



A seasonal publication for friends of the Mayfield Clinic & Spine Institute



Trainers, coaches & parents invited to learn about head injuries in sports

Regrettably, head injuries in high school and college sports are as inevitable as the seasons. But how coaches, trainers, and the athletes themselves approach these injuries can make a world of difference in a young person's future. The Mayfield Clinic will co-sponsor its first educational symposium on the subject on Friday, April 23 (8 a.m.-12 p.m.) at Xavier University's Cintas Center.

Entitled "You Can't Ice the Brain," the symposium seeks to help increase awareness of sports-related head injuries and to provide information about how to recognize, manage, and treat these injuries.

"Recent attention has been focused on sports-related head injuries in organized sports," notes Lori Shutter, M.D., a neurointensivist with the Mayfield Clinic and Director of the Neurocritical Care Program at the University of Cincinnati Neuroscience Institute. "Athletes, administrators of sports governing bodies, medical personnel, and the media are speaking out on the effects of concussions suffered during physical activity."

According to the Centers for Disease Control and Prevention, more than 200,000 sports-related head injuries are seen in U.S. emergency rooms each year.

"Many more occur but fail to receive medical attention," Dr. Shutter says. "Often the effects of concussion are subtle, and the athlete's motivation to return to the game can result in under-reporting of injuries. This can lead to persistent problems, occasionally with fatal consequences."

A multidisciplinary faculty will discuss concussions, concussion screening and acute management, returning to play, managing persistent symptoms, and the impact these injuries have on sports programs. At the completion of this workshop the participants should be able to:

- Identify the signs of concussion
- Identify the risk of recurrent concussions
- Perform an assessment for concussion
- Distinguish between grades of concussion
- Discuss the appropriate management of concussion
- Discuss the treatment options for concussion

The symposium is open to athletic directors, coaches, athletic trainers, school nurses, athletes, and parents. For more information, or to register, please contact Evelyn Ries at 513.569.5354 or eries@mayfieldclinic.com

Meet Laura, a Mayfield Spine Athlete



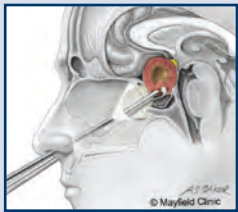
It took only moments for Laura Brunner to slip on an icy stretch of mountain snow and slide 90 feet downhill, into a boulder. It took months for her to recover from a punctured lung, a broken neck, and multiple fractured vertebrae. Laura, always athletic, emerged from spine surgery and rehabilitation as a "spine athlete," a person who devotes a portion of her life to maintaining fitness, flexibility, and the overall health of her spine. To read her story, see page 3.

Findings...

Mayfield's commitment to evidence-based medicine

The Mayfield Clinic is committed to the practice of evidence-based medicine. That means the healthcare we provide is backed up by sound science. We use proven treatments that are the safest and most effective for each individual patient. When

answers aren't clear-cut, or when solutions are unavailable, we try to find them by engaging in laboratory and clinical studies. Mayfield neurosurgeons are co-investigators in more than 15 ongoing clinical trials, many of which involve other institutions. All of these trials are carefully planned with patients' safety and well-being in mind, and all are approved by a formal review board at the University of Cincinnati College of Medicine. Here is a sampling of our recent efforts to gather evidence about what works best for our patients.



pituitary endoscopy

What we found:

A minimally invasive endoscopic procedure holds promise for safely removing large pituitary tumors, without leaving residual tumor, from an area at the bottom of the skull, near the sinus cavities.

