The Brain Issue

UConn Health pioneers explore new frontiers to better understand one of humankind’s perpetual mysteries. p.6
FROM THE EDITOR

Two years ago, we published the first UConn Health Journal with the goal of giving physicians, dentists, and the public insight into the groundbreaking research and life-changing clinical care happening at UConn Health. As an academic medical center, UConn Health makes the discoveries that shape the future of health care. Our scientists work to understand medicine's biggest mysteries, design new therapies and treatments, and turn laboratory breakthroughs into advances in patient care.

As our team collaborates to produce each issue, I constantly find myself in awe of everything that drives UConn Health’s innovations: the brain. Our scientists work to understand one of humankind’s perpetual mysteries: the brain.

For your loved ones? It mean for you? For your patients? It is a call to action. Our stories walk the line between the real and the possible, between the known and the unknown. The more we learn about the brain, the more we find there is to discover. At UConn, those who work with the brain range from a neurologist with a ringside seat to the evolution of concussion treatment to a radiologist and medical physicist who harnessed 3-D printing technology to give surgeons a practice brain for complicated procedures.

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Thanks for reading.

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Find us online: healthjournal.uconn.edu

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HONOR ROLL

Dr. Ivo Kalajzic was one of four awardees to receive a Supplements to Advance Research (STAR) award for 2017 from the National Institute of Arthritis and Musculoskeletal and Skin Diseases.

Reinhard Laubenbacher, Ph.D., was named an inaugural Fellow of the Society for Mathematical Biology.

Ephraim Trakhtenberg, Ph.D., assistant professor of neuroscience, won an Interstellar Initiative honor from the New York Academy of Sciences and the Japan Agency for Medical Research and Development.

Dr. Anthony G. Alessi has been inducted into the Connecticut Boxing Hall of Fame for his work to make the sport safer. He is the first neurologist to receive the honor.

UConn Health is using advanced cochlear implant technology to restore hearing in patients living with severe hearing loss. U.S. Navy veteran Peter Jacobs, 78, of Harwinton, Connecticut, is one of those grateful patients.

At age 18, Jacobs joined the navy and worked as a naval ship gunner. But the long-term repercussions of loud noise exposure during his military service included severe hearing loss, which surfaced in recent years.

“Anything that involved hearing, I was left out of. I couldn’t even hear at funerals,” said Jacobs. “But when I lost the ability to hear sirens and couldn’t talk on the phone, then I had to do something.”

Jacobs consulted UConn Health’s advanced ear, nose, and throat team of Dr. Daniel S. Roberts and audiologist Hillary Siddons, Au.D., about his candidacy for a cochlear implant, an electrical device that bypasses the native hearing mechanism to allow a patient to hear.

“Our recommendations for each patient are based on the degree of their hearing loss and how well a patient can understand words,” says Siddons. “If someone can understand less than 60 percent of conversations, they are likely a candidate for a cochlear implant.”

“When they first turned my cochlear implant on, it was amazing,” says Jacobs. “The best sound, other than my wife, is when I open a window and I can hear the birds. That’s wonderful.”

Following his positive patient experience, Jacobs now recommends cochlear implant technology to his fellow veterans and others who may be struggling with hearing loss.

“My message is do it, because it’s going to change your life,” says Jacobs. “Cochlear implantation is a spectacular technology,” says Roberts. “It takes a patient from not being able to hear at all to being able to talk on the telephone. Some of the most dramatic outcomes that I have seen, and the happiest patients, are those after a cochlear implant.”

Roberts and his team care for patients experiencing hearing loss, tinnitus (ringing in the ears), and dizziness. Additionally, his surgery practice encompasses cochlear implantation and skull base surgery for acoustic neuromas and malignant or benign tumors.

If someone can understand less than 60 percent of conversations, they are likely a candidate for a cochlear implant. If someone can understand less than 60 percent of conversations, they are likely a candidate for a cochlear implant.

UConn Health Center on Aging

The UConn Center on Aging is one of 14 planned study sites for the TAME (Targeting Aging with Metformin) clinical trial led by Albert Einstein College of Medicine’s Dr. Nir Barzilai and colleagues from the Wake Forest School of Medicine. The researchers hope to test the ability of diabetes drug metformin to slow development of aging-related conditions such as cancer, dementia, and cardiovascular diseases.

