

NORTHWESTERN INTERNATIONAL HEALTH

*World Class HealthCare
World Class Destination*

NORTHWESTERN DOUBLES DOWN ON NEUROLOGY & NEUROSURGERY

BY NONA TEPPER

"Northwestern Medicine quietly has been building out its department of neurology and neurosurgery over the past few months, hiring big names and opening new treatment and research centers.

The new hires include Dr. Roger Stupp, a Swiss neuro-oncologist from the University Hospital of Zurich in Switzerland who developed the protocol that Sen. John McCain is following to treat his brain cancer. This treatment involves the use of an oral chemotherapy drug and radiotherapy to fight the disease.

"He's widely considered as the most influential living neuro-oncologist in the world," said Dr. Maciej Lesniak, Chair of Neurosurgery for the health system.

So far, the department has added six specialists to its staff of 200. Two new neuro-oncologists joined the Department of Neurology & Neurosurgery in early August. Neuro-oncologists are trained to diagnose and treat patients with brain and nervous system tumors. And next month, Dr. Daniel Brat, a neuropathologist formerly at the Emory University School of Medicine, will also start at Northwestern. A physician who

studies, diagnoses and treats diseases related to the brain, nerves and spine, he will be the second neuropathologist on staff.

In July, the health system launched the Northwestern Medicine Movement Disorders Neurogenetic Clinic, one of the few neurogenetic centers in Illinois to serve both adults and children. Physicians at the clinic make customized therapies for patients based on their genetic makeup, said Dr. Dimitri Krainc, Chair of Neurology at Northwestern Memorial Hospital. In fiscal 2016, the department performed more than 2,200 surgeries and recorded nearly 13,500 patient visits.

Recently U.S. News & World Report named Northwestern Memorial Hospital the 9th best place in the nation for neurology and neurosurgery as well as the top spot in Illinois."

http://www.chicagobusiness.com/article/20170822/NEWS03/170829988/northwestern-doubles-down-on-neurology#utm_medium=email&utm_source=ccb-breakingnews&utm_campaign=ccb-breakingnews-20170822



Dr. Maciej Lesniak, Chair of Neurosurgery for Northwestern Medicine, performs a procedure in which neural stem cells are injected into the brain of a patient with a tumor.

IN THIS ISSUE

1 Northwestern Doubles Down on Neurology & Neurosurgery

2 Nanoparticles Limit Damage in Spinal Cord Injury

Electronic Skin Is the Newest Development in Wearable Health Monitors

3 Northwestern Medicine Doctor Leads Medical Mission to Africa

Physician Turns Compassion into Action

4 Northwestern Faculty Awards and Honors

Message from Dr. Daniel Derman

NANOPARTICLES LIMIT DAMAGE IN SPINAL CORD INJURY

BY MARLA PAUL

After a spinal cord injury, a significant amount of secondary nerve damage is caused by inflammation and internal scarring that inhibits the ability of the nervous system to repair itself.



A biodegradable nanoparticle injected after a spinal cord trauma prevented the inflammation and internal

scarring that inhibits the repair process, reports a new Northwestern Medicine study. As a result, mice with a spinal cord injury receiving the nanoparticle injection were able to walk better after the injury than those that didn't receive it.

The treatment could potentially limit secondary damage to the spinal cord in humans after an injury, if administered a few hours after the accident in an emergency room or by paramedics in an ambulance.

"It's not a cure. There is still the original damage, but we were able to prevent the secondary damage," said co-senior author Dr. Jack Kessler, a professor of neurology at Northwestern University Feinberg School of Medicine and a Northwestern Medicine neurologist. "It's an exciting potential treatment. We really believe this is something we'll be able to take to the clinic."

Further studies would need to confirm the safety of the injected nanoparticle, Kessler said, but he noted scientists haven't seen any signs of toxicity so far.

The study was published in *Neurobiology of Disease* on August 24.

