

Saliva testing at MUSC: Screening for COVID just got less invasive, safer



Photo Provided

Dr. Rasesh Parikh, a staff scientist in Dr. Vamsi Gangaraju's lab, validates a COVID saliva test.

BY BRYCE DONOVAN

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What once seemed like a dream is now a reality at MUSC Health. Instead of a swab up the nose, patients now may be able to test for COVID-19 by simply spitting in a tube.

Thanks to the hard work of two teams, MUSC is ready to roll out saliva testing this week. Satish Nadig, M.D., D.Phil., and Vamsi Gangaraju, Ph.D., have led the team focused on using research lab equipment, while Rasesh Parikh, Ph.D., a staff scientist in Gangaraju's lab, was the boots on the ground on the research lab side, playing an instrumental role in setting up saliva testing.

Julie Hirschhorn, Ph.D., and Steven Carroll, M.D., Ph.D., have been at the helm of the team concentrating on the high-output equipment from the clinical lab. Together, they leaned on extensive personnel working behind the scenes, including information services, supply chain experts, logistical consultants and project management.

"This was a big problem to solve, and it needed a lot of heads to come together and work together," Gangaraju said. "The collaboration that has gone on with this has been amazing."

Hirschhorn agreed. "Because the clinical labs and research labs are regulated in different ways, it isn't always easy to work together. But because of how

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A national call to action to address cancer disparities

BY DAWN BRAZELL

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On Sept. 16, the American Association for Cancer Research (AACR) released its inaugural Cancer Disparities Progress Report: Achieving the Bold Vision of Health Equity for Racial and Ethnic Minorities and Other Underserved Populations.

MUSC Hollings Cancer Center researcher Chanita Hughes-Halbert, Ph.D., not only contributed to this first-of-its-kind report as a member of the steering committee, but she was part of the virtual Congressional briefing that unveiled the report to the nation.



Hughes-Halbert

Hughes-Halbert said the report tracks the progress that has been made to understand and address cancer health disparities and highlights the multilevel determinants of racial and ethnic disparities in cancer risks and outcomes. "It underscores the importance of the continued efforts and investments that are needed to conduct transdisciplinary translational research that can transform our health care systems, public health programs and the communities in which we live."

Among the findings in the report were:

- ❑ African Americans have had the highest overall cancer death rate of any racial or ethnic group in the United States for more than four decades.
- ❑ Hispanics have the lowest colorectal cancer screening rate of any racial or ethnic group in the

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MUSC aids Clemson, CofC with Health Services.

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AROUND CAMPUS

J. Scott Broome



J. Scott Broome, was named CEO of the MUSC Health Lancaster/Chester Division. Broome will lead the Lancaster/Chester Division of MUSC Health-Lancaster Medical Center and MUSC Health-

Chester Medical Center and medical practices and affiliates. A Wingate, North Carolina native, Broome was formerly associate chief of affiliations for MUSC Health and was previously at Roper St. Francis Healthcare.

Monica Cayouette



Monica Cayouette, D.M.D., associate professor and chair, Department of Oral Rehabilitation, James B. Edwards College of Dental Medicine, has been awarded the Distinguished Alumnus Service Award by the MUSC

James B. Edwards College of Dental Medicine Alumni Association. The award is given to an alumnus who has given selflessly through activities that benefit the college, community and dentistry profession.

Zachary Evans



Zachary Evans, D.M.D., Ph.D., assistant professor in the Department of Stomatology, James B. Edwards College of Dental Medicine, was recently elected president of the South Carolina

Periodontics Society.

Lacey MenkinSmith



Lacey MenkinSmith, M.D., assistant professor, Department of Emergency Medicine and Global Health fellowship director, was named the OneWorld Health Educator

of the Year. OneWorld Health focuses on supporting and providing affordable health care to impoverished communities in the U.S., East Africa and Central America. MenkinSmith was recognized for her commitment and training of volunteers and mentorship. MenkinSmith is also emergency medicine director of high-risk infectious disease.

Gigi Smith



Gigi Smith, R.N., Ph.D., was named associate provost for educational innovation and student life on July 1. Smith will have two divisions reporting to her: the Division of Educational

Innovation (Center for Academic Excellence, Office of Interprofessional Education and Faculty Resources) and the Division of Student Life (Wellness Center, Counseling and Psychological Services and Student Programs and Student Diversity). Smith, who has more than 25 years at MUSC and 15 years of academic leadership in the College of Nursing, replaces Darlene Shaw, Ph.D., who retired from MUSC on June 30.

Ben Sokol



Ben Sokol, CRNA, Department of Anesthesia and Perioperative Medicine, was honored with the Best Public Relations Effort award by an Individual, Small Group, Organization or Company Not

affiliated with a State Association by the American Association of Nurse

Anesthesiologists at the association's Aug. 25 annual congress. Sokol was recognized by the local chapter of the Cystic Fibrosis Foundation as a Charleston's Finest Honoree for his professional success, influence and philanthropic spirit to promote the cure for cystic fibrosis. Using social media and other resources, he raised funds and promoted community awareness for the foundation as well as advocating the contributions of CRNAs in health care.

Brad Taylor



Brad Taylor, CHFM, was named the new Chief Facilities Officer at MUSC on Aug. 24. Taylor has more than 32 years of experience in engineering, maintenance and construction. Taylor earned a bachelor's of

science in mechanical engineering from the Missouri University of Science & Technology and an MBA from Southern Illinois University. Previously, he was system vice president for design and construction at Fairview Health Services, affiliated with the University of Minnesota. Taylor has served as president and a board member of the American Society for Healthcare Engineering. He replaces former director Greg Weigle who recently retired.

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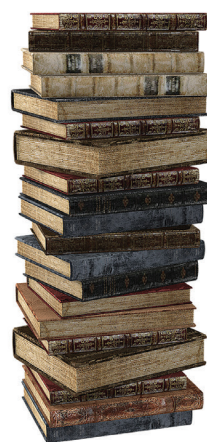
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Letter from the
Office of the

PRESIDENT

**MUSC President David J. Cole**

Dear MUSC family,

While COVID-19 is a current constant in our day-to-day lives, we must keep moving forward with important initiatives that embody our values and enhance our ability to deliver on our mission. In an early June update, I said that as an enterprise we need to elevate our commitment to equity and address racism.

