleep expert who can work with your primary care provider or therapist to change the medications if necessary.”

The Sleep Disorders Center offers two types of sleep studies to help diagnose a sleep disorder: one at home and one in the sleep lab in the main UConn Health campus in Farmington. The most common conditions Salmon diagnoses are sleep apnea, insomnia, and restless leg syndrome, but he has experience with all sleep disorders, including somnambulism or sleepwalking, narcolepsy, and periodic limb movement.

Although sleep problems may initially present similarly, treatment is aimed at addressing the source of sleep disruption, and the Sleep Disorders Center includes a multidisciplinary team of health care professionals including pulmonologists, dentists, and a psychologist to provide expert care in treating all aspects of sleep problems. Dr. Seema Kurup, a dentist specializing in temporomandibular disorders (TMD) and sleep disorders, often works with Salmon to fit patients for an oral sleep appliance that can be used to treat snoring or sleep apnea in place of the most common treatment, a CPAP machine.

“I see patients who are not compliant with a CPAP or who do not necessarily need a CPAP,” Kurup says. “The oral sleep appliances, called mandibular advancement devices (MAD), are easy and comfortable to use and are FDA approved; however, they are not one size fits all. Prior to fabrication of an oral sleep appliance, I consider many factors such as missing teeth, jaw alignment, and other dental issues to decide which appliance will work best for that particular patient.

“The oral sleep appliance works by placing the lower jaw in an anterior, or forward, position to flatten the tongue and open the airway, allowing patients to breathe better and take more oxygen into the body, thereby minimizing and controlling apneic episodes,” she says.

Sometimes, the best way to treat a sleep disorder isn’t with medication or an oral appliance — when it comes to insomnia, the best approach is cognitive behavioral therapy. Susan Ruhman, Ph.D., DBSM, director of the Behavioral Sleep Medicine Program within the Sleep Disorder Center, is specially trained to work with people who have insomnia, difficulty falling asleep or staying asleep.

“I look at underlying issues and circumstances to evaluate sleep as a whole, such as any medical or physiological factors that might affect sleep. For insomnia, the first line of treatment isn’t medication. It’s education and changing behaviors, sleep schedule, and environment,” Ruhman says.

When poor sleep has a negative impact on your life or the life of a patient, it’s time to consult with an expert. Everybody experiences periodic difficulties with sleep. Your sleep won’t be the same every night, and difficulty every once in a while is normal. But Ruhman says, “Sleep problems that occur three times a week for three weeks should be evaluated by a sleep specialist.”

A significant amount of patients have underlying chronic medical problems such as heart, lung, or mood disorders that can make managing sleep disorders more complicated.
Leading UConn Health’s Emergence in Advanced Endoscopy

The use of endoscopic ultrasound (EUS) takes a steady hand, particularly when venturing on the outer edge of the EUS frontier. That’s where you’ll find Dr. Murali Dharan: at the forefront of UConn Health’s advanced endoscopic techniques.

Most notably, Dharan recently performed the first successful endoscopic ultrasound-guided gallbladder drainage procedure in central Connecticut. It’s a new option for patients who otherwise might be at high risk of complication from gallbladder removal surgery or might need an external catheter to drain the gallbladder outside the body.

Instead of penetrating the abdominal wall to insert a tube to drain the gallbladder or drain inflammatory cysts from the pancreas, Dharan uses endoscopic ultrasound and a steady hand-eye coordination to place what’s known as a lumen-apposing metal stent, which enables internal drainage, no external catheter needed.

“It’s a special stent, shaped almost like a dog bone, and under EUS guidance, you are potentially able to look at any structure that is close to the stomach or intestine,” Dharan says. “Be it the gallbladder, be it the bile duct, be it a big cyst, you are able to visualize it. So once you see that structure and you are able to line it up, you make a small puncture and put the stent in.”

Dharan arrived in August of 2019 with a mission of growing UConn Health’s advanced endoscopic capabilities. Another such procedure is the cholangioscopy, which he and Dr. John Birk, chief of UConn Health’s Division of Gastroenterology and Hepatology, have just started offering.

“With cholangioscopy, you pass a very thin camera right into the bile duct itself, so you visualize the bile duct as you would visualize the stomach or intestine with an endoscope,” Dharan explains. “For complex stone disease or complex strictures of the bile duct including cancer, where you cannot get an easy diagnosis, we are now able to directly visualize the lesion and perform a biopsy to confirm what is going on or offer direct therapy such as breaking the stones with ultrasonic pulses.”

When a patient needs both an endoscopy and a biopsy, of the liver for example, Dharan can do both endoscopy and EUS-guided liver biopsy during the same procedure, while the patient is sedated, sparing him or her a needle biopsy through the rib cage.