Spring 2017 “Aches, Ages, and Influenza”

Childhood Anxiety Research

Anxiety in children may need to be treated as a chronic condition that requires regular follow-up, reported UConn Health psychologist Golda Ginsburg at this year’s Anxiety and Depression Association of America conference. The results are from a study that followed 488 children and adolescents with anxiety who were randomly assigned to get cognitive behavioral therapy (CBT), an antidepressant, CBT and an antidepressant, or a placebo. Remission rates five years after treatment were the same, no matter the treatment.

Winter 2015 “Breaking the Cycle: How Anxious Parents Can Protect Their Kids from Becoming Anxious Adults”

UConn Health’s Carole and Ray Neag Comprehensive Cancer Center is the only Connecticut institution outside Fairfield County to offer its breast cancer patients optional scalp-cooling therapy to reduce their chances of hair loss from chemotherapy treatments. “Chemotherapy-induced temporary hair loss is one of the most common and stressful side effects breast cancer patients experience,” says Dr. Susan Tannenbaum, chief of the Division of Oncology and Hematology at UConn Health. “Anything we can do to limit a woman’s distress while she undergoes breast cancer care is essential for the patient’s overall holistic health.”

Research studies have shown that the FDA-cleared DigniCap, made by Dignitana Inc., is nearly 70 percent effective in reducing hair loss by at least half in breast cancer patients receiving chemotherapy.

While a patient undergoes intravenous chemotherapy treatments, the computerized cooling cap system circulates cooled liquid through a tight-fitting silicone cap. The cooling therapy works to limit chemotherapy’s side effects by constricting the scalp’s blood vessels, which limits the drug’s reach to the hair follicles and also slows the rate of hair cell division.

The technology’s arrival was spearheaded by donations from UConn Health professors Dr. William B. White and Nancy M. Petry, Ph.D., of the Pat & Jim Calhoun Cardiology Center, among others, and grant funding awarded to the UConn Foundation by the CT Breast Health Initiative.

Visit healthjournal.uconn.edu/archive to read the original stories.

Cooling Off Chemotherapy’s Side Effects

Visit healthjournal.uconn.edu/archive to read the original stories.

Veteran’s Hearing Restored

Dr. Anthony G. Alessi has been inducted into the Connecticut Boxing Hall of Fame for his work to make the sport safer. He is the first neurologist to receive the honor.

(continued on page 4)
Hurricane Relief

UConn Docs Provide Medical Assistance in Puerto Rico, U.S. Virgin Islands

In the wake of devastation from Hurricane Irma and Hurricane Maria, UConn Health physicians were among those who traveled to help with humanitarian and medical relief efforts. Dr. Robert Fuller, department chair and professor of emergency medicine at UConn Health (pictured, top right), traveled with the International Medical Corps on a mission to assess the damage to, and identify gaps in, medical infrastructure for delivering care to the poor, and to find and coordinate resources to close that gap. “Everyone is affected in a serious and ongoing way,” Fuller says. “It is impossible to see or do anything that is not changed by the storm.”

Dr. Natalie Moore, UConn Health’s first International Disaster Emergency Medicine Fellow and a UConn Master of Public Health candidate, went to the U.S. Virgin Islands after Hurricane Irma. She treated patients at a temporary triage clinic in St. John before working at a hospital in St. Croix, where she hunkered down for Hurricane Maria. It was the only hospital open in the area, as the hospital in St. Thomas was destroyed.

E-Cigarettes Not a Safe Alternative

Using a new low-cost, 3-D-printed testing device, UConn researchers found that e-cigarettes loaded with a nicotine-based liquid are potentially as harmful as unfiltered cigarettes when it comes to causing DNA damage. The researchers also found that vapor from non-nicotine e-cigarettes caused as much potential cancer-causing DNA damage as filtered cigarettes, possibly due to the many chemical additives present in e-cigarette vapors. Several factors impact the amount of DNA damage e-cigarettes cause, says Kartsev Kadmisvet, a postdoctoral researcher in UConn’s chemistry department and the study’s lead author. “I never expected the DNA damage from e-cigarettes to be equal to tobacco cigarettes,” says Kadmisvet. “I ran the controls again. I even diluted the samples. But the trend was still there — something in the e-cigarettes was definitely causing damage to the DNA.” The findings appear in the journal ACS Sensors.

NEW DEVICE TESTS HEART HEALTH

UConn researchers from the Department of Mechanical Engineering have developed a device that can test blood viscosity during a routine office visit. The heart must work harder to pump sticky — high viscosity — blood, and studies have shown thicker blood can indicate cardiac event and stroke risk.