As a part of this effort, I'm excited to announce the creation of the enterprise wide MUSC Office of Equity, which will fully integrate the academic and health care delivery dimensions of our ongoing institutional diversity, equity and inclusion (DEI) work. This new office will be led by interim chief Dr. Willette Burnham-Williams, who will become a member of President's Council and the enterprise senior leadership team. Under Dr. Burnham-Williams' leadership, the Office of Equity is charged with further elevating, empowering and prioritizing innovative infrastructure, programs and resources across the enterprise. As an institution, our integrated purpose will be to address racism, elevate diversity, equity and respect, and help assure that our workforce, students and leadership reflect the communities we serve.

Furthermore, as a part of this aligned effort, MUSC Health is making a commitment to set the goal of truly delivering equitable health care throughout our state. This is an important and complex topic involving larger societal and socioeconomic issues that impact the health of underrepresented minority populations. Success in this domain will require commitment, innovative approaches and partnerships. Our mutual goal, fueled by our Office of Equity, is to be national leaders in this important domain and truly become "One MUSC."

Dr. Burnham-Williams has served as chief diversity officer for the University since 2015, and joined the institution in 2006. A highly-qualified and talented individual with more than 30 years of leading strategic diversity goals, she consistently demonstrates our MUSC shared values and is eager to begin an enterprise wide needs assessment process that will guide important decisions in the days and months ahead. Please join me in congratulating her on this opportunity to help further transform our enterprise.

MUSC has never been more committed to, and capable of, making a positive and widespread difference than we are today. The creation of this new enterprise office and the health system's strategic focus on delivering equitable health care are a

**Burnham-Williams**

MUSC in Top 5 for innovation impact from research

Ranking compares innovation among research institutions

Staff Report

MUSC joins a select group of pure medical schools recognized for innovation output as measured by the Innovation Impact Index, developed by the George W. Bush Institute at Southern Methodist University and Opus Faveo Innovation Development ranking No. 3 in the category Pure Medical Schools, above Mayo Foundation for Medical Education and Research and Baylor College of Medicine.

The index, the first-of-its-kind, measures effectiveness in translating research spending into innovation output that affects economic and societal advancement. Research spending is defined as sponsored research award funding expended in the pursuit of scientific discovery and translation. Other factors used in the index include patents, technology transfer agreements, spinout companies, STEM graduates and research citations.

J. H. Cullum Clark, Ph.D., co-author of the index report, emphasized the importance of academic innovation. "Universities play an important role in fostering innovation in communities across the country, and that innovation drives

economic growth and rising levels of prosperity," he said.

Major research institutions are at the center of efforts to understand and combat COVID-19, leaders at the center said, adding that now more than ever, institutions that build competitive research operations around life science, biotechnology and other vital STEM fields are an essential driver of America's economic growth and pandemic recovery, referring to science, technology, engineering and mathematics.

MUSC is the only South Carolina institution listed in the index. The university established the position of chief innovation officer in 2018, with Jesse Goodwin, Ph.D., serving in the inaugural role. "This is a huge accomplishment for MUSC, representing years of work and our combined strengths in research and STEM education as well as a robust innovation ecosystem that fosters entrepreneurship and technology transfer," she said.

**Goodwin**

fuller realization of our institutional values (collaboration, integrity, innovation, respect, compassion). As an institution, we are not just starting down this path. I am confident that MUSC is positioned well in this moment to succeed and contribute to important advances in these areas. The prior work and progress that we have achieved together during the last five years provides the opportunity for us to get to the next level-creating a culture that sets an example for our community and peers across the nation.

Finally, thank you for your continued commitment to monitoring and responding well to the COVID-19 pandemic. MUSC continues to serve the state as a trusted organization during this unprecedented time; your efforts have and will continue to make a difference. Please stay safe and well.

Yours in service,

David J. Cole, M.D., FACS
MUSC president

Commentary: Celebrate women in medicine and those who blazed the trail

Editor's Note: The following column was published in the Sept. 5 issue of The Post and Courier. It is reprinted with permission.

BY DANIELLE B. SCHEURER

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Each September, the American Medical Association honors the achievements of women physicians during Women in Medicine Month. This year's theme is "Advancing Equity, Creating Change."

I'm immensely proud of my fellow female physicians, and this year, in particular, I'm equally proud of all of my colleagues in health care — every physician, along with the selfless nurses, techs, therapists and first responders on the front lines,



Scheurer

caring for patients during this pandemic.

As any physician knows, we cannot go it alone, much less achieve our best outcomes, without the support of a dedicated team.

Yet many of the pioneering women who came before me were unable — and unwelcome — to learn and practice alongside their male counterparts.

If not a solo experience, theirs were often lonely journeys that forced them to rely on their courage, grit and commitment to doing what was right for their patients, many of whom were society's most marginalized.

These women include trailblazers such as Elizabeth Blackwell, M.D., the first woman to graduate from a U.S. medical school, New York's Geneva Medical College in 1849, and Rebecca Lee Crumpler, M.D., the first African American woman to earn a medical degree in the United States, graduating from the New England Female Medical College in 1864.

In 1889, Susan La Flesche Picotte,



Photo by Son Nguyen

Dr. Meron Selassie is a physician in the Department of Anesthesia and Perioperative Medicine.

M.D., became the first Native American woman to earn a medical degree, graduating a year early and first in her class — 35 years before Native Americans were recognized as U.S. citizens. Mary Edwards Walker, M.D., the first female surgeon in the United States, was also the U.S. Army's first female surgeon, serving in the Civil War, and the first and only female Medal of Honor recipient.

Along with others, these women paved the way for women to succeed in research, academic medicine and public health in the 20th century. Virginia Apgar, M.D., was the first woman to become a full professor at Columbia University College of Physicians and Surgeons. She also developed the Apgar score, a test to evaluate a newborn's health and considered among the first examples of evidence-based medicine.

In 1947, Gerty Cori, M.D., became the first American woman to earn a Nobel Prize in Physiology or Medicine. In 1990, Antonia Novello, M.D., became both the first woman and Hispanic to be appointed as U.S. surgeon general. In 1997, Nancy Dickey, M.D., was elected as the AMA's first woman president.

Each of these women has inspired generations of young girls who dared to pursue a dream.

I can only imagine what our earliest role models would think today if they could look back on the trails they blazed and the strides women have made. Women hold the majority of seats — 50.5% — in

U.S. medical schools and outnumber male counterparts in OB-GYN, pediatrics, allergy and immunology, genetics and dermatology.

Female physicians, who as mothers, wives, daughters and sisters are the health care decision-makers for their immediate and extended families, are credited with bringing an extra dose of empathy and understanding to patient care.

