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CAMPUS EDITION

Bringing 'black box' technology to the operating room

Pilot program aims to advance efficiency, quality control of patient care through multimedia surgical analysis

By Carol Marie Cropper

On airplanes, a "black box" famously records everything from pilot conversations to changes in landing gear and altitude so the information can be analyzed and studied when problems occur. The technology has helped the airline industry make improvements and enhance safety to a level only dreamed of in other industries.

Now that same concept is being applied to health care through a system known as the OR Black Box, which captures data on various aspects of a surgery so medical teams can use the insights to improve quality and efficiency.

In August, UT Southwestern became the second hospital in the United States to begin using the OR Black Box system in its operating rooms. Developed by Surgical Safety Technologies Inc. (SST) in Toronto, the OR Black Box is installed in five operating rooms at William P. Clements Jr. University Hospital, where cameras, microphones, and links to patient monitors have been installed.

Data gathered during each surgery is fed into computer servers, then electronically relayed to the company, which uses a combination of artificial intelligence and trained analysts to evaluate issues such as operating room efficiency, the proper use of safety checklists, and communication among surgical team members. Each month, SST will report its findings to UT Southwestern, which will use them to conduct



Dr. Herbert Zeh performs a pancreatic cancer Whipple robotic surgery in one of the operating rooms that is equipped with the OR Black Box technology.

quality improvement meetings for OR nurses, doctors, and technicians. In addition, targeted reports complete with short, identity-protected video clips will be provided for flagged events or surgeries when requested.

"As an academic medical center, we are committed to constantly finding and implementing ways to improve outcomes for our patients and to educate our students in the very best practices," said Dr. William Daniel, Vice President and Chief Quality Officer at UT Southwestern. "We are a leader in quality improvement, and the OR Black Box is a safety innovation to help us improve surgical outcomes and efficiency." The OR Black Box equipment will

run almost continuously in the selected operating rooms to record the variety of surgeries performed there – mostly minimally invasive laparoscopic and robotic surgeries. The system could be expanded, however, if it proves effective.

By collecting data from the various sensors and devices, surgical teams will have a comprehensive review of what occurred in the operating room, said Dr. Herbert Zeh, Chair of Surgery at UT Southwestern.

"We've done a great job of improving mortality rates in surgery, but there are still complications," said Dr. Zeh, who has published numerous articles linking operating room performance to patient outcomes. "We know if

the surgeon and the team perform better, the patient does better.

"You can't improve something you don't measure," he said.

UT Southwestern has been recognized for improving patient outcomes, said Dr. Daniel, who came to UT Southwestern in 2016 from St. Luke's Hospital in St. Louis, where he was that institution's first Chief Quality Officer. UT Southwestern was ranked fourth in the nation last year on Vizient Inc.'s patient mortality metric, and it holds the top 5-Star rating for overall quality from the federal Centers for Medicare & Medicaid Services, he said.

Academic medical centers like UT Southwestern have traditionally relied on so-called morbidity and mortality meetings to work to identify the root causes of patient complications after surgery. But those surgeon-only monthly sessions can come weeks after the procedure is performed and rely on memory rather than recorded data.

With information gathered by the OR Black Box, regular quality improvement meetings also will be held, bringing together all the operating room's professionals – nurses, doctors, and technicians – to discuss data analyzed by SST.

At Clements University Hospital, four tiny cameras and two microphones will run inside each of the five operating rooms participating in the pilot project. An iPad-like device on the wall of each serves as a control panel for capturing

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Dr. Robin Jacoby helped UTSW achieve priorities



Dr. Robin Jacoby

By Rick Press

When Robin Jacoby touched down in Texas for the first time in July 2009, she never seriously considered it would become her home for the next decade. Or that she would culminate her 48-year career here. Especially after she stepped outside.

"It was 105 degrees at DFW Airport," Dr. Jacoby recalled. "And my first thought was, 'What is this oven I'm walking into?'"

But she had received a flattering invitation from Dr. Daniel K. Podolsky, with whom she had worked closely for almost four years at Partners HealthCare System, the umbrella organization for

Massachusetts General and Brigham and Women's, both teaching hospitals for Harvard Medical School.

Come for a visit, he said. See the campus, meet some of our people, and consider the possibilities.

A year earlier, Dr. Podolsky had left Boston, where he was Chief Academic Officer at Partners and Chief of Gastroenterology at Massachusetts General Hospital, to become President of UT Southwestern Medical Center in Dallas. In lengthy emails, Dr. Podolsky had shared his bold, ambitious plan for the institution with Dr. Jacoby, who was Chief of Staff to Partners' CEO.

"Ultimately, I was persuaded by his vision for UT Southwestern, which was brilliant; the people, who were all very warm and welcoming; and my belief in the mission of academic medical centers," she said. "I left that July visit thinking that Dr. Podolsky was offering me a very special opportunity to make a difference, and after coming back in August for a second visit, I decided to take the leap of leaving Partners and Boston family and friends to come to Dallas."

Her three-year commitment to serve as Vice President and Chief of Staff to Dr. Podolsky grew to 11, during which time UT Southwestern has been transformed physically, academically, and clinically. This past January, well before COVID-19 completely

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UT Southwestern Biorepository launched to fight COVID-19

By Patrick McGee

With the race on worldwide to develop vaccines to guard against COVID-19, UT Southwestern immunologist Dr. Nicolai van Oers is determined to find biomarkers to measure which one will be most effective. But to do so, he needs blood samples from infected patients.

To help Dr. van Oers and other researchers eager to tackle the pandemic, UT Southwestern established a SARS-CoV-2 Biorepository to collect and store seven different kinds of samples, including blood, urine, and stool, from COVID-19 patients at William P. Clements Jr. University Hospital and Children's Medical Center Dallas. By mid-June, about 600 nasopharyngeal samples from nose swabs; hundreds of blood samples; and three dozen serum, plasma, urine, and purified blood cell products from COVID-infected patients who consented to have their specimens collected had been received. Multiple samples are taken over time from some patients so scientists can study how the disease progresses.

Samples from patients who tested negative for SARS-CoV-2, as well as samples from Parkland Health and Hospital System patients, will soon be included.

Dr. van Oers, Professor of Immunology, Microbiology, and Pediatrics, said the blood samples will allow him to search for biomarkers in patients who become seriously ill with COVID-19 as well as in those whose immune systems successfully fend off the disease. The research is of national and even global urgency as scientists work to determine which of nearly 200 possible vaccines in development will work best. His efforts could speed the introduction of a COVID-19 vaccine.

"We have learned a lot about SARS-CoV-2 in the



Dr. Nancy Monson, Associate Professor of Neurology and Neurotherapeutics, processes blood samples for UT Southwestern's SARS-CoV-2 Biorepository.

past few months, but we still need to figure out how we can leverage this information to improve patient care," said Dr. Lenette Lu, Assistant Professor of Internal Medicine and Immunology at UTSW.

Dr. Lu co-chaired a workgroup with UTSW's Dr. Dwight Towler, Vice Chair of Research in the Internal Medicine Department, to establish the Biorepository. The working group included two dozen experts from a variety of specialties across all three hospital systems.

"I'm just thrilled that we can help. It's an honor to be identified as someone who had the expertise to be able to handle it properly," said Dr. Nancy Monson, an Associate Professor of Neurology and Neurotherapeutics and Immunology, who is leading a team to prepare COVID-19 blood samples for study by isolating blood components such as serum and plasma. "You feel like you can really take your skill set and use it for the good of humanity."

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Visit our website at utsouthwestern.edu/ctplus

A PANDEMIC GETS PERSONAL

AVP Dr. Claire Aldridge shares her story of battling COVID-19 and donating lifesaving plasma.

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VISIONARY MEDICINE

Cutting-edge surgery restores eye muscle function to patients with facial paralysis.

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NOBEL PURSUITS

Book reveals how two UTSW Nobel Laureates got their start through an NIH Vietnam-era program.

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IN MEMORIAM

Dr. John M. Dietschy Sr.: Visionary hepatologist and metabolism expert

By Patrick Wascovich

Professor Emeritus Dr. John M. Dietschy Sr., a preeminent authority on cholesterol and lipoprotein metabolism who founded and led the Gastroenterology Division before serving as Chief of the Digestive and Liver Diseases Division at UT Southwestern, died July 18. He was 87.

"Dr. Dietschy was a visionary hepatologist who helped shape research and clinical practice in the field for more than 50 years," said Dr. Daniel K. Podolsky, President of UT Southwestern. "His leadership at UT Southwestern had a profound and lasting influence on many physician-scientists, and those fortunate to have collaborated with Dr. Dietschy will recall his passion for science was matched by his passion for mentoring the next generation of researchers."

Dr. Dietschy worked at UTSW for 49 years before retiring in 2012, then continued to serve the University eight more years as a Professor Emeritus. He joined the UTSW community in 1963 as a fellow attracted by the significant work and discoveries of Drs. Marvin Siperstein, Jean Wilson, and Dan Foster in lipids and intestinal absorption. Dr. Donald Seldin recruited him to join the faculty in 1965.

Dr. Dietschy supported the efforts of other UTSW investigators, including Dr. Michael Brown, who was a research fellow under Dr. Dietschy in 1971, long before he and UTSW colleague Dr. Joseph Goldstein received the 1985 Nobel Prize in Physiology or Medicine.

"John was a major fixture at UTSW for many years and was the best animal physiologist that I ever saw," Dr. Brown said. "He didn't believe anything unless it was done in an animal model. When Joe and I were working on tissue culture cells, it was John who urged us to do companion studies in rats."

Together with Dr. John Fordtran, Dr. Dietschy founded Internal Medicine's Division of Gastroenterology, which he led from 1979 to 1998. The Division of Digestive and Liver Diseases was formed in 1998 by the merger of the Gastroenterology and the Liver Unit. Dr. Dietschy chaired this new Division from 1998 to 2002, and it remains one of the top academic gastroenterology and hepatology units in the country.

Holder of the H. Ben and Isabelle T. Decherd Chair, Dr. Dietschy also led the Division's successful fellowship program, which is now integrated among several key clinical sites and includes a research track supported by a



Dr. John M. Dietschy Sr. in 2014

National Institutes of Health (NIH) training grant. His personal interactions with mentees broadened many horizons, as their conversations would include insights from Dr. Dietschy's many interests beyond medicine, including pre-Columbian, African, and New Guinea art and archeology; history; mountain climbing; photography; Amish quilts; and classical music – especially baroque.

