Excellence in Neuro-Oncology
State-of-the-art brain cancer treatment and research.

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Relief from Seizures
Two-stage epilepsy surgery enabled engineer Chris Hawkins to return to an active life.

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Regional Center for Neurocritical Care
Dedicated unit provides highest level of care for patients following massive stroke, spinal cord injuries, brain trauma, severe seizures, or coma.

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Robert Hoesch, MD, PhD
Medical Director, Neuro Critical Care Unit
We Appreciate Your Feedback

Let us know how we’re doing. Your thoughts about this issue of Gray Matters and your recommendations for future articles are most welcome.

Contact Chase Rogers via email at chase.rogers@hsc.utah.edu or by calling (801) 585-7778.

Training Addresses Quality Emergency Response to Stroke Symptoms

To enhance the speed and effectiveness of response to a potential stroke emergency, the Stroke Center at The University of Utah offers training at South Jordan Health Center for members of area emergency medical services (EMS) teams.

“We have developed a three-part educational series given to EMS providers by physician members of the stroke team,” says Jennifer Majersik, MD, MS, Assistant Professor of Neurology and Director of the Stroke Center at The University of Utah. “The lectures span topics ranging from pre-hospital EMS and emergency department stroke care to advanced treatment of intracerebral hemorrhage and catheter-based therapies for ischemic stroke.”

According to Dr. Majersik, emergency responders play a crucial role in stroke care.

“They must perform a very fast assessment, including a focused neurologic exam and determination of time of onset of symptoms, to determine if the person being treated is an acute stroke victim—and if so, is potentially eligible for thrombolytic treatment. Something we focus on in the lecture series is that when EMS notifies a hospital that a stroke victim will be arriving by ambulance, the stroke team can be in place and ready to complete the evaluation. This greatly improves patient care because stroke is such a time-critical illness.”

The training series is part of The University of Utah’s commitment to excellence in stroke diagnosis and treatment.

Contact Jamie.Quinlan@hsc.utah.edu for details about future EMS events at South Jordan Health Center.

Log On to SeeMyRadiology.com ...

... to send or transfer your patients’ scans online.

The University of Utah Department of Radiology now participates in SeeMyRadiology.com to facilitate the secure exchange of patient images.

Physicians access the HIPAA-compliant, cloud-based service by Web portal. Images taken at any participating health center can be viewed, shared, and archived without the need for CDs, DVDs, or films.

Providers across the Intermountain West have been participating in SeeMyRadiology.com for approximately a year. System users report a number of benefits, including phone consults with our radiologists, an accelerated referral process, instant access to compatible images, and reduced patient waits for image transmissions between providers.

To gain access to SeeMyRadiology.com, contact Jamie McCormick at (801) 581-2350.

Register Now!

41st Western Intermountain Neurological Organization (WINO) Conference, April 5–6.

Geared to neurologists but open to other specialists interested in neurological disease, the Spring 2013 WINO Conference will provide a forum for exploring complex disorders, including cognitive and movement disorders, headache, and neurocritical care.

We are pleased to welcome the Geschwind brothers, Drs. Daniel and Michael Geschwind, as visiting instructors. The other talks will be presented by neurology faculty from The University of Utah.

When: April 5–6, 2013
Where: Clinical Neurosciences Center
175 N Medical Drive East
Salt Lake City, UT 84132

For more information or to register for WINO, please visit www.winomeeting.org.

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Advancing Excellence in Neuro-Oncology

During the past year, the Division of Neuro-Oncology has crossed two major milestones that exemplify dedication to brain cancer treatment and research.

Doing More with iMRI

In 2011, Huntsman Cancer Institute became the first facility in the Intermountain West to install an intraoperative magnetic resonance imaging, or iMRI, suite. At the time, it was one of 20 such units in the world. A second iMRI went operational at the Clinical Neurosciences Center in early 2013, giving the neuro-oncology team unprecedented access to intraoperative and perioperative imaging.