Where it was published: Journal of Neurosurgery

Who led Mayfield's research efforts: Philip Theodosopoulos, M.D., Director of Skull Base Surgery at UC

Why the finding is important: "Surgical treatment for removing a pituitary tumor has traditionally involved opening the skull or making an incision under the upper lip and navigating through the septum to the pituitary gland, near the sinuses," Dr. Theodosopoulos says. "Some surgeons can ensure that all of the tumor has been removed by taking MRI scans in the operating room – an expensive, surgery-prolonging technology known as intraoperative MRI that is not available at most hospitals. An endoscopic approach, made through the nostrils without an incision, causes less disruption of nasal tissues and also allows the surgeon to use a tiny, sophisticated camera to identify any remaining tumor. This holds the potential for 1) less invasive treatment for all patients and 2) more complete tumor resections for individuals treated in hospitals without access to ioMRI."



pseudoaneurysm

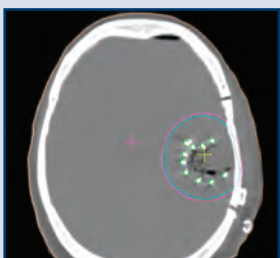
What we found:

A patient with a complex "pseudoaneurysm" that developed outside an important artery in the brain could be successfully treated in a two-step process that preserves blood flow to the brain while preventing bleeding.

Where it was published: Clinical Neurology and Neurosurgery

Who led Mayfield's efforts: Shah-Naz Kahn, M.D., Neurosurgical Fellow; Todd Abruzzo, M.D., Interventional Neuroradiologist; and Andrew Ringer, M.D., Director of Endovascular Surgery at UC

Why the finding is important: "A pseudoaneurysm is a widening of an artery," Dr. Ringer explains. "It has the uncomfortable appearance of a snake that has swallowed a rat and, if the artery is one that supplies oxygenated blood to the brain, it poses the risk of hemorrhage or stroke. The vertebral arteries, which are often involved in this type of aneurysm, work in pairs to feed the same area of the brain. Physicians can treat a vertebral pseudoaneurysm by blocking the affected artery and relying on the partner artery to feed the brain. But in cases where these vertebral arteries do not connect, blocking the affected artery could cause a stroke. In our study we devised a technique to strengthen the wall of the poor artery with a stent, which allowed us to preserve blood flow while preventing a second hemorrhage."



radioactive seeds in brain

What we found:

Aggressive, localized treatment of a single brain metastasis with I-125 radioactive seeds is safe and effective.

Where it was published: Journal of Neuro-Oncology

Who led Mayfield's efforts: Ronald Warnick, M.D., Chairman of the Mayfield Clinic and Director of the Brain Tumor Center at the UC Neuroscience Institute

Why the finding is important: "The widely recognized standard treatment, known as whole-brain radiation therapy (WBRT), can cause long-term radiation toxicity and can result in cognitive problems in up to 10 percent of patients," Dr. Warnick explains. "The potential adverse effects of WBRT include acute effects, such as fatigue and hair loss, but also delayed, cognitive effects, including memory loss and personality changes. These cognitive side effects can compromise the benefit that WBRT provides. Our study affirms our recommendations that treatment of a single brain metastasis with I-125 radiation seeds is an effective alternative to WBRT."

Welcome, Mayfield Spine Athletes!



Are You a Spine Athlete?

www.mayfieldclinic.com/hope/spineathletes

Are you a Mayfield Spine Athlete? According to William Tobler, M.D., a Mayfield Clinic neurosurgeon who coined the term, Spine Athletes are everyday people who take an active role in caring for their spine. Perhaps you quit smoking prior to surgery and never started up again. Perhaps you lost some weight, started a walking program, or joined a fitness club in an effort to strengthen your abdominal muscles and lessen the stress on your back.

To help inspire our patients – and to help them maximize their health and surgical outcomes - we have begun featuring stories about Mayfield Spine Athletes at www.mayfieldclinic.com/hope/spineathletes. Each story includes the current or former patient's first name (or both names if preferred), the name of his or her physician, how the problem occurred, how it was treated, and how the individual takes care of his or her back. If you would like to share your story, please contact Cindy at cstarr@mayfieldclinic.com.

Laura's story

Laura Brunner, a prominent Cincinnati business executive, was enjoying a mountain hike in Montana with fellow trustees from the Dan Beard Council of the Boy Scouts when the group decided to take a shortcut over an icy patch of snow. The men were heavy enough to compress the snowpack and gain sufficient traction as they hiked across. But Laura, smaller and lighter, lost her footing.

