

SURGERY UPDATE LEADING THE WAY

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Message from the **Douglas B. Evans, MD**, Donald C. Ausman Family Foundation Professor of Surgery and Chair

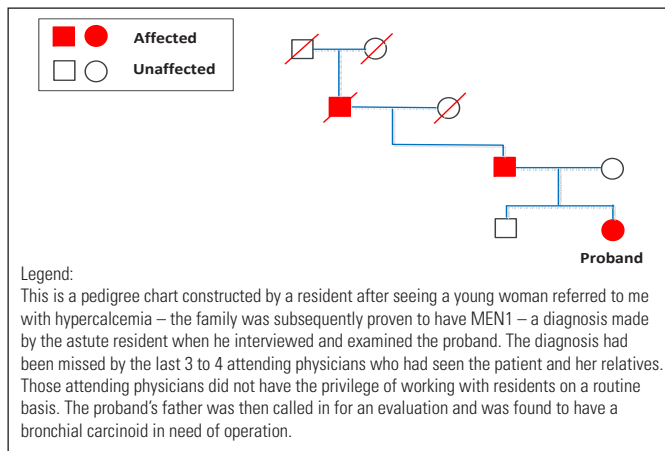
Surgical Education: Join Us in Advocacy as We Start a New Academic Year

I was reviewing a website last week and noticed this sentence contained in the section of information intended for patients:

“All of the other “high volume” centers are training centers for new surgeons, so all operations at those centers are done by surgeons learning and not by the experts (this may not be bad, but know it ahead of time) (we do not have surgeons training on our patients—ever).”

What an awful thing to say and especially to put in print. We all went through medical school and residency and performed our first procedure (peripheral IV, central line, intestinal anastomosis) on someone. If the best physicians and surgeons did not train others, their knowledge would not extend to the large volume of patients who may benefit greatly from technical advancements and innovation.

In the past, surgical education (with respect to the technical aspects of surgery, especially in the operating room) was perhaps more straight forward – senior residents performed most all of the operations at the VA and county/city hospitals with the supervision/availability of attending surgeons. However, in most situations, the patient had the preoperative discussion with the senior resident and assumed the senior or chief resident was performing the operation – no real ambiguity in communication. If the patient was uncomfortable with the age or presentation of the resident team, then they could often times ask for a greater level of attending/faculty involvement – if they did not, then the chief resident was expected to call for help if needed – similar to what would happen in a few months after the chief's graduation. In essence, a smooth transition to complete autonomy yet with a safety net in place. Similarly, at most academic medical centers of the past, the realm of acute care surgery was under the control of the chief resident with a similar form of safety net and the clear expectation that communication with the more experienced faculty member would be prompt if things were not going well. Unfortunately, many of the county hospitals have closed and the VA system has mandated attending level presence to a degree which has threatened resident autonomy. Currently, private hospitals often do not even allow the resident surgeon to do the Time Out in the absence of an attending physician.



We are left with a system which has created a greater level of ambiguity in how to train surgeons – seems like we have moved backwards? For example, surgical consent forms do not convey the level of resident involvement in a planned operation. Patients are often unclear but a bit too embarrassed or uncomfortable to ask? Some “non-teaching” centers even advertise that they will not have residents involved – as per the above quoted web site. Yet, at the same time, residency programs are not held responsible for the performance of their graduates in the one to two years after training when the old, experienced captain is no longer on the boat (never mind able to chart the course or occasionally take the helm). This seems illogical and void of a reasonable level of accountability.

Surgeon training needs continued advocacy if we want the technology/ techniques and judgment of today to be effectively passed to the next generation – with minimal morbidity and mortality which characterizes any learning curve. All of us can help by keeping this important topic on the front burner for discussion. Perhaps progress can be made by moving the qualifying and certifying exams to an earlier point in training so that autonomy can be more easily provided while still in training. Maybe we can convince the VA

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Rectal Cancer Centers of Excellence: The New



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As with many disciplines in medicine and surgery, rectal cancer care has dramatically changed in the last thirty years. Previously, high rates of local recurrence after surgical resection significantly limited the survival of many patients. In the intervening years, we have made significant improvements in several areas key to optimal survival: *en bloc* surgical resection of the rectum and mesorectum (which contains the surrounding lymph nodes) and the use of neoadjuvant combination chemotherapy and radiation for locally advanced cancers. We've also developed better medications for treating systemic disease, such as targeted agents like cetuximab, which is designed to stop the intracellular cascade that leads to tumor growth. Furthermore, we've made significant advances on improving the morbidity of rectal resection by focusing on the use of minimally invasive platforms, enhanced recovery pathways, and sphincter-preserving techniques that allow patients to recover and return to regular life as soon as possible.

Despite these efforts, survival for patients with rectal cancer still lags behind that of colon cancer. The OSTRiCh Consortium (Optimizing the Surgical Treatment of Rectal Cancer) is a group of healthcare institutions, including the Medical College of Wisconsin, aimed at working together to improve the quality of rectal cancer care in the United States. We aim to accomplish this through five core principles of evidence-based rectal cancer care: the use of total mesorectal excision, the measurement of surgery quality by pathologic assessment, state-of-the-art imaging techniques to identify patients at high risk of local recurrence, the use of the most effective neoadjuvant and adjuvant therapy, and a multi-disciplinary team approach to care coordination at all points during treatment and surveillance.¹ The Division of Colorectal Surgery at the Medical College of Wisconsin is dedicated

to providing the highest quality care. We have been early adopters of these principles, utilizing standardized synoptic specialist reporting of radiology and surgical pathology results, executing total mesorectal excision in all rectal cancer operations, and working with our medical and radiation oncology colleagues to help design the most effective treatment plan based upon the latest literature and research.

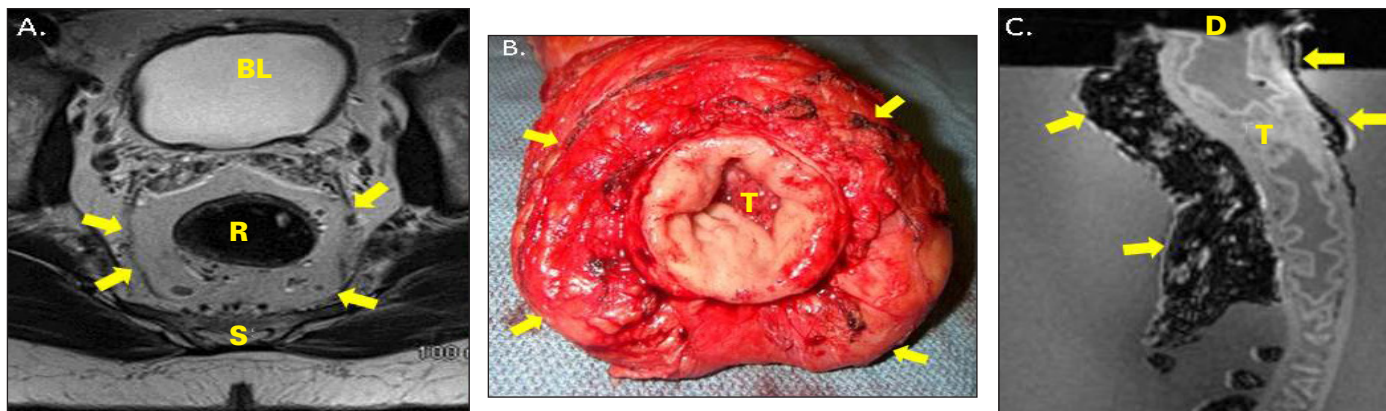
In Europe, there has also been a move to centralization of care for rectal cancer patients, as physicians with specialty skills and resources to institute successful rectal cancer programs are not widely available in hospitals that see only a few of these patients every year. There have been significant improvements in outcomes with reduced rates of positive margins and anastomotic leaks, and overall survival has nearly doubled.^{2,3} Despite this knowledge, there is no national strategy in the United States to refer rectal cancer patients to specialized centers. This can have a significant impact on patients. Non-specialist surgeons are more likely to leave patients with permanent colostomies and have higher local recurrence rates, while patients seen in non-specialist and low volume centers are less likely to receive neoadjuvant chemoradiation therapy prior to surgery, a treatment strategy shown to reduce local recurrence and recommended in current evidence-based guidelines.^{4,5} These results are not surprising – the correlation of high volume surgeons and institutions with improved outcomes is well established in a number of complex surgical diseases. In a recent study of hospitals and surgeons performing rectal cancer surgery in New York state, those with high volumes had a significant inverse relationship with improved outcomes – the more you do, the better your results.⁶ As Southeastern Wisconsin's only academic medical center, we are among an elite group of institutions who have the available skills and resources to provide optimal care for a high volume of rectal cancer patients every year. The OSTRiCh Consortium has been working in conjunction with the American College of Surgeons and the Commission on Cancer to create a Rectal Cancer Center of Excellence Accreditation Program and are currently in construction of the first draft of the standards manual. The Division