ELECTRONIC SKIN IS THE NEWEST DEVELOPMENT IN WEARABLE HEALTH MONITORS

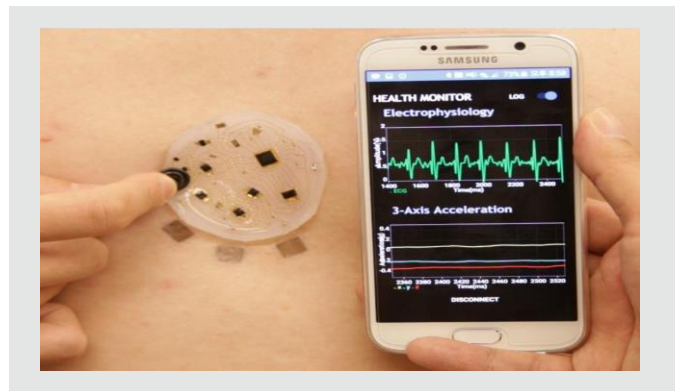
BY SIOBHAN TREACY

"There is a new electronic skin microsystem that will change the way you monitor your health. The electronic skin microsystem tracks heart rate, respiration, muscle movement and other health data and wirelessly transmits the data to a smartphone. The electronic skin offers several improvements over existing trackers, such as greater flexibility, smaller size, and the fact that it can stick to a self-adhesive patch—which is a soft silicone that is about four centimeters (1.5 inches) in diameter—anywhere on the body.

The microsystem was developed by Kyun-In Jang, a professor of robotics engineering at South Korea's Daegu Gyeongbuk Institute of Science and Technology, and John A. Rogers, the director of Northwestern University's Center for Bio-Integrated Electronics.

Unlike flat sensors, the tiny wire coils in the device are 3D, which maximizes flexibility. The coils can stretch and contract like a spring without breaking. The coil and sensor components are configured in an unusual spider web pattern that ensures "uniform and extreme levels of stretchability and bendability in any direction." It enables tighter packaging of components, which minimizes size. The researchers compare the design to winding, curling vine, connecting sensors, circuits and radios like individual leaves on a vine. The entire system is powered wirelessly and is not charged with a battery.

Professor Jang says, "Combining big data and artificial intelligence technologies, the wireless biosensors can be developed into an entire medical system, which allows portable access to the collection, storage, and analysis of health signals and information. We will continue further studies to develop electronic skins, which can support interactive telemedicine and treatment systems for patients in blind areas for medical services such as rural houses in mountain villages." <http://electronics360.globalspec.com/article/9600/electronic-skin-is-the-newest-development-in-wearable-health-monitors>



NORTHWESTERN MEDICINE DOCTOR LEADS MEDICAL MISSION TO AFRICA

BY KASMER K. QUINN

Dr. Stephanie Kielb, urologist and female pelvic reconstructive surgeon, and Dr. Anne-Marie Boller, colon and rectal surgeon, recently visited Rwanda, an east African country to treat obstetric fistulas at Kibagabaga District Hospital. Dr. Kielb serves on the medical advisory board for the organization and was this year's mission leader overseeing the entire medical team of more than 30 practitioners and surgeons, triaging patients and arranging surgical scheduling.

The pair are members of the International Organization for Women (IOWD), a non-profit charity dedicated to providing underserved women in low-income countries with free specialized surgery and care, working closely with the Rwandan ministry of health. They also work with Rwandan residents and medical students, teaching surgical skills and, importantly, fistula prevention.



*Dr. Stephanie Kielb, Urology
Northwestern Medicine*

This was Dr. Kielb's fifth mission trip and Dr. Boller's first. Dr. Kielb and Dr. Boller are both part of Northwestern Medicine's Women's Integrated Pelvic Health Program, with locations at Northwestern Memorial Hospital and Lake Forest Hospital. To learn more, visit urology.nm.org.

PHYSICIAN TURNS COMPASSION INTO ACTION



Kiumars Moghadam, MD

Kiumars Moghadam, MD, participated in a mission trip in April that not only changed the lives of his patients but changed his own life as well.