An Illinois native, Dr. Dietschy earned his medical degree from Washington University School of Medicine in St. Louis in 1958. He completed an internal medicine residency at the VA Medical Center in Denver before receiving additional training in gastroenterology at Boston University School of Medicine.

His seminal contributions in the understanding of bile acid and cholesterol metabolism set the foundation for many of the important discoveries in this area.

Dr. Dietschy served on the editorial boards of seven medical journals and was the author of five

books and more than 200 research publications. In recognition of his substantial scientific insights, Dr. Dietschy received numerous awards, including the Distinguished Achievement Award of the American Gastroenterological Association (AGA) in 1978, the Heinrich Wieland Prize in lipid biochemistry (University of Munich, 1983), the McKenna Medal of the Canadian Association of Gastroenterology (1985), NIH MERIT Award (1995), and the Janssen Award in Gastroenterology for Lifetime Achievement in Digestive Sciences (2001). In 1988-89, he served as President of the AGA.

Dr. Dietschy is survived by his wife of 61 years, Beverly Robertson Dietschy, their four children – sons John M. Dietschy Jr. and partner Diane Schweitzer, Daniel Dietschy and wife Jeannie, and Michael Dietschy; and daughter Karen Dietschy Reuther and husband Robert – and six grandchildren.

Dr. Brown, a Regental Professor, is Director of the Erik Jonsson Center for Research in Molecular Genetics and Human Disease, as well as a Professor of Molecular Genetics and Internal Medicine. He holds The W.A. (Monty) Moncrief Distinguished Chair in Cholesterol and Arteriosclerosis Research and the Paul J. Thomas Chair in Medicine.

Dr. Goldstein, a Regental Professor, is Chair of Molecular Genetics and a Professor of Molecular Genetics and Internal Medicine. He holds the Julie and Louis A. Beecherl, Jr. Distinguished Chair in Biomedical Research and the Paul J. Thomas Chair in Medicine.

Dr. Podolsky holds the Philip O'Bryan Montgomery, Jr., M.D. Distinguished Presidential Chair in Academic Administration, and the Doris and Bryan Wildenthal Distinguished Chair in Medical Science.

The following faculty promotions took effect Sept. 1 at UT Southwestern. (Where more than one department is listed, the first is the primary appointment.)

ANESTHESIOLOGY & PAIN MANAGEMENT

Professor: Ahmad Elsharydah, M.D., Patrick Nduyari Olomu, M.D.

Associate Professor: Joseph Maxwell Hendrix, M.D., Norman Ray Huang, M.D., Enas Samir Kandil, M.D., Isaac P. Lynch, M.D., Huong G. Nguyen, M.D., Eric Brian Rosero, M.D.

ANESTHESIOLOGY & PAIN MANAGEMENT/EUGENE MCDERMOTT CENTER FOR HUMAN GROWTH AND DEVELOPMENT

Professor: Amanda A. Fox, M.D., M.P.H.

BIOCHEMISTRY

Professor: Masato Kato, Ph.D., Uttam Krishan Tambar, Ph.D.

CHILDREN'S MEDICAL CENTER RESEARCH INSTITUTE AT UT SOUTHWESTERN/PEDIATRICS

Associate Professor: Jian Xu, Ph.D.

DERMATOLOGY

Professor: Heidi Jacobe, M.D.
Associate Professor: Rajiv I. Nijhawan, M.D.

DERMATOLOGY/INTERNAL MEDICINE

Associate Professor: Arturo R. Dominguez, M.D.

EMERGENCY MEDICINE

Associate Professor: Jodi D. Jones, M.D.

FAMILY & COMMUNITY MEDICINE

Associate Professor: Zaiba I. Jetpuri, D.O., Tasaduq Hussain Mir, M.D., Zubair A. Syed, M.D., Nida Zahra, M.D.

CECIL H. AND IDA GREEN CENTER FOR REPRODUCTIVE BIOLOGY SCIENCES/ BIOPHYSICS/ OBSTETRICS & GYNECOLOGY

Associate Professor: Yunsun Nam, Ph.D.

IMMUNOLOGY/MICROBIOLOGY/PEDIATRICS

Professor: Nicolai S. Van Oers, Ph.D.

INTERNAL MEDICINE

Professor: Sonja Darrell Bartolome, M.D., Qi Fu, M.D., Ph.D., Naim Mounif Maalouf, M.D., Henry Quinones, M.D., Wanpen Vongpatanasin, M.D.
Associate Professor: Alpesh Arvind Amin, M.D., Amit Banga, M.D., Thomas O. Dalton, M.D., James Davidson Finklea, M.D., Asra Kermani, M.D., Ricardo Martin La Hoz, M.D., Matthew J. Leveno, M.D., Christian Antonio Mayorga, M.D., Sasan Mirfakhraee, M.D., Rozina Mithani

FACULTY PROMOTIONS

Kukreja, M.D., Arjmand Rasool Mufti, M.D., Adebisi I. Obafemi, M.D., Prapti Arvind Patel, M.D., Angela Lynn Price, M.D., Peter Noel Van Buren, M.D.

INTERNAL MEDICINE/HAMON CENTER FOR THERAPEUTIC ONCOLOGY RESEARCH

Associate Professor: James Kim, M.D., Ph.D.

INTERNAL MEDICINE/POPULATION AND DATA SCIENCES

Professor: Amit Singal, M.D.

MICROBIOLOGY/IMMUNOLOGY

Associate Professor: Sebastian Erwin Wolfgang Winter, Ph.D.

NEUROLOGICAL SURGERY

Associate Professor: Bryan J. Wohlfeld, M.D.

NEUROLOGICAL SURGERY/NEUROLOGY AND NEUROTHEAPEUTICS/PSYCHIATRY

Associate Professor: Bradley C. Lega, M.D.

NEUROLOGY AND NEUROTHEAPEUTICS

Professor: Mark Agostini, M.D., Brendan Kelly, M.D.
Associate Professor: Kan Ding, M.D., Mehari Gebreyohannis, M.D., Lauren T. Phillips, M.D., Ty Tiesong Shang, M.D., Ph.D.

NEUROLOGY AND NEUROTHEAPEUTICS/ NEUROLOGICAL SURGERY

Professor: Christiana E. Hall, M.D.

NEUROSCIENCE

Professor: Weichun Lin, Ph.D.
Associate Professor: Todd Freeman Roberts, Ph.D.

OBSTETRICS AND GYNECOLOGY

Professor: Orhan Bukulmez, M.D., Jayanthi S. Lea, M.D., David D. Rahn, M.D., Patricia C. Santiago-Munoz, M.D.
Associate Professor: Sunil Balgobin, M.D.

OPHTHALMOLOGY/PEDIATRICS

Professor: Serena Xiaohong Wang, M.D.

ORTHOPAEDIC SURGERY

Professor: Christine A. Ho, M.D., Amy Lynn McIntosh, M.D., David A. Podeszwa, M.D., Anthony Ian Riccio, M.D.

ORTHOPAEDIC SURGERY/PLASTIC SURGERY

Associate Professor: Katherine Marie Raspovic, D.P.M.

OTOLARYNGOLOGY – HEAD AND NECK SURGERY

Professor: Matthew W. Ryan, M.D.
Associate Professor: Seckin Omer Ulualp, M.D.

PATHOLOGY

Professor: Justin Avery Bishop, M.D., Mingyi Chen, M.D., Ph.D.

PEDIATRICS

Associate Professor: Amal Ahmad Ibrahim Aqil, M.D., Mackenzie Susan Frost, M.D., Aakash Goyal, M.D., Bhaskar Gurram, M.D., Venkatakrishna Kakkilaya, M.D., Vishal Subodhbhai Kapadia, M.D., May C. Lau, M.D., Heidi Kloster Roman, M.D., David Michael Troendle, M.D., Joshua S. Wolovits, M.D.

PEDIATRICS/CELL BIOLOGY

Professor: Chieko Mineo, Ph.D.

PEDIATRICS/IMMUNOLOGY/INTERNAL MEDICINE

Professor: Michelle Ann Gill, M.D., Ph.D.

PEDIATRICS/EUGENE MCDERMOTT CENTER FOR HUMAN GROWTH AND DEVELOPMENT/INTERNAL MEDICINE

Associate Professor: Garrett Kenneth Gotway, M.D., Ph.D.

PEDIATRICS/NEUROLOGY AND NEUROTHEAPEUTICS

Associate Professor: Diana Patricia Castro, M.D.

PEDIATRICS/POPULATION AND DATA SCIENCES/ INTERNAL MEDICINE

Associate Professor: Christy Boling Turer, M.D.

PEDIATRICS/PSYCHIATRY

Professor: Lina Fahd Chalak, M.D.

PHARMACOLOGY

Associate Professor: James J. Collins, Ph.D.

PHARMACOLOGY/BIPHYSICS

Professor: Xuewu Zhang, Ph.D.
Associate Professor: Xuelian Luo, Ph.D.

PHYSICAL MEDICINE AND REHABILITATION

Professor: Kelly M. Scott, M.D.
Associate Professor: Rajashree Srinivasan, M.D.

PLASTIC SURGERY

Professor: Jonathan J. Cheng, M.D., Ronald E. Hoxworth, M.D.

PLASTIC SURGERY/ORTHOPAEDIC SURGERY

Professor: Douglas Michael Sammer, M.D.

POPULATION AND DATA SCIENCES

Professor: Song Zhang, Ph.D.

POPULATION AND DATA SCIENCES/PSYCHIATRY

Professor: Abu Taher Mohammad Minhajuddin, Ph.D., Paul A. Nakonezny, Ph.D.

PSYCHIATRY

Professor: Richard C. Robinson, Ph.D.
Associate Professor: Rebecca Hanna, M.D., Alice Ann Holland, Ph.D., Leslie D. Rosenstein, Ph.D., Heidi Christine Rossetti, Ph.D.

PSYCHIATRY/NEUROLOGY AND NEUROTHEAPEUTICS

Professor: Robert Alan Ruchinkas, Psy.D.

PSYCHIATRY/POPULATION AND DATA SCIENCES

Associate Professor: Arthur Naoki Westover, M.D.