Still, women physicians have more strides to make. Our profession must do more to address pay inequity; retain female physicians, 40% of whom leave full-time practice early or altogether; and encourage women to enter fields where they are woefully underrepresented, such as orthopedic surgery, neurological surgery and interventional radiology.

I've been fortunate to have the support of professors, colleagues and a spouse who have valued my commitment to medicine and encouraged me every step of the way. I'm also privileged to mentor young physicians.

As I reflect on the accomplishments of those who've come before me and those I work alongside, I say, "Job well done." Most of us won't make the history books or even the daily news roundup. But we will continue to be role models for the next generation of physicians, teaching, delivering care, expanding the body of medical research and shaping health policy.

That will be our legacy.



2020 MUSC Virtual Benefits Fair

Webinar Schedule to be announced soon!
September 21st-25th, 2020

The University and Medical Center Human Resources Departments will be hosting a Virtual Benefits Fair the week of September 21st-25th, 2020.

The fair will include free live webinars with several vendors including AFLAC, AIG/VALIC, ASIFlex, Empower Retirement, Metlife, TIAA and others. Webinars are mostly held in 30minute increments between the hours of 9am and 4pm.

Employees are encouraged to attend webinar sessions during the week of the fair to learn about plan changes effective January 1, retirement preparation and vendor product offerings.

Keep an eye on your MUSC email as more information will be publicized in early September with the final webinar schedule.

Direct any questions regarding the MUSC Virtual Benefits Fair to benefits@musc.edu.



MEET ASHLEY



Ashley Hicks, M.D.

Department; How long

Department of Family Medicine, MUSC Health — Florence; One year

Hometown

Winnipeg, Manitoba, Canada

How are you changing what's possible at MUSC

By empowering people to take charge of their own health

Family, pets and their names

Nala is my sweet English golden retriever

Last book read

"The Untethered Soul" by Michael Singer

Something that relaxes you during COVID

Guided meditations!

Who inspired you to become a doctor

My father, who owns a small business. He taught me how to be motivated and dedicated to your goals.

Favorite quote

"And into the woods I go, to lose myself and find my soul." — John Muir



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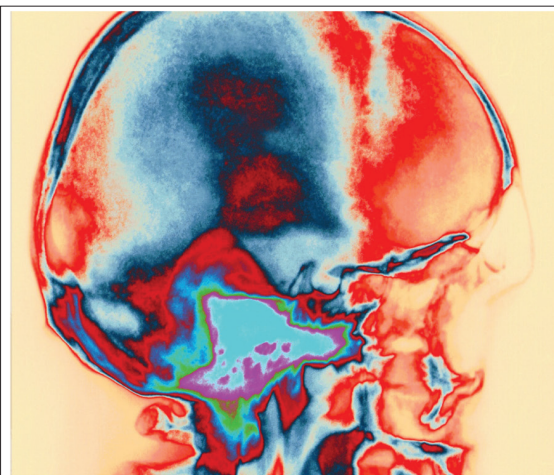
Location: MUSC Health West Ashley Medical Pavilion

Address: 2060 Sam Rittenberg Boulevard, Charleston, SC 29407

Dates: Saturdays, September 12-November 7, 2020

Times: 9:00 to 11:00 a.m.

Details: MUSCHealth.org/sports



Have you had a Traumatic Brain Injury?

MUSC and the RHJ VAMC are conducting a research study in healthy adults and people with Traumatic Brain Injury.

If you are between 30 and 65 years of age and interested in participating, please call or email for more information.

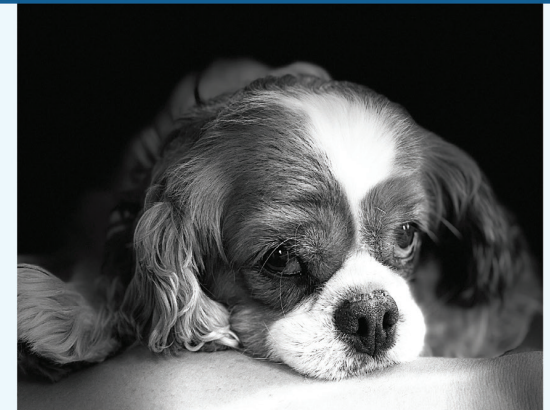


Contact Laura Lohnes at:
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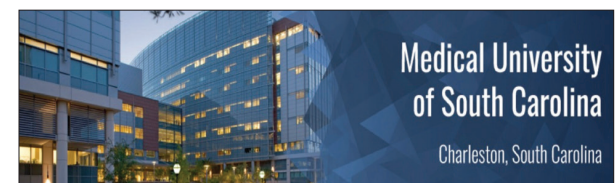
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Some children with autism face severe disruptions during pandemic

By HELEN ADAMS

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When the coronavirus caused schools to cancel in-person classes, the mother of a 4-year-old Mount Pleasant boy with autism was concerned, to say the least. “I was panicking. Henry thrives on structure and schedules and knowing what to expect,” Kelly Parker said. “I was so worried that he was going to regress or stop talking or start having tantrums every day.”

Henry’s occupational and speech therapy appointments shifted to online sessions, too – not exactly ideal for a preschooler with a disability. “I thought that sounded awful. But we had to do it, because I couldn’t let him regress,” Parker said.

A new survey of 8,000 families affected by autism shows the Parkers have plenty of company in struggling at times during the coronavirus pandemic. More than 60% reported severe disruptions in services and therapies. The problem was worst for children under the age of 5, like Henry.

The survey was done through SPARK, a huge autism research project that’s looking for more families to take part. SPARK stands for Simons Foundation Powering Autism Research for Knowledge. It’s collecting medical and genetic information to increase our understanding of autism and give information and resources to families. Along the way, it conducts surveys such as the recent one on the impact of COVID-19.

Laura Carpenter, Ph.D., a pediatrics professor at the Medical University of South Carolina, is leading MUSC’s part of the multiyear SPARK study. She said other key findings of the COVID autism survey include the fact that the families actually like having medical appointments online, and some were surprised to see how well online learning

went as well.

“Not having the stress of the social part of school and being able to focus on the academic part was nice for certain families. It was nice to hear it’s not all bad news,” Carpenter said. “I’ve been really concerned about these families, especially the ones whose children had pretty significant special education needs.” She encouraged families to make at-home routines as similar to pre-COVID times as possible.