The trip, sponsored by the Syrian American Medical Society, was led by Northwestern Medicine physicians Jihad Shoshara, MD and Kiumars Moghadam, MD. Over seven days, Dr. Moghadam, a hospitalist at Northwestern Medicine, and 49 other volunteer nurses and physicians performed more than 50 operations and saw more than 3,450 patients in refugee camps and underserved villages in Jordan. Most of the patients were displaced from Syria.

Although the medical care was important, Dr. Moghadam notes that one powerful memory he has taken away from the trip did not involve medical care at all:

After a busy morning in the internal medicine clinic in the Al-Zaatari Camp, we had some downtime while waiting for our pediatric colleagues to finish up for the day. We ventured into the camp, where we met some young residents. Seeing these children weighed heavily on me. Given their ages, many of them were likely born in displacement and had never set foot in their homeland. I sat with a few of them, our backs against one of the many dusty trailer homes, and took out my ukulele. I started playing a song, and in an instant, we were transported to another place and time. We left behind the dreary and painful conditions of the camp and found comfort in the joy of music. Children and parents from around the neighborhood flocked toward us and sat alongside us. I struggled to concentrate on the song in this surreal moment that I knew would stay with me for the rest of my life.

When friends call him a hero, Dr. Moghadam doesn't embrace the title. "In truth, I am like everyone who has been watching the news in that when I see suffering in the world, I feel it in some way," he says. "I recently chose to make a small step from compassion to action. In doing so, I personally benefited and contributed to others in ways that exceeded my imagination. I encourage all the people of the world to act upon the kindness that is innate in them and find a way to contribute."

NORTHWESTERN FACULTY AWARDS AND HONORS

NORTHWESTERN MEDICINE'S DR. DONALD LLOYD-JONES IS AWARDED PHYSICIAN OF THE YEAR BY THE AMERICAN HEART ASSOCIATION

Donald Lloyd-Jones, MD, ScM, senior associate dean for clinical and translational research and chair of Preventive Medicine, has been named Physician of the Year by the American Heart Association (AHA).

"It is both an enormous honor and humbling to be selected as the American Heart Association's Physician of the Year," Lloyd-Jones said. "It is especially meaningful since I follow our own Drs. Clyde Yancy and Neil Stone, who are my heroes and past AHA Physicians of the Year.



Donald Lloyd-Jones, MD, ScM, senior associate dean for clinical and translational research and chair of Preventive Medicine, has been named the Physician of the Year by the American Heart Association.

Northwestern is the only institution in the country with three awardees, and I think that speaks volumes about what we are building here, and the special relationship between the AHA and Northwestern Medicine."

The AHA's Physician of the Year award is presented annually to a practicing physician who has rendered outstanding contributions to the accomplishment of AHA's mission: to build healthier lives, free of cardiovascular diseases and stroke. The AHA honored Lloyd-Jones based on his two decades of service to the association and his efforts to improve patient outcomes and create healthier communities across the nation.

MESSAGE FROM DR. DANIEL DERMAN

PRESIDENT, NORTHWESTERN INTERNATIONAL PATIENT SERVICES
SR. VICE PRESIDENT, NORTHWESTERN MEMORIAL HEALTHCARE



Hello Everyone, I hope you are all well! In our October newsletter we are very pleased to highlight our Neurology and Neurosurgery Division. Over time, we have built a world class group of doctors who are providing incredible care to our patients with wonderful outcomes.

We are also proud to highlight a couple stories of how our physicians put patients first. They do so within the confines of Northwestern but also throughout the world to those in great need.

As Chief of Innovation for Northwestern, I am also happy to share research done by some of our physicians, who along with providing exceptional care to our patients are world renowned scientists making discoveries that will have great impact on our patients. Northwestern Medicine is well known for safely and rapidly taking research from the bench to the bedside to help patients get access to the best options for treatment.

Thank you for your continued support of our International Center. If there are any ways in which we can improve our service please feel free to contact me any time at dderman@nm.org or Laura Leahy at lleahy@nm.org.