"I got about halfway across and fell," Laura recalls. "I slid about 90 feet down the mountain, on the ice, on my back, with my head pointing down the mountain."

As she neared the boulders at the bottom of the slope, her body turned sideways. The impact was absorbed by her back instead of her head, causing serious injury but probably sparing her life. "I hit the boulders so hard I went back up into the air and came down again 10 feet farther down the mountain. I ended up lying on my stomach on top of a big boulder."

After a nearly three-hour interlude, Laura was airlifted to a nearby hospital, then flown to Cincinnati, where she continued her treatment for contusions, a punctured lung, multiple broken ribs, and fractured vertebrae in her neck and back. At University Hospital, Mayfield's Charles Kuntz, IV, M.D., performed a comprehensive evaluation of Laura's spinal injuries. He advised her that the neck fractures would likely heal in a brace while the upper back (thoracic) fractures and ligament disruption would require surgery.

In addition, Laura had sustained a mild thoracic spinal cord injury, and the thoracic spine would need to be stabilized to prevent further injury to the spinal cord. In an operation that lasted multiple hours, Dr. Kuntz performed a posterior thoracic segmental fixation and fusion, inserting screws into four of Laura's 12 thoracic vertebrae, T7 through T10.

During her recovery Laura became a "spine athlete," a person who devotes a portion of her life to maintaining fitness, flexibility, and the overall health of her spine. She began with a yoga instructor, who helped her with movement and meditation. "Attitude is so important," Laura says. "The body needs to rest in order to heal. My instructor played music and talked me into a place where I wasn't sleeping but where I was resting. If you're active and go into confinement, you need to find ways to cope."



Laura Brunner uses Gyrotonics with her instructor (photo by Cindy Starr)

She graduated to Pilates and a no-impact fitness regimen called Gyrotonics, which uses a system of weights and pulleys to develop strength, flexibility, and balance. The Gyrotonic system, she says, "had an incredible impact on my ability to heal."



Focus on the brain: *aneurysms*

An aneurysm is a balloon-like bulge on an artery in the brain. The American Stroke Association reports that an estimated 1.5 to 5 percent of the general population has or will develop a brain aneurysm. An estimated 3 to 5 million Americans currently have brain aneurysms, most of which do not cause symptoms. But every year an estimated 30,000 Americans experience a rupture. About one-third of these individuals will die, and many more will become disabled.

RISK FACTORS

- Two first-degree family members who have suffered a ruptured brain aneurysm
- People who smoke, drink excessively, or suffer from hypertension
- People who are between 50 and 60 years of age

WARNING SIGNS

As many as 50 percent of people who suffer a ruptured brain aneurysm have had some history of headaches or have experienced a highly unusual headache. Doctors refer to these as warning headaches, or “sentinel headaches.” The most common misdiagnosis of sentinel headaches is the flu, migraine, or gastritis. Any person who has an unusual headache should seek medical attention.

PREVENTION

Mayfield’s Mario Zuccarello, M.D., urges patients who have family members with aneurysms, or who harbor small aneurysms of their own, to stop smoking to prevent the enlargement and/or the development of the aneurysm. Patients at high risk should undergo screening with an MRA or CT angiography, Dr. Zuccarello says.

TREATMENT

There are several treatment options for aneurysms. A small clip can be placed across the base of the aneurysm; the aneurysm can be packed with material that blocks normal blood flow from entering the aneurysm; or blood flow can be detoured around the affected artery to restore blood supply to the brain. More information about aneurysm treatment can be found at http://www.mayfieldclinic.com/HT_brain.htm.

RESEARCH

The UC Neuroscience Institute recently was awarded \$8 million in federal stimulus funds to continue the Familial Intracranial Aneurysm (FIA) Study to identify genes involved in the development of brain aneurysms. Anyone who has experienced a ruptured or unruptured aneurysm is eligible for this study. Contact laura.sauerbeck@uc.edu or call 513.558.1742 or 800.503.3427.