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system to reconsider recent changes. Perhaps in non-VA teaching hospitals, some aspects of acute care surgery can be viewed as the responsibility of the chief resident with appropriate faculty back-up. Surgical simulation can help minimize the learning curve, but has yet to completely replace the real operating room environment. All of you have additional thoughtful ideas which should be communicated to the American Board of Surgery and other leadership organizations.

When on my last flight, just after take-off, the pilot/captain announced that it is a beautiful day for flying, thank you for flying, and that the co-pilot would be flying us to Milwaukee – no one seemed concerned! No one asked what he (captain) was planning to do (read a book, take a nap), or how experienced the co-pilot was, or why we were paying for the co-pilot to fly the plane. Perhaps everyone was comfortable because they knew that two well-trained pilots were in the cockpit – precisely as is the case when an expert faculty surgeon works with a highly trained resident or fellow; a situation much better than when even an expert surgeon is alone – perhaps why the plane never takes off with just one pilot on board. •

Horizon of Cancer Care?



Examples of the surgical technique of total mesorectal excision – removing the rectum *en bloc*, with the surrounding mesentery containing the lymph nodes along the plane of the mesorectal fascia.

A) A T2-weighted magnetic resonance image (MRI) of an early rectal cancer taken prior to surgery. The image was taken on a 3 Tesla MRI, which is the current standard used for patient care. The yellow arrows highlight the mesorectal fascial plane. Staying within this plane for excision without violating the fascia and entering the rectal mesentery has been shown to significantly reduce local recurrence rates (BL = bladder, R = rectum, S= sacrum).

B) A surgical resection specimen of an early rectal cancer resected with an intact mesorectum. The yellow arrows highlight the mesorectal fascial plane. Note the smooth appearance of the mesorectum, which is consistent with good surgical technique (T= tumor).

C) A high-resolution 7 Tesla MRI, currently used for research purposes, of a surgical specimen oriented along the long axis with the distal end adjacent to the anus at the top of the figure. Again, note the smooth appearance of the mesorectal fascial plane highlighted by the yellow arrows. In this image, the rectal mucosa is bright white, while the mesorectal fat is dark (T= tumor, D= distal margin).

of Colorectal Surgery at the Medical College of Wisconsin is eagerly anticipating its release in the coming months and we expect that our rectal cancer care program, which already meets the principles above, will easily qualify.

In addition to excellent patient care, we participate in quality reviews of our outcomes and have recently hired a nurse coordinator to help in this regard. Our Division is working on a number of research projects exploring optimal pain management after surgery, the role of serotonin receptors in bowel dysfunction after rectal resection, and the development of an imaging-based assessment of quality surgical specimens, to name a few. It is our expectation that accreditation as a Rectal Cancer Center of Excellence will set us apart among health care providers in the region and allow us to be recognized for the high-quality, individualized, multi-disciplinary approach we provide to patients with a complex and ever-changing disease process. •

FOR ADDITIONAL INFORMATION on this topic, see references, please visit mcw.edu/surgery, or contact Dr. Peterson, 414-805-5783, cypeterson@mcw.edu.

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The Modern Management of Complications



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Modern bariatric surgery has evolved significantly since its inception, as surgeons have modified techniques to maximize patient safety with meaningful weight loss and improvement in obesity-associated co-morbidities. The sleeve gastrectomy is now the most popular bariatric surgery, with the divided gastric bypass maintaining steady utilization at about 30% of all operations performed. The incidence of revisional bariatric surgery is now 11.5% of all bariatric procedures performed in 2014.¹ The increasing presentation of long-term complications from historical bariatric procedures has likely contributed to the rise in revisional bariatric surgery. This article reviews four different historical bariatric operations, as well as the modern management of their respective complications: jejunio-ileal bypass, non-divided roux-en-y gastric bypass, vertical-banded gastroplasty, and the adjustable gastric band.

Jejuno-Ileal Bypass. In response to the initial concerns of the increasing incidence of severe obesity in the United States in the 1960-70s, the infancy of bariatric surgery began with intestinal bypasses such as the jejuno-ileal (JI) bypass to replicate the weight loss seen in short bowel syndrome patients. The JI bypass consisted of dividing the proximal jejunum 35 cm distal to the ligament of Treitz, with re-anastomosis of the divided proximal end of the jejunum to the distal terminal ileum (10 cm proximal to the ileo-cecal valve), or directly to the ascending colon, usually in an end-to-side fashion. The surgery was designed to maintain gastric anatomy. Thus, patients could still eat normal-to-large portions with weight loss through extreme nutrient malabsorption. Patients after a JI bypass could develop acute complications such as fulminant liver failure, renal failure, or death due to dehydration, nutrient and electrolyte disturbances. Chronic complications included troublesome and life-altering diarrhea, calcium oxalate nephrolithiasis, gallstones, steatohepatitis and cirrhosis, micronutrient and fat-soluble vitamin deficiencies, and bacterial overgrowth.^{2,3} Due to these morbid nutrient deficiencies and complications, the JI bypass was abandoned by most surgeons in the 1980s. It is estimated that approximately 25,000 JI bypasses were performed in the United States.⁴ While many patients have had their JI bypasses reversed or unfortunately did not survive the sequelae of the surgery, it is unknown what percentage of patients still have an intact JI bypass. Late reversal is indicated for any of the above complications and most frequently is undertaken for chronic liver and renal disease. The earlier in the disease process the bypass is reversed,

the better the likelihood of organ recovery and disease resolution. Unfortunately, many patients are referred for reversal late, with a peri-operative mortality rate of almost 22% reported in the literature when performed on patients who had already developed cirrhosis.⁴ Reversal involves take-down of the distal anastomosis with re-anastomosis of the excluded small bowel to the proximal jejunum. Due to long-term villous atrophy of the excluded small bowel, patients often need extended parenteral nutrition in the postoperative period with only a liquid oral diet to allow reaccommodation of the small bowel to nutrient passage and absorption.