George Lykotrafitis and doctoral candidate Kostyantyn Partola have filed a provisional patent on the small electronic device, which requires just a finger prick of blood, gives precise readings in minutes, and costs under $1,000. Currently, physicians must send large blood samples to off-site labs for analysis in a rheometer. “With this information, doctors can suggest simple lifestyle changes on the spot to prevent their patients from having a stroke or heart attack,” says Partola.

THE LACK OF BLACK MEN IN MEDICINE

Medical school matriculation rates for black males have failed to surpass those from 35 years ago, according to a recent UConn Health analysis of data from the Association of American Medical Colleges. African-American men make up just 2.8 percent of medical school applicants to medical school. Out of all African-American applicants, only 38 percent are men, and black males who are unsuccessful in their first application are less likely to reapply than their white counterparts, the researchers write in the Journal of Racial and Ethnic Health Disparities. “The absence of Black males in medical school represents an American crisis that threatens efforts to effectively address health disparities and excellence in clinical care,” wrote authors Dr. Cato T. Laurencin and Martha Murray.
Dr. Alessi and the Concussion (R)evolution
by Peter Nelson


"Don’t you understand? The odds are, all you’ll wind up is a mumbling idiot — a stuttering jerk. Why don’t you go home?"

Dr. Anthony Alessi, UConn Health associate clinical professor of neurology and orthopedics and director of the UConn Neurosport Program, has been giving fighters similar messages, albeit more tactfully phrased, for the last 21 years as the consulting neurologist during boxing matches at Mohegan Sun. He has gone on to study head trauma in other sports, how to measure recovery, how to gauge when an athlete is ready to return to play, and how to prevent head injuries. But he got his start as a “fight doctor.”

After working as an athletic trainer at Mount St. Michael Academy in the Bronx, Alessi eventually opened a neurology practice in Norwich, Connecticut. He started working with the Yankees’ Double-A team, and noticed during his hospital shifts that he was looking at many baseline, prefight brainwave EEGs for boxers on the cards at Mohegan Sun casino.

"The Connecticut boxing commissioner invited me to come down to watch a fight," Alessi says. "After the fight, he said, ‘How would you like to work with us?’ I said, ‘Do I get to end the fight?’"

"He said, ‘We want you to.’ I’ve been ending fights since 1996.

Alessi admits it’s odd for a neurologist to work in a sport where the entire goal is to induce maximum cognitive impairment in your opponent — but that’s exactly what makes his presence imperative.

"In mixed martial arts, you have the ability to tap out," Alessi says. "In boxing, they can’t quit. But you’d be surprised how many times you go into the corner and the fighter doesn’t want to come back out. That’s the first question I ask them, and if they say no, I end the fight. He’ll still get paid, and I’ve saved his life."

The American Academy of Neurology has backed off from its edict in the 1980s that boxing should be banned, instead calling for the sport to line up a “punch doctor.”

Today, it seems that new findings on head injury are in the news daily. Since 2001, more than 60,000 scientific papers on chronic traumatic encephalopathy (CTE) and brain trauma have been published, raising awareness at both the public and professional levels. Leading to protocols where athletes are pulled from games at the first sign of concussion.

Trainers are taught to perform a SCAT5 (Sport Concussion Assessment Tool, 5th edition), elaborating on the questions the old cigar-chomping cornermen used to ask fighters between rounds: "What’s your name? What day is it? Do you know where you are?"

The SCAT5 is used because the greatest and most immediate danger to concussion sufferers is second-impact syndrome, a fatal edema caused by a second head trauma sustained before the brain has had time to repair torn tissues, ruptured blood vessels, or damage at the cellular level from an earlier injury. Other organs have room to expand if they swell. The brain, encased in a hard shell, does not.

"There’s no such thing as a minor concussion. And as I tell students, if you’ve seen one concussion, you’ve seen one concussion. They’re all different."

— UConn Health neurologist Dr. Anthony Alessi

The world has known for a long time about the dangers of head trauma, the syndrome codified in 1928 when New Jersey forensic pathologist Dr. Harrison Stanford Martland published a paper in The Journal of the American Medical Association on fighters and coined the term “punch drunk.”