RADIATION ONCOLOGY

Professor: Xun Jia, Ph.D.
Associate Professor: Asaithamby Aroumougame, Ph.D., Michael Ryan Folkert, M.D., Ph.D., Brian Hrycushko, Ph.D., Mu-Han Lin, Ph.D.

RADIATION ONCOLOGY/POPULATION AND DATA SCIENCES

Professor: David Jonathan Sher, M.D.

RADIOLOGY

Associate Professor: Vasantha Vasana, M.D., Kanupriya Vijay, M.D., Zerrin Fatma Yetkin, M.D.

RADIOLOGY/ADVANCED IMAGING RESEARCH CENTER

Associate Professor: Marco Da Cunha Pinho, M.D.

SURGERY

Professor: Sergio Huerta, M.D., John C. Mansour, M.D.
Associate Professor: Sarah Catherine Oltmann, M.D., Matthew Porembka, M.D., Sam C. Wang, M.D., Rachel D. Wooldridge, M.D.

UROLOGY

Associate Professor: Jodi Antonelli, M.D., Maude Carmel, M.D., Jeffrey Gahan, M.D.

FOCUS: COVID-19 CRISIS

When nurses become family: Caring for COVID-19 patients

By Lori Sundeen Soderbergh

Isolated from loved ones and fighting for their lives, COVID-19 patients are counting on nurses and other health care professionals to be their emotional lifelines.

"These people need someone with them. We're acutely aware that, right now, we are their family," said Blair Lane, Interim Nurse Manager in the intensive care unit (ICU) at William P. Clements Jr. University Hospital.

Providing support for patients and their families – separated by an infectious disease that prevents them from being together – is part of the added challenge facing UT Southwestern health care workers on the front lines of the pandemic.

Ms. Lane, who has 13 years of nursing experience, manages a 24-bed ICU with 110 employees, including nurses, patient care technicians, and hospital unit coordinators. She said the virus has forced her staff members to figure out new ways to maintain their high level of care while taking steps to reduce the risk of infection and preserve critical personal protective equipment like masks and gowns.

For example, furniture was rearranged to position hospital beds farther from doors, yet still within eyesight, so nurses can check on patients without entering the room. IV pumps and ventilator control panels were moved outside of rooms into hallways. While limiting contact with patients is an important safety measure, it changes the core nature of nursing.

"Touch is so important because it shows caring. Taking that out of our everyday life is hard," said Ms. Lane, wiping tears from her eyes.

Sitting with critically ill patients is a part of working in the ICU, but with COVID-19 patients it is the norm. Nurses regularly handle phone calls with family members who are stressed and scared. All patient rooms at Clements University Hospital are equipped with large television screens that connect to video platforms such as Skype, BlueJeans, and Teams – so helping patients use this technology is also now part of the job.

"When family members are present and



A nurse dons full personal protective equipment to tend to a patient in the ICU at William P. Clements Jr. University Hospital.



Blair Lane, Interim Nurse Manager in the ICU at Clements University Hospital



Ms. Lane with husband John and children Aimee and Aaron

supportive, they take the emotional side for you. Now it's a constant. No one has family here," Ms. Lane explained. "When emotional support becomes your responsibility, it can increase your stress level."

Coping with all these stressors requires support on many levels.

"The feedback I receive from nurses is that what keeps them moving through these challenges is: working with a team they like and respect; transparent communication from all levels of leadership; and the outpouring of support from our community," said Susan Hernandez, UTSW Associate Vice President and

Chief Nurse Executive.

After spending spring break with her two children in mid-March, Ms. Lane noticed big changes at the hospital. When she left for vacation, there was one COVID-19 patient there. When she returned, there were 16. "It became real the day I returned from spring break. Facilities was remodeling my unit to make it a negative air pressure space for COVID patients only."

By March 25, the entire unit was allocated for COVID-19 admissions. New safety guidelines were established, leading to a range of new ways to provide care.

UT Southwestern nurses came up with dozens of innovations for safely administering care for COVID-19 patients, which were described in a recent paper published in the *Journal of Neuroscience Nursing*. Ms. Lane was senior author.

The changes also affected her home life. To prevent the risk of bringing the virus home, Ms. Lane and many other CUH health care workers stay in hotel rooms paid for by UT Southwestern. Before UTSW arranged hotel rooms, she slept in her office two nights a week. Ms. Lane still keeps an air mattress under her desk, just in case she's needed during a night shift.

The first two months of the pandemic, she only went home for two weekends.

Home is in Midlothian where daughter Aimee, 11, and son Aaron, 9, lean on their dad and grandmother for support during her absence. Their dad is a firefighter and also considered essential, so the whole family is grateful that Ms. Lane's mom can help out too. Many employees at Clements are in similar situations, and their managers are well aware of their dual responsibilities.

"Nurses are essential workers. They couldn't be home to provide child care and teach school to their children, and had to find other ways to safely and efficiently balance it all," said Ms. Hernandez.

These brave workers are fueled by their resilience, and also by the meals and other community donations for health care workers at Clements. There is little time to go downstairs to the cafeteria during a shift. At the end of the day, those workers heading for hotel rooms often take the leftover lunches along. The meals are real lifesavers – and health care workers are extremely grateful.

Just before her interview for this story, Ms. Lane grabbed a banana since she had missed breakfast. "That's about as good as it gets," she said with a laugh. And she admitted that some bad dietary habits – once beaten – have returned.

"My Dr Pepper habit is back in full force. I figure I can wait until after COVID to go off it again."

UTSW chaplains provide comfort and hope to families during pandemic

By Patrick McGee

The Rev. Margarito Ramirez, a UT Southwestern chaplain, said the COVID-19 crisis brings to mind the Bible's Book of Job, not just for its tale of undesired suffering, but also because Job's tribulations forced the creation of new rituals.

For UTSW's hospital chaplains, the COVID-19 pandemic is changing daily routines as well.

The need to isolate COVID-19 patients has mandated an abrupt and difficult reinvention of how to minister in a hospital setting. Since the Rev. Ramirez and his colleagues cannot visit COVID-19 patients or their families in person because of the urgent need to keep distant, they have had to shift to conversations by phone and video. Even so, through modern technology, the chaplains continue to bring much-needed comfort and hope to patients and their families.

"I am really proud of the chaplains. They've gone above and beyond to help patients and families during this crisis," said the Rev. John O'Neal, Director of Spiritual Care and Support, who oversees Chaplain Services. UTSW has eight full-time chaplains, five resident chaplains, and three who are on call.

"Any connection that we can provide is helpful," said the Rev. LeAnn Griffin, whose faith tradition comes from the Disciples of Christ. "It shortens the distance that this virus is imposing on them. It's solace and joy and hope."

The Rev. Ramirez, who is non-denominational, counseled one patient who had several family members who tested positive for SARS-CoV-2, the virus that causes COVID-19. As much as he wanted to help, he could only talk to the patient and family members remotely and had to pivot from looking for body language cues to interpreting pauses or changes in the tones of their voices.

Rabbi Holly Cohn said talking to people by phone is much more difficult than in person, but the age-old tenets of chaplain work remain the same.

"I've been talking to patients about hope and really just listened to what their concerns are. The people that I have talked to have asked for prayer," she said.

The Rev. Joseph Nedumankuzhiyi, a Catholic priest, said the closest he could get to one patient was to see her through a glass window.

"I was able to wave my hand to only one person. She was conscious and alert. She waved back. I told her I was going to pray for her," he said. "She folded her hands, and said, 'Yes, I need prayer.'"

As much as she can, Rev. Griffin said she has to convey how much she cares through the phone. She said part of showing that genuine care is being truthful with the families. She has to tell them that modern medicine does not have a cure yet, and it is unknown if their family member will survive.

The Rev. Gina Biddle, another chaplain who is a Baptist, said she has had to talk by phone with families who have just lost a loved one, which is heartbreaking. But she also has seen prayers that were answered. She recalled one patient who was on a ventilator, with a very poor prognosis. She called the family every day to pray with them, and the patient pulled through with a full recovery.



Revs. Joseph Nedumankuzhiyi and LeAnn Griffin, two of UTSW's eight full-time chaplains

Biorepository Continued from page 1

Dr. Monson is processing the COVID-19 samples in a laboratory shared with Dr. Benjamin Greenberg, a Professor of Neurology and Neurotherapeutics and Pediatrics, who oversees an extensive biorepository that supports neuroscience studies at the Peter O'Donnell Jr. Brain Institute. A permanent COVID-19 Biorepository is being constructed on South Campus.

"We were basically already doing this and had the resources in place," Dr. Greenberg said. Freezers set to minus 80 degrees and liquid nitrogen tanks at minus 120 degrees – used as emergency backups – were commandeered to house COVID-19 samples, and space was made available for Dr. Monson's four-person team to work.

In addition to blood, stool, urine, nasopharyngeal material, and plasma, the Biorepository is used to collect mononuclear cells, which may be susceptible to pathogenic infections, and granulocytes, a category of white blood cells that help with resistance to infection.

Faculty requests for samples to use in research will go through a review committee that includes Dr. Greenberg's brother, Dr. David Greenberg, Associate Professor of Internal Medicine and Microbiology. There are no current plans for COVID-19 samples to leave campus. The committee will review and approve research requests and will look for opportunities for researchers to share samples if there are not

enough, Dr. David Greenberg said.

Dr. Prithvi Raj, Assistant Professor of Immunology, has his sights set on the nasopharyngeal, or nose swab, samples. He wants to extract nucleic acids for genomic sequencing to determine if the coronavirus's incursion into North Texas came from China or Europe.

Dr. van Oers said the Biorepository's blood samples are highly valuable to him because they will provide the serum needed to study antibodies generated in response to infection. He will look at blood samples of people who cleared the virus to identify what COVID-19 proteins were recognized by the patients' antibodies. The antibodies are the biomarkers, and the most successful vaccine will likely have antibodies with similar reactions to the COVID-19 antigens. Biomarkers he identifies may be of use to other scientists developing vaccines.

Dr. Greenberg is a Cain Denius Scholar in Mobility Disorders.

Dr. Towler, also Professor of Internal Medicine, holds the J.D. and Maggie E. Wilson Distinguished Chair in Biomedical Research and the Louis V. Avioli Professorship in Mineral Metabolism Research.