Non-Divided Roux-en-Y Gastric Bypass. As surgeons and medical professionals encountered significant post-operative complications from protein and nutrient malabsorption of the JI bypass, Drs. Mason and Ito introduced the original non-divided Roux-en-Y gastric bypass (RYGB) in 1965 to decrease the risk of malabsorption and associated sequelae. The RYGB has gone through several iterations in roux limb length, from short limbs complicated by bile reflux to long-limbs over 150 cm. The most common complications of the original RYGB are related to the stapling technology available in the open era of bariatrics. The small 30-50 cc gastric pouch was created with non-divided staplers, which partitioned the pouch from the remnant stomach with rows of staples but did not divide the tissue. Long-term, this led to staple-line disruptions or gastro-gastric (GG) fistulas, with access once again for food and liquids to the gastric remnant and biliopancreatic limb. This caused not only weight regain, but the potential for abnormal acid exposure to the jejunal roux limb or esophagus, resulting in marginal ulcers or gastroesophageal reflux disease (GERD). The incidence of a GG fistula after a non-divided RYGB is as high as 50%.⁵ When a patient presents with any of these outlined symptoms and has a history of an open RYGB, unless the operative reports can be obtained specifically stating the tissue was fully divided between staples, the assumption should be that a non-divided stapler was used and the patient is at risk for a GG fistula formation. This is most easily diagnosed with an upper gastrointestinal series (**Figure 1**) and complemented by an endoscopy to assess the location and size of the fistula, as well as the presence of a marginal ulcer.

If the GG fistula is <1 cm, although the endoscopic closure rate is only 33%, it is worth attempting endoscopically as there is minimal morbidity and it does not further complicate the ability to perform a surgical revision if endoscopic closure fails.⁶ Fistulas >1 cm are unlikely to heal with

ons of Historical Bariatric Operations

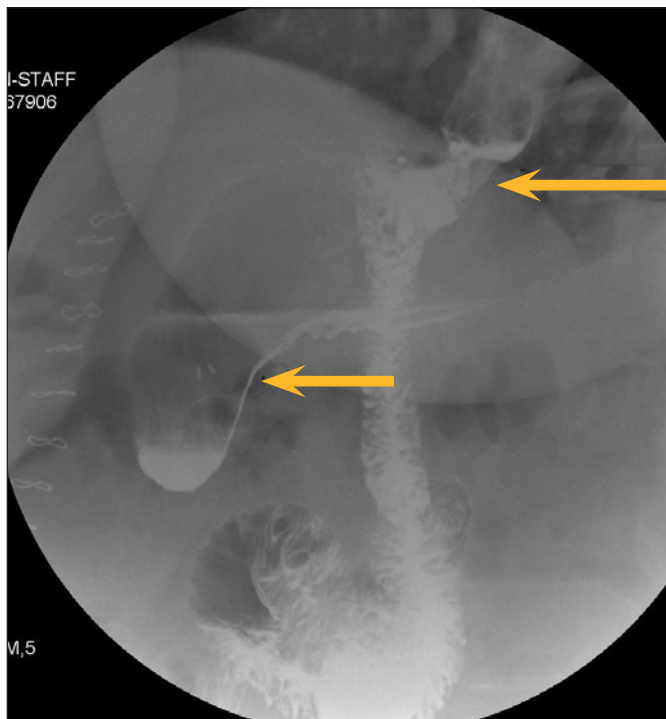


Figure 1. Upper gastrointestinal (UGI) series showing filling of the gastric pouch and roux limb (long arrow) with contrast also flowing into the remnant stomach and duodenum (short arrow), suspicious for a gastro-gastric fistula after an open, non-divided RYGB.

endoscopic intervention and revisional surgery can be attempted. Revision of a GG fistula after a non-divided RYGB involves remnant gastrectomy to include the fistula tract, often requiring a re-do gastro-jejunostomy, allowing for complete takedown of the GG fistula.⁷ The major complication rate of take-down of a GG fistula after RYGB is 16%.⁷

Vertical-Banded Gastroplasty. The vertical-banded gastroplasty (VBG) was introduced in the 1970s as a procedure which carried no risk of malabsorption, unlike the JI bypass, and decreased morbidity compared to an open gastric bypass, as there was no anastomosis. As shown in **Figure 2**, a VBG consists of the partitioning of a small gastric pouch along the lesser curve, similar to a gastric bypass, but the distal aspect of the pouch is banded with a variety of materials (often with synthetic mesh or a silastic band) to create a narrow outlet which then empties into the remainder of the distal stomach.⁸ Despite its popularity through the 1980s, patients struggled long-term with failed weight loss, with or without a GG fistula, or symptoms related to a gastric outlet obstruction. In a ten year study of 392 patients who underwent VBG, 58% of patients developed long-term complications.⁹

Gastric outlet obstruction typically occurs chronically, due to erosion or obstruction by the silastic band or mesh placed to create the gastric pouch.¹⁰ As a result of this chronic gastric outlet obstruction, patients can develop vomiting, dysphagia secondary to esophageal dysmotility, and significant reflux symptoms. Reflux symptoms can be significant enough to contribute to the development of Barrett's esophagus.⁹ Endoscopic removal of an eroded band is not usually possible when mesh was used due to tissue ingrowth. Endoscopic dilations for stomal obstruction almost universally fail as well. Revisional surgery to a gastric bypass is the procedure of choice for complications of a VBG and can often be performed laparoscopically by experienced bariatric surgeons.¹⁰ Patients who undergo reoperation after a VBG have increased risk of perioperative morbidity.

A GG fistula, like in non-divided RYGB patients, presents with weight regain and gastroesophageal reflux. To try to reduce the incidence of a GG fistula, MacLean et al. modified this technique by dividing this staple line; however, this is still a complication that can occur given the close proximity of the pouch and the divided stomach.¹¹ Operative treatment of weight regain or symptoms of a GG fistula is as described above, with conversion to a gastric bypass.

Adjustable Gastric Band. The laparoscopic, adjustable gastric band (LAGB) became a popular bariatric surgery option in the early 2000s. In this surgery, a silastic band with an inflatable and adjustable inner balloon is placed circumferentially around the superior portion of the stomach to create a small pouch.⁸ Patients return for adjustments, where fluid is removed or added to the inner balloon to decrease or increase their



Figure 2. UGI series from a patient with a prior VBG. The UGI shows enlargement of the gastric pouch over time with expected narrowing and angulation of contrast at the site of the mesh band (white arrow). Contrast passes through the band into the remaining stomach. No GG fistula is present.

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Figure 3. An esophagram from a patient with a slipped band, resulting in a gastric outlet obstruction. The band is positioned in an abnormal horizontal orientation with excess stomach above the band and minimal contrast able to pass through the band.

restriction, respectively. The LAGB has become less popular over the past several years due to the long-term complications that have arisen which require revisional surgery. According to a study of the University HealthSystem Consortium (UHC) database of more than 10,000 LAGB patients, those who undergo revisional surgery have a longer hospital length of stay, as well as high complication rates, readmissions and overall cost.¹²

One long-term complication of the LAGB is a slipped band, with an incidence of approximately 4.9%.¹³ This refers to slippage of the band on the stomach, so that a portion of the stomach herniates above the band. Patients with this complication can present with failure to lose weight, heartburn, dysphagia, or gastric outlet obstruction. Patients can also have more emergent complications related to this, such as ischemia or necrosis of the stomach. The diagnosis is made with plain abdominal films or an esophagram, demonstrating rotation of the band away from its usual orientation, which is at a 45 degree angle toward the left shoulder (**Figure 3**). Patients that present with an acute band slip require all fluid be removed from the port and potential emergent surgery to remove the band and port.

Another complication of the LAGB is band erosion, with an incidence of 0.2-32%.¹⁴ Patients can present with infection of their subcutaneous port or weight regain. Patients are not typically acutely ill as the erosion occurs over time. Diagnosis is confirmed on endoscopy and treatment requires surgical removal of the entire band and port.

