Creighton UNIVERSITY Medical Center

December 2009

The Center for Abdominal Wall Reconstruction at Creighton University Medical Center

The Department of Surgery at Creighton University School of Medicine is pleased to announce that its application to develop a new Center of Excellence for the treatment of abdominal wall defects has been approved by the University's board of governors.

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Laparoscopy is now commonly recommended for different types of abdominal wall hernias, but has specific risks that must be assessed. Conventional open surgery is much different today than it was 20 years ago, as simple suturing has since been replaced by the use of prosthetic materials in nearly all adult patients. Many new types of prostheses, both plastic and "biologic" (prostheses designed to look like normal tissue rather than the scar barrier produced by the plastic meshes), have been introduced into the market for use in specific clinical situations. Even the decision where to place a prosthesis, e.g., behind the muscle (underlay), between the muscles (inlay) or on top of the muscle (overlay), can be problematic.

Now that the recurrence rate has been so dramatically reduced because of the newer approaches, post herniorrhaphy wound pain has emerged as perhaps the single most vexing problem facing hernia surgeons. This is a syndrome characterized by severe, sometimes incapacitating pain in a hernia repair site despite the fact that the hernia has been "successfully" repaired. These patients can be particularly frustrating to manage because their complaints are entirely subjective and there are no physical signs to help define the degree of disability. The exact cause is unknown, but recent research suggests that it is likely due to a combination of nerve and tissue trauma in certain individuals with a genetic predisposition to develop it.

Destruction of the sensory nerves in the area (neurectomy) has been the primary treatment in the past, but it is now known that this approach rarely achieves long lasting success. It is now obvious that a multidisciplinary approach – one that includes surgeons, radiologists, physical therapists, pain management physicians, psychologists and even dietitians – results in the highest success rate.

Another relatively new abdominal wall problem is the so-called "burst abdomen." In the past, this condition has been associated with dehiscence and separation of the abdominal wall layers, usually due to severe intraabdominal infection or trauma resulting in injury-related abdominal wall loss (e.g., a shotgun wound). In either scenario, the patient can be left with a huge abdominal wall defect, which cannot be closed by reapproximating the edges due to the size of the separation. This calls for innovative strategies, including the use of some of the newer prostheses available.

This condition has been increasing in frequency over the past several years due to the recognition by critical care intensivists of so-called "abdominal compartment syndrome." It is associated with the large-volume fluid resuscitation of patients who are critically ill, resulting in an obligatory secondary fluid overlaid. Because much of the overloaded

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Meet the Specialists

Dr. Robert Fitzgibbons The director of the Center for Abdominal Wall Reconstruction at Creighton University Medical Center is Dr. Robert Fitzgibbons, Harry E. Stuckenhoff Professor of Surgery at Creighton University School of Medicine. His clinical and research efforts over the last 18 years have focused on minimally invasive surgery and therapeutic laparoscopic surgery, especially as it relates to the management of abdominal wall hernias. He has been instrumental in developing specific instruments and techniques for the surgical repair of hernias. He has performed thousands of inguinal and ventral hernia repairs, both open and laparoscopic, and is routinely called upon to perform demonstration operations in countries throughout the world. This work has led to two important randomized prospective multicenter trials dealing with the subject of inguinal hernia.

Dr. Fitzgibbons was the Principal Investigator of a grant that was funded by the Agency for Health Care Related Quality, entitled "Management of Groin Hernia: A Multi-centered Clinical Trial," Principle (RO 1 HS/AG 9860-01A1). With a budget of over $6 million, this landmark study confirmed that watchful waiting is a reasonable alternative to routine hernia repair for adult

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fluid accumulates in the abdomen and the retroperitoneum, intraabdominal pressure can increase dramatically, interfering with the blood supply to abdominal organs and return of blood to the heart though the inferior vena cava, which may result in refractory hypotension. As with the better-known leg compartment syndrome, the only treatment is fasciotomy. In the case of the abdominal wall, this requires a laparotomy, leaving the abdominal wall widely open to decrease the pressure. This life-saving procedure unfortunately results in a huge defect that must be addressed later.

The mission of Creighton's Center for Abdominal Wall Reconstruction is to provide consultative and treatment services for referring physicians and patients with these types of abdominal wall pathologies. In addition to its clinical activities, the center will devote resources to scholarly activities, including clinical trials and publication of results.

Trials The center is currently recruiting patients into a national clinical trial with LifeCell Corporation involving the assessment of early and long-term outcomes for 200 men undergoing open inguinal hernia repair (IHR). This study will compare two different types of biological prosthesis, one made from human skin (UltraproTM), the other porcine (Strattice™/ LTM). If the latter performs just as well as the former, this would greatly simplify its procurement while decreasing its cost. Recruitment also began in June, 2009 for a study that will evaluate the safety and efficacy of Biomerix Revive™, a lightweight polypropylene mesh, used as a tension-free patch in male patients who are candidates for a primary, unilateral, open IHR. Prospectively, the center is actively negotiating with Baxter Health Care, Inc. to participate in a trial comparing the use of fibrin glue as a means to provide fixation for prosthesis to the usual tacks, staples and sutures which are felt by some to contribute to the post herniorrhaphy pain syndromes noted above. An additional futuristic trial of interest involves the use of antiseptics for skin preparation to decrease infection.

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men with minimally symptomatic inguinal hernias. He was a Co-investigator for VA Cooperative Study Trial #456: Tension-free Inguinal Hernia Repair: Comparison of Open and Laparoscopic Surgical Techniques, which was a randomized prospective trial comparing laparoscopic inguinal herniorrhaphy with its conventional counterpart. Its budget was also nearly $6 million.

Dr. Fitzgibbons is a past president of the American Hernia Society and the Society of Laparoendoscopic Surgeons and a past board member of the Society of American Gastrointestinal Endoscopic Surgeons. He is a member of the committees on emerging technology for the American College of Surgeons and chairs its subcommittee on assessment. He has made over 400 national and international presentations on subjects dealing primarily with hernia management and is the author of some 300 scholarly publications, including peer and non-peer reviewed articles, books, book chapters and videotapes, mostly dealing with treatment of abdominal wall hernias. Dr Fitzgibbons has been married to his wife Karen for 28 years and has three daughters ranging in age from 17 to 25.

General Surgery
Robert J. Fitzgibbons, Jr., MD, FACS
Samuel Cemaj, MD
George Hatzoudis, MD
Matt Rivard, MD

Plastic Surgery
Amardip S. Bhuller, MD, FRCSI

Radiology
Thomas Dworak, MD

Physical and Occupational Therapy
Dorine Roth, PT

Nutrition Science
Daena Thalken, RD, LMNT, CNSD

Pain Management
Fred Youngblood, MD

Clinical Research Office
David Cloutier

Referral Notes
- The Center for Abdominal Wall Reconstruction provides consultation on post herniorrhaphy wound pain, burst abdomen and other conditions.
- The Center is led by Dr. Robert Fitzgibbons, a world leader in the treatment of abdominal wall hernias.
- To refer a patient or seek a consultation, contact the Center for Digestive Disorders:

Phone: 402-449-5040
Toll Free: 888-449-3002
Fax: 402-449-5030