The problem with studying concussions is that you can’t line up a variety of levels — from high school, college, and professional through the NFL, NHL, and NBA — and the effects can be seen in people of all ages. At UConn, work with the brain spans disciplines, from psychology to linguistics to neuroscience and everything in between. In this special section, learn what UConn Health experts in neurology, physiology, gerontology, and even radiology are doing right now to further our knowledge of the brain and harness the latest discoveries and technology to improve patient care.

"There’s no such thing as a minor concussion. And as I tell students, if you’ve seen one concussion, you’ve seen one concussion. They’re all different."
Of test subjects of various ages and sizes, take baseline measurements, and then hit them in the head with a 13-pound bowling ball moving 20 mph—the equivalent, experts estimate, to taking a punch from a pro boxer. You can’t then compare those results to the results from hitting them with 6-pound bowling balls moving 40 mph, or to what the results would be if you hit them once an hour, or once a day for a month, or in the side of the head instead of the front.

“Ninety percent of the time, after a concussion, you wait 10 days and the athlete is going to be okay. But we still don’t know what the delayed response is,” Alessi says. “We’re not paying attention to where our resources should be placed the most.”

The Korey Stringer Institute (KSI), a national sports safety research and advocacy organization based at UConn, recently urged state high school athletic associations to implement life-saving measures after KSI conducted the first comprehensive state-by-state assessment of high school sports safety policies. Each state received a score based on the extent to which it met best-practice guidelines addressing the four leading causes of sudden death among secondary school athletes, which include head injuries.

Requiring the presence of certified athletic trainers at every secondary school athletic event and training coaches on concussion symptoms are among the bare-minimum guidelines, which are endorsed by leading sports medicine organizations in the United States.

Still, progress has been made. Banning checking andheaders in youth hockey and soccer and reducing full-contact practices to once a week for professional and college football have been linked to reduced injuries, Alessi says. But many youth football teams still have full-contact practice five days a week.

No one wants collision sports to go away, Alessi says, but it’s still a violent collision sport, he adds. “We’re a band of brothers. Before, we thought you could just shake it off. It’s still a violent collision sport, but the style of play has changed. No one wants to see another player hurt.”

There was a time when head-hunting was encouraged, and players enjoyed nicknames like “The Assassin.” That style of play is now considered dirty and is met with penalties, fines, and ejections.

“I took a hit once,” Conwell recalls, “while a safety caught me helmet to helmet. I was knocked out for several minutes, and I was having seizures on the field. That week, I had no short-term memory. I’d stand in the middle of the living room and ask my wife, ‘Where was I going?’ She’d stand there, just ask me, ‘Where was I going?’ But I was back on the field the next Sunday.”

Those days are, thankfully, on their way out.

—PETER NELSON
instead of striving to play harder, he believes we can strive to play smarter.

“You have to ask, what’s to be gained from high-velocity impact at a young age? The fastest-growing youth sport in America today is flag football. Archie Manning [former pro-football quarterback and father of Peyton and Eli Manning] didn’t let his sons play youth football. Tom Brady never played youth football. A lot of really good professional athletes in the NFL knew that they could build skill without getting hit,” Alessi says.

“I think there’s a lot to be gained by us changing the rules. We’ve made a lot of headway with all neurologic injuries in sports. Legislation isn’t required to deploy common sense.” Thanks to the work of Alessi and people like him, athletes know the risks before they step on the field or in the ring. While there’s always more research to be done, at the very least, we’ve replaced the comical cartoon image of the cross-eyed concussion victim — with the lump rising from his noggin and stars and birds circling his head — with reliable information. The kind of information an athlete in a collision sport needs to make informed decisions and to play safely, avoiding injuries when possible and returning to play only when it’s safe. “If you gotta say anything to him,” Maish Rennick says of “Mountain” Rivera at the end of the movie, “tell him you pity him. Tell him you feel so sorry for him you could cry. But don’t contempt.”

**Blood Vessels in Your Brain Don’t All Act the Same**

by Kim Krieger

Certain blood vessels in the brainstem constrict when blood vessels elsewhere in the body would dilate. And that contrary behavior is what keeps us breathing, according to a new paper by UConn researchers published in the journal *eLife*.

Neuroscientists studying the brainstem have historically focused on neurons, which are brain cells that send signals to one another and all over the body. Recently, neuroscientists have come to understand that contrary behavior is worth studying in its own right. “What matters is the ability of the doctor to be confident in guiding the wire,” says Brozman. He and Yang found a brain scan of a patient with typical blood vessel structure and used the scan to design a 3-D model of the blood vessels. Finding a good scan was easy. UConn has an immense library of scans from computed tomography (CT) and magnetic resonance imaging (MRI) of patients. The tough part was converting the data into something a 3-D printer could interpret. Brozman and Yang found and modified publicly available software to do that, and after a couple months of tweaking, they found they could print a true-to-life teaching model of the brain’s major arteries for about $14.