The charge to elevate advanced endoscopy services drew Dharan to UConn Health, and so did the appeal of working with trainees. He recalls encountering residents and fellows while practicing at Saint Francis Hospital and Medical Center.

“The more I interacted with them, the more I realized I wanted to go into academics,” Dharan says. “At the UConn School of Medicine, I’m focusing on the slightly advanced issues of endoscopy. I work more with the senior GI fellows to highlight the finer aspects of the advanced endoscopy techniques.”

Whether he’s talking to future or current gastroenterologists, Dharan is quick to emphasize the untapped capabilities of endoscopic ultrasound.

“There are a lot of applications, some of which I’ve already brought to UConn,” he says. “But I think the more people understand what EUS has to offer, the more we can develop the service to realize its full potential.” — CHRISS DEFRANCESCO

More Than Meets the Eye

Dr. Lakshmi Leishangthem sharpened her focus on neuro-ophthalmology after her father was diagnosed with a serious eye disease.

But it was more than her father’s illness that inspired Leishangthem to pursue the challenging specialty. His hard work, patience, and empathy inspired her to excel at treating patients and thinking outside the eye to understand what is happening in the brain.

“I think those are very important qualities: to be patient, to be able to listen to your patient and understand their feelings, not just their diagnosis,” Leishangthem says. “Because a lot of times we have cases where we don’t have treatment, but the fact that you can listen to your patient, understand and be with them, hold their hands through the rough times, it means a lot to the patients.

I think those are some of the things my dad has done for me and I think that’s one of the things I’ve learned to do for my patients,” she says.

Leishangthem is a board-certified neurologist with training in ophthalmology, specializing in visual problems related to complex diseases of the eye, brain, nerves, and muscles.

Her clinical interests include abnormal eye movements, myasthenia gravis, optic nerve problems, thyroid eye disease, unexplained visual loss, and eyelid abnormalities.

After earning her bachelor of medicine, bachelor of surgery degree (equivalent to an MD in the U.S.) at Pt. Jawahar Lal Nehru Memorial Medical College in India, Leishangthem completed residencies in ophthalmology, internal medicine, and neurology at Kasturba Medical College and Alakh Nayan Mandir Eye Institute in India and in internal medicine and neurology (as chief resident) at Albert Einstein Medical Center in Pennsylvania.

She completed fellowship training in using lasers for managing diabetic retinopathy at the Aravind Eye Hospitals in India and in neuro-ophthalmology at Stanford University.

“Take in Hindi, Manipuri, and Urdu, Leishangthem sees patients at the Outpatient Pavilion on UConn Health’s Farmington campus.

“I think neuro-ophthalmology is a very challenging field. It requires you to have not only a knowledge of just the eye. You have to have a knowledge outside the eye, you need to know what the brain is and how that works,” she says. “I love the fact that neuro-ophthalmology brings both of them together, helps you process the information, and helps you help your patients who really need an answer.” — JULIE BARTUCCA, CAROLYN PENNINGTON
Fixing Pain to Keep Patients Running

With backgrounds in athletics and 25 years in private practice, married podiatrists Drs. Karla and Michael Scanlon joined the Foot and Ankle Program at UConn Health Orthopedics and Sports Medicine in February 2020, seeing patients in Storrs and Willimantic.

“arly in my education, I had an interest in sports medicine and was fortunate to have a mentor who encouraged me to look into the field of podiatry,” says Karla. “Podiatry contained the clinical and surgical aspect of medicine that was very appealing to me while being a profession that allowed me to maintain a well-balanced lifestyle.”

Michael had completed his master’s degree in athletic training and was working in the field as an athletic trainer when he found his niche was focusing on foot and ankle issues. A friend was studying podiatry and introduced Michael to the field.

“I get the most enjoyment from being able to help treat and fix the pain patients are experiencing,” says Michael. “They agree that moving their practice to UConn Health was an excellent fit and the opportunity to focus solely on treating their patients, removing the business aspect of running a solo practice. The Scanlons specialize in foot and ankle disorders, irregularities such as overpronation, extremely high or low arches, or fallen arches (flat feet), and other structural or balance-related issues that cause foot pain. They also diagnose and treat toenail problems, blisters, corns, calouses, foot fungi, heel pain, metatarsal discomfort, bunions, and foot symptoms associated with gout, diabetes, and other conditions.

We try various types of conservative treatments prior to surgery,” says Karla, but the Scanlons perform surgery — typically outpatient — when necessary. The Scanlons are excited about the new Gait Analysis Program recently launched at the Foot and Ankle Program. This leading-edge technology is used to identify the muscle activity, movements, and mobility nuances unique to each person. With this information, more accurate diagnoses and treatments for abnormal movements can be identified, and corrective action for biomechanical issues can be taken.