By positioning a mobile iMRI unit in operating rooms, surgeons are able to assess the size and location of brain tumors during procedures. If a single treatment does not result in complete removal of the mass, the remaining tumor tissue can be addressed on the spot rather than requiring future imaging and an additional procedure.

“We’ve completed more than 50 procedures utilizing our iMRI unit at Huntsman Cancer Institute, and it’s proven particularly effective in patients with low-grade gliomas,” says Randy Jensen, MD, PhD, Professor of Neurosurgery. “Now that we have two units, our focus will be on conducting clinical trials and research based on intraoperative imaging.”

Experienced SRS Treatment

For the past 15 years, the specialists in the Division of Neuro-Oncology have removed tumors without making a surgical incision utilizing stereotactic radiosurgery (SRS), an advanced form of radiation therapy used to replace traditional surgery. In 2012, the department conducted its 1,000th SRS procedure.

“SRS is an outpatient procedure with no anesthesia, no hospital time and very few side effects,” Dr. Jensen says. “It’s changed the way we treat patients with metastatic tumors, which are more commonly treated now via SRS than with traditional surgery.”

The University of Utah Division of Neuro-Oncology is a regional referral center for patients with residual tumors and tumors that cannot be removed surgically.

For more information about ongoing neuro-oncology research, visit medicine.utah.edu/neurosurgery/research.

A Focus on Research

Under the direction of Howard Colman, MD, PhD, Director of Medical Neuro-Oncology, the number of investigator-initiated research studies at The University of Utah Clinical Neurosciences Center has significantly increased.

In other division news, more than 1,000 stereotactic radiosurgery procedures have now been performed.

The skills of many specialists—including laboratory scientists working behind the scenes to find molecular targets for new therapies—are essential to achieving our ultimate goal of curing brain cancer.”

—Daniel W. Fults, MD, Professor of Neurosurgery and Adjunct Professor of Oncological Sciences
Thanks to his will to resolve his symptoms and the neurological and neurosurgical expertise he found at The University of Utah, Hawkins can pursue a future not limited by seizures.

An Occasional Annoyance Becomes a Serious Problem

Hawkins, a 27-year-old Salt Lake City resident and engineer at a major consulting engineering firm, had his first seizure at age 2. Three years later, he was diagnosed as having complex partial seizures.

“I would be writing in class when, suddenly, I would drop my pencil,” Hawkins says. “My classmates never noticed, but my teachers eventually did and notified my parents. I began taking a medication after being formally diagnosed, but my physician gave me permission to stop taking it as a teenager. At that point, the seizures were essentially out of my life until I was 22.”

Hawkins suffered a seizure while changing planes as he returned from a trip with friends. Later, while working in California after college, he entered what he calls “phase II” of his journey with epilepsy: He had a seizure while driving his boss to a project site. When he regained consciousness and found himself in the passenger seat and his boss behind the wheel, he couldn’t remember how or why they had changed positions.

A subsequent incident in which a seizure caused him to crash his car into a tree spurred Hawkins to begin searching for ways to alleviate his symptoms.

“I began seeing a team of physicians at UC Davis Medical Center,” Hawkins says. “On their recommendation, I tried various medications, but none was effective. When the neurologist I was seeing found out my wife and I were moving to Salt Lake City for our jobs, she recommended I visit The University of Utah Comprehensive Epilepsy Center.”

Surgical Solution

In September 2011, Hawkins began seeing Helen Barkan, MD, PhD, Associate Professor (Clinical) of Neurology, Adjunct Associate Professor of Pediatrics and Co-Director of the Surgical Epilepsy Program (SEP) at The University of Utah. By that time, he was having clusters of seizures every three to four weeks that reduced his independence and posed a threat to his safety on the job.
Because a neurologist at UC Davis considered Hawkins a candidate for surgery, he entered the Comprehensive Epilepsy Center’s Surgical Epilepsy Program for further evaluation.