Parker knows just how important that is – and how important participating in SPARK can be for families like hers. MUSC asked the Parkers to participate after Henry’s diagnosis. “Automatically, I was like, ‘Sure. Anything that is going to help research for autism or help people gain awareness. Whatever we can contribute, we’re in,’” Parker said.

“I know the research has come a long way, but we still have a long way to go. Is this genetic? Is it environmental? What causes this? That’s what I asked myself over and over again. Is it something I did during pregnancy or from birth till 18 months or was this just created with him in the womb and he was born with this? There’s no definite answer,” Parker said.

“I feel like having a kid with autism, if we can contribute to them knowing more about why people have it or if there’s any way to prevent it, then we’ll do whatever we can to do a tiny part of that research.”

Henry and his parents gave saliva samples to SPARK researchers from MUSC for genetic testing. They also have the chance to participate in surveys and other research related to SPARK. Any important findings will be shared with



Carpenter



Photos Provided

Four-year-old Henry and his mother Kelly Parker. The pandemic has caused her to get creative when it comes to services and activities for Henry, who has autism.



Henry’s mom tries to include a lot of outdoor activities during the pandemic, like bike riding and hiking.

the Parkers. The researchers pay families for their time.

The first sign that Henry was autistic came when he was about a year-and-a-half old. “He was saying about 10 words. You could ask him to point to his nose, point to his head and he did – he was understanding what we were saying. And then it just stopped. You would say something to him and point to your head and he would stare at you.”

Speech therapy helped. Her son also needs occupational therapy and a special education teacher to learn how to succeed in school and life. Parker said that includes learning how to cope with sensory issues that became apparent last year.

“He would roll on the floor, grab kids’ cheeks, pull kids’ hair. He was laughing and having a great time thinking he was doing what was right, but he was all up in their space and they were like, ‘This is awkward. Leave me alone.’”

With expert help, Henry is learning to interact with other kids in ways they’re all more comfortable with. But that hasn’t been much of an issue lately. The pandemic has kept people home, including the Parkers. Henry’s mom takes care of him and his younger sister full-time.

“We spent a few days doing whatever – playing. And I was like, ‘I have to get

See AUTISM on page 11

MUSC Health partnering with Clemson, CofC on student health services

By LESLIE CANTU

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As the fall semester begins at Clemson University and the College of Charleston, students at both universities have new health care options, thanks to partnerships with MUSC Health.

The students now have 24/7 access to a health care provider through MUSC Health's virtual urgent care. Clemson students have had scheduled access to telepsychiatry for the past academic year, and that service will now be provided at the College of Charleston as well.

Both universities have student health centers, and the doctors and nurses at those centers will continue to provide care. But, as Eugene Hong, M.D., chief physician executive at MUSC Health, pointed out, health care isn't central to the mission of most universities.

"A university without a medical school is not in the business of delivering health care," he said. "I think Clemson and the College of Charleston are being smart to look for a health care partner to deliver student health services."

MUSC Health will supplement the care already provided by student health services by offering care when it wouldn't otherwise be available – such as after-hours urgent care – and by offering more mental health services, an area of concern at colleges across the nation. An American College Health Association survey in 2019, for example, found that almost 28% of students reported that anxiety affected their academic performance, and 20% reported that depression affected their academic performance.

"It's a huge challenge for universities to deliver on mental health services. Already we're doing telemental health services, and it's going very well," Hong said.

In addition, at the College of Charleston, MUSC Health will offer on-site psychiatry services, improved availability to clinical care, integrated imaging and lab and pharmacy services.

"There are many days out of the year, particularly during flu season and at exam times, when the number of students seeking to make an appointment exceeds our availability," said College of Charleston Student Health Services director Bridget McLernon Sykes. "SHS has the capacity to see approximately 100 students per day, but with the 24/7 virtual urgent care, that capacity will greatly increase both during normal operating hours as well as outside of the normal hours of in-person care. And the collaboration allows providers to have consultations with infectious disease experts as needed, in addition to providing students with access to MUSC's vast network of specialty care."

Tom Crawford, Ph.D., chief operating officer at MUSC Health, said providing care at the two



Students at the College of Charleston as well as at Clemson University, have more options for health care after MUSC Health partnered with the two universities' health services.

Photo by Sarah Pack

universities is just part of MUSC Health's mission to ensure exceptional care is available to all South Carolinians. He said these partnerships, in particular, leverage two of MUSC Health's strengths – telemedicine and ambulatory care.

The universities are akin to small towns. Clemson's student health center provided 50,000 health visits last year, and the College of Charleston's provides between 15,000 and 17,000.

"We talk a lot about reaching rural access patients and underserved populations, but really, a university community is a whole other population," Hong said.

He's excited about the opportunity to make an impact on more people and become a partner in community medicine with the universities.

Much of the work of the two partnerships will be behind the scenes. At both universities, MUSC Health will hire an operations manager who will assess programs and services, budgets, policies and procedures. Danielle Scheurer, M.D., chief quality officer, will be able to walk the student health operations through the quality assurance and performance improvement process, Crawford said. Joint oversight groups are currently establishing performance metrics around areas like patient care and satisfaction, he said.

"We're really just kicking off the relationship, but we're really, really excited to further the collaboration with Clemson to help build around an already solid infrastructure for student health and to integrate some of our service delivery models with the infrastructure they currently have in place," he said.

George Clay, DHA, executive director of Clemson's Redfern Health Center, said the Redfern team prides

itself on providing an integrated system of care.

"One of the things I am really proud of is that we have a team at Redfern that is always looking for ways to improve," Clay said. "That is an important aspect of our culture, and we will approach the partnership in that spirit."

The agreement with Clemson was announced earlier this summer. Virtual urgent care became available to students on July 15, and so far, there have been 20 virtual care visits; that number is expected to pick up as Clemson's fall semester began on Aug. 19 in a virtual format.

The College of Charleston fall semester begins online on Aug. 25.

"The College of Charleston already has a number of dedicated people who are doing an exceptional job, but it's now about piggybacking onto our health system," Crawford said.

Of course, the COVID-19 pandemic is hanging over both universities as classes resume, and Crawford said the pandemic might initially push MUSC Health to offer more virtual services in places where it had planned in-person options. But, he added, "What MUSC Health is known for is not just our ability to provide exceptional care, but our ability, for a large health system, to be nimble and pivot. We demonstrated that during COVID, and we'll demonstrate that to our student health partners to meet their needs as they make decisions moving forward."

Hong said he expects the partnerships to deepen and evolve over time.

"It can be so much more, so we're really excited about getting started and having the opportunity," he said.