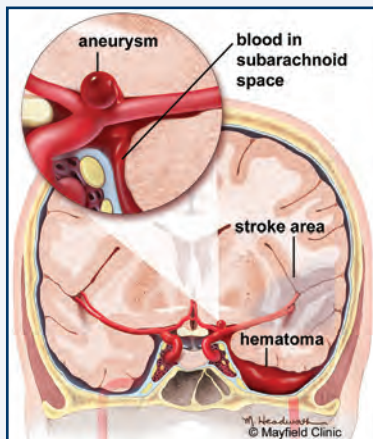


Illustration of a ruptured brain aneurysm, which has released blood into the subarachnoid space around the brain. The resulting subarachnoid hemorrhage is life-threatening.

The Mayfield Clinic’s Web site is a complete neurosurgical resource, offering a wide array of information about diseases and disorders of the brain and spine. Our educational materials are updated regularly. We currently have new patient education materials about:

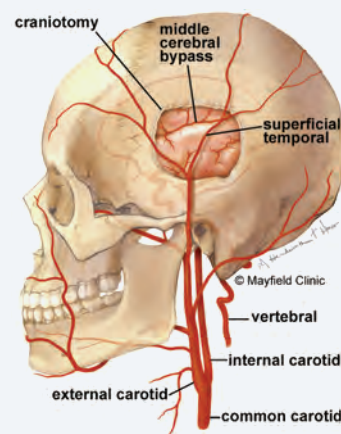
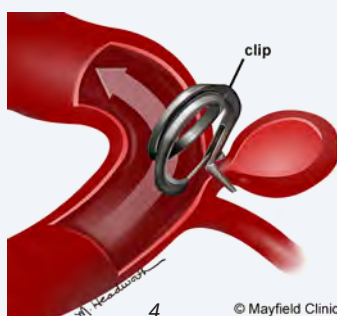
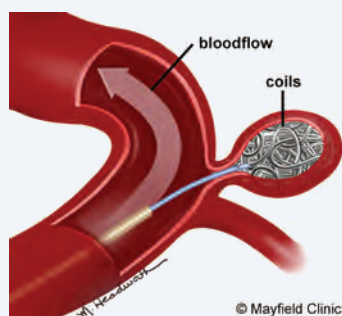
- carotid stenosis, a narrowing of the two major arteries that carry oxygen-rich blood to the brain
- cerebral bypass surgery, a surgical procedure performed to restore blood flow to the brain

To access a topic, go to www.mayfieldclinic.com. At the top of the page, roll your mouse over the tab labeled “health topics.” Then roll your mouse down and over “brain” and click.



We are proud to say that our patient education materials adhere to and are certified by the Health on the Net (HON) Foundation, which requires Web sites to provide supportive, accurate, accessible, and transparent information while respecting the privacy and confidentiality of any personal data submitted to the site by the visitor.

Treatment options for aneurysms: (L-R) endovascular coiling, surgical clipping, cerebral bypass surgery.



Major prize enables surgeon to study brain stem cells and their healing potential

Andrew Grande, M.D., a fellow in cerebrovascular/ endovascular neurosurgery in the University of Cincinnati Department of Neurosurgery, has earned the 2010 William P. Van Wagenen Fellowship. The \$120,000 fellowship, which funds a year of academic study abroad, is arguably the most prestigious in neurosurgery.

Dr. Grande will study with Professor Magdalena Götz at the Munich Institute of Stem Cell Research (Helmholtz Zentrum München). He will focus on neural (brain) stem cells, which were first discovered in the 1990s and which have the potential to divide and produce new cells, a process called neurogenesis.

The fellowship will enable Dr. Grande to investigate the ability of neural stem cells to replicate and communicate with other cells within the brains of animal models. The research could hold clues about how the brain tries to heal following an injury, such as a stroke, and how stem cells that exist in the brain might be coaxed into creating a flood of healthy new cells for an injured area.



