

LEADING THE WAY

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DEPARTMENT OF SURGERY



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From the Chair | Douglas B. Evans, MD

Right to Try

This week, the “Right to Try” legislation was signed into law. This will (theoretically) allow patients access to medications which have passed phase I testing; similar to the “Compassionate Use Program” which is already in existence. However, there is no mandate for companies to release such drugs and there is no federal system to pay for them. Even if there was, the impact on patients would be modest as only a very small percentage of drugs which emerge from phase I testing are proven efficacious in phase II and ultimately, in phase III trials. Most importantly, such legislation would be unnecessary if clinical trials could be performed more quickly. At present, many academic institutions make it too difficult to perform such clinical trials. Although the reason for this is often assumed to be risk aversion – patient toxicity could lead to litigation – the main reason is simply a lack of commitment to the patient of tomorrow. Few institutional leaders and unfortunately, too few physicians, embrace their responsibility to the patient of tomorrow. This is perhaps due to the ever increasing pressure to provide currently available treatments at a reduced cost while maintaining the best possible outcomes. The needed balance in advocacy for both the patient of today (quality) and the patient of tomorrow (research, especially clinical trials) has been altered – while patients may deserve a “Right to Try,” a much better (and safer) way to achieve the intended outcome would be to empower the multidisciplinary disease site team with the “Right to Try”. Clinical trials should be required of all academic medical centers – there is an immediate need for more robust leadership support, enhanced financial commitments and a balanced view by Institutional Review Boards who often forget their commitment to the patient of tomorrow despite the lack of effective treatments (today) for many common diseases. The “Right to Try” bill has the correct intent – but we (physicians and health system leaders) are the ones who could get this job done by all taking responsibility for the conduct of clinical trials. •



Leading the Way for the Department of Surgery: Our 2017–2018 Chief Residents: Drs. Daniel Davila, William Ragalie, Joseph Helm III, Fadwa Ali, and Tanner Spees. Photographed with the Flight for Life helicopter atop Froedtert Hospital.

FELLOWS (and their upcoming staff positions):

Endocrine Surgery

Ioanna Mazotas, MD
Endocrine Surgeon
Mission Hospital
Asheville, North Carolina

Hepatopancreatobiliary Surgery

Mariana Chavez, MD
Assistant Professor of General and HPB Surgery
Vanderbilt University/Williamson Medical Center
Nashville, Tennessee

Minimally Invasive Surgery

Cynthia Weber, MD
TBD

Pediatric Critical Care

Jose Salazar, MD
Medical College of Wisconsin
Pediatric Surgery Research Fellowship

Pediatric Surgery

Veronica Sullins, MD
TBD

Surgical Critical Care

Charles Fehring, MD
Medical College of Wisconsin
General Surgery Resident

Andrew Kamien, MD

Medical College of Wisconsin
Trauma Surgery

Vascular Surgery

Abby Rothstein, MD
Assistant Professor of Surgery Division of Vascular Surgery
Medical College of Wisconsin at Community Memorial
Hospital, Menomonee Falls, Wisconsin

CHIEF RESIDENTS (and their future plans):

Fadwa Ali, MD

Oregon Health and Science
University
Portland, Oregon
Colon and Rectal Surgery
Fellowship

Daniel Davila, MD

Emory University
Atlanta, Georgia
Minimally Invasive
General Surgery Fellowship

Joseph Helm III, MD

Island Surgical Center
Guam Regional Medical Center
Tamuning, Guam

William Ragalie, MD

University of California,
Los Angeles
Los Angeles, California
Thoracic Surgery Fellowship

Tanner Spees, MD

University of New Mexico
Albuquerque, New Mexico
Surgical Critical Care Fellowship

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MCW Surgery
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Magnetic Sphincter Augmentation with the LINX[®] Reflux



KATHLEEN L. LAK, MD
Assistant Professor
Division of General Surgery



JON C. GOULD, MD
Professor and Chief
Division of General Surgery
Alonzo P. Walker Chair