SALIVA *Continued from Page One*

important it is for us to understand this coronavirus better, it brought us together in ways we previously never thought of. And the truth is that it was really nice to have fresh eyes on difficult specimen types.”

As for its reliability, the saliva test’s accuracy — or sensitivity, as researchers and clinicians call it — is currently above 90%.

Besides the obvious benefits to the patient, there were several other reasons for developing a reliable saliva test. While the nasopharyngeal (NP) test goes deep into the nasal cavity and must be administered by a health care professional, the saliva test — because the patients can hold the tube and spit in it themselves — requires less personal protective equipment (PPE), not to mention less extensive training to collect. So not only is it easier on the patient, in theory, it is safer for the health care providers.

“It’s just a lot less invasive,” Nadig said. “Safer all around. It’s simple and effective.”

The transition from NP testing to saliva wasn’t something that happened overnight. The saliva tests at MUSC Health underwent a rigorous validation process before being made available to patients. This critical step demonstrates that it favorably compared to the “gold standard” NP swab tests used within the clinical laboratories at MUSC. High levels of accuracy were reported for the MUSC Health saliva test, thanks to the continued interdisciplinary collaboration and expertise-sharing among clinical care and bench research teams.

MUSC is planning to start saliva testing on symptomatic ambulatory



Nadig

patients in Charleston, followed by patients in Florence and Lancaster before slowly ramping it up for wider use. As availability becomes wider in the coming weeks, it will be rolled out to additional areas.

“We wouldn’t be using this method of testing if it weren’t accurate,” Carroll said. “Our top priority is always to protect our patients. If we’ve put it out there, we believe in it.”

As MUSC Health makes COVID-19 saliva testing more widely available, it is important to make sure individuals understand the details related to its use.

If there’s a silver lining to the pandemic, it’s that so many smart people have come together to work in new and innovative ways.

“We are going to take this collaboration and expand it going forward,” Carroll said. “We want to keep this kind of out-of-the-box thinking going so everybody doesn’t go back to their silos once this pandemic is over.”

COVID-19 Saliva Testing Details at MUSC

- Saliva is much easier to collect for the patient and providers involved, so it provides another tool in the testing tool box.
- NP swabbing and saliva-based testing will continue in parallel at MUSC — meaning some patients will still take the NP test — both take about the same amount of time to process; one method does not replace another for all patients.
- MUSC Health is pursuing point-of-care “rapid” saliva-based testing, but it is not available at this time.
- PCR-based saliva testing is not necessarily faster in terms of time to process results within the lab, nor is it less expensive to process than NP swab testing.
- Saliva testing might not be ideal for every patient in every situation. The SARS-CoV-2 virus replicates in the nasopharynx, which is why NP swabs are the gold standard. It does not replicate efficiently in the oral cavity, and therefore, the detection of the virus in saliva is most reliable during the acute phase of infection.

If number of COVID cases in Tri-county drops by same number in mid-September, key tracking indicator will go yellow

BY HELEN ADAMS

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The leader of the MUSC COVID-19 Epidemiology Intelligence Project hopes he’ll stop seeing red soon in a key coronavirus tracking category.

“It’s really good news. I’m proud of the community for doing the right thing and sticking with things,” said Michael Sweat, Ph.D., of the latest weekly new COVID-19 case count for the Tri-county area. It dropped to 678 last week for Berkeley, Charleston and Dorchester counties combined. The week before it was 1,026.

If the total number of new cases drops like that again in the coming week or weeks in the Tri-county area, it would

finally bump one of his team’s indicators from red to yellow. The category rates the number of reported COVID-19 infections per 10,000 people on a scale from green to red. To get out of the red zone, the number of cases per week would have to drop to less than 388.

“It’s great we’re getting closer,” Sweat said. “The growth rate is also really, really low.”

The growth rate of COVID-19 in the Tri-county area, another of the factors his team is tracking, is down to 0.4% in his team’s latest update. It was 0.7% the week before. That keeps it comfortably in the green zone. It will stay there as long as it remains under 1%.

“With 678 cases last week, there’s still plenty of virus around. But there’s no question — it’s down,” Sweat said.

“There was a blip recently that was scary,” he noted, referring to a spike in cases in the Tri-county area between Aug. 28 and Aug. 31. “We were wondering if it would keep going up. Fortunately, it hasn’t.”

But he has other concerns. “This kind of great news always carries with it the paradox of prevention issue.”

When things are improving, as they are now, people tend to stop taking precautions. If that happens with COVID-19, things could take a dangerous turn as we head into the cooler months. “I’m doing my best not to be negative. But you think ahead with winter and the holidays, and I think it’s going to be hard. It’s kind of a worry what’s going on with universities,” Sweat said.

“I think the smart thing to do is to make a plan for how to protect yourself — a science-based plan — and stick with it until we get a vaccine. When the numbers go down, I know people say, ‘It’s better. I can get together with my friends, and I can hang out and go to a concert — go out to a bar.’ And the logic sounds right — the little voice in your head telling you that. But it isn’t right. You need to wait till we get a vaccine before you let up. That’s what I want to

emphasize.”

A vaccine is coming, Sweat believes. He looks forward to a time when his team will add vaccination rates to the indicators it’s tracking. “There are a lot of good things going on with vaccines. We should be optimistic about that.”

MUSC developed the COVID-19 Epidemiology Intelligence Project to analyze trends, make projections and help reduce the spread of the coronavirus. While its main focus is on the Charleston Tri-county area, it also provides information on the Florence and Lancaster areas.

The project’s web page is updated at least once a week using data from the South Carolina Department of Health and Environmental Control, MUSC Health, the consumer insight and measurement company Cuebiq, the Census Bureau and scientific journals.

For the latest information about the epidemiology project, visit <https://web.musc.edu/coronavirus-updates/epidemiology-project>.



Sweat

Employees recognized with third quarter MUSC Innovator Awards

Staff Report

The Office of Innovation is proud to recognize the following individuals and teams as the September 2020 recipients of the “I am an MUSC Innovator” award.

Amanda Cameron, Trial Innovation Network Program manager, South Carolina Clinical & Translational (SCTR) Institute

Problem — Upon the declaration of the pandemic and the surge of COVID-19 cases in the U.S., it became clear that research was going to be the path forward to combat COVID-19. In order to prioritize our finite resources and reduce any duplication of efforts, a streamlined approach to the coordination of vetting the COVID-19 studies and execution of trials was developed. This process ensures that faculty members on the COVID Clinical Trials Review Committee have the information needed to make informed decisions on the best studies to prioritize and all decisions are relayed efficiently. In addition, the COVID Operations Committee was developed and fast-tracked the start up of approved trials and ensured coordinated study support to activate and conduct these trials to meet the needs of our community quickly.