More online: Read the full story on *Center Times Plus* at utsouthwestern.edu/ctplus.

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FOCUS: COVID-19 CRISIS

Research labs adjust to limited operations in pandemic

By Patrick McGee

UT Southwestern's research labs have restarted experiments with realigned workspaces and schedules as part of the phased reopening of campus following a shutdown earlier this year.

"Research will ultimately pull us out of the COVID-19 crisis, and experiments must continue to keep up the fight against this and other diseases. It is inspiring to see the diligence and innovation that UT Southwestern faculty are exerting to keep our research enterprise alive and thriving," said Dr. David Russell, Professor of Molecular Genetics and Vice Provost and Dean of Research.

Scientists said that the two-month halt to laboratory work when the pandemic hit in the spring took a toll on some research activities, but faculty leaders also came up with innovative ways to engage with their staffs outside the lab.

"It was a substantial setback," said Dr. Ryan Hibbs, Associate Professor of Neuroscience and Biophysics, whose lab studies neurodegeneration and addiction, noting that some incubators had to be turned off and some genetic material thrown away.

To adjust to a 50 percent limit on lab staff

in the phased reopening, he and his team purchased duplicates of some equipment and spread it out in the laboratory so the team could work safely at a social distance. Unused office space is being utilized for computational work that would normally be done in the lab, and extra computers were purchased so team members can work at home when possible.

Dr. Hibbs complimented the UT Southwestern administration for deftly handling the shutdown by sharing information, instituting a well-thought-out reopening plan, and allowing minimum staff access to maintain lab resources.

"I think the University did a really good job quickly figuring out how to get everyone working from home," he said. "It was as painless as could be."

Labs reopened in May at 25 percent of normal occupancy and expanded to 50 percent on June 1. At 50 percent, two people are able to work in each lab bay or an enclosed tissue-culture room as long as they wear masks and remain 6 feet apart.

To make things work at 50 percent staffing, Dr. Philipp Scherer, Director of the Touchstone Center for Diabetes Research and Professor of Internal Medicine and Cell Biology, said he split his lab team into an early shift and a late shift.

While labs were closed, research animals

were fed by a small number of people who were allowed to return to campus periodically. Cell lines were frozen, and work shifted to everything that could be done from home. Data analysis, writing work on journal articles, and grant writing suddenly received a lion's share of lab teams' attention.

Dr. Genevieve Konopka, an Associate Professor of Neuroscience, said her lab's mice colonies and brain organoid were maintained by a single lab member who was authorized to come in, and cell lines were frozen. What mattered most was attending to the staff's well-being and questions about what the next steps would be, Dr. Konopka said, noting that her lab's Slack channel went from little use to constant activity around the clock.

■
Dr. Hibbs is an Effie Marie Cain Scholar in Medical Research.

Dr. Konopka is a Jon Heighten Scholar in Autism Research.

Dr. Russell holds the Eugene McDermott Distinguished Chair in Molecular Genetics.

Dr. Scherer holds the Gifford O. Touchstone, Jr. and Randolph G. Touchstone Distinguished Chair in Diabetes Research, and the Touchstone/West Distinguished Chair in Diabetes Research.



After many weeks of storage, Dr. Genevieve Konopka checks liquid nitrogen levels of a dewar that stores her lab's most precious cell lines.

NEWS

MAKER

AGUILERA EARNS RESEARCH AWARD TO STUDY CANCER IMMUNOTHERAPY

In the 20 years since his personal victory against cancer in his late teens, **Dr. Todd Aguilera** has been studying and treating hard-to-cure cancers with the goal of reducing recurrence – "something I have been privileged and blessed to escape," he said.

The Damon Runyon Cancer Research Foundation recently named Dr. Aguilera as one of four new Damon Runyon Clinical Investigators. The three-year, \$600,000 award supports outstanding early career physician-scientists conducting patient-oriented cancer research with the potential to impact cancer diagnosis, prevention, and treatment. Dr. Robert Timmerman, Professor of Radiation Oncology and Neurological Surgery, and Dr. Yang-Xin Fu, Professor of Pathology, Immunology, and Radiation Oncology, are his study mentors.



Dr. Todd Aguilera

"This project has been many years in the making," said Dr. Aguilera, Assistant Professor of Radiation Oncology in the Harold C. Simmons Comprehensive Cancer Center. "To receive this recognition for the hard work thus far and to then have support to perform the work we propose before we obtain larger federal grants means the world to me and the team."

New therapeutic approaches are needed to treat advanced stage rectal cancer, which is on the rise in younger people and comes with a poor prognosis. There is emerging evidence that immunotherapy may have a greater impact if tried earlier or in conjunction with other first-line therapies, Dr. Aguilera said. He is leading a randomized clinical trial evaluating an emerging immunotherapy – an anti-CD40 agonist APX005M – when combined with a new standard therapy for locally advanced rectal cancer that consists of short course radiotherapy followed by chemotherapy prior to surgical resection.

"Because many gastrointestinal cancers, including colorectal cancer, have not had many successes with the currently approved immune checkpoint therapies, we aimed to evaluate an anti-CD40 agonist that can stimulate immune responses through multiple mechanisms," said Dr. Aguilera, who was recruited to UTSW in 2017 as a Cancer Prevention and Research Institute of Texas Scholar. If successful, the proposed treatment could become a new therapeutic standard that lowers the risk of metastasis, improves survival, shortens treatment, and potentially avoids the need for surgery.

The Damon Runyon Clinical Investigator Award program was designed to help address the shortage of physicians capable of translating scientific discovery into new breakthroughs for cancer patients. Since 2000, the Damon Runyon Cancer Research Foundation has committed more than \$72 million to support the careers of 108 physician-scientists across the United States.

■
Dr. Fu holds the Mary Nell and Ralph B. Rogers Professorship in Immunology.
Dr. Timmerman holds the Effie Marie Cain Distinguished Chair in Cancer Therapy Research.

Jacoby Continued from page 1

enveloped 2020, Dr. Jacoby decided that she would retire in September, capping a distinguished career that had been devoted initially to history and then to academic health care.

"Dr. Robin Jacoby contributed in immeasurable ways to help advance UT Southwestern over the last 11 years," said Dr. Podolsky. "She has been a valued adviser and friend to me. As Chief of Staff, she has been involved in virtually all of our most significant efforts."

During her time at UT Southwestern, Dr. Jacoby played a vital role in communicating Dr. Podolsky's vision to the campus and beyond, and her superb editorial skills have enhanced *Center Times* and the institution's Annual Review.

In 2010, Dr. Podolsky tapped her to establish the Policy Office, an enormous undertaking that involved collaborating with stakeholders and the Office of Legal Affairs in reviewing and updating more than 500 campus policies and making them accessible to the UTSW community online. She was also the driving force behind the Sources of Truth, a digital resource for accurate information about key aspects of UT Southwestern.

"I'm a big believer that what makes an institution great is not only its excellence in patient care, scientific research, and education, but in everything that goes on in every department at that institution," she said. "That includes the written word and the accuracy and precision of institutional communications."

Her impeccably high standards helped forge a connection with Dr. Podolsky in 2005, when they first began working together at Partners HealthCare, now Mass General Brigham.

"Quality and integrity have always been the foundation of our working relationship," said Dr. Podolsky. "I trust Dr. Jacoby implicitly because I know her work and her advice are always rooted in what's best for UT Southwestern."

Among her most cherished experiences during her time at UT Southwestern are her involvement with key milestones such as the opening of William P. Clements Jr. University Hospital and UT Southwestern's yearlong 75th anniversary celebration.

She was involved in the planning process for Clements and remembers vividly the hospital's opening in late 2014.

"It was a perfect Dallas day – bright blue sky and warm weather for December. The move from St. Paul University Hospital went flawlessly. The doors at Clements opened at 6 a.m. and by 6:30 there were ambulances at the ER. By 9, the first baby had been born," she recalled.

"It was a very exciting day for everyone," she added. "Dr. Podolsky was visibly thrilled, and I was thrilled for him."

Dr. Jacoby also took particular joy in working on UT Southwestern's 75th anniversary celebration in 2018 as a member of the planning committee, in part because of her background and training as a historian. She earned her Ph.D. in history from Harvard and spent 18 years as a faculty member in the Department of History at the University of Michigan, although she

“Dr. Robin Jacoby contributed in immeasurable ways to help advance UT Southwestern over the last 11 years. She has been a valued adviser and friend to me. As Chief of Staff, she has been involved in virtually all of our most significant efforts.”

–Dr. Daniel K. Podolsky

served primarily in administrative positions in the Provost's Office and the President's Office for half of that time. In 1990, she moved to Boston to become Vice President of Radcliffe College.

"As a historian, pulling together the pieces for the 75th anniversary was very gratifying," she said. "We spend so much time looking forward here, and rightly so, but it can also benefit us to look back, honor the past, and analyze how UT Southwestern got to be the institution it is today."

Dr. John Warner, Executive Vice President for Health System Affairs, said Dr. Jacoby contributed to many achievements at UT Southwestern over the past decade. "She has been an amazing mentor to me and to the entire UT Southwestern leadership team. She has a real gift for helping us communicate our thinking about institutional priorities in a way that is understandable to stakeholders. I am grateful for her guidance and counsel over her tenure, and appreciate the pivotal role she has played in the advancement of all of UT Southwestern's core missions."

In her retirement years, Dr. Jacoby said she is looking forward to living life at a different pace – spending time reading, traveling, volunteering, and doting on grandchildren. She is moving back to Boston, where she will be near her son and his family, and plans to spend time in Denver with her daughter and her family.

But UT Southwestern will always occupy a special place in the Robin Jacoby story.

"In many ways, coming to Dallas was a totally unexpected move for me," she said. "But it gave me one last big chapter. Participating in the evolution of this institution has truly been a wonderful experience, and I look forward to keeping in touch with Dallas friends and colleagues in the years ahead."

■
Dr. Podolsky holds the Philip O'Bryan Montgomery, Jr., M.D. Distinguished Presidential Chair in Academic Administration, and the Doris and Bwryan Wildenthal Distinguished Chair in Medical Science.

Dr. Warner holds the Jim and Norma Smith Distinguished Chair for Interventional Cardiology, and the Nancy and Jeremy Halbreich, Susan and Theodore Strauss Professorship in Cardiology.