“Magnetic resonance imaging performed at UC Davis revealed a ‘scar’ on the left temporal lobe of Mr. Hawkins’ brain consistent with long-term left temporal seizures,” Dr. Barkan says. “We repeated the EEG [electroencephalography] monitoring Mr. Hawkins had undergone at UC Davis to capture more seizures and try to confirm their origin. Additional testing helped us determine Mr. Hawkins’ laterality of speech and memory and estimate the probability of cognitive and memory loss due to resection.”

When all studies were complete, Dr. Barkan presented the results to the multidisciplinary team of specialists at the Clinical Neurosciences Center. The group recommended a two-stage surgery for Hawkins, which commenced June 26, 2012. Paul A. House, MD, Assistant Professor of Neurosurgery and Co-Director of the SEP at The University of Utah, led the surgical team.

“During the first portion of the procedure, we placed electrodes onto the surface of the cortex to allow for intracranial video-EEG monitoring during the week between stages of surgery,” Dr. House says. “This monitoring allowed us to rule out involvement by Mr. Hawkins’ left frontal lobe and right temporal lobe in his seizures. On July 3, we removed the electrodes and resected the portion of the left temporal lobe from which the seizures originated.”

Hawkins recovered at University of Utah Hospital for two days before returning home. After spending a week regaining his energy, he began running. A month after surgery, he returned to work.

“Mr. Hawkins recovered more quickly than most people, likely because of his energetic, can-do attitude,” Dr. Barkan says. “Speaking cautiously, his outcome has been excellent so far—no more seizures—but two years must pass for me to uncross my fingers.”

In the meantime, Hawkins is overjoyed to be able to indulge in his passions—hiking, mountain biking, snowboarding—without fear of seizures. He and his wife even plan to visit Patagonia, a hotbed for outdoor enthusiasts, this year.

“The team at the Comprehensive Epilepsy Center gave me the ability to embrace life to its fullest once more,” he says. “I am so thankful for them and for the new confidence I have in myself.”

To refer a patient to The University of Utah Comprehensive Epilepsy Center, visit utahneurosciences.com and click on “For Referring Physicians.”

World-Class Care for the Intermountain Region

The Comprehensive Epilepsy Center at The University of Utah is a National Association of Epilepsy Centers Level 4-designated epilepsy center, meaning it offers the most advanced monitoring and treatment of the disorder.

One of the Center’s most important services is its Surgical Epilepsy Program (SEP). The SEP team consists of two co-directors, two surgical epileptologists, four board-certified epileptologists, a neuroradiologist, two nuclear radiologists, neuropsychology providers, and others. The leading-edge procedures the SEP team performs include:

- corpus callosotomy
- lesionectomy
- focal resection
- vagal nerve stimulator implantation
- hemispherectomy

The program is awaiting approval from the United States Food and Drug Administration to perform other innovative procedures, such as deep-brain stimulation and responsive nerve stimulation. SEP providers use a variety of advanced imaging and surgical technologies, such as positron emission tomography and frameless stereotaxy.

Helen Barkan, MD, PhD, Associate Professor (Clinical) of Neurology, and Paul A. House, MD, Assistant Professor of Neurosurgery at The University of Utah, Co-Directors of the SEP, plan to build on the program’s rich history by adding more specialists to the team, building relationships with regional providers, consolidating surgical epilepsy research, and improving access for patients.
A Regional Center for NEUROCRITICAL CARE

The 23-bed Neurocritical Care Unit (NCCU) at The University of Utah Hospital is staffed by board-certified neurointensivists, neurosurgery and neurology residents, and a nursing staff highly experienced in caring for patients with acute conditions of the brain, spine, and nervous system.

Highly Focused Care

One of the largest neurocritical care units in the western United States, the NCCU treats patients who have experienced massive stroke, spinal cord injuries, brain trauma, severe seizures, traumatic brain injury, and intracranial hemorrhage, providing 24/7 critical care to patients transferred from throughout the region.