Impact — The organizing of study requests and tracking COVID-19 studies is still actively underway, and the process is being modified as needed as the pandemic evolves. The current tracking mechanism in place allows for institutional-level reporting of COVID-19-related research being conducted across campus to reduce duplication of efforts and prioritize our finite resources.

Acknowledgements — It takes a village to vet, coordinate and activate studies. This would never have been possible without the amazing collaborative effort of multiple research departments across campus, specifically the Pulmonary Research Department, Research Opportunities and Collaborations, Research Nexus and SUCCESS Center.

Clare Tyson, Nexus research coordination and management program manager, South Carolina Clinical & Translational (SCTR) Institute

Problem — At the start of the pandemic, SCTR’s Research Coordination and Management (RCM) was actively coordinating over 90 research studies. The critical challenge we unexpectedly faced was how to expeditiously move our active clinical trials to a remote platform to ensure continuity for our research participants during this unprecedented time. I convened a working group comprised of MUSC research stakeholders to address and remove barriers by leveraging existing resources, developing

novel workflows and compiling resources to facilitate continued research activities during the COVID-19 pandemic. The RCM has also played a pivotal role in other areas catalyzing COVID-19 research. With the acceleration of COVID-19 research, members of the RCM participate in a COVID-19 Operations Committee, strategizing and brainstorming implementation solutions related to COVID-19 research at MUSC Charleston and MUSC affiliate hospitals.

Impact — The result of the workgroup’s collaboration was a consolidated resource tool accessible to research teams converting their trials to virtual/remote platforms. SCTR’s communication team created the Remote and Virtual Trial webpage to house this information and SCTR SUCCESS Center created a new Remote/Virtual Trials Navigation service to support even further MUSC’s research workforce in conducting remote/virtual studies. <https://research.musc.edu/resources/sctr/research-resources/remote-and-virtual-trials>. The tool served as a foundation for remote capabilities at our research-naïve affiliate hospitals conducting COVID-19 research. The RCM also provides fast-tracked start-up services and study activities for high enrolling COVID-19 clinical trials and has supported consultation to other research teams on how to implement both COVID-19 and non-COVID research trials remotely.

Acknowledgements — This was an extremely collaborative endeavor comprised of representatives from the IRB; University Compliance; Pathology and Laboratory Medicine; Office of Clinical Research; Epic Research; Hollings Clinical Trials Office; Investigational Pharmacy Services; Office of General Counsel; SCTR’s SUCCESS Center; SCTR’s Project Management; and SCTR’s Research Nexus Clinic, Lab and RCM. The RCM coordinators were instrumental in the development of this tool, as they were in the trenches bringing to light many of the barriers the workgroup subsequently addressed, and they continue to do an outstanding job, supporting and meeting accelerated COVID-19 timelines.

Joe Vuthiganon, D.M.D., associate professor, Oral Rehabilitation, James B. Edwards College of Dental Medicine

Problem — I teach a course called Dental Materials, which is generally a dry topic. The information is about as exciting as reading off the nutrition label for a food product. Being in the first year, most students have no previous exposure to these materials, making it more of an abstract subject. Furthermore, the course is scheduled at a difficult time — mid-afternoon on Mondays and Tuesdays, after students have already had a morning and early afternoon of other classes.

Impact — To make the course more engaging, I crafted lectures themes that are relevant to popular culture — such as Disney, Harry Potter or Star Wars. An audience response system, Poll Everywhere, is used extensively to do periodic check-in questions throughout the lecture, reengage students and provide an anonymous way for students to ask questions. A great feature to use has been Poll Everywhere’s competition feature to do HQ-style review games at the start of each class not only to encourage students to keep up with the material but create an engaging review of the previous class’ material.

Jennifer Dahne, Ph.D., assistant professor, Addiction Sciences Division, Department of Psychiatry and Behavioral Sciences, and a research member at MUSC’s Hollings Cancer Center

Problem — Each year, 21.2 million adults visit a primary care physician and screen positive for depression, but only 30% receive treatment. Nearly all patients (87%) who do receive treatment receive an antidepressant medication alone, despite frequent patient preference for psychotherapy. To extend the reach of evidence-based psychological depression treatment within primary care, Dahne and her team developed Moodivate, a self-help mobile app treatment for depression to be delivered via primary care.

Impact — Via a Phase I Small Business Technology Transfer Award (STTR) from the National Institute of Mental Health, the team and I developed and preliminarily clinically evaluated Moodivate. App development was informed by the brief behavioral activation treatment for depression, a well-established, evidence-based psychological depression treatment. In the Phase I trial, Moodivate, versus treatment as usual, led to significantly greater decreases in depression over time, with treatment gains sustained over two months of follow-up. In March of 2020, the team received a Phase II STTR from NIMH to:

- Refine the app based on participant feedback collected during Phase I and expand the app to Android.
- Develop a provider portal within Epic that will give providers the ability to review their patient’s Moodivate treatment progress and outcomes.

- Conduct a large-scale effectiveness trial (N=600 MUSC patients) of Moodivate versus Moodivate +: the provider portal versus treatment as usual.

Acknowledgments — Jack Kustanowitz from MountainPass Technology as well as a number of MUSC colleagues who assisted, including Vanessa Diaz, M.D.; Marty Player, M.D.; and Matthew Carpenter, Ph.D. Also Amy Wahlquist, Amy Boatright, Noelle Natale, Lisa Coles, Liz Hawes, Johanna Hidalgo, as well

See **INNOVATORS** on page 11

DISPARITIES *Continued from Page One*

United States.

❑ American Indians/Alaska Natives have the lowest breast cancer screening rate of any racial or ethnic group in the United States.

❑ Complex and interrelated factors contribute to cancer health disparities in the United States. Adverse differences in many, if not all, of these factors are directly influenced by structural and systemic racism.

❑ Racial and ethnic minorities are severely underrepresented in clinical trials and understanding of how cancer develops in racial and ethnic minorities is significantly lacking.

❑ Many of the U.S. population groups that experience cancer health disparities, in particular, racial and ethnic minorities, are also experiencing disparities related to coronavirus disease 2019 (COVID-19). Many of the factors driving COVID-19 disparities overlap with the factors that contribute to cancer health disparities.