FOCUS: COVID-19 CRISIS

UTSW house calls for elderly invaluable during pandemic

By Patrick McGee

Dr. Namirah Jamshed exchanged warm greetings with her patient and held her hand under the blanket. They'd known each other for years, and the visit in the patient's home was much appreciated.

"I love her because she's very nice," said the patient, Patricia Graham, a 71-year-old Dallas woman who is paralyzed because of multiple sclerosis. "I just love to see her."

Later in the visit, Dr. Jamshed, Ms. Graham, and her sister clasped hands as Dr. Jamshed taught them how to take a pulse.

This is the kind and effective work of COVE, Care Of the Vulnerable Elderly, a program created by Dr. Jamshed that provides in-home primary care visits for the elderly in Dallas.

"These are patients who require a lot more follow-up, which is something you cannot do in a clinic," said Dr. Jamshed, an Associate Professor of Internal Medicine and Family and Community Medicine.

COVE started in 2015 as a way to reduce the high level of emergency department visits and hospitalizations among the elderly, which can be expensive and, most importantly, hard on



Dr. Jamshed greets Ms. Graham after arriving to a home visit to care for Ms. Graham's sister.

patients who are often frail. In recent months, COVE has become even more valuable—an almost certain lifesaver—as the COVID-19 crisis has forced the vulnerable elderly population to stay at home as much as possible to avoid contracting the highly contagious SARS-CoV-2 virus.

Before COVID-19 hit, Dr. Jamshed and her team were achieving significant results from the home visits. Compared to similar patients who did not receive home visits, COVE patients had 12 percent fewer emergency room visits, nearly 35 percent fewer hospitalizations, nearly 17 percent fewer readmissions, and 29 percent fewer specialist visits. Those improvements saved patients about \$24,400 a year.

Supported by the Mildred Wyatt and Ivor P. Wold Center for Geriatric Care, COVE serves patients, 65 and older, who are referred by a UT Southwestern clinic because they have functional or cognitive difficulty for in-clinic visits. The program serves 325 patients who live within 10 miles of UT Southwestern with a care team including three physicians, three nurse practitioners, a registered nurse, a licensed social worker, and a clinical coordinator.

Because of its success, COVE was invited to be part of an effort to develop national benchmarks for elder care, one of only nine programs tapped by the Learning Collaborative for Home-Based Medical Care at the John A. Hartford Foundation. The New York-based foundation is a leader in the geriatrics field, having granted more than \$565 million to improve the health and well-being of older people. Work on the new benchmarks is scheduled to begin this month.

When nonurgent patient visits had to be stopped because of COVID-19 shutdowns, the COVE team temporarily switched to telemedicine. While there were some struggles getting older patients to learn technology they were not familiar with, the UTSW caregivers had



Dr. Namirah Jamshed teaches Sarah Graham how to check the pulse of her sister, Patricia Graham.

established enough trust with patients to help them conduct the video visits. One added benefit was the ability to allow family members to join from any location.

Home visits were reinstated once state and local stay-at-home orders were lifted. While telemedicine was a success overall, there were limitations. In the weeks after home visits were halted from mid-March to early May, the COVE team saw a rise in patients calling in with medical problems. COVE team members believe these were problems that probably would have been prevented if the visits had not been interrupted.

"We started getting more urgent calls on the phone," Dr. Jamshed said. "The needs were starting to declare themselves."

Mihoko Abegunde, a nurse practitioner for the COVE program, said loneliness also became a major concern among their patients. Depression has been scientifically shown to exacerbate dementia, so the COVE team was

eager to reconnect in person with their patients, Ms. Abegunde said. While patients were satisfied with the telemedicine visits, they preferred to have COVE team members in their homes, making personal connections. On average, COVE patients receive a home visit from a physician three to four times a year and a visit from a nurse practitioner every six to eight weeks.

"There's something about talking to somebody face to face that's better than the video, but I do very well with the video," said Marilyn Rubin, a 95-year-old patient with kidney failure.

She said the COVE program has been a lifeline. "It is fantastic. If anything, they saved my life," she said.

Ms. Abegunde said the bonds are strong in both directions.

"I realized how much I really needed to see patients face to face," she said. "I really missed seeing the patients, and they told me the same thing."

Cancer treatment can't be put on hold because of COVID-19

By Lori Sundeen Soderbergh

When it comes to cancer, timing is key. Delays in diagnosis or treatment can potentially be harmful to the patient. That's why UT Southwestern's Harold C. Simmons Comprehensive Cancer Center has put in place a range of guidelines to help patients and caregivers be safe and feel comfortable when seeking help during the COVID-19 pandemic.

"Cancer clinics must be even more stringent than other departments because our patients are much more vulnerable. Their immune systems are impaired from either the disease (cancer) or its treatments," said Dr. John Sweetenham, Associate Director for Clinical Affairs. "These patients have a three to four times higher risk of ICU admission and death from COVID than the general population."

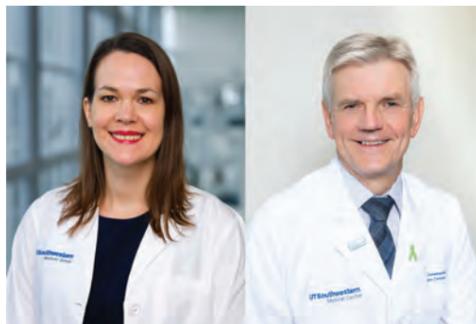
To reduce the risk of exposure, most patients receiving infusions at the Simmons Cancer Center's three locations in Dallas, Richardson, and Fort Worth are treated in private rooms. Community areas have been reorganized to increase the number of available private rooms and increase social distancing.

Most patients are asked to come alone, without a caregiver, to lower the number of people in the centers and reduce the risk of exposure of patients and staff. If having company is very important to the patient, their caregiver can wait in an assigned area and use a cellphone to connect to their loved one. Even this rule has a few exceptions.

"Cancer patients are often older. Some are hard of hearing or deaf, some have dementia, and some have difficulties walking. There are communication barriers and physical ones. We accommodate all of our patients," said Dr. Suzanne Cole, M.D., Medical Director of the Cancer Clinic at UT Southwestern Medical Center at Richardson/Plano.

When arriving for appointments, patients must put on a mask and have their temperature checked. Clinical staff wear personal protective equipment (PPE) that is changed regularly. In all the clinics, each chair is cleaned between every patient visit, along with frequent cleanings of common areas and high-touch surfaces.

For some patients requiring follow-ups, telehealth has been the answer. In March and April, when the COVID-19 pandemic took hold



Dr. Suzanne Cole Dr. John Sweetenham

in Dallas, Dr. Cole, Assistant Professor of Internal Medicine, began seeing nearly all of her patients via telehealth to reduce the number of people who could potentially be exposed. The change was implemented after a walk-in patient revealed he had just returned from a two-week Caribbean cruise after he had already interacted with clinic staff. A few days later, he tested positive for COVID-19, and one nurse was quarantined for two weeks as a result. The incident prompted stricter guidelines to be put in place in the spring.

Another innovation taking place during the COVID-19 pandemic was the opening of an acute care clinic at the Simmons Cancer Center, exclusively for cancer patients who are currently in treatment.

According to the most recent figures from the National Cancer Institute, an estimated 1,735,350 new cases of cancer were diagnosed in the United States in 2018. Some cancers can be treated more successfully or removed if diagnosed early, such as cervical, skin, colon, and breast cancer. Cancer Center leaders worry that some patients may put off seeing their primary care physician to report a lump, spot, or digestive symptom due to their fear of contracting COVID-19.

"The number of newly diagnosed cancer patients seen at the Cancer Center dropped by almost half in the month of April. Will we look back and say that the impact of the pandemic was significant for cancer patients?" asked Dr. Sweetenham, Professor of Internal Medicine. "We won't be able to answer that question for two or three years."

More online: Read the full story on *Center Times* Plus at [utsouthwestern.edu/ctplus](https://www.utsouthwestern.edu/ctplus).



The Harold C. Simmons Comprehensive Cancer Center enacted a range of new guidelines to safely care for patients during the COVID-19 pandemic.



The Simmons Cancer Center offers private infusion rooms.

UT Southwestern cancer patients have three locations where they can receive treatment:

- UT Southwestern Harold C. Simmons Comprehensive Cancer Center (main campus), 2201 Inwood Road, Dallas, 214-645-8300
- UT Southwestern Harold C. Simmons Comprehensive Cancer Center at the Moncrief Cancer Institute in Fort Worth, 400 W. Magnolia Ave., Fort Worth, 817-288-9800
- UT Southwestern Medical Center at Richardson/Plano, 3030 Waterview Parkway, Richardson, 469-661-2306

FOCUS: COVID-19 CRISIS

COVID-19 and me: A global pandemic gets personal

In a personal essay, Dr. Claire Aldridge, AVP of Commercialization and Business Development at UT Southwestern, shares her own story after battling COVID-19. Read the full blog at utswmed.org/medblog/covid-19-survivor-donates-plasma.

By Dr. Claire Aldridge

On a cloudy Wednesday in May, I'm standing in a strip mall parking lot trying to take a decent selfie. Beneath my flowery mask and sunglasses, I am smiling wide because this appointment at the Carter BloodCare mobile collection station means two very important things: I am fully recovered from COVID-19, and I am finally able to donate my plasma, rich with virus-fighting antibodies. There's a reason they call it "liquid gold."

In early March, my husband, my 12-year-old daughter, and I all became infected with COVID-19. For nearly two weeks, I was alone in my bedroom with excruciating headaches, unrelenting body aches, and inescapable fear.

Way back in January, we bought tickets for a spring break trip to New York City. Our flight was scheduled for March 11. That morning, only a few confirmed cases of COVID-19 had been reported in New York City. But by the time our plane landed, the world had changed. The World Health Organization declared the spread of COVID-19 had reached pandemic proportions and the U.S. banned travel from parts of Europe.

We were in New York for less than 48 hours, but that was long enough to pick up the virus. We probably contracted it at a Broadway show, an adaptation of the movie *Mean Girls*. (Perfect, right?) My husband and daughter started feeling sick first – about two days after we got home. My symptoms started two days later.

By March 20, my symptoms had not let up, so I went for a COVID-19 test at a drive-up facility that had

just opened at UT Southwestern. Health care workers in full personal protective equipment swabbed the inside of my nose and told me it would be about five days before we'd know the results.