“Many of our patients are athletes and runners who are always relieved to hear we can help them with their pain issues without requiring them to give up the sport they love,” says Michael. — JENNIFER WALKER Learn more and make an appointment at health.uconn.edu/orthopedics-sports-medicine.

HONOR ROLL

In recognition of his advocacy on behalf of those affected by multiple sclerosis, Dr. Jaime Imitola, director of UConn Health’s Division of Multiple Sclerosis and Translational Neuroimmunology, won the National MS Society’s 2020 Inspiration Award.

Three UConn Health researchers have been named American Association for the Advancement of Science (AAAS) Fellows for their scientifically or socially distinguished efforts to advance science or its applications. Among the 489 new fellows inducted this year were:

• Dr. Frank Nichols of UConn School of Dental Medicine, for distinguished contributions to the field of periodontology, particularly his seminal work in determining the role of bacterial lipids in the pathogenesis of periodontal disease;

• School of Medicine Dean Dr. Bruce T. Liang, for his basic science work studying the physiology and pharmacology of receptor and ion channel signaling; and

• Peter Selkow, Ph.D., a microbiologist at the School of Medicine, for his work uncovering the secrets of bacterial spores, the vectors of many feared human diseases, including botulism, tetanus, and anthrax.

Dr. David Banach, hospital epidemiologist, and Nancy Dupont, nursing director of epidemiology, were honored as 2020 Health Care Heroes by the Hartford Business Journal in the physician and health care staff categories, respectively. Both played integral roles in the hospital’s Covid-19 response.

UConn School of Medicine associate professor Beiyan Zhou, Ph.D., Department of Immunology, and research assistant Aundraya Montgomery, Department of Biomedical Science, were among four UConn researchers honored as leaders in their fields at the Connecticut Technology Council’s 16th annual Women of Innovation awards gala. Zhou was honored in the Research Innovation and Leadership category and Montgomery was honored in the Community Innovation and Leadership category.

Wizdom Powell, Ph.D., UConn Health Disparities Institute director and UConn Health associate professor of psychiatry, received the Connecticut Psychological Association’s Distinguished Contribution to the Science of Psychology Award for 2020.

Liisa Kuhn, Ph.D., associate professor in the Department of Biomedical Engineering, received one of the highest honors in the field of biomaterials: the honorary status of Fellow, Biomaterials Science and Engineering, from the International Union of Societies for Biomaterials Science and Engineering.

UConn School of Dental Medicine achieved its highest-ever ranking of 8th among 67 dental schools in the U.S. for overall research funding from the National Institutes of Health.

Dr. Cato T. Laurencin, University Professor, was the recipient of the 2020 Mike Hogg Award and Lecture, the most prestigious award given by the University of Texas MD Anderson Cancer Center. It is granted to practicing scientists and physicians who have made and continue to make exceptional transformative contributions to the field of biomedical research. Laurencin’s lecture, “Regenerative Engineering: A Convergence Approach for Addressing Grand Challenges,” was delivered virtually.

Vijay A. Rathinam, DVM, Ph.D., associate professor of immunology and director of the Graduate Program in Immunology at UConn Health, and George Weinstock, Ph.D., professor of genetics and genome sciences at UConn Health and director of JAX, are among six UConn researchers on the 2020 Highly Cited Researchers list, released recently by Clarivate and the Web of Science index.

Victor Hesselbrock, Ph.D., HealthNet, Inc., Endowed Chair in Addiction Studies, will receive the Research Society on Alcoholism’s 2021 Henri Begleiter Excellence in Research Award in June.

Updated Asthma Treatment Guidelines Published

In late 2020, the National Institutes of Health (NIH) announced the first updates to federal comprehensive asthma management and treatment guidelines in more than a decade. Published in the Journal of Allergy and Clinical Immunology, the 19 new recommendations in six key areas of asthma diagnosis, management, and treatment focus on tailored treatment interventions for specific age groups based on disease severity using inhaled corticosteroids, long-acting antiasthmatic agents, immunotherapy, indoor allergen mitigation, fractional exhaled nitric oxide testing, and bronchial thermoplasty.

Dr. Michelle M. Cloutier, professor emeritus of dental medicine at the UConn School of Dental Medicine, chaired the 19-member National Asthma Education Prevention Program Coordinating Committee (NAEPPCC) Expert Panel Working Group, run by the NIH’s National Heart, Lung, and Blood Institute.

Several new features of the report aim to help health care providers and clinicians engage successfully with their patients and families to put the recommendations into practice. The report and additional clinician resources are available at www.nhlbi.nih.gov/ashmguide./
Melding Empathy and Expertise for Compassionate Pulmonary and Critical Care

Part of what shaped Dr. Jose Soriano’s path to the intensive care unit is his experience there—not as a physician but as a husband holding his wife’s hand while she was on life support. Soriano already had a personal motivating factor to eventually pursue pulmonary medicine, and his final days with his wife, Nita, solidified his interest in critical care, particularly its palliative and family aspects.