❑ Experts predict that the COVID-19 pandemic will exacerbate existing cancer health disparities as a result of the disproportionate impact of COVID-19 on racial and ethnic minorities and other underserved populations.

John D. Carpten, Ph.D., chairman of both the AACR Cancer Disparities Progress Report 2020 Steering Committee and the AACR Minorities in Cancer Research Council, said in an AACR statement that the inaugural and historic progress report will provide a comprehensive baseline understanding of the progress that’s been made toward recognizing and eliminating cancer health disparities from the standpoint of biological factors, clinical management, population science, public policy and workforce diversity.

“This monumental report represents the collective effort of a number of the world’s foremost thought leaders in cancer health disparities research. It highlights progress, but it also initiates a vitally important call to action for all stakeholders to make advances toward the mitigation of cancer disparities for racial and ethnic minorities and other underserved populations.”

The chart above shows an important

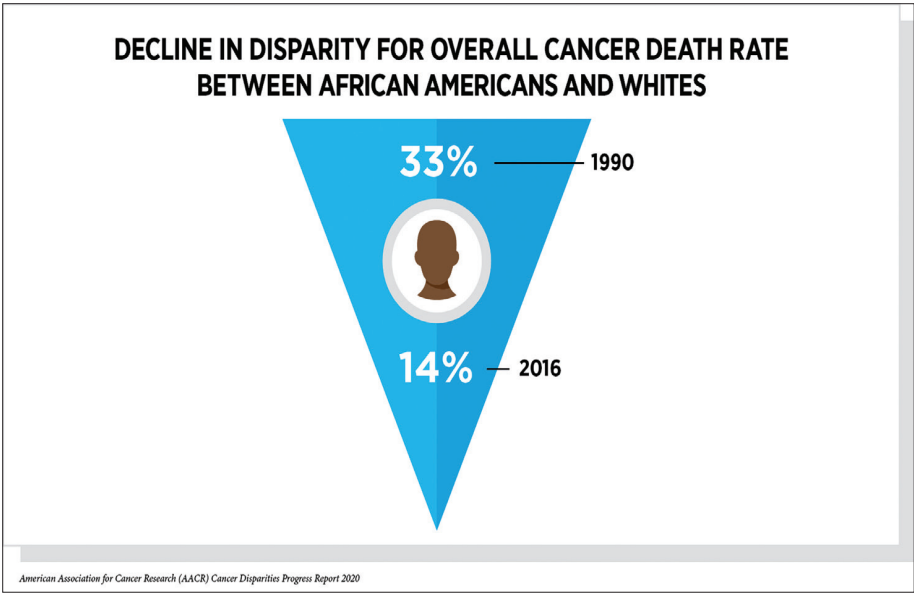


Image Provided

The gap in the overall cancer death rate between African Americans and whites has decreased, but progress still needs to be made.

trend in terms of the progress that has been made as a result of transdisciplinary and translational studies that have focused on identifying and addressing multilevel determinants of racial and ethnic disparities in cancer outcomes.

Unfortunately, progress has been slow, and the cost of all health disparities, including COVID-19 and cancer health disparities, in terms of premature deaths, lost productivity and the impact on communities of color, remains monumental and must be addressed.

Hughes-Halbert, who holds the AT&T Distinguished Endowed Chair for Cancer Equity at MUSC Hollings Cancer Center, said there needs to be continued investment to fund basic science research, clinical initiatives and studies and population-based and behavioral science research to continue making progress to achieve cancer health equity.

“This is a critical time for the field

of cancer health disparities where it is imperative that all stakeholders, which include policy makers, regulators, payers, academic medical centers, health care providers, advocacy groups, public health organizations and patients, caregivers and family members, have to work together to ensure continued progress is made toward cancer health equity, especially during this unprecedented time of a global pandemic that has changed the way in which cancer is diagnosed and treated and how patients recover from this disease,” Hughes-Halbert explained.

The goal, she added, is to prioritize initiatives in cancer control so that individuals can live healthy lifestyles in healthy communities and support greater diversity and inclusion in the public health and health care workforce so that patients receive the right care at the right time.

“And we need to provide robust, sustained and predictable funding to the agencies and programs that are charged with reducing cancer health disparities through research that helps us to know how social conditions, psychological factors and cancer control behaviors influence the biological processes and mechanisms that can be targeted through therapeutic strategies and prevention efforts,” she said.

“Cancer health disparities is a priority for the country – when cancer outcomes improve among racial and ethnic minorities, we all benefit and improve.”

Mobile navigational changes in Sitecore improve accessibility

BY CINDY ABOLE
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On Sept. 9, MUSC launched a mobile navigational change through its campuswide content management system, Sitecore. These new changes apply directly to all 11 of MUSC’s external-facing websites, including all university and patient-facing websites.

The changes provide an important improvement for users to access pages and information located deep within the enterprise’s website structures. The new navigation will be helpful to all users, even those who use screen

readers and other assistive technology to locate content.

“The mobile navigation is critical to our websites, since more than 60% of all of MUSC’s web traffic is now coming from mobile phones rather than desktops or laptops,” said Christine Gainer, digital web services manager for MUSC Information Solutions.

Some websites that will be directly affected include research and university websites and departments within colleges, particularly the College of Medicine.

These changes have been in the planning for several months, according

to Gainer. Digital Web Services’ Dan Kinsella, along with members of the team, created the design based on feedback received from various MUSC stakeholders. The approved design underwent automated testing and revisions prior to finalizing the new design.

For more information contact the Digital Web Services team at <https://ociois.quickbase.com/db/bkxxtb5f>.

Humanitas 2021 entries due Dec. 1

Submissions for the next issue of Humanitas will be accepted through Tuesday, Dec. 1. Visit <https://education.musc.edu/students/cae-and-writing/office-of-humanities/humanitas>.

INNOVATORS *Continued from Page Nine*

as Jihad Obeid, M.D., and Leslie Lenert, M.D., and Buck Rogers, Stewart Hulett, Paul Arrington, Brett Berman and Chelsea Ex Lubeskie of the Foundation for Research Development.

Yuri Karl Peterson, Ph.D., research associate professor and assistant director of drug discovery, Department of Drug Discovery and Biomedical Sciences, College of Pharmacy

Problem — My team's focus is to improve therapeutic efficacy and safety through predictive modeling of patient specific pharmacokinetics and pharmacodynamics. The end goal is to have the ability to do on-demand, near real-time personalized predictive precision medicine.