The doctor said I had what would be considered a mild to moderate case of COVID-19. But looking back, it was still pretty terrifying. I was very sick for nearly two weeks, and the level of discomfort ranks among the worst illnesses I've had as an adult (and I had chicken pox when I was 24).

Being part of the solution

The first time I heard about convalescent plasma, I was in immunology class. The technique, which has been around for a century, was used to help manage the 1918 influenza pandemic and the Ebola outbreak in 2014.

Essentially, it takes blood from recovered patients, separates the plasma, which is typically rich in virus-fighting antibodies, and gives it to people still battling the illness. When the FDA approved an emergency use convalescent plasma program at UT Southwestern, it was an amazing opportunity for me to not just influence and advance a scientific solution for patients, as I do in my job, but to actively participate in the solution.

Of course, there are strict guidelines about who can donate convalescent plasma. You now have to be symptom-free for 14 days after testing positive for COVID-19, as I was, or you can participate in serological testing, which can confirm the presence of proteins (antibodies) made by the body's immune system to indicate prior exposure to SARS-CoV-2, which causes COVID-19.

By early May, North Texas had become one of the leading plasma donation sites in the country. And results show that the therapy can be effective, particularly in speeding recovery and increasing the odds of survival for severely ill, hospitalized patients.



Dr. Claire Aldridge donates her plasma and antibodies for patients who need them.

Getting empowered

Giving blood has never been easy for me because I have tiny, hard-to-find veins. Donating plasma is even more challenging because it requires a bigger needle with two lumens so the blood and plasma can be separated.

The nurses told me that each convalescent plasma donation has the potential to help three COVID-19 patients. Donating plasma is empowering – a feeling that most of us have been missing over the course of the pandemic. Certainly, I never wanted to get COVID-19, but I am thankful for the unique perspective it has given me on life and the future. Every time I see my mom and dad, husband and daughter, I hug them a little tighter.

At work, I feel a renewed sense of urgency to get our science to a point where it can change lives and everyday patient care. (UT Southwestern has already filed several patents for potential therapeutics related to COVID-19.)

And donating plasma, well, it has made me feel more connected to my community. So many people have



Dr. Aldridge captures the moment before she donated plasma to help patients hospitalized with COVID-19.



Straw-colored plasma, aka 'liquid gold,' is separated from Dr. Aldridge's blood so it can be donated to seriously ill COVID-19 patients.

stepped up to help others during the pandemic, from checking on neighbors to donating masks for front-line health care workers to leaving meals on my front porch. It's inspiring, really, and among the many reasons I felt compelled to do my part. Donating plasma is just the beginning. But it's a pretty cool one.

For details about **UT Southwestern's Convalescent Plasma Program** and how to donate, please visit our COVID-19 website at utsouthwestern.edu/covid-19/about-virus-and-testing/plasma.html.

Coronavirus crisis raises risk for domestic violence

By Lori Sundeen Soderbergh

Sheltering in place to avoid exposure to the coronavirus this year resulted in an increase in domestic violence reports in Dallas, raising awareness about the need to help friends or colleagues who might be living in dangerous situations.

The UT Southwestern Police Department stands ready to help by connecting people with community resources, providing safety on campus, and offering instruction on self-defense.

"Together we can be a resource for victims, or for those who just don't know how to help someone survive a sexually or domestically violent situation," said JaQuanna Dye, Crime Prevention Coordinator for UTSW Police.

Domestic violence incidents in Dallas increased by 12.5 percent during the first 35 days after March 24, when the shelter-in-place order was announced, according to a study by criminologists at UT Dallas. Researchers found that the order may have trapped at-risk partners at home, while disrupting their normal access to social support and social service resources. They also noted that some victims may be afraid to call for assistance while their abusers are confined with them and can closely monitor their communications.

UT Southwestern did not see a rise in incidents during the shelter-in-place period, when patient volumes were

lower and there were fewer employees on campus. In 2019, UT Southwestern Police reported seven incidents on campus, including dating violence, domestic violence, and stalking, following 12 in 2018. Another 15

incidents were reported to police in the communities surrounding the campus, making it important for the UTSW community to be aware of how to get help.

"Too often, victims will blame

themselves. We need to give power back to the victim and focus blame on the perpetrator," said Lt. Adam Jones, who has led self-defense courses on campus for 15 years and trained thousands of women. The classes have been temporarily suspended due to the pandemic.

"Our courses teach important defensive moves to women," Lt. Jones said. "We also teach them safety awareness: to be aware of the location of their purse, keys, windows, and the exit door."

A 2017 study by the Centers for Disease Control and Prevention reports that nearly half of all female homicide victims are killed by a current or former dating partner.

In April, to recognize national Sexual Assault Awareness Month, the UT Southwestern Police Department presented a domestic and sexual violence webinar discussion for the campus community. The program featured Carrie Christian, an administrative employee of UT Southwestern's Logistics and Value Analysis Department, who has personal reasons to feel strongly about domestic violence. She was just 13 years old when her mother was murdered.

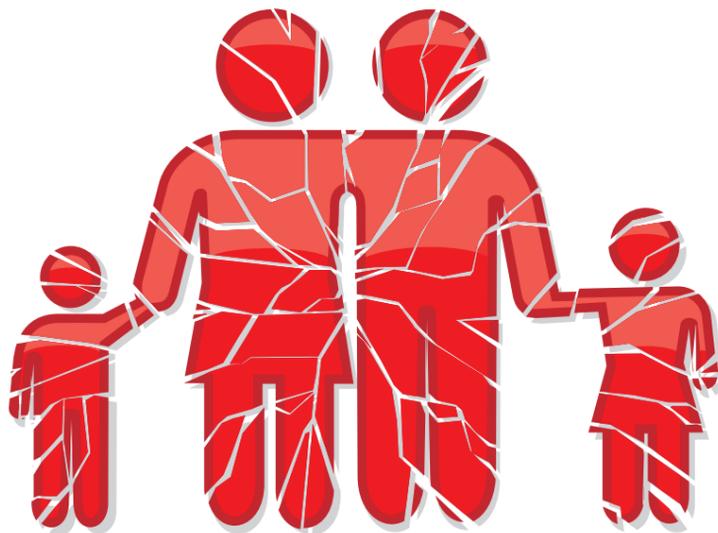
In 2001, the boyfriend of Ms. Christian's mother violated a temporary restraining order for the third time and killed the mother of three by stabbing her 25 times. He was convicted in 2003 of second-degree murder.

Ms. Christian said that the cycle of

abuse often continues in subsequent generations, when adult children who have been exposed to violence later repeat these patterns in their own adult relationships. "In order to break any cycle, steps must be taken such as creating a boundary line list in relationships or attending counseling to understand one's own emotions," she said.

"The response of police officers plays a huge role in the safety of victims during domestic violence calls," she added. "Officers can also hold perpetrators accountable for their violence by making arrests."

Ms. Christian and Ms. Dye plan to work together to facilitate future UT Southwestern educational workshops on relationship abuse. They recommend that individuals who feel threatened talk to a counselor or advocate, call a hotline, and have a safety plan.



JaQuanna Dye



Carrie Christian



Lt. Adam Jones

On-campus resources

Student Wellness and Counseling Center: 214-645-8680
Employee Assistance Program: 214-648-5330
Mental Health Resources: 214-645-8500

Need help? Call

On-campus emergency: 911
 On-campus nonemergency: 214-648-8311

Graduate student earns Lasker Foundation honor

Winning essay describes how two UTSW Nobel Laureates inspired him to become a preventive cardiologist

By Nyshicka Jordan

Dr. Avash Das, a Ph.D. candidate in the Graduate School of Biomedical Sciences, has been named one of 11 winners in the 2020 Lasker Foundation Essay Contest, an international competition for aspiring bioscience and health communicators.

In his essay, "Michael Brown and Joseph Goldstein: Tribute to My Inspiration," Dr. Das wrote about the UT Southwestern Nobel Laureates who shared the 1985 Nobel Prize in Physiology or Medicine for their discovery of the low-density lipoprotein receptor and how it controls cholesterol levels. The essay contest asked participants to describe how a notable scientist had inspired them.

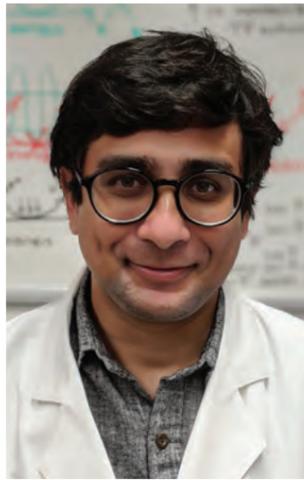
Dr. Brown, Professor of Molecular Genetics and Internal Medicine, is Director of the Erik Jonsson Center for Research in Molecular Genetics and Human Disease. Dr. Goldstein is Chair of Molecular Genetics and Professor of Molecular Genetics and Internal Medicine.

Dr. Das was a teenager when he first learned in textbooks about the Nobel Prize winners and their groundbreaking research that led to the development of statins, lipid-lowering drugs that have helped millions of patients. Witnessing the growth of cardiovascular

disease in his native India and the impact the condition had on people in his personal life, Dr. Das decided early on to become a preventive cardiologist and pursue research similar to his role models.

"Drs. Brown and Goldstein are epitomized as model physician-scientists, inspiring and mentoring the next leaders in the field. Being an aspiring physician-scientist, I feel privileged to be a part of the same Department and learn from them and their trainees," Dr. Das said. "Their professional partnership helped me realize the importance of a competitive scientific environment and had a positive personal impact on me."

Dr. Das, a native of Kolkata, earned his medical degree from Nil Ratan Sircar Medical College in West Bengal, India, in 2014.



Dr. Avash Das

In 2015, Dr. Das moved to the United States to complete a research fellowship in cardiovascular disease at Massachusetts General Hospital. Cardiac biology research underway in the Department of Molecular Genetics piqued his interest and led him to pursue graduate training at the institution where Drs. Brown and Goldstein do their work.

Dr. Das is currently in his second year at UT Southwestern, where he is studying the role of lipids in metabolic diseases. In the future, he plans to continue research and clinical training in the United States.