Gastroesophageal reflux disease (GERD) is the most common gastrointestinal disease in the United States, with a prevalence of 20-40%. Of those with GERD who take daily acid suppression medications, up to 40% report unsatisfactory symptom control.^{1,2} The result is a public health cost of treatment of over \$10 billion per year, with indirect costs of \$75 billion per year.² GERD is a spectrum of disease that presents with classic symptoms such as heartburn or regurgitation, extra-esophageal symptoms like cough, end organ damage including esophagitis, strictures, Barrett's esophagitis and adenocarcinoma.

Medical management of GERD includes acid reducing medications, most commonly proton pump inhibitors (PPIs). PPI therapy has been associated with adverse events such as *Clostridium difficile* infection, osteoporosis and pathologic bone fractures, dementia, renal insufficiency, myocardial infarction, and B12 deficiency.³ Some patients experience gastrointestinal or other side effects. Medical therapy is costly, indefinite (unless surgery is performed), and often not completely effective. Surgical management of GERD is indicated in patients with symptoms refractory to medical therapy, dissatisfied with medical management, those who exhibit extra-esophageal manifestations of GERD or complications of GERD, and in those who wish to stop taking acid suppression medications out of concern for cost or side-effects.⁴ The most common surgical treatment for GERD has traditionally been a fundoplication. The Nissen fundoplication is an excellent operation, when performed correctly and for the right indication. Unfortunately, some patients may experience side effects,

including gas bloating and difficulty belching. Horror stories of 'Nissens gone bad' are prevalent on the internet. Unfortunately, the Nissen has a bad 'wrap'; many gastroenterologists are reluctant to refer and patients are hesitant to undergo these procedures.

The LINX[®] Reflux Management System (Torax Medical, Inc, Shoreview, MN, USA) is an alternative to fundoplication for patients with medically refractory GERD. Consisting of an expandable ring of neodymium iron bore magnetic core beads with a biocompatible titanium exterior, the LINX device can be placed laparoscopically at the gastroesophageal junction to augment the pressure of the lower esophageal sphincter (LES) in GERD patients.⁵

Procedure

Device placement is an outpatient laparoscopic procedure. The amount of dissection and reconstruction required is less than a fundoplication. The technique is easy to standardize and reproducible from case-to-case and surgeon-to-surgeon. There are several device sizes to choose from, with the optimal size being a device that does not compress the esophagus at the gastroesophageal junction at rest. The procedure generally takes less than an hour to perform. Patients are free to return to full activity immediately, and a general diet is initiated on post-operative day number one.

Indications and Contraindications

The LINX device is indicated for use in patients diagnosed with GERD who have symptoms related to this diagnosis that persist despite medical therapy. The LINX device is contraindicated for use in patients with known or suspected allergies to nickel, stainless steel, titanium or ferrous materials. The safety and efficacy of the device has not been evaluated in patients with a body mass index > 35 kg/m², Barrett's esophagus, those with grade C or D (LA classification) esophagitis, or in patients with significant esophageal motility disorders.⁵ The current generation of the LINX device is compatible with an MRI up to 1.5 Tesla.

Outcomes

In the feasibility trial that was part of the pre-market approval process, pH studies normalized in 80% of patients at 3-year follow-up.⁶ A five-year follow-up assessment of 100 patients in the pivotal FDA trial revealed that over the follow-up period, no device erosions, migrations, or malfunctions occurred.⁷ GERD Health Related Quality of Life significantly improved, and this improvement was sustained over all five years. All patients were on a PPI prior to surgery, and at five years only 15% of patients took these



Figure 1. The LINX device is a ring of interlinked titanium beads with magnetic cores which is sized in the operating room to fit each individual patient.