While revisional bariatric surgery is associated with known increased morbidity, these post-operative complications are minimized with bariatric surgeons who are experienced in the surgical care of revisional bariatric patients and in a bariatric hospital accredited by the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program, such as the Comprehensive Bariatric Surgery Program at Froedtert Hospital and the Medical College of Wisconsin. With a multi-disciplinary and thoughtful approach to revisional bariatrics, our bariatric surgeons provide exceptional safety and symptom improvement for patients who are struggling with significant complications related to historical bariatric operations. To make an appointment or referral, contact the Froedtert Hospital and Medical College of Wisconsin Bariatric Surgery Center at 414-805-5747 or www.froedtert.com/bariatric-surgery. •

FOR ADDITIONAL INFORMATION on this topic, see references, please visit mcw.edu/surgery, or contact Dr. Higgins, 414-955-5240, rhiggins@mcw.edu; Dr. Kindel, 414-805-5805, tkindel@mcw.edu.

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Open Fetal Surgery for Spina Bifida



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Myelomeningocele (MMC), the most common form of spina bifida, is a congenital defect caused by incomplete closure of the neural tube during early gestation. It is characterized by protrusion of meninges and the spinal cord through the vertebral arches. Liveborn infants have a 10% death rate, and even long-term survivors suffer major disability secondary to a constellation of cognitive, neurologic, bowel and bladder dysfunctions.^{1,2} Moreover, Chiari Type-II malformation (CM-II), consisting of hindbrain herniation and hydrocephalus, is present in 90% of patients with MMC, nearly 85% of whom require decompression with ventricular shunt placement in the first year of life.^{3,4} Shunt dysfunction requiring reoperations, as well as the infectious risk, result in a major source of morbidity in MMC patients.

Historically, management of MMC included early postnatal coverage to prevent injury to the exposed spinal tissue. In-utero studies revealed MMC morbidity as progressive in nature, with evolution of paralysis and hindbrain herniation throughout fetal gestation.^{5,6} The “two hit”

hypothesis, or exacerbation of the neural tube defect with continued exposure of the neural placode to trauma within the intrauterine environment, was validated when results from studies on prenatal coverage showed amelioration of neurologic deficit and hindbrain herniation.⁷⁻¹¹ However, uncertainty surrounding the safety of prenatal surgical management for mother and fetus remained.

The Management of Myelomeningocele Study (MOMS), a prospective, randomized trial, was initiated in 2003 to investigate the issue. The study compared outcomes after prenatal and postnatal myelomeningocele closure from three fetal surgery centers, and was halted on an interim analysis in 2010 after identifying a significant reduction in ventricular shunt placement and improvement in motor function in the prenatal cohort.¹² Notably, the study also revealed a risk for premature rupture of membranes (PROM), chorioamnion separation, and uterine dehiscence, placing the mother at risk for uterine rupture.

Efforts since the MOMS trial have centered on optimizing surgical technique to lessen the risks of preterm labor. Using an alternative entry technique through the lower midline, where the amniotic membranes are carefully secured upon hysterotomy, Bennett *et al.* reported encouraging results.¹³ In comparison to MOMS, the incidence of PROM decreased to 22% from 46% ($p=0.011$) and chorioamnion separation to 0% from 26% ($p < 0.001$). Importantly, neurologic benefits to the fetus are preserved.

Since its inception in the 1980s, fetal myelomeningocele repair has served as the paradigm of developing a fetal intervention that optimizes fetal outcome without forfeiting maternal or fetal safety. Each purposeful advance in fetal MMC (fMMC) repair also laid a path for non-MOMS centers dedicated to helping patients with this difficult disease. In 2012, we embraced the challenge of offering this complicated procedure to our patients, which requires the dedication of multiple specialists at the Fetal Concerns Center of Wisconsin.

Fetal surgery for MMC was offered after over two years of planning and apprenticeship under national myelomeningocele experts.

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MMC defect repaired using an AlloDerm patch visualized through hysterotomy on the gravid uterus.



Spina Bifida

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Along with mastering the technical skills and nuances, an emphasis must be placed on careful patient selection and counseling. We adhere to the MOMS inclusion and exclusion criteria as follows:

Table 1. Fetal Concerns Center of Wisconsin Inclusion and Exclusion Criteria for Enrollment

- Singleton fetus at 19-26 weeks gestation
- MRI-diagnosed open myelomeningocele with the upper boundary between T1-S1
- Evidence of hindbrain herniation on MRI
- No other spinal deformities
- No fetal anatomic abnormalities
- Normal fetal karyotype on amniocentesis

Exclusion

- Maternal BMI > 35
- High risk of preterm labor
- Placental abruption

Once a patient is eligible, our highest priority is to provide an unbiased, open communication with families to help them make a decision they are comfortable and confident with. If interested in pursuing fMMC, our patients receive counseling over the course of two days, during which time they meet with all providers and support staff intimately involved in the repair. Our team prepares extensively for each individual patient, formulating individual fetal resuscitation plans and several planning meetings, including a “dry run” in the operating room before the repair. Dry runs include the entire team—nurses, surgical technicians, ultrasound technicians, pharmacists, and physician providers—to ensure we optimize our performance and mitigate any risk to mother and fetus. **Table 2** contains a list of the physician providers who are uniformly committed and strive for excellence at each step of the process and are present for the entire case in the operating room.

Table 2. Fetal Myelomeningocele Repair Providers

- Pediatric General Surgeon
- Maternal-Fetal Medicine (MFM) Specialist
- Pediatric Neurosurgeon
- Pediatric Cardiologist
- Obstetric (OB) Anesthesiologist
- Pediatric Anesthesiologist
- Neonatologist



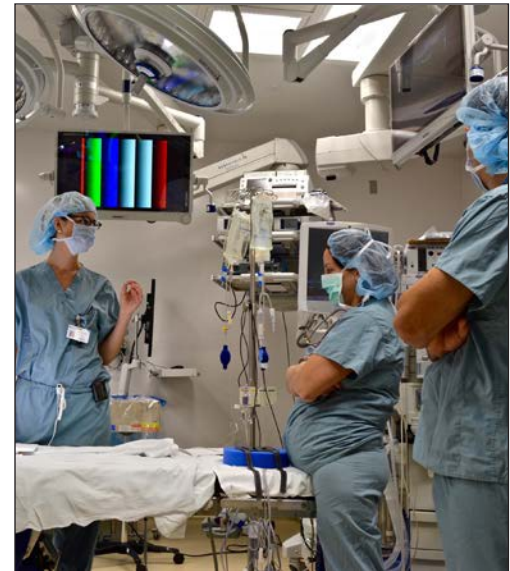
Lumbosacral region of a two-month-old baby after an in-utero MMC repair.

Each provider is instrumental to the success of the procedure. The pediatric surgeon completes the laparotomy, provides exposure to the fetus by hysterotomy and coordinates each step of the procedure. The MFM provider maps the placenta with intraoperative ultrasound and ensures the amniotic fluid level remains normal after hysterotomy and disruption of the membranes. The pediatric neurosurgeon repairs the spinal defect, either primarily or with a prosthetic patch. A pediatric cardiologist is scrubbed and watches each fetal heartbeat continuously through the entirety of the procedure with intraoperative echocardiography. An OB anesthesiologist cares for the mother while under general anesthesia, while a pediatric anesthesiologist is responsible for monitoring the fetal cardiac function with the cardiologist and directs any necessary fetal resuscitation. Lastly, a neonatologist is present in the event that the fetus requires emergent delivery.

Since we began offering fMMC repair in 2014, the Fetal Concerns Center of Wisconsin has screened 29 pregnant women with spina bifida. Seven successful fMMC repairs have been performed at an average gestational age of 24.7 weeks on mothers ranging from 23-33 years old. All patients have been delivered by cesarean section after 30 weeks



Open Fetal Surgery Team



Pre-operative planning meeting prior to open fetal MMC repair.

gestational age, with a range from 30.2-37 weeks because of the risk of uterine rupture. Of the seven infants delivered, only one required a shunt placement. There have been no fetal or maternal mortalities. Moving forward, we will be collecting data to describe motor function at 12 and 30 months, as well as long-term bowel and bladder function.