Dr. Grande, left, with mentor and Mayfield neurosurgeon John M. Tew, M.D., who earned the Van Wagenen fellowship in 1969. UC residency graduate Edmund Frank, M.D., earned the fellowship in 1984.

If scientists understand which of the special proteins that control the transfer of DNA are important to the birth of new brain cells, they could potentially rev up the process by exposing the desired protein to a chemical. “Turning on the switch that overexpresses these special proteins should result in the production of more neurons,” Dr. Grande says.

Dr. Grande, a native of St. Paul, Minn., is doing his UC fellowship under the direction of Mario Zuccarello, M.D., Interim Chairman of the Department of Neurosurgery; Andrew Ringer, M.D., Associate Professor and Director of Endovascular Neurosurgery; and Todd Abruzzo, M.D., Assistant Professor of Neuroradiology.

Sunflower Revolution

September 11-13 was a weekend to savor for Parkinson’s disease advocates. The sixth annual Sunflower Revolution bike ride attracted more than 900 cyclists, a record, and featured the first Sunflower Streetfest in Milford, Ohio.

The Sunflower festival’s free educational symposium drew a record 700 patients and caregivers to the Savannah Center in West Chester, Ohio. You can view video of all presentations made at the 2009 symposium by visiting <http://www.ucgardnercenter.com/educational-conferences>

The Streetfest and bike ride raised money for Parkinson’s disease research at the James J. and Joan A. Gardner Family Center for Parkinson’s Disease and Movement Disorders at the University of Cincinnati Neuroscience Institute. The event is a collaboration involving the Institute, the University Hospital Foundation, the Mayfield Clinic, the Historic Milford Association, and the Davis Phinney Foundation, based in Boulder, Colorado.

Sunflower Revolution VII is scheduled for Sept. 10-12, 2010. The ride will take place in Milford; the symposium will take place at the Oasis Conference Center in Loveland, Ohio.

Below, Bruce Flory conquers a hill in the 40-kilometer bike ride (photo by Mark Bowen). And in a sign of victory and empowerment, symposium participants raise their arms along with speaker Davis Phinney, the Parkinson’s advocate and former Tour de France cyclist (photo by Cindy Starr).



The Standard
Mayfield

Patients give Mayfield high marks

The Mayfield Clinic recognizes the importance of providing high-quality clinical care and excellent customer service. This commitment is demonstrated by high satisfaction ratings from patients in 2009. A study of more than 1,000 patients conducted by Marketing Services Research, Inc., found that 96 percent are likely to recommend Mayfield to family and friends.

We are pleased with this very favorable rating, but also eager to pursue opportunities for improvement. As always, we appreciate any feedback we receive from our patients.

Go Green with the Mayfield Standard

As the Mayfield Clinic begins the new year with its own resolutions for operating as a greener organization, we invite you to consider reading the Mayfield Standard online instead of receiving a paper copy. Contact Evelyn Ries at (513) 569-5354 or eries@mayfieldclinic.com, and we will send you an e-mail every time a new Mayfield Standard is available. Mayfield's current green initiatives include onsite recycling and waste reduction, energy conservation, carbon offsets through World Land Trust, and urban landscaping/litter pickup through Keep Cincinnati Beautiful.



Upcoming events

Sports-Related Head Injury Course: You Can't Ice the Brain

A free educational event for coaches, athletic trainers, athletic directors, school nurses and parents

Friday, April 23, 2010, 8:00 am - Noon
Cintas Center's Schiff Conference & Banquet Center
Call 513.569.5354 or eries@mayfieldclinic.com

The 2010 Neurovascular Conference: Cerebral Aneurysms, Arteriovenous Malformations & Moyamoya Disease

*A free educational event for patients, caregivers and family members
In partnership with the Tri-State Brain Aneurysm Support Group*

Saturday, May 15, 8:00 am - Noon
Radisson Hotel, Covington, Kentucky
Call 513.569.5354 or eries@mayfieldclinic.com

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