“The nurses especially contributed so much and were so comforting in a time where I forgot all the medicine I ever knew,” Soriano says. “I learned a lot about how important palliative care is, not only for the patient but also for the family members, because ultimately the family members are also our patients.”

Soriano’s perspective is fitting for a setting like an ICU, where during a time of heavy visitor restrictions, family members may not get the chance to hold their loved one’s hand while saying goodbye. “Most of the time, when the family members come in, they’re able to at least get that psychological comfort, they can touch their loved one,” Soriano says. “But with Covid, they couldn’t. That’s really tough.”

During his second year as a medical student at St. George’s University in Grenada, Soriano’s grandmother was diagnosed with pulmonary fibrosis, a disease characterized by damaged and scarred lung tissue. During the progression of both her disease and his medical training, he became more familiar with this and other types of what is known as interstitial lung disease, today his primary area of expertise. “At that point was when I said I really want to do pulmonary medicine, because I want to see what I can contribute to help people or family members so that they don’t have to go through what I went through, seeing my grandmother, who was like my second mom, pass away in our home from respiratory failure,” Soriano says. That was in 2010, as he was finishing his internal medicine residency training at UConn Health. He went into practice as a hospitalist, with an eye toward future training in pulmonary medicine. In 2017 he returned to UConn to stay, first for a pulmonary critical care fellowship, then as a member of the pulmonary medicine faculty starting last year. “What really made me want to stay as faculty here was that I had such a positive experience,” Soriano says. “The attendings took so much time and they put so much effort into my education so that I can be the best pulmonologist that I could.” And he’s looking forward to passing that to the trainees he now mentors. “I always believe that you can find a teaching point, and like one of my old mentors would say, every patient is a textbook chapter,” Soriano says. “No matter what you think you know, you can learn so much from a patient.”

— Dr. Jose Soriano

I learned a lot about how important palliative care is, not only for the patient but also for the family members, because ultimately the family members are also our patients.

Q How do Botox injections help with migraines, and how do you know if someone is a candidate to receive them?

Botox blocks the messages from the nerve to the muscle, causing temporary muscle relaxation. While no one understands precisely why Botox helps with migraines, it was FDA approved in 2010 and is considered safe and effective for the treatment of chronic migraines. A good candidate is someone who is 18 or older who suffers from chronic migraines, with headaches occurring at least 15 days per month who has not had success controlling them with other treatment options.

Q What is the treatment like?

The treatment for chronic migraines is a quick and simple outpatient procedure. There is no need for anesthesia, and there are no restrictions after the procedure. The provider uses fine needle injections that target the most common areas affected by headaches, such as the forehead, temples, back of the head, neck, and shoulders. The total visit time is around 15 minutes.

The treatment with Botox is repeated every three months, and patients experience, on average, eight to nine fewer headache days per month than before treatment. You do not need to change your current medications before the procedure, and you can receive Botox injections in addition to other treatments for headaches.

Q If someone thinks Botox might help their migraines, how can they seek treatment?

If you have a diagnosis of chronic migraines that is not well controlled with your medications, and you still have 15 or more headache days per month, you can ask your neurologist or primary care physician to refer you to our UConn Health Botox Clinic. If you do not have a confirmed diagnosis of chronic migraines, you should first see a neurologist. We can help you find a headache specialist here at UConn Health.

THE DOCTOR IS IN

THE DOCTOR IS IN

THE DOCTOR IS IN

UConn Health Botox Clinic treats patients with neurological conditions, such as dystonia, spasticity, drooling, and chronic migraines. The clinic has several providers dedicated to the use of Botox for neurological disorders. To learn more, visit s.uconn.edu/botoxclinic or call 860-679-4888.
Dedicated Line for Referring Physicians

**860.679.5555**

- Make patient appointments
- Arrange patient admissions
- Engage in physician-to-physician consultation
- Obtain general information and assistance

Contact **practicerelations@uchc.edu** for general information or for assistance regarding the resources, education, and referral information UConn Health requires.

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**COLLABORATIVE CARE FOR BRAIN AND SPINE DISORDERS**

The Brain and Spine Institute at UConn Health provides exceptional care for patients suffering from disorders of the brain and spine. Our world-renowned experts from neurology, cranial neurosurgery, spine surgery, non-operative spine care, and neuroradiology collaborate to offer you comprehensive, personalized care.

The team at The Brain and Spine Institute provides support and resources for patients through every step of their journey. Our providers offer compassionate care for you from diagnosis to treatment and ensure you understand all of your care options.

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