Dr. Das trains in the Molecular Genetics lab of Dr. Helen Hobbs (a former trainee of Drs. Brown and Goldstein) and Dr. Jonathan Cohen. Dr. Hobbs is Director of the Eugene McDermott Center for Human Growth and Development, a Howard Hughes Medical Institute Investigator, and Professor of Internal Medicine and Molecular Genetics. Dr. Cohen is Professor of Internal Medicine and in the Center for Human Nutrition and McDermott Center.

Dr. Das said he is pleased that his professional career has led him to UT Southwestern to train near his role models. Having won the Lasker essay contest, he is now looking forward to meeting other Lasker Laureates.

"I am extremely happy to win this prestigious contest. I receive this news at a time when health

care providers across the globe are working tirelessly against a microscopic enemy. I wish to dedicate my little success to their selfless and tireless effort. In my opinion, Churchill's quote, 'Never was so much owed by so many to so few,' provides a fitting tribute to their dedication and self-sacrifice," Dr. Das said.

As an essay contest winner, Dr. Das will receive a \$2,000 stipend to be used toward educational expenses and is sponsored by the Lasker Foundation to attend the Lasker Awards Luncheon on Oct. 1, 2021.

Dr. Brown, a Regental Professor, holds The W.A. (Monty) Moncrief Distinguished Chair in Cholesterol and Arteriosclerosis Research and the Paul J. Thomas Chair in Medicine.

Dr. Cohen holds the C. Vincent Prothro Distinguished Chair in Human Nutrition Research.

Dr. Goldstein, a Regental Professor, holds the Julie and Louis A. Beecherl, Jr. Distinguished Chair in Biomedical Research and the Paul J. Thomas Chair in Medicine.

Dr. Hobbs holds the Eugene McDermott Distinguished Chair for the Study of Human Growth and Development, the Philip O'Bryan Montgomery, Jr., M.D. Distinguished Chair in Developmental Biology, and the 1995 Dallas Heart Ball Chair in Cardiology Research.

CLASS

NOTES

IN MEMORIAM

MEDICAL SCHOOL

- Leslie W. "Wayne" Ralston, M.D. ('49)
- Clarence G. "Gil" Falke, M.D. ('50)
- Bernard G. Horner, M.D. ('53)
- Norman M. Kaplan, M.D. ('54)
- Juanita F. Kirby, M.D. ('58)
- Wayne E. Martin, M.D. ('58)
- Karl J. Reckenthaler, M.D. ('58)
- Claude E. Reynolds, M.D. ('58)
- Donald Lee "Don" Becker, M.D. ('59)
- Robert S. Griffin, M.D. ('59)
- John P. "J.P." Healy ('59)
- George H. Sullivan, M.D. ('59)
- George "Hardy" Rudd, M.D. ('62)
- Raul B. Berke, M.D. ('65)
- Sander W. "Sandy" Davis, M.D. ('65)
- Lawrence "Larry" Klein, M.D. ('65)
- Bobby L. Stafford, M.D. ('65)
- James W. "Jim" Black Jr., M.D. ('67)
- Paul Borisuk, M.D. ('67)
- Morris E. Franklin Jr., M.D. ('67)
- William D. Littlejohn, M.D. ('67)
- Charles D. "Charlie" Fox, M.D. ('68)
- Herman J. Keillor, M.D. ('69)
- M.C. Hillert Jr., M.D. ('71)
- Robert B. "Bob" Hill, M.D. ('74)
- John Stafford Webb, M.D. ('74)
- Sheldon L. "Shelly" Blend, M.D. ('75)
- Douglas M. "Doug" Geehan, M.D. ('89)
- Deidi A. Strickland Bergestuen, M.D., Ph.D. ('94)
- Cristen R. Wall, M.D. ('96)

GRADUATE SCHOOL

- Elizabeth "Libby" Forsyth Harris, Ph.D. ('70)
- Jeffrey P. "Jeff" Lane ('86)

FORMER HOUSESTAFF

- Krishna Chandra, M.D. (Anesthesiology)
- James R. "Jim" Clapp, M.D. (Internal Medicine/Nephrology)
- Hugo E. Jasin, M.D. (Rheumatology and Immunology)
- Kenneth J. Leveno, M.D. (Obstetrics and Gynecology and UTSW fellowship)
- C. Dowell Patterson, M.D. (Pulmonary Medicine)
- Larry A. Rogers, M.D. (Neurosurgery)
- Watt T. Salmon, M.D. (Psychiatry)
- Donald P. Skogg, M.D. (Clinical Pathology/Hematology/Blood Banking)
- Gail D. "Doug" Tatum Jr., M.D. (Obstetrics and Gynecology)

SCHOOL OF HEALTH PROFESSIONS

- Richard P. Branson ('79)
- Emeline G. "Tru" Picht ('88)
- Judy M. Cowlshaw Lippe ('98)
- Billy W. Cohen-Vaughan ('02)

MEDICAL SCHOOL

Class of 1947: Allen D. Campbell Jr., M.D., recently printed his autobiography *In His Own Words ... The Life Story of Allen D. Campbell, Jr.: Naval Officer, Ophthalmologist, and Man Who Slept in the Same House with Bonnie Parker*. Detailed in the retired ophthalmologist's memoir are tales from his career and personal life, including friendships with Hollywood stars, famous athletes, and Dallas socialites. During his career, Dr. Campbell had his own medical practice and served as an ophthalmologic surgeon for the U.S. military and the Danish navy. At age 96 today, Dr. Campbell plays the organ and the piano, is President of the residents' group at his rehabilitation facility, and enjoys Tex-Mex food and ice cream.

For the latest updates on alumni events and news, visit engage.utsouthwestern.edu/alumni and follow @utswalumni on Facebook.

Please send your Class Notes contributions or address changes to the Office of Development and Alumni Relations, UT Southwestern Medical Center, 5323 Harry Hines Blvd., Dallas, TX 75390-9009, email alumni@utsouthwestern.edu, or call 214-648-4539.

Surgery restores eye muscle function to patients with facial paralysis

By Christen Brownlee

Surgeons at UT Southwestern have developed and analyzed the benefits of a cutting-edge technique that provides patients with facial paralysis the ability to close their eyes. They concluded that the surgery – which is only performed at a handful of institutions around the world, including UTSW – not only allowed patients to blink and voluntarily close their eyes, but also protected them against the progressive damage to the cornea that's typically seen with facial paralysis.

The procedure, described in a recent cover article in *Plastic and Reconstructive Surgery*, involves reinnervating the muscles around the eye that allow eye closure via a combination of techniques. The new research demonstrated that patients not only could close their eyes faster and more completely but also exhibited improved protection of the cornea. In addition, researchers showed that patients who most benefit from this approach are those with facial paralysis for less than 18 months.

"Seeing patients early after the injury is very important. Many patients will improve on their own, but for those who don't, time is critical. Loss of time means loss of muscle, and at a certain point, this loss is irreversible. Therefore if we reach these patients early enough, we can reroute or rewire some of these nerves, and actually save the muscles around the eye and restore function," said study leader Dr. Shai Rozen, Professor and Vice Chairman of Research and Development of Plastic Surgery at UTSW.

Facial paralysis has a number of causes – trauma, head and neck cancers, complication from a viral infection, and Bell's palsy are the most common. One of the most difficult challenges patients with facial paralysis have is the inability to close their eyes; this may lead to irritation and subsequent scarring of the corneas – the eyes' outer layer covering the pupil – since they can't be protected or moistened by the eyelids.

"Traditionally, surgeons have tried to prevent this eye damage by implanting gold or platinum weights to the upper eyelid and lifting the lower eyelid, allowing patients

passive closure of their eyes," Dr. Rozen said. "This is an excellent technique that we continue to use and provides protection mainly at night but less so during the day, when even the slightest wind or



Above are before and after surgery photos of a 44-year-old patient following removal of an acoustic neuroma. She did not have the ability to smile or close her eyes voluntarily. Two years after surgical reanimation for the midface and the eye, she attained symmetry in her smile and the ability to close her eye voluntarily.

air conditioning will cause dryness and discomfort."

Dr. Rozen has specialized in the area of facial paralysis for 13 years at UTSW. In the past seven years, he and his colleagues at the Medical Center started looking for additional solutions for eye closure in facial palsy patients and further developed this approach – reinnervation of the orbicularis oculi muscle, in which surgeons reconnect or guide nerves back into the muscles around the eye. They've now performed the surgery on more than 40 patients at UTSW.

For the new research, Dr. Rozen compared the outcomes of 11 UTSW facial paralysis patients who received the newer surgery, and 16 who only received the typical gold weights in their eyelids. Corneal eye exams were

performed by Dr. Jeremy Bartley, Assistant Professor of Ophthalmology at UTSW, who is also co-author on this study. At 15 months after surgery, patients who had undergone muscle reinnervation around the eye could



close their eyes more than five times faster than before the surgery and 32.8 percent faster than patients with only gold weights.

Moreover, tests of the cornea showed a significant difference. Patients who had received the muscle reinnervation surgery had 67.9 percent less corneal damage.

"After a muscle has not been stimulated for about 18 months, it becomes much harder – and eventually impossible – to restore its function," Dr. Rozen said. "That means there's a brief window of opportunity where we can make a difference for patients."

More online: Read the full story on *Center Times Plus* at utsouthwestern.edu/ctplus.

How Drs. Brown and Goldstein got their start at the NIH

Medal Winners tells the story of four Nobel Laureates who were trained in a little-known Vietnam-era program

By Patrick Wascovich

After more than 50 years, the enduring impact of a little-known Vietnam-era program at the National Institutes of Health (NIH) that jumpstarted the careers of four Nobel Prize-winning scientists, including UT Southwestern's Drs. Michael Brown and Joseph Goldstein, is being revealed in a new book.

Medal Winners: How the Vietnam War Launched Nobel Careers, written by Dr. Raymond S. Greenberg, captures the traits, triumphs, and troubles of the four scientists – Drs. Brown, Goldstein, Bob Lefkowitz, and Harold Varmus – who in 1968 all began their post-medical school scientific training at the NIH's Clinical Associate Training Program. The two-year research assignment, approved by the U.S. government as federal service, exempted participants from the so-called “doctor draft.” In all, nine future Nobel Laureates were selected for training by the NIH as either Clinical or Research Associates between 1964 and 1972.