(continued on page 13)
Because of the prohibitive costs of computer simulation programs, often the first time a surgeon threads a wire into a stroke victim’s brain to remove a blood clot is during the doctor’s first surgery. Using brain scans and a 3-D printer, a UConn team made a life-size model of the arteries surgeons must navigate during the procedure so they can practice first. The pattern is available for free to any doctor who requests it.

An adult man. The top arch of the aorta in the chest, big enough to slide an adult’s pinky finger through, connects to the carotid in the neck and then on to the Circle of Willis in the brain, which is no thicker than a fat piece of yarn. The circle has six branches. Each branch supplies blood to one-sixth of the brain. It is in these branches that clots are most likely to get stuck and cause serious damage.

“We are using this model to teach students,” says UConn interventional radiologist Dr. Charan Singh. “Obviously, it won’t feel like the human body. But it will improve their knowledge of anatomy and give them basic technique on how to move the catheter.”

Singh demonstrates how a slight twist can violently flip the catheter, which is dangerous. It could knock off new clots into the bloodstream.

The model isn’t perfect — there are several different ways a person’s aorta can be shaped, and the other veins can vary too. But students can get good practice with it, Singh says.

Dr. Ketan Bulsara, UConn’s chief of neurosurgery, also likes the technology. He cautions that individual anatomy varies too much for it to be used as the only training tool to learn mechanical thrombectomy, but says that it could potentially be used to visualize other conditions, such as brain tumors. Surgery for brain tumors has significant lead time, and modeling the tumor in advance could personalize and improve patient care.

“What matters is the ability of the doctor to be confident in guiding the wire.”
— UConn Health medical physicist intern David Brotman, one of the model’s creators

Because of the prohibitive costs of computer simulation programs, often the first time a surgeon threads a wire into a stroke victim’s brain to remove a blood clot is during the doctor’s first surgery. Using brain scans and a 3-D printer, a UConn team made a life-size model of the arteries surgeons must navigate during the procedure so they can practice first. The pattern is available for free to any doctor who requests it.

For more information and for access to a 3-D printed model, health professionals and researchers may email Dr. Yang: cyang@uchc.edu
W
ith rising surgery demands among the growing population of older adults, the UConn Center on Aging and UConn John Dempsey Hospital are teaming up to identify older patients at the greatest risk of developing postoperative delirium in order to prevent it.

Patients with delirium have an altered level of alertness and are sometimes excessively drowsy, hyperalert, or agitated. Although post-operative delirium is usually short-term, lasting hours or days, the brain may not recover for weeks or months in older adults. If the condition is not identified and addressed, delirium can lead to a decline in an older patient’s surgical recovery and cognitive and physical health, a need for caregiver or nursing home care, or potentially an increased risk of death.

“Our goal is to do everything in our power to screen older patients before surgery for delirium’s risk factors and to prevent it after surgery—or at least minimize its duration and effect,” says UConn Center on Aging’s Dr. Patrick Coll, who has been working closely with surgeons and anesthesiologists to modify preoperative delirium screening protocols at UConn Health. “All doctors really should be adding delirium-risk-factor screening to their preoperative evaluations for patients age 75 and above.”

Risk factors for postoperative delirium in older patients include prior delirium after a surgery, underlying or existing cognitive impairment such as dementia or Alzheimer’s disease, heavy alcohol consumption that increases withdrawal risk, depression, frailty, malnutrition, immobility, infection, or taking certain medications.

Historically, surgery risk-prevention primarily focused on such areas as cardiac or pulmonary health. Last year, the American College of Surgeons and the American Geriatric Society issued new guidelines for optimal geriatric surgery patient management, which for the first time included screening for delirium risk before and after surgery.

“If a patient is deemed high-risk, the patient should have a geriatric assessment prior to surgery to help mitigate their risk and, after surgery, the hospital care team should plan to very closely monitor the patient,” said Coll.

The hospital care team can take simple, proactive steps to quickly reorient an older patient after surgery, Coll says. Even having a patient’s reading glasses and hearing aids readily available can make a big difference, as well as avoiding or limiting medications that can contribute to delirium, such as opioids.