With a mission to broaden access to advanced treatment options that suspend disease progression and enhance the lives of patients, we move forward as our predecessors have: carefully, deliberately and always striving for excellence. Undeniably, our success with fMMC would not be possible without the support from our colleagues and incredible team collaboration. •

FOR ADDITIONAL INFORMATION on this topic, see references below, please visit mcw.edu/surgery, or contact Dr. Wagner, 414-266-6558, awagner@chw.org.

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Treatment of Hidradenitis Suppurativa



JEREMY S. JUERN, MD

Associate Professor, Trauma, Critical Care, and Acute Care Surgery

It was 2010 when MCW plastic surgeon Dr. David Larson retired. He had extensive experience with the surgical management of Hidradenitis Suppurativa (HS). After he retired, the remaining plastic surgeons could not meet the demands of the HS patients and the general surgeons were becoming increasingly involved. The faculty of the Division of Trauma and Critical Care Surgery agreed to help with this group of challenging patients. There is no question that HS is a frustrating disease, and these surgeons began to explore the literature and evaluate the role of surgery in the care of these patients. Most importantly, we collaborated with Dr. Barb Wilson in the Department of Dermatology to understand the best way we could work together to optimize their outcomes.

We decided on the following strategy:

1. Take a careful history:

Are the lesions draining? How many times has the patient had surgery in his/her life for HS lesions? When and where? Has he/she ever required drainage? What was the outcome? Does he/she smoke? Do periods/oral contraceptives/pregnancy make HS better/worse? Has he/she ever seen a dermatologist for this? What regimens has he/she been on in the past? What helped/didn't help?

2. Examine the patient and grade the lesions using the Hurley Staging system.

Stage I: Abscess formation (single or multiple) without sinus tracts and scarring

Stage II: Recurrent abscesses with sinus tracts and scarring

Stage III: Diffuse or almost diffuse involvement, or multiple interconnected sinus tracts and abscesses across the entire area

Note: If there is perianal HS, (Crohn's disease), workup and treat appropriately.

3. Counsel the patient:

The most important thing is that a patient who is smoking must stop immediately. Other advice includes weight loss, avoid wearing tight clothing (cotton undergarments may be preferable to other types), use a clear deodorant (roll-on, not the chalky type that can clog pores), and wash affected areas with chlorhexidine

(Hibiclens) daily. The most important thing to tell the patient is that there is not one guaranteed, reliable treatment or cure for this problem.

4. Acknowledge that some treatments have little or no value.

Simple incision and drainage in the clinic or the emergency room is of little to no value, as there is usually nothing to "drain".

Culturing the drainage is not very useful because 50% are sterile.

Also, unroofing and curetting has a high rate of failure.

5. Formulate a treatment plan.

A. Basic topical and oral antibiotic treatments (grade of evidence):

1. Topical: Clindamycin lotion 1% apply to affected area BID (B)
2. Oral antibiotics: Clindamycin 300mg BID + Rifampin 300mg BID x 10 weeks (B)

B. Dermatology-specific treatments:

1. Intralesional injection of corticosteroid (triamcinolone (Kenalog) 5-10mg/ml; inject 0.1-0.5 ml per lesion with 27ga needle) (C)
2. TNF-alpha inhibitors: Infliximab (Remicade) or adalimumab (Humira) (A)
[Note that Humira is FDA approved for treatment of HS]
3. Hormonal therapy/antiandrogen (OCPs, finasteride, spironolactone) (B)

C. Surgical Excision

Principles of surgical excision are to excise down to soft, healthy tissue, ensuring that all HS tracts are excised. How are the resulting wounds dealt with? There are three options used by our team: primary closure, healing by secondary intention and split-thickness skin grafting (STSG). Anecdotally, healing by secondary intention seems to work the best, even for large defects. The patient must be counseled, knowing that after surgery they will have a draining wound for the next several weeks. Also, patients can still have recurrence of HS in and near areas of excision.

and the Role of the Surgeon

Summary of Treatment Plan by Hurley Staging:

Stage I: Topical clindamycin or oral clindamycin and rifampin for 10 weeks, ensure they have seen dermatology

Stage II: Oral clindamycin and rifampin for 10 weeks, ensure they have seen dermatology, surgical excision

Stage III: Ensure that dermatology has nothing else to offer, surgical excision

Using a systematic method, along with close collaboration with the best dermatology treatments, we hope to bring better care to these patients with this challenging clinical problem. •

FOR ADDITIONAL INFORMATION on this topic, see references, please visit mcw.edu/surgery, or contact Dr. Juern, 414-805-9420, jjuern@mcw.edu.

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Welcome

DEPARTMENT OF SURGERY CHIEF RESIDENTS 2016–2017



Elliot Asare, MD, MS



Munyaradzi Chimukangara, MD



Anahita Dua, MD, MS, MBA



Jason Glenn, MD



Sarah Greenberg, MD, MPH



Hani Hasan, MD



Lisa McElroy, MD, MS



John Miura, MD



Rachel Morris, MD

Ethics



MARSHALL A. BECKMAN, MD, MA
Associate Professor, Trauma, Critical Care, and Acute Care Surgery

Recently, the Ethics committee at Froedtert Hospital reviewed the Do Not Resuscitate (DNR) policy (CPM.0063). It is a policy with an origination date of February 11, 1988. This recent review was significant, as it more clearly delineated the obligations of the treating surgical team on the DNR status of the patient while he or she is brought to the operating room. This has been a topic that has been discussed more frequently in recent years. It seemed that most surgeons and anesthesiologists assumed that the patient's DNR order would be suspended while they were in the operating room due to the assumption that the patient was being "resuscitated" while they were in the operating room under anesthesia. The revised policy dictates

that "the licensed physician or NPP should establish plans for the response to a cardiopulmonary arrest, in the event arrest should occur during the therapeutic or diagnostic procedure."

The idea of palliative surgery has recently been gaining recognition on a local and national level. In light of that, more and more patients who have DNR status are likely going to have operations. These patients may have a bowel obstruction due to malignancy or severe pain that could be treated with surgical intervention. A policy like the one listed above addresses the need for patients to continue to have autonomy in their health care decisions. A policy that mandates continued enforcement of DNR or cancels a DNR status in every case decreases patient autonomy.

The Froedtert Policy listed incorporates the concept of "required reconsideration" of existing DNR orders. This was first described by Cohen and Cohen in 1992. This should occur as early as practical after the decision to consider surgery is made. It is important to have all members of the operative team present, including surgeon, anesthesiologist and nursing staff. This allows all of the team members to understand the patient's wishes. It also allows each team member to ask questions and confirm the wishes of the patient. Once this is

achieved, the process does not end there. The policy states that there must be documentation of the consent form that describes the patient's wishes. If there is a member of the team that is uncomfortable with the plan for ethical reasons, then an alternate team member will be found to replace them.

Surgeons have long assumed the role of the "captain" in the care for their patients. It has been said that patients come to the hospital to have surgery, not to have an anesthetic. As such, surgeons have the responsibility to explain the risks, benefits and alternatives (along with the risks and benefits of each alternative) of a particular operation to the patient. When a patient has a DNR order in place and is being

considered for surgery, it is best to have a conversation with the patient and/or their surrogate decision maker(s) to ascertain the patients goals, the new operative and perioperative risks related to the

procedure, and, most importantly, whether a patient would want aggressive life-saving measures while under anesthesia. Despite their DNR status, surgery could be helpful for these patients to alleviate pain or for other palliative intentions. During the anesthetic, correctable risks of cardiopulmonary compromise may be encountered.