“The NIH program was more an accident of history than a conscious decision to create a pipeline of great physician-scientists,” said Dr. Greenberg, who served as Executive Vice Chancellor of the UT System from 2013 to March 2019. “Since it was one of the few alternatives to being drafted as a military doctor, the competition was fierce, and those selected were some of the brightest medical graduates in the country.”

Dr. Greenberg said *Medal Winners* was initially inspired by a 2012 article in *Science* by Drs. Brown and Goldstein titled “A Golden Era of Nobel Laureates.”

“When the program was created, I don't think anyone had in mind that they would be training the leaders of the next generation of academic medicine – it just turned out that way. Even more impressive are the landmark contributions to biomedical research that these former trainees produced,” said Dr. Greenberg, whose book focuses on the year 1968, when four of the scientists started in the NIH program.

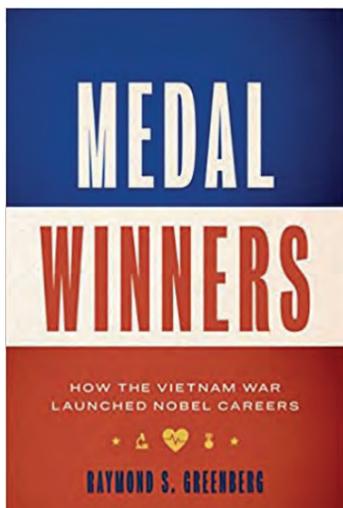
'Nobel' pursuits

Friends and scientific collaborators for 54 years, Drs. Brown and Goldstein have cast long shadows across the UTSW campus since sharing the 1985 Nobel Prize in Physiology or Medicine for their groundbreaking discovery of the low density lipoprotein (LDL) receptor that is the basic mechanism of cholesterol metabolism. Their findings ultimately led to the development of statin drugs taken by millions worldwide to lower cholesterol levels and reduce the risk of heart disease. The UTSW scientists, who have led a laboratory together since 1972, jointly hold 30 U.S. patents.

Medal Winners, published by University of Texas Health Press, provides readers unvarnished views of its subjects' upbringings as well as a rare open window into the high-pressure clinical associate selection process – where fewer than 1 in every 25 applicants was accepted.

Early influences

The native of a small town in South Carolina, Dr. Goldstein went to Washington and Lee University in Virginia before attending UT Southwestern Medical School,



The book details the early careers of four Nobel Prize-winning scientists, including Drs. Brown and Goldstein.



Drs. Joseph Goldstein (left) and Michael Brown shared the Nobel Prize in Physiology or Medicine in 1985.

where he was mentored by the late Dr. Donald Seldin. Brooklyn-born Dr. Brown grew up in suburban Philadelphia before attending the University of Pennsylvania for his undergraduate and medical school education. They first met in 1966 at the start of their internships and residencies at Massachusetts General Hospital.

Dr. Brown's time at the NIH began and ended with unheard-of singularity. In the process of securing an initial lab spot, he scribbled two additional entries onto the official 13-line clinical associate application and was chosen by one of those heady additions. Then, during his second year at the NIH, his original mentor left and Dr. Brown was forced to change course after being granted what became a career-changing rare third-year extension working with Dr. Earl Stadtman, who would go on to receive the National Medal of Science in 1979 for his research of enzymes and anaerobic bacteria.

“It was only after I switched mentors that I experienced the thrill of making a scientific discovery, and

after that I wanted to do it again and again,” Dr. Brown said.

Dr. Goldstein, meanwhile, spent his considerable lab time under Dr. Marshall Nirenberg, initially working on deciphering the genetic code and later on protein synthesis. Dr. Nirenberg's genetic code work led to his own Nobel Prize recognition soon after Dr. Goldstein joined the lab.

The basic science was balanced out with clinical work in the ward at the NIH Clinical Center. It was here that Dr. Goldstein was assigned to care for research patients, including a 6-year-old girl who had familial hypercholesterolemia, an inherited condition in which lipid levels in the blood are extraordinarily high. Investigations into treatment of this disease became the catalyst for careerlong work by Dr. Goldstein and his collaborator, Dr. Brown.

Complementary lab partners

Eventually, Drs. Brown and Goldstein landed at UT Southwestern and set up a merged lab arrangement. Together, they brought different but complementary perspectives fostered

during their time at the NIH. Dr. Brown, for instance, invariably looked at cells through their microscope's highest magnification to see and appreciate cellular singularity. Dr. Goldstein, on the other hand, dialed it down to the lowest magnification level to view the whole pattern of the cells.

“If you look at high power, you see a lot of details but you also miss the big picture. If you look at low power, you see the big picture but you miss the details,” Dr. Goldstein recounts in the book. “There are two occupational diseases of collaboration. One is astigmatism – that's when the two partners do not see eye-to-eye. ... Then, the second is ego-titis. If two people have big egos, they often do clash.”

Medal Winners is available through UT Health Press and on Amazon.

Dr. Brown, a Regental Professor, is Director of the Erik Jonsson Center for Research in Molecular Genetics and Human Disease, as well as a Professor of Molecular Genetics and Internal Medicine. He holds The W.A. (Monty) Moncrief Distinguished Chair in Cholesterol and Arteriosclerosis Research and the Paul J. Thomas Chair in Medicine.

Dr. Goldstein, a Regental Professor, is Chair of Molecular Genetics and a Professor of Molecular Genetics and of Internal Medicine. He holds the Julie and Louis A. Beecherl, Jr. Distinguished Chair in Biomedical Research and the Paul J. Thomas Chair in Medicine.

Dr. Greenberg is special adviser to the Office of Health Affairs for the UT System.

More online: Read the full story on *Center Times Plus* at utsouthwestern.edu/ctplus.

Black Box Continued from page 1



Drs. Herbert Zeh and William Daniel discuss the launch of the advanced surgical monitoring and quality control system in one of the operating rooms equipped with the OR Black Box.

sounds and images in the room, along with readings from patient monitors that record such things as heart rate and temperature, as well as images inside the patient from the laparoscopy camera.

This information will become the basis for monthly reports from SST. Any member of the surgical team can ask for a more detailed report on a surgery, resulting in greater analysis of the surgical team's performance and fostering a sense of inclusion that is an important principle borrowed from the airline industry to enhance the culture of safety, said Dr. Zeh.

The images and voices of patients, as well as medical staff, are changed to obscure any identifiers in the reports after the information reaches SST, Dr. Zeh pointed out, and the original recordings are destroyed within 30 days.

While no system is foolproof, the data shared between UTSW and SST

will undergo rigorous encryption and de-identification processes to protect patient privacy, said Dr. Zeh. “Most of my patients, when informed of the OR Black Box at UTSW, have been enthusiastically supportive,” he said. “They feel an extra level of confidence that we are employing the most cutting-edge safety tools in the industry.”

Dr. Jeffrey Cadeddu, a Professor of Urology and Radiology who specializes in minimally invasive urologic surgery, said he is excited about the new safety tool: “It will provide comprehensive data about operating room procedures and environment that will improve efficiency, productivity, and patient safety.”

Drs. Zeh and Daniel stressed that the goal of the system is to identify best practices and problem areas before they lead to patient harm, not to point fingers or punish.

“Using the OR Black Box, we'll be able to understand so much more than we do now, and make surgery safer for our patients,” Dr. Daniel said. “The focus is not just on errors, but also on deconstructing cases in which care was excellent, and trying to make the interactions that led to excellent care happen as reliably as possible, focusing on what we do right so we can make perfection our baseline.”

Eventually, Dr. Zeh said, the technology could be used to monitor the stress level of the surgeon (which studies have linked to increased complications) and develop artificial intelligence technologies that will enhance surgical team performance.

Whether UT Southwestern's three-year pilot program with the OR Black Box is continued or expanded to additional ORs will depend on the findings, but Drs. Zeh and Daniel are optimistic.

“The only way we're going to get to the next level of safety is to have comprehensive data collection so we can measure things,” said Dr. Zeh. “This technology will probably be in every OR in the country in five to seven years and we can say that UT Southwestern led the way.”

Dr. Cadeddu holds the Ralph C. Smith, M.D. Distinguished Chair in Minimally Invasive Urologic Surgery.

Dr. Daniel is a Professor of Internal Medicine and holds the William T. Solomon Professorship in Clinical Quality Improvement at UT Southwestern Medical Center.

Dr. Zeh is a Professor of Surgery and holds the Hall and Mary Lucile Shannon Distinguished Chair in Surgery.

THE STORY OF THE OR BLACK BOX

The OR Black Box is the brainchild of Dr. Teodor Grantcharov, a Canadian surgeon who is Director of the International Center for Surgical Safety at Toronto's St. Michael's Hospital. Dr. Grantcharov has dedicated the bulk of his career to researching patient safety and medical errors.

Dr. Grantcharov said he came up with the idea for the OR Black Box about 20 years ago after noticing the stark difference between the self-scrutiny applied in the airline industry versus health care institutions.

When problems occur during flights, airlines drill into the plane's flight data recorder, known as the black box, to find the contributing factors – perhaps the confusing placement of a dial on the instrument panel, or miscommunication between pilot and co-pilot that contributed to a near-miss in the air. The data is then used to make improvements.

“It was frustrating to see how we were wasting these kinds of potential learning experiences in health care,” said Dr. Grantcharov. A 2016 study from Johns Hopkins University School of Medicine calculated that deaths from medical errors top 250,000 each year and are the third-leading cause of death in the U.S.

Dr. Grantcharov launched a prototype of the OR Black Box at his own hospital in Toronto and started Surgical Safety Technologies in 2014.

A dozen hospitals have since adopted the technology in the U.S., Canada, and Western Europe. Northwell Health's Long Island Jewish Medical Center in New York was the first in this country to use it. Last year, *Time* magazine named the OR Black Box one of its “Best Inventions” for 2019.

Dr. Louis R. Kavoussi, Chair of Urology at Northwell Health, helped initiate Long Island Jewish's pilot program, which installed the Black Box in two operating rooms in January of 2019.

The results have been eye-opening, he said. Among the shortcomings discovered by the OR Black Box: Eight wasted OR minutes in the average hour; too much traffic in and out of the operating room, creating distractions and allowing bacteria to enter; and staff who reach for things outside the OR's sterile zone. Once such problems were discovered, the hospital developed ways to correct them, Dr. Kavoussi said.