With the help of aging expert Dr. Laverna Wright, UConn Health’s NICHE (Nurses Improving Care for Healthy system Elders) program is expanding its scope to the surgical floors of the hospital to reduce older patients’ risk of delirium and other health complications. Further, all nurses now have access to the Confusion Assessment Method (CAM) tool and an electronic medical record order set to guide them in decreasing delirium’s impact.

In addition, Dr. Richard Fortinsky and his team are studying the effect of visiting clinical care teams at the homes of older adults with a history of delirium and other cognitive vulnerabilities to improve patient outcomes. This study, funded by the Patient-Centered Outcomes Research Institute, involves an in-home care program featuring a nurse practitioner who assesses older adults for delirium using a brief version of the CAM. The nurse practitioner also assesses for depression and dementia and teaches the patient and family members how to manage these conditions at home.

Read about the UConn Center on Aging’s discovery of a delirium-detecting blood test in our Winter 2015 issue at healthjournal.uconn.edu.

New Epilepsy Monitoring Technology Tailors Patient Care
by Lauren Woods

UConn Health is now home to a high-tech Epilepsy Monitoring Unit. Located on the first floor of the new tower at UConn John Dempsey Hospital, the unit has two large patient rooms with state-of-the-art technology: 24-hour video observation capabilities, the latest in advanced electroencephalography (EEG) monitoring, and a dedicated team of neurology and neurosurgery doctors, nurses, and staff.

If needed, patients can be monitored for up to several days so doctors can determine whether the seizures are caused by epilepsy, what kind of seizures they are, and where they originate, says Dr. L. John Greenfield, chair of the Department of Neurology at UConn Health and a nationally-recognized epilepsy specialist. The monitoring information is critical to figuring out the best way to halt the seizures.

For patients with epileptic seizures, the information gathered helps doctors create a personalized clinical care plan and choose the most appropriate medications or adjustments for the patient’s seizure type.

For patients who may need surgical intervention to control their seizures, the new unit will allow doctors to precisely localize where the seizures start in the brain to see if neurosurgery might be a beneficial treatment option. According to Greenfield, if the seizure starts in the temporal lobe, there is a 70 to 80 percent chance the seizures can be cured with brain surgery.

Greenfield hopes the data and insights gained from the new unit’s video and EEG monitoring will advance future brain research and clinical care for epilepsy patients. The new unit will soon offer high-density geodesic EEG recordings that can sample patient brain wave data using more than 250 electrode sensors contained in a wearable, stretchy web that fits over the head like a swim cap. This device can pinpoint epileptic activity with much higher precision than traditional EEGs, which record signals using only 19 electrodes.

“With the combination of our state-of-the-art monitoring unit, clinical care, research, and our new chief of neurosurgery, Dr. Ketan Bulsara, UConn Health can now provide comprehensive care for patients with epilepsy and with seizures due to brain tumors or vascular malformations,” says Greenfield. Bulsara specializes in skull base, endovascular, and tumor neurosurgery.

To learn more about the Department of Neurology and its epilepsy services, visit health.uconn.edu/neurology.
Q: This time last year you launched the new MDelta curriculum. How has it gone?

Despite the enormous amount of work, change, and adjustment it takes to change a curriculum, it has gone smoothly and the feedback is validating all the reasons for this change. I believe we are now built to continue to deliver an excellent education to meet the explosive expansion in science and clinical knowledge, and the timing is perfect, as medical school enrollment is on the rise. That shows in our possibilities to keep the school, and UConn Health, on a strong track. I’m pleased that we have hired 280 of the best minds, who will develop into the doctors and scientists of the future. It’s been an adjustment it takes to change a curriculum, but it has gone smoothly and the feedback is validating all the reasons for this change.

Q: Describe how the faculty has grown and how that strengthens the UConn School of Medicine.

Faculty recruitment and retention is a central part of my agenda to make sure the School of Medicine is, and remains, strong. I’m pleased that we have hired 280 faculty members in the last five years, growing from 421 to 542, with a net increase of 121 new faculty. That’s a tremendous amount of new energy, expertise, and possibilities to keep the school, and UConn Health, on the rise. That shows in our U.S. News and World Report rankings, where we rose to 56th in research and 34th in primary care among 170 accredited medical schools in the country.

Q: In what ways is the Bioscience Connecticut investment paying off for the School?