Therapeutic interventions used during resuscitation such as intubation, ventilation and drug administration are routinely used during normal anesthesia management. It is important to be up front with the patient about this so that they can make an informed choice about their care. Given some of the possible scenarios in the DNR patient, that may be the most important thing we have to offer. •

"When a patient has a DNR order in place and is being considered for surgery, it is best to have a conversation with the patient and/or their surrogate decision maker(s) to ascertain the patients goals, the new operative and perioperative risks related to the procedure, and, most importantly, whether a patient would want aggressive life-saving measures while under anesthesia."

FOR ADDITIONAL INFORMATION on this topic, please visit mcw.edu/surgery, or contact Dr. Beckman, 414-805-9420, mbeckman@mcw.edu.

Jack H. Stein Memorial Research Fund

by Meg M. Bilicki, Director of Development for the Department of Surgery

In 2013, Joan Stein established the Jack H. Stein Memorial Research Fund to accelerate progress against bile duct cancer. The fund supports medical research to find better ways to prevent and treat bile duct cancer.

Several factors led Joan Stein to MCW. First, her husband became ill with bile duct cancer, and she became familiar with Froedtert Hospital throughout his treatment process. She was grateful for the care he received, the attention of the staff and the overall quality of the experience. Jack died in 2010.

Joan continued to build a relationship with the Medical College of Wisconsin. She became close friends with Dr. T. Clark Gamblin, and his wife, Holly. Then, her longtime friendship with Arlene Lee, a strong advocate for the Cancer Center, steered her toward the MCW Cancer Center Board.

It was a return to a connection with MCW that was established decades earlier. In the 1990's, she and Jack supported pioneering research in bone marrow transplantation at MCW led by the late Mortimer Bortin, MD, a personal friend. Now, through her involvement with the Cancer Center Board, she has been able to see how far MCW has come as a leader in cancer research and how that translates to outstanding patient care.

Bile duct cancer is considered rare, as only about 2,000 to 3,000 people in the United States develop the disease annually. Worldwide, it is the second most common primary liver cancer. It is often diagnosed at later, more advanced stages because most people display few, if any, recognizable symptoms at early stages. This rare malignancy calls for a strong multidisciplinary approach to treatment.

"Bile duct cancer is a devastating disease," stated Mrs. Stein. "Clearly there is a great need for ongoing research to find the causes of this disease and develop more effective treatments. It is my hope to find a cure, and in the meantime improve the quality of life for those affected by bile duct cancer."

The Division of Surgical Oncology maintains an active research mission and longstanding commitment to improving the treatment of bile duct cancer, with a goal of developing more effective, targeted therapies. Faculty members are engaged in clinical and translational research, focused on improving outcomes for patients and families. Philanthropy, like the contributions from Mrs. Stein, play an essential role in research conducted by the Division of Surgical Oncology. In the last year, the fund has yielded multiple national presentations and publications focused on investigative research in bile duct cancer.

"The Jack H. Stein Memorial Research Fund is advancing our understanding of bile duct cancer and developing new techniques to diagnose and treat this challenging disease," said Dr. Gamblin.

If you are interested in accelerating progress against bile duct cancer, please consider making a gift to support the Jack H. Stein Memorial Research Fund. For more information, contact Meg Bilicki at (414) 805-5731 or mbilicki@mcw.edu.



Joan and Jack Stein

To refer a patient or request a transfer/consultation, please use the references below:

ADULT PATIENTS

All non-cancer requests

Referrals: 800-272-3666

Transfers/Consultations:
877-804-4700

mcw.edu/surgery

Clinical Cancer Center

Referrals: 866-680-0505

Transfers/Consultations:
877-804-4700

PEDIATRIC PATIENTS

Referrals/Transfers/

Consultations: 800-266-0366

Acute Care Surgery:
414-266-7858

New Faculty

CONGENITAL HEART SURGERY



Viktor Hraska, MD, PhD
Professor and Chief
CONGENITAL HEART
SURGERY

Viktor Hraska, MD, PhD, has been appointed Professor, Department of Surgery and Chief of Congenital Heart Surgery. He is Medical Director for Cardiothoracic Surgery at Children's Hospital of Wisconsin and recipient of the Bert Litwin Chair of Cardiothoracic Surgery at CHW. He also serves as Surgical Director of the Herma Heart Center. Dr. Hraska joined MCW from the German Pediatric Heart Center in Sankt Augustin, Germany. He trained in Czechoslovakia, Slovakia and Germany, and at Boston Children's Hospital – completing residencies in anesthesia, cardiology, surgery and vascular surgery, and fellowships in cardiac surgery and pediatric cardiac surgery. Dr. Hraska is an internationally renowned congenital heart surgeon who has focused on quality and outcomes as well as innovation and discovery – an amazing track record of accomplishments in congenital heart surgery.

GENERAL SURGERY



Rana M. Higgins, MD
Assistant Professor
GENERAL SURGERY

Rana M. Higgins, MD, joins the MCW faculty as an Assistant Professor in the Division of Minimally Invasive and Bariatric Surgery. She earned her medical degree at Loyola University Chicago, Stritch School of Medicine and completed general surgery residency training at Rush University Medical Center. In June 2016, she completed a Minimally Invasive and Bariatric Surgery fellowship in our department at the Medical College of Wisconsin. Her practice covers a range of hernia and foregut surgery, focusing on minimally invasive techniques, as well as bariatric surgery. Her research interests include clinical outcomes and surgical education.

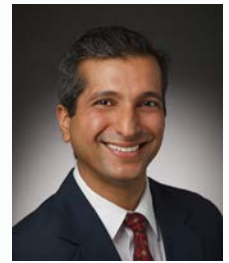


Andrew S. Resnick, MD, MBA
Chief Medical Officer
for MCP and FH;
Associate Dean for
Clinical Affairs;
Associate Professor
GENERAL SURGERY

Andrew S. Resnick, MD, MBA, has been named Chief Medical Officer of Froedtert Hospital and Associate Dean for Clinical Affairs-Adult Practice at MCW. Dr. Resnick holds a faculty appointment as Associate Professor in the Department of Surgery, Division of General Surgery. He joins MCW from Penn State Milton S. Hershey Medical Center, where he most recently served as Chief Quality Officer and Associate Professor of Surgery. He earned his medical degree from Yale University School of Medicine and completed general surgery residency training at the Hospital of the University of Pennsylvania. Dr. Resnick earned his MBA at the Wharton School of the University of Pennsylvania. His clinical practice will focus on general and minimally invasive surgery. Dr. Resnick brings a wealth of experience to his leadership positions at Froedtert Hospital, MCW, and our Department of Surgery.

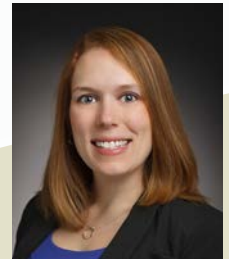
SURGICAL ONCOLOGY

Harveshp Mogal, MD, joins us from Wake Forest University School of Medicine in North Carolina, where he completed a complex general surgical oncology fellowship. He attended medical school at the University of Mumbai in India and completed general surgery residency training at St. Louis University in Missouri. He was recruited for his experience in CRS/HIPEC and will lead our regional therapies program. Dr. Mogal's clinical practice will also include treating patients with general GI tumors, sarcoma and melanoma. His research will include studying the outcomes of patients who undergo surgical therapy for GI cancers, liver tumors, melanoma and sarcoma, with special focus on CRS/HIPEC and other regional therapies.



Harveshp Mogal, MD
Assistant Professor
SURGICAL ONCOLOGY

Caitlin R. Patten, MD, returns to MCW after completing a breast oncology fellowship at Carolinas Medical Center in Charlotte. She earned her medical degree at the Medical College of Wisconsin and also completed general surgery residency in our department. Dr. Patten will be practicing on the main campus in addition to building a practice at the future Oak Creek multispecialty clinic. Dr. Patten brings a contemporary multidisciplinary approach to the patient with breast cancer and will join our rapidly expanding program in breast oncology.