Impact: —The team developed PharML.Bind, a complete and publicly available framework and software that can evaluate all known drugs and their binding potential with all structurally characterized drug targets. PharML.Bind is the first component of an expandable framework to train and inference graph neural networks on existing biochemical and clinical data.

Acknowledgments — Jacob Balma, HPE and Aaron Vose, Nanosemi

Scott T. Reeves, M.D., professor and chairman of the Department of Anesthesia and Perioperative Medicine; **Jeff McMurray M.D.**, assistant professor, Department of Anesthesia and Perioperative Medicine; **Scott Curry, M.D.**, associate hospital epidemiologist and assistant professor of Medicine, Division of Infectious Diseases; and **Stephanie Whitener, M.D.**, assistant professor, Department of Anesthesia and Perioperative Medicine.

Problem — With the onset of the COVID 19 pandemic, several acute and critical needs were determined within the department. The first immediate need was the ability to train over 300 faculty, residents and CRNAs rapidly in the proper donning and doffing techniques for personal protective equipment (PPE). Additionally, there were not readily available training materials available for nasopharyngeal sampling technique for respiratory virus testing. The second issue was the lack of PPE hoods as a critical need.

Impact — Along with Jerry Reves, M.D., dean emeritus of the College

of Medicine and Distinguished University Professor, and Catherine D. Tobin, M.D., associate professor, Department of Anesthesiology and Perioperative Medicine, the team created an instructional video guide detailing safe donning and doffing practices for PPE and safe intubation practices for suspected or confirmed COVID-19 patients. A second process was developed to convert eight-gallon trash bags into hoods that were disposable. This manufacturing process was videotaped and distributed worldwide as well via SimTunes. These are available online for our staff to review. Our process was adapted throughout the United States and in Singapore.

Acknowledgements — Reves, Steve Coultas, Lisa L. Steed, Ph.D., and Connor Lentz for completing the videos and our whole department for creating many other innovative processes such as refurbishing old N95 masks. This was truly was an all hands-on-deck mentality.

Alejandro "Alex" Spiotta, M.D., professor, Department of Neurosurgery, director of the Division of Neuroendovascular Surgery and program director, neurosurgery residency program

Problem — The process and method for accessing the brain through a burr hole is archaic and decades old. Typical systems require a Mayfield clamp, have small screws, are time-consuming and are not MRI-compatible or CT-friendly. For the more than 200,000 patients requiring neuro-navigated surgery for stroke, tumor biopsy or electrode placement for deep brain stimulation, this means increased procedure time and prolonged recovery.

Impact — Working along with other clinicians and the ZIAN team, we developed NaviCAP, a screw-less cranial anchoring port system that installs effortlessly in seconds, is noninvasive and allows for more robust vectoring to access deep brain pathology. The device is self-aligning and quickly anchors to a burr-hole without the use of screws or pins. NaviCAP reduces surgical time and is less invasive than current technology. NaviCAP has been issued nine patents and is exclusively licensed to a commercial partner.

We value your input as we continue to create a culture of innovation here at MUSC. Please participate in this brief survey and share your thoughts and experiences with us at <https://redcap.musc.edu/surveys/?s=P3WR9PFJHF>.

AUTISM *Continued from Page Six*

a schedule," she said. "Luckily, we had a lot of resources. His special education teacher stayed in touch with me and created this portal where she'd send a bunch of worksheets, different ideas of things to do. We bought a printer and printed off scavenger hunts and worksheets. Basically, I put structure in place. We did a craft every day and we did a lot of cooking. And we did a lot of outside time. We'd go on hikes and we'd go to anything that was still open. Henry actually did really well."

She also bought supplies for him to do occupational therapy at home and helps him with it. COVID-19 has not stopped her drive to help Henry reach his full potential. "In my gut, I think he's going to be successful," she said.

To enroll in SPARK, register online, email or call 843-714-1352.

1. Lather away.

- back of your hands
- between fingers
- under the nails

2. Scrub.

- Count to 20.

3. Rinse well.**4. Dry completely.**

- using a clean paper towel or an air dryer.



MUSC Libraries



Teens who had moderate COVID-19 may need heart check prior to playing sports

By HELEN ADAMS

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As high school football players across South Carolina return to their playing fields this week, a cardiologist at MUSC Children's Health is encouraging teenage athletes in any sport who had moderate COVID-19 to consider getting a heart evaluation.

COVID-19 can cause myocarditis, which is an inflammation of the heart muscle. It's part of the body's immune response to the illness caused by the coronavirus. It's considered a rare complication, but myocarditis has already shown up in some college football players who had COVID-19.

Lanier Jackson, M.D., is part of a team of pediatric cardiologists who wrote about myocarditis and COVID-19 in the journal of the American College of Cardiology. They noted that while there has been plenty of discussion about heart trouble in adults who had COVID-19, that wasn't the case when it came to kids. The pediatric cardiologists are especially concerned about children 13 and up because teenagers' sports can get so physically intense.

"We're trying to err on the side of being cautious but allowing kids to get back to physical activity," Jackson said. "From our basic understanding of it, most kids



Photo by Unsplash

A football player gets ready to pass the ball.

should tolerate having COVID well without any long-term repercussions or manifestations from the disease process. But the potential for myocarditis needs to be brought to light."

That's because while myocarditis goes unnoticed in some people, in others, it can be dangerous and even deadly. The Myocarditis Foundation reports that in young adults, up to 20% of sudden death cases are due to myocarditis.

"We want to identify anybody at risk of having some

kind of adverse event happen," Jackson said.

He defined moderate COVID-19 as being bad enough to keep a person in bed for days with a prolonged fever but not bad enough to send that person to the hospital. "If they had a moderate COVID infection in the past, they need an electrocardiogram to help identify that."

An electrocardiogram, also known as an ECG or EKG, measures electrical activity in the heart. It's not painful or risky. Jackson said it should be covered by insurance.

Kids who had milder infections need to be monitored, too. "If your kid doesn't feel well, that should be a trigger to at least go to your primary care doctor. Say they had COVID-19 a month ago and they've been cleared to go back to activity, and then something like their energy level doesn't seem right, they complain of their heart feeling funny or chest pain or shortness of breath, those should all be triggers to be reevaluated in the medical system," Jackson said.

He's calling on schools and clubs to make sure stadiums and other playing fields have the right equipment on hand, just in case. "We need defibrillators at all sporting events. They're a lifesaving measure if somebody were to have myocarditis and participated in sports and had sudden cardiac arrest."

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