Progress is everywhere as we work to deliver on the aspirations of the investment. We have began to expand class sizes in the medical school and draw more talented graduate students pursuing advanced or terminal degrees, who will develop into the doctors and scientists serving Connecticut in the future.

A centerpiece of the bioscience project was bringing the Jackson Laboratory to Farmington as a collaborator. What has that relationship meant for UConn School of Medicine’s academic and research objectives?

The relationship has grown in the last three years to the mutual benefit of UConn Health and the Jackson Laboratory for Genomic Medicine (JAX-GM). However, the collaboration is young and will grow in ways none of us today can imagine. JAX-GM already has exceeded the 10-year, $300 million benchmark, and together we have hired five new joint faculty members, with five more planned. In addition, nearly 20 JAX-GM faculty members have joint appointments at the School. Our existing faculty and new JAX-GM faculty have worked together to secure grant funding. This opens a door to academic and research collaboration in new and interesting ways.

Research expenditures, funded by grants, contracts, and gifts, have approached nearly $90 million annually, helping us attract and retain talent and increasing the biomedical science jobs available here. We are already seeing a biocisence hub take form right here in Farmington, where our Technology Incubation Program is 70 percent full, housing 24 start-up companies, of which 15 are linked to UConn Health and the faculty.

TODAY IN TRANSGERENDER CARE

Britta Shute, FNP, (left) talks to Dr. Rebecca Andrews in the UConn Health Outpatient Pavilion. Both are primary care and family medicine practitioners who treat a number of transgender patients.

THE DOCTOR IS IN

Transgender Care in Focus

Britta Shute, FNP, (left) talks to Dr. Rebecca Andrews in the UConn Health Outpatient Pavilion. Both are primary care and family medicine practitioners who treat a number of transgender patients.

UConn Health’s trans-competent health care providers are on a mission to enhance access to comprehensive care for the 12,400 transgender adults living in Connecticut.

Transgender is an umbrella term that may be used to describe individuals whose gender expression does not conform to cultural norms and/or who identify differently from their sex assigned at birth. There are 1.4 million transgender adults in the U.S.

Though individuals may self-identify as transgender, it’s not a term that all gender nonconforming people use: individuals may not identify as the male or female gender they were born or as any gender at all, or they may consider themselves to be gender fluid, with both male and female traits.

“Our hope is to raise greater gender-identity awareness among health care providers to improve the transgender patient experience,” said Dr. Rebecca Andrews, associate professor of medicine at UConn Health. “Given our societal norms, transgender patients can often feel pressure to characterize their gender as either male or female. But during their health care visits and beyond, they should just get to be whoever they truly want to be, while having their unique health needs addressed.”

Providers should be aware that not all transgender patients choose to alter their physical presentation with hormone replacement therapy or surgery.

Transgender persons often encounter extra daily stressors during childhood through adulthood that place them at greater risk for psychological and mental health issues such as anxiety, depression, and suicide. In a national study by The Trevor Project, 40 percent of transgender adults reported having made a suicide attempt. Most of these cases are thought to be due to lack of access to appropriate mental health support and medical care, so the World Professional Association for Transgender Health advocates for collaboration between medical and mental health providers for most trans individuals.

In addition to providing appropriate care, “our goal at UConn Health is to empower transgender patients to be more comfortable seeking health care, and also to arm health care providers with the latest information they need to best care for the patient population,” said Britta Shute, FNP, of the Department of Family Medicine at UConn Health, who specializes in transgender patient care.

“Spread the word. We are here at UConn Health for transgender patients,” Shute says.

To train the next generation of physicians, UConn School of Medicine’s new MDelta curriculum incorporates more education about transgender care.

Transgender Care Guidance:

• Make sure all patient paperwork is not solely male and female gender-focused.
• Don’t assume, ask. Understand the difference between gender identity and sexual orientation.
• Be aware of extra daily stressors and risks of anxiety, depression, and suicide.
• Apologize if you misgender a patient or make a mistake.

Read more tips at healthjournal.uconn.edu.
Dedicated Line for Referring Physicians 860.679.5555

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

Brilliant Minds, Working Together

UConn Health is proud to announce a unique partnership between the Division of Neurosurgery and the world-renowned Preston Robert Tisch Brain Tumor Center at Duke. Consistent with the personalized care goals of UConn Health, the collaboration will provide residents of Connecticut and beyond access to novel and potentially lifesaving clinical treatments in collaboration with the world's premier brain tumor center.

health.uconn.edu/neurosurgery