Caitlin R. Patten, MD
Assistant Professor
SURGICAL ONCOLOGY

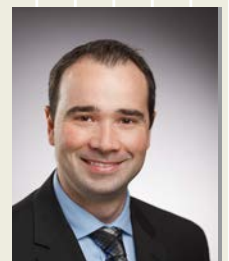
Callisia N. Clarke, MD, joins us from The University of Texas M. D. Anderson Cancer Center, where she completed a fellowship in Complex General Surgical Oncology. She received her medical degree and also completed general surgical training at the University of Cincinnati College of Medicine in Ohio. Dr. Clarke will provide expertise for advanced tumors of the upper gastrointestinal tract, sarcomas and melanomas. She will also work collaboratively with our regional therapy team as we continue to expand this program. Her research interests are centered on personalized cancer care and targeted approaches in oncology to include molecular-based therapeutics.



Callisia N. Clarke, MD
Assistant Professor
SURGICAL ONCOLOGY

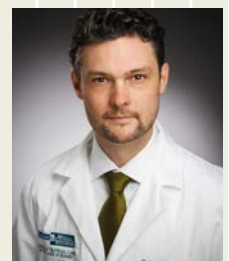
TRAUMA, CRITICAL CARE AND ACUTE CARE SURGERY

Jacob R. Peschman, MD, returns to MCW after completing a surgical critical care fellowship at the Mayo Clinic in Rochester. He earned his medical degree at the Medical College of Wisconsin and also completed general surgery residency in our department. Dr. Peschman will be a great addition to our world-class faculty focused on resident and medical student education while also being a busy clinical surgeon.



Jacob R. Peschman, MD
Assistant Professor
TRAUMA/CC/ACS

Christopher S. Davis, MD, MPH, joins us from Northwestern University Feinberg School of Medicine in Chicago. He earned his medical degree at the University of Cincinnati College of Medicine and completed general surgery residency training at Loyola University Chicago and Northwestern. He completed a T32 Research Fellowship at the Burn and Shock Trauma Institute at Loyola while also completing his MPH degree. Dr. Davis then received his surgery critical care certificate at Northwestern prior to finishing his residency. Dr. Davis will continue his research interests in the inflammatory response to injury as he joins the very busy practice of Trauma, Critical Care and Acute Care Surgery.



Christopher S. Davis, MD, MPH
Assistant Professor
TRAUMA/CC/ACS

CONTINUED ON PAGE 16

New Faculty, continued

PEDIATRIC SURGERY



Sabina M. Siddiqui, MD
Assistant Professor
PEDIATRIC SURGERY

Sabina M. Siddiqui, MD, joins us from the University of Michigan in Ann Arbor where she completed pediatric surgery and surgical critical care fellowships. She earned her medical degree and completed general surgery residency training at the University of Tennessee College of Medicine. In addition to practicing general and thoracic pediatric surgery at Children's Hospital of Wisconsin, Dr. Siddiqui will help oversee the pediatric surgery critical care and ECMO programs. Dr. Siddiqui's passions include global surgery and medical device development. She plans to further develop partnerships with surgeons in China and Middle Eastern countries for pediatric surgery. While at Michigan, she completed a Medical Innovation Fellowship and patented a medical device she helped develop to assist with pediatric airway intubation in the prehospital setting. She hopes to continue to explore development of new medical technologies as a member of MCW.

TRANSPLANT SURGERY



Calvin M. Ericksen, MD
Assistant Professor
TRANSPLANT SURGERY

Calvin M. Ericksen, MD, joins us from UCLA where he recently completed his fellowship in multi-organ transplantation and hepatobiliary surgery. He earned his medical degree from Tulane University School of Medicine and his surgical residency was completed at the University of Rochester in New York. Dr. Ericksen will be involved in the liver, kidney, and pancreas transplantation program at Froedtert Hospital and Children's Hospital of Wisconsin.



Terra Pearson, MD
Assistant Professor
TRANSPLANT SURGERY

Terra Pearson, MD, joins the MCW faculty from the University of Washington Medical Center in Seattle where she completed an abdominal transplant fellowship. She earned her medical degree at Indiana University School of Medicine and completed general surgery residency and a surgical critical care fellowship at Wayne State University - Detroit Medical Center. Dr. Pearson is Board certified in both General Surgery and Surgical Critical Care. Dr. Pearson will work in the liver, kidney, and pancreas transplantation program at Froedtert Hospital and Children's Hospital of Wisconsin. She also will manage patients in the Transplant Intensive Care Unit (TICU).



Jenessa S. Price, PhD
Assistant Professor
TRANSPLANT SURGERY

Jenessa S. Price, PhD, Transplant Psychologist, joins us from McLean Hospital-Harvard Medical School where she completed a clinical fellowship and research fellowship in psychiatry. She received a Master of Arts in psychology and a Doctor of Philosophy in clinical psychology from the University of Cincinnati and completed a teaching fellowship in psychiatry at Boston University School of Medicine. Dr. Price will be seeing patients as a member of our Transplantation Mental Health Team.

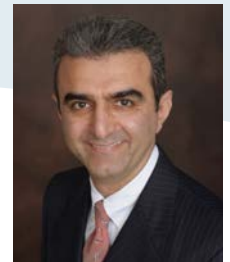
Sujit V. Sakpal, MD, joins us from the University of Wisconsin School of Medicine and Public Health where he most recently completed a fellowship in surgical critical care. He earned his medical degree from St. George's University, Grenada, West Indies. He completed general surgery residency training at New York Hospital, followed by an abdominal organ transplant surgery fellowship at Northwestern University's Comprehensive Multi-Organ Adult and Pediatric Transplant Center in Chicago. Dr. Sakpal will be involved with the liver, kidney, and pancreas transplantation program at Froedtert Hospital and Children's Hospital of Wisconsin. He also will manage patients in the Transplant Intensive Care Unit (TICU).



Sujit V. Sakpal, MD
Assistant Professor
TRANSPLANT SURGERY

VASCULAR SURGERY

Shahriar Alizadegan, MD, joins the MCW faculty after completing the Vascular and Interventional Radiology fellowship program in our Division of Vascular Surgery in June 2016. He earned his medical degree from Tabriz University of Medical Sciences in Iran and general surgery residency training was at the University of Illinois, Chicago. Dr. Alizadegan will join our program in Vascular Surgery which provides comprehensive surgical treatment for the broad scope of arterial and venous pathology. He will see patients in Fond du Lac, Wisconsin.



Shahriar Alizadegan, MD
Assistant Professor
VASCULAR SURGERY

Max V. Wohlauer, MD, joins us from the Cleveland Clinic where he recently completed a fellowship in vascular surgery. He graduated from Albany Medical College in New York. He completed his internship in surgery at the University of Washington in Seattle and surgical residency at the University of Colorado in Denver. During his time in Colorado, Dr. Wohlauer completed a two-year trauma research fellowship with Dr. Ernest Moore. Dr. Wohlauer will see patients at Froedtert Hospital, the VA, and the FORME Vein Center. His research interests include atherosclerosis biology, coagulation, and thrombosis.



Max V. Wohlauer, MD
Assistant Professor
VASCULAR SURGERY

Please Join Us

RECEPTION AT American College of Surgeons Clinical Congress

OCTOBER 17, 2016 | 6-8 P.M. | WASHINGTON, D.C.

Plan to join us on Monday, October 17, 2016 at the MCW Department of Surgery / Marquette Medical Alumni Association reception during the American College of Surgeons 102nd Annual Clinical Congress.

The reception will be held from 6:00 to 8:00 p.m. at the University Club of Washington, D.C., 1135 Sixteenth Street NW, in the Governors Room.

Leading the Way

2016 Eberbach Award Winners



Christopher Johnson, MD

The annual Eberbach Banquet was held on June 18 to honor Department of Surgery graduating residents and recognize outstanding faculty and resident educators.

During the ceremony, the ***Aprahamian Faculty Teaching Awards***, established in 1986, were presented by the graduating chief residents in recognition of two exceptional faculty teachers (one from the full-time academic faculty and one from an affiliated institution). The first of this year's winners was **Christopher Johnson, MD**, Associate Professor in the Division of Transplant Surgery. The second award recipient was **Steven Kappes, MD**, Site Director at Aurora-Grafton Hospital.



Steven Kappes, MD



John Aiken, MD

John Aiken, MD, Professor in the Division of Pediatric Surgery, received the ***Golden Cane Award***. Established in 1987, the Golden Cane Award recognizes an exceptional educator, as chosen by junior and senior medical students. **John Weigelt, MD, DVM**, Professor and Chief, Division of Trauma/CC/ACS, was selected by current surgery residents as the recipient of this year's ***Professionalism Award***. This award, established in 2005, is presented to the faculty member who best exemplifies extraordinary professionalism.

Congratulations and thank you to these talented educators for their dedication and contributions to the training of our medical students and residents.



John Weigelt, MD, DVM

2016 Jessica S. Lin Award for Clinical Excellence by a Resident Physician



Sarah Greenberg, MD, MPH

Department of Surgery resident **Sarah Greenberg, MD, MPH**, has been named the recipient of the ***2016 Jessica S. Lin Award for Clinical Excellence by a Resident Physician***. This award recognizes an individual entering the final year of residency who has contributed to the outstanding care of patients during training. Dr. Greenberg was chosen based on her exceptional performance as a clinician, impressive record of scholarly activity, and leadership activities in the field of global surgery. The award was presented at the MCWAH Chief Resident Leadership Symposium held on June 1, 2016.

This award was established in 2010 in memory of Dr. Jessica Lin, who was a highly regarded Neurosurgery resident at MCW until her accidental death.

Bariatric and Minimally Invasive Surgery

Matthew I. Goldblatt, MD
Jon C. Gould, MD
Rana M. Higgins, MD
Andrew S. Kastenmeier, MD
Tammy L. Kindel, MD, PhD

Breast Surgery

Amanda L. Kong, MD, MS
Miraj Shah-Khan, MD*
Caitlin R. Patten, MD*
Alonzo P. Walker, MD
Tina W.F. Yen, MD, MS

Cardiac Surgery

G. Hossein Almassi, MD
R. Eric Lilly, MD*
Viktor Hraska, MD, PhD
Michael E. Mitchell, MD
Charan Mungara, MD
Chris K. Rokkas, MD
Ronald K. Woods, MD, PhD

Colorectal Surgery

Kirk A. Ludwig, MD*
Mary F. Otterson, MD, MS
Carrie Y. Peterson, MD
Timothy J. Ridolfi, MD

Endocrine Surgery

Azadeh A. Carr, MD*
Douglas B. Evans, MD*
Tracy S. Wang, MD, MPH*
Stuart D. Wilson, MD
Tina W.F. Yen, MD, MS

General Surgery

Marshall A. Beckman, MD, MA*
Kathleen K. Christians, MD
Panna Codner, MD
Christopher S. Davis, MD, MPH
Christopher Dodgion, MD, MSPH, MBA
Matthew I. Goldblatt, MD
Jon C. Gould, MD

General Surgery, cont.

Rana M. Higgins, MD
Jeremy S. Juern, MD
Andrew S. Kastenmeier, MD
Tammy L. Kindel, MD, PhD
Dean E. Klinger, MD*
Todd A. Neideen, MD
Jacob R. Peschman, MD
Andrew S. Resnick, MD, MBA
Philip N. Redlich, MD, PhD
Lewis B. Somberg, MD*
Gordon L. Telford, MD
Travis P. Webb, MD, MHPE
John A. Weigelt, MD, DVM, MMA

Pediatric General and Thoracic Surgery

John J. Aiken, MD*
Marjorie Arca, MD*
Casey M. Calkins, MD*
John C. Densmore, MD*
David M. Gourlay, MD*
Tammy L. Kindel, MD, PhD
Dave R. Lal, MD, MPH*
Keith T. Oldham, MD*
Thomas T. Sato, MD*
Sabina M. Siddiqui, MD
Amy J. Wagner, MD*

Research Faculty

John E. Baker, PhD
Laura D. Cassidy, PhD, MS
Charles E. Edmiston, Jr., MS, PhD, CIC
Mats Hidestrand, PhD
Michael A. James, PhD
Muthusamy Kunnimalaiyaan, PhD
Qing Miao, PhD
Aoy T. Mitchell, PhD
Kirkwood Pritchard, Jr., PhD
Parvaneh Rafiee, PhD
Mary Shimoyama, PhD
Toku Takahashi, MD, PhD
Hao Zhang, PhD

Surgical Oncology

Azadeh A. Carr, MD*
Kathleen K. Christians, MD
Callisia N. Clarke, MD
Douglas B. Evans, MD*
T. Clark Gamblin, MD, MS, MBA
Johnny C. Hong, MD
Amanda L. Kong, MD, MS
Harveshp Mogal, MD
Caitlin R. Patten, MD*
Edward J. Quebbeman, MD, PhD
Miraj Shah-Khan, MD*
Susan Tsai, MD, MHS
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Tina W.F. Yen, MD, MS

Thoracic Surgery

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David W. Johnstone, MD*

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Johnny C. Hong, MD
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Panna A. Codner, MD
Christopher S. Davis, MD, MPH
Terri A. deRoos-Cassini, PhD
Christopher M. Dodgion, MD, MSPH, MBA

Trauma/CC/ACS, cont.

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Jacob R. Peschman, MD
Lewis B. Somberg, MD*
Travis P. Webb, MD, MHPE
John A. Weigelt, MD, DVM, MMA

Vascular Surgery

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Anahita Dua, MD, MS, MBA
Jason Glenn, MD
Sarah Greenberg, MD, MPH
Hani Hasan, MD
Lisa McElroy, MD, MS
John Miura, MD
Rachel Morris, MD

* Also participates in Community Surgery/Off-campus locations.



Department of Surgery
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Milwaukee, WI 53226

Upcoming Events

MARK YOUR CALENDARS

September 27–28: Steven Libutti, MD – 30th Annual C. Morrison Schroeder Visiting Professor

October 5–6: A. Joseph Tector, III, MD, PhD – 1st Annual Mark B. Adams Visiting Professor / Solid Organ Transplantation Symposium – Medical College of Wisconsin

October 20: Vascular Access Symposium – Medical College of Wisconsin

October 28: Surgical Site Infection Summit – Kalahari, Wisconsin Dells

November 11: North American Neuroendocrine Tumor Society (NANETS) Symposium – Milwaukee Marriott Downtown

December 3: Debates and Controversies in GERD, Esophageal Motility, and Obesity Management – Medical College of Wisconsin (Green Bay Campus)

January 27, 2017: Pancreatic Cancer Symposium – Location TBD

Please contact Heidi for more details.

NEW FEATURE: *We now offer ABMS MOC Part 2 Self-Assessment credit for our Grand Rounds Lectures. Scan the QR code to proceed.*



Please contact Heidi Brittnacher (hbrittna@mcw.edu) for more information on any of these events.

Department of Surgery
*Dedicated to Clinical Care,
Research and Education*

- Cardiothoracic Surgery
- Colorectal Surgery
- Community Surgery
- Surgical Education
- General Surgery
- Pediatric Surgery
- Surgical Oncology
- Transplant Surgery
- Trauma/CC/ACS
- Vascular Surgery

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