Management System

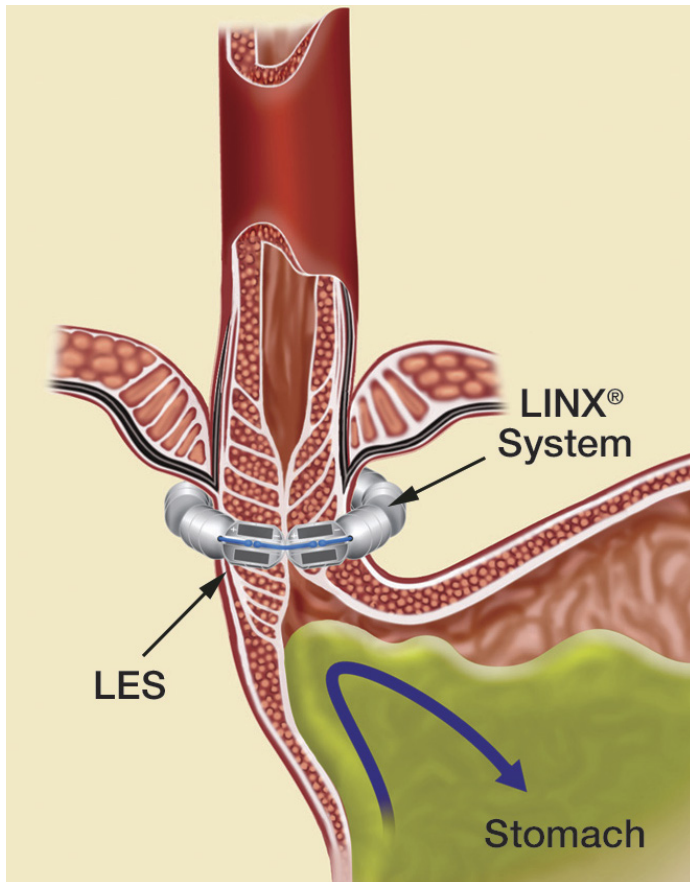


Figure 2. The LINX Reflux Management System augments the lower esophageal sphincter (LES) to prevent flux from the stomach into the esophagus.

medications. Moderate or severe regurgitation was present in 57% prior to surgery and 1% at five years. All patients reported the ability to belch and vomit if needed. Bothersome dysphagia was present in 5% at baseline and in 6% at five years. Bothersome gas-bloat was present in 52% at baseline and decreased to 8.3% at this time. Well over 10,000 devices have been placed worldwide at present. The magnetic sphincter augmentation device was recently awarded a Category I CPT (Current Procedural Terminology) code, which became active in January of 2017. By definition, to be awarded a Category I CPT code a procedure must be commonly performed by many physicians, consistent with current medical practice, and have documented clinical efficacy with peer-reviewed publications in the literature to support the above. The Society of American Gastrointestinal and Endoscopic Surgeons recently endorsed the LINX procedure as a “reasonable treatment option for appropriately selected patients with GERD who meet indications for antireflux surgery.”⁵

Conclusions

Augmentation of the lower esophageal sphincter with a magnetic sphincter augmentation device has been demonstrated to provide

significant and sustained control of reflux, with a favorable side effect profile and a low risk for complications. Long-term data is emerging to rival what we know about the Nissen fundoplication. When compared to a fundoplication, difficulty belching and bloating are less common, although dysphagia may be more common. The LINX Magnetic Sphincter Augmentation device is an excellent alternative to a fundoplication for many patients with medically refractory GERD, and should be part of any GERD surgeon’s treatment options for GERD patients. •

FOR ADDITIONAL INFORMATION on this topic, see references, visit mcw.edu/surgery, or contact Dr. Lak, 414-955-1770, klak@mcw.edu.