“Many of our patients are in a coma or have experienced or are at risk of secondary injuries when they arrive to our unit,” says Karen Reimherr, nurse manager of the NCCU. “These patients must be watched very carefully and assessed frequently, which is why we keep a ratio of two nurses to every one patient.”

Due to the intricacy of the brain and the serious nature of its many conditions, each nurse is required to go through additional training and testing.

According to Robert E. Hoesch, MD, PhD, Medical Director of the NCCU, “We supply cutting-edge neurocritical care that is founded on best medical evidence and integration of ongoing technology and research, keeping the clinical team—comprised of a broad range of subspecialists—at the forefront of new advances.”

This infrastructure has and continues to enable us to provide our patients with the highest quality care available.

To transfer a patient for neurocritical care at The University of Utah Hospital, call (877) ADMIT-2-U (236-4828).
Neurosciences Center Hosts

Next-Generation Imaging Conference

The Department of Neurosurgery at The University of Utah presented Neurotherapeutics and Intraoperative Imaging Conference on February 1, bringing together experts in neurosurgery and neuroradiology.

During the half-day conference, faculty from the Clinical Neurosciences Center and Huntsman Cancer Institute offered lectures on the use of preoperative and intraoperative magnetic resonance imaging (iMRI) for neurointerventional procedures. iMRI is a novel and developing technique that uses constantly updated magnetic resonance images during neurosurgery to allow for real-time visualization, which can improve surgical outcomes. (See page 3 for details about our iMRI capabilities.)

Specific conference topics included:

- The University of Utah’s intraoperative MRI experience, by Randy Jensen, MD, PhD
- Novel clinical trials available at the Huntsman Cancer Institute for patients with malignant gliomas, by Howard Colman, MD, PhD
- Functional neurosurgery and intraoperative MRI, by Paul House, MD
- Intraoperative MRI for vascular and skull base surgery, by William Couldwell, MD, PhD

Approximately 100 attendees were given tours of the iMRI suites at the Neurosciences Center and Huntsman Cancer Institute. They also enjoyed a lecture from guest speaker Christopher Nimsky, MD, from the Department of Neurosurgery at the University of Marburg, Germany. Dr. Nimsky spoke about his university’s experience with iMRI and how it has improved patient outcomes for resection of malignant gliomas.

To view pictures and video of iMRI technology, visit imris.com.

Going Above and Beyond

Dr. Dana DeWitt, Professor of Neurology and Medical Director of the Neuro Acute Care Unit at The University of Utah, was recognized for her multiple sclerosis (MS) research and for providing quality care to MS patients.

Dr. DeWitt was awarded the 2012 Above and Beyond Award presented by the National Multiple Sclerosis Society Utah-Southern Idaho Chapter at its annual Dinner of Champions gala.

“She’s a tremendous clinician,” shared Dr. John E. Greenlee, Professor of Neurology, University of Utah. “Dana is very bright and has a tremendous store of information. She takes good care of her patients. I believe this is very inspirational to younger doctors coming into the field of neurology.”

Multiple Sclerosis (MS) Awareness Week is March 11 to 17

Every week the lives of 200 families are turned upside down by an MS diagnosis. Most MS symptoms—fatigue, numbness, vision issues, pain, and cognitive challenges—are invisible to others. Get involved, learn more and join the movement. Visit cureMSutah.org or call 1-800-Fight-MS.
This publication in no way seeks to serve as a substitute for professional medical care. Consult your physician before undertaking any form of medical treatment or adopting any exercise program or dietary guidelines.

Join us for the 10th Annual Utah Stroke Symposium where medical personnel from a variety of fields come together to share their expertise to improve the care of stroke patients in our communities.

LIMITED SEATS AVAILABLE

This course is brought to you in association with:

American Stroke Association
A Division of American Heart Association

utahstrokeymposium.com