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Precision Medicine: The New Bench for the



RAUL URRUTIA, MD

Professor of Surgery and Biochemistry
Warren P. Knowles Endowed Chair of Genomics and Precision Medicine
Director, Genomic Sciences and Precision Medicine Center
Director, Development Therapeutics Program, Cancer Center
Chief-Scientific-Officer, Cancer Epigenetics Society (CES)

Precision Medicine is a clinical discipline that was born from basic science in genetics, as well as engineering. At last, it represents an actual marriage of basic science with clinical science; a translational science “par excellence”. Also referred to as “Personalized” or “Individualized”, Precision Medicine is a revolution in research, health care, and economics, for which its growth has accelerated at an unprecedented speed. In only a few years, Precision Medicine is changing the way diseases are diagnosed, treated, and cured. New concepts and methodologies of genomics, epigenomics, pharmacogenomics, and microbiome, high level bioinformatics and data analytics, along with portable and wearable biosensors and printables, when combined with meticulously documented clinical data, have the ability to help advance any scientific endeavor and medical practice in this field. More than ever, medical practitioners are poised to leverage the power of Precision Medicine to develop a successful and rewarding academic career.

This year, MCW launched the Genomic Sciences and Precision Medicine Center (GSPMC) and significantly invested in its growth and functional expansion. GSPMC is built on the roots of the former HMGC (Human Molecular Genetics Center), which in 2009, made significant contributions to science by applying genomics to basic science studies, using genetically manipulated rodents, and launched the era of genomic medicine by performing the first exome sequencing of clinical utility. However, since these initial efforts, the field of genomic medicine changed significantly and incorporated many new methodologies and analytics to give rise to Precision Medicine. Precision Medicine often involves the application of pan-omic analysis (not only genomics) and systems biology (the most advanced form of bioinformatics and data analytics) to analyze the cause of an individual patient’s disease at the molecular level

and then to utilize targeted diagnostics, prognosis, and therapeutics of high precision value to address that individual patient’s disease process. The transition from Genomics to Precision Medicine spans from early 2000 to 2015, when the White House announced the launch and funding of the Precision Medicine Initiative. In 2017, MCW leadership recruited Raul Urrutia, MD from the Center of Individualized Medicine at the Mayo Clinic, to head GSPMC. The renaming of the Center intentionally reflects not only the continuation of its support to the development and application of several new modalities of genomic sciences to basic and clinical research, but importantly, the expansion of its new critical role in fueling the era of Precision Medicine. Dr. Urrutia holds the position of Warren P. Knowles Professor of Genomics and Precision Medicine, as well as Professor of Surgery and Biochemistry. His primary appointment home is in our Department of Surgery, where he directs his laboratory focused on Pancreatic Cancer, the dedication of his entire research career. With the new design of GSPMC, Dr. Urrutia’s team seeks not only to advance education and basic research, but also reinforce the application of Precision Medicine disciplines to medical practice. Precision Medicine offers the opportunity to align clinical and translational research with the practice, making our efforts a continuum toward the improved wellness of patients and the community.

In the clinical practice, GSPMC is committed to working with health care providers to develop, optimize, and implement assays that aid in clinical decision-making. In the research arena, GSPMC is designed as the “new bench” for the academic medical researcher. For instance, GSPMC offers a comprehensive consultation service with highly skilled specialists in cell and molecular biology, advanced next generation sequencing methodologies, as well as bioinformatics and data analytics. With the help of this team, GSPMC helps investigators make decisions on the experimental design for clinical studies in the areas of cancer genomics,



Academic Surgeon

non-cancer adult genomics, epigenomics, microbiome, pharmacogenomics, and rare diseases. GSPMC also works directly with investigators to prepare figures for grants and publications. To promote education on these topics, GSPMC holds grand rounds, journal clubs, and courses. These considerations are important when a medical doctor considers developing an academic career in a time when technology is becoming more complex and the hours for bench research ever scarcer. An additional advantage of developing a career in Genomic Sciences and Precision Medicine is that the methodologies germane to this discipline allow us to directly interrogate human tissue derived from our own patient populations, enriching both our research and clinical experience at the same time. Thus, GSPMC is committed to promulgate and support translational and clinical research to advance the mission of the Department of Surgery, in a manner that is available to every single member of the Department, with no pre-requisites in knowledge. We strongly believe that working in collaboration with GSPMC, we have great opportunities to modernize our scientific training, as well as increase the number of manuscripts and grants, ultimately enhancing the academic stature of distinct individuals and our institution.

In summary, through collaborating with GSPMC, academic surgeons have better possibilities of developing federally funded academic careers. For this purpose, GSPMC offers free consultations for services with expert basic scientists and bioinformaticians, who can support our research efforts from nucleic acid extraction all the way through to fully processed bioinformatic modeling of the results. If you are interested in further discussions on how GSPMC can team with you on a project, please contact Mr. Joseph Camp at GSPMCBusinessOffice@mcw.edu for consultation services. •

FOR ADDITIONAL INFORMATION on this topic, visit mcw.edu/surgery, or contact Dr. Urrutia, 414-955-1860, rurrutia@mcw.edu.



Our Mission

The We Care Fund supports researchers and physicians who are creating cutting-edge therapies and clinical programs that benefit patients in Wisconsin and throughout the world. As one of the nation's top academic medical centers, the MCW Department of Surgery uses support from the We Care Fund to supply research dollars in the fields of cancer, cardiovascular disease, gastrointestinal diseases, diseases of the newborn/child, organ transplantation, and trauma.

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The Impact of Intravenous Acetaminophen on Pain



JACQUELINE BLANK, MD
General Surgery Resident



FADWA ALI, MD
General Surgery Resident



NICHOLAS BERGER, MD
General Surgery Resident



KIRK A. LUDWIG, MD
Vernon O. Underwood Professor in Colon Cancer
Research
Chief and Professor
Division of Colorectal Surgery



JUSTIN DUX, MD
General Surgery Resident



CARRIE Y. PETERSON, MD, MS
Assistant Professor
Division of Colorectal Surgery

Opioids are the cornerstone of pain management after surgery, but are known to have multiple negative effects, including ileus, decreased respiratory drive, and addictive potential. Acetaminophen is a viable alternative to opioids for use in post-operative pain control due to its benign side-effect profile, ease of administration, limited allergic reactions, and excellent efficacy. Currently, intravenous (IV) acetaminophen is approved by the U.S. Food and Drug Administration for post-operative analgesia, however its cost is higher than other medications, specifically the oral formulation (\$45 per 1000mg IV vs. \$0.50 per 1000mg oral). Additionally, some institutions restrict the use of IV acetaminophen to certain patients, procedures, and phases of care.

For patients requiring abdominal surgery, some level of postoperative bowel dysfunction following surgery is expected. In a study by Gelpi et al, oral acetaminophen was given to both laparoscopic and open colectomy patients in the immediate post-operative period, and serum acetaminophen levels were measured at 24 and 48 hours.¹ Both groups showed significantly reduced absorption at all time-points in comparison to non-opioid controls, suggesting that intestinal dysfunction is present even with minimally invasive surgery and supports the use of parenteral medications whose absorption and distribution is easily predictable.¹ IV acetaminophen is also preferable to its oral and rectal counterparts due to its pharmacokinetics, the IV formulation has been shown to reach higher peak central nervous system (CNS) concentrations, and reaches these concentrations more quickly than oral or rectal formulations.^{2,3}

In addition, the current opioid epidemic in the United States emphasizes the importance of optimizing non-opioid analgesia after surgery. In 2014, 1.9 million Americans had a substance abuse disorder involving prescription pain relievers, with nearly 19,000 deaths related to overdoses of these drugs.^{4,5} In the past decade, prescriptions of opioid pain medications in the United States have increased dramatically.⁶ Prescription pain medication use may lead to addiction to more dangerous substances, according to the American Society of Addiction Medicine, four of five new heroin users were initially misusing prescription painkillers.⁷

Unfortunately, the data comparing IV acetaminophen to other alternatives is limited and incredibly heterogeneous. The aim of the present study was to evaluate the efficacy of IV acetaminophen compared to other non-opioid analgesics for postoperative pain control using meta-analysis techniques. We hypothesized that IV acetaminophen would be more effective than other non-opioid counterparts for pain control after abdominal surgery, leading to improved pain scores and decreased narcotic use.

We queried four databases for prospective studies utilizing IV acetaminophen for at least 24 hours after intraabdominal surgery. The primary outcome assessed was pain at 24 hours after surgery using a conventional 11-point visual analog scale. Secondary outcomes assessed included total narcotic consumption at 24 hours, converted into oral morphine equivalents, and 12-hour pain scores.

After Abdominal Surgery: A Meta-Analysis

A total of 2,149 articles were identified on initial query; screening for inclusion and exclusion criteria ultimately yielded 17 full-text articles for analysis. Overall study quality was moderate, and there was great heterogeneity amongst studies. Meta-regression analysis showed that type of surgery, type of comparator medication, use of minimally invasive surgery, or study quality did not explain the heterogeneity of the results.

Our meta-analysis found no difference in 24-hour pain scores for acetaminophen when compared to all comparator medications combined. However, when patients had a laparotomy incision, IV acetaminophen use was associated with reduced use of narcotics at 24 hours (MD -7.29 [-13.41, -1.16], $p=0.02$) compared to other medications. Non-steroidal anti-inflammatory drugs (NSAIDs) were also found to have the greatest reduction in 24-hour narcotic consumption for all types of surgery compared to other medications, including acetaminophen (MD 11.18 [10.40, 11.96], $p<0.001$). It is important to note that NSAID medications do have a significant side effect profile, including gastric ulceration, increased bleeding complications, and kidney injury, that limits their use in many patients. The NSAIDs utilized by some studies in this analysis included diclofenac, ketoprofen, and lornoxicam, which are used sparingly across the United States and are not considered formulary medications at our institution. The relative rarity of some NSAIDs and their side effect profiles favors the use of more common and cost-effective medications.

This study provides evidence of a limited benefit after laparotomy incisions where IV acetaminophen may limit narcotic consumption and an overall benefit for NSAID medications in reducing narcotic consumption after surgery. However, the strength of this finding is limited due to high levels of heterogeneity in the included studies. These results should guide the clinician when choosing IV acetaminophen for patients having open abdominal surgery with laparotomy incisions, when used for at least 24 hours, and to provide NSAIDs for pain management for patients who do not have a contraindication. As the impact of pain control and post-operative narcotic use can be extremely significant for patients, understanding the optimal medications to use for pain control and to improve recovery is paramount to excellent post-operative care.

Our department has been active in exploring ways to improve recovery after surgery and is investigating alternative methods of pain control to help minimize the need for narcotics. One such study uses a small device, called the NSS-BRIDGE. This is an FDA-approved and commercially available device manufactured by Key Electronics (Jeffersonville, IN) and distributed by Innovative Health Solutions (Versailles, IN). The BRIDGE is a battery-powered stimulator that is

placed on a patient's ear prior to surgery and is thought to change how patients perceive painful stimuli. The aim of the study is to determine if the device decreases the narcotics needed after surgery. Enrollment in this study is complete, and results should be available in the summer of 2018. •

FOR ADDITIONAL INFORMATION on this topic, see references, visit mcw.edu/surgery, or contact Dr. Ludwig, 414-955-1471, kludwig@mcw.edu.

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The Effect of Peri-Operative Antibiotic Drug Class on the Resolution Rate



JACOB J. PATZ, BS
Medical Student



MATTHEW I. GOLDBLATT, MD
Professor
Division of General Surgery
Director, Condon Hernia Institute



MELISSA C. HELM, MSN, RN
Research Nurse
Division of General Surgery



JON C. GOULD, MD
Professor and Chief
Division of General Surgery
Alonzo P. Walker Chair



RANA M. HIGGINS, MD
Assistant Professor
Division of General Surgery



TAMMY L. KINDEL, MD, PHD
Assistant Professor
Division of General Surgery

The two most common bariatric procedures in the U.S. are the gastric bypass and the sleeve gastrectomy. Bariatric patients undergoing these procedures can present with numerous comorbidities, including Type II diabetes, GERD, obstructive sleep apnea, and cardiovascular disease. Recent studies have suggested that potential aberrant alterations in the gastrointestinal microbiome contribute to the development of cardiovascular disease, specifically hypertension.^{1,2} Bariatric surgery produces significant, sustained weight loss and hypertension resolution likely through multiple mechanisms, which includes beneficial changes in the gut microbiome.³⁻⁶ Considering the findings of these studies, we hypothesized that the type of prophylactic antibiotic given for bariatric surgery could impact the resolution rate of hypertension by altering the post-operative gastrointestinal microflora.

To test our hypothesis, we conducted a retrospective analysis of adult bariatric patients who underwent Roux-en-Y gastric bypass (RYGB) or sleeve gastrectomy (SG) between 2012 and 2016. Patients were identified through the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program database. The standard antibiotic prophylaxis was cefazolin, or clindamycin in patients requiring an alternative due to a penicillin allergy. Univariate analyses were performed comparing the differing perioperative antibiotic treatments with resolution of hypertension at 2-week (± 1 week), 6-week (± 2 weeks), 3-month (± 2 weeks), 6-month (± 6 weeks), and 1-year (± 2 months) follow up appointments. The criteria for resolution of hypertension was no longer requiring medication for blood pressure regulation at time of follow-up.

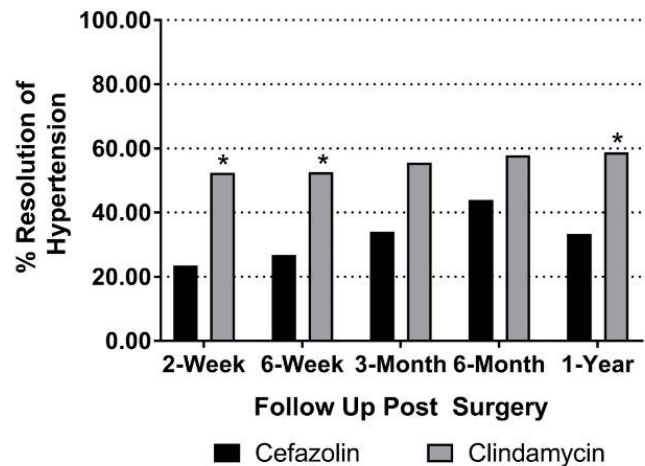


Figure 1: Comparative Hypertension Resolution Rates of Cefazolin vs. Clindamycin. Patients who underwent RYGB and received clindamycin had a significantly higher rate of hypertension resolution compared to cefazolin.
2-Week: 52.4% vs 23.5% respectively, $p=0.008$
6-Week: 52.6% vs 26.8% respectively, $p=0.026$
1-Year: 57.9% vs 33.3% respectively, $p=0.050$

In total, 123 RYGB and 88 SG procedures were included in our analysis. No significant differences were found between cefazolin and clindamycin regarding hypertension resolution rates after sleeve gastrectomy. There was a significant difference in the resolution of hypertension after RYGB with the use of prophylactic clindamycin versus cefazolin. As shown in Figure 1 and Table 1, patients who underwent

of Hypertension After Roux-en-Y Gastric Bypass and Sleeve Gastrectomy

Follow-Up Post Surgery	HTN 2-Week		HTN 6-Week		HTN 3-Month		HTN 6-Month		HTN 1-Year	
	Cf	Cl	Cf	Cl	Cf	Cl	Cf	Cl	Cf	Cl
% Resolution	23.5%	52.4%	26.8%	52.6%	34.0%	55.6%	44.0%	57.9%	33.3%	58.8%
Chi Square Significance	.008*		.026*		.084		.268		.050*	

Table 1: Resolution of Hypertension Determined by Percent Resolution of Hypertension for RYBG Patients: Antibiotic treatment: cefazolin (Cf) or clindamycin (Cl) perioperative antibiotic treatment. The “% Resolution” is determined by the number of newly resolved hypertension cases at each follow-up compared to the total number of patients presenting with resolved or unresolved hypertension.

RYGB and received clindamycin had a significantly higher rate of hypertension resolution compared to cefazolin. This effect started at 2 weeks post-operatively (52.4% vs 23.5% respectively, $p=0.008$) and persisted up to the 1-year (57.9% vs 33.3% respectively, $p=0.05$). We found no significant differences in patient age, sex, number of pre-operative hypertensive medications, pre-operative BMI, or %BMI change after 1 year to account for the significant effect of antibiotic choice on hypertension resolution.

Since we observed increased hypertension resolution in the RYGB group with clindamycin, and no effect on hypertension resolution in the SG group for either cefazolin or clindamycin, this suggests the procedures themselves could potentiate the effects these antibiotics have on the GI system. One explanation for this difference could be the increased anatomical disruption and reconstruction in a gastric bypass leads to a greater challenge to the GI microbial community, and creates an environment of increased antibiotic perfusion.

Overall, this study represents the first clinical report to suggest an impact of the type of antibiotic administered at the time of RYGB on co-morbidity resolution, specifically hypertension. Future studies will be needed to confirm that the mechanism of action for this novel finding is due to the differing modifications of the gastrointestinal microflora population based on the specific peri-operative antibiotic administered. •

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FOR ADDITIONAL INFORMATION on this topic, see references, visit mcw.edu/surgery or contact Dr. Gould, 414-955-1770, jgould@mcw.edu.

Shared Decision-Making in Acute Surgical Illness: The



RACHEL S. MORRIS, MD
Instructor
Division of Trauma and Acute Care Surgery



THOMAS J. SMITH, MD
The Harry J. Duffey Family Professor of Palliative Medicine
Professor of Oncology
Department of Oncology and Palliative Care Program
Sidney Kimmel Comprehensive Cancer Center at The
Johns Hopkins University, Baltimore, MD



JESSICA RUCK, BS
Medical Student
Johns Hopkins University School of Medicine
Baltimore, MD



THOMAS W. CARVER, MD
Assistant Professor
Division of Trauma and Acute Care Surgery



ALISON M. CONCA-CHENG, BS
Research Coordinator
Department of Surgery
Johns Hopkins University School of Medicine
Baltimore, MD



FABIAN M. JOHNSTON, MD, MHS
Assistant Professor
Department of Surgery
Johns Hopkins University School of Medicine
Baltimore, MD

Elderly patients undergoing emergency surgery have twice the mortality when compared with younger patients, and mortality can be as high as 38%.^{1,2} Increased morbidity also translates to elderly patients being less likely to be discharged home after major surgery.^{1,3} Despite studies indicating that seriously ill patients prioritize quality over length of life,^{1,4} 31.9% of patients over age 65 had surgery in the last year of life and nearly one in ten had surgery in the last week of life.^{2,4} This disparity between patient's priorities and trends during treatment has been linked to impaired communication between patients, their family and the physician.⁴ The discussion is often conducted under urgent circumstances without a pre-existing relationship between the clinician and the patient. Given the issues inherent in management of patients with acute illness, greater understanding of how to implement shared decision-making (SDM) processes are needed.

Practicing surgeons associated with two academic medical centers (Medical College of Wisconsin & Johns Hopkins) were recruited. A sample of twenty surgeons (eight from MCW, twelve from JHU) was randomly selected to provide increased opportunity for thematic saturation. The cohort consisted of two general surgeons, four vascular surgeons, two surgical oncologists, two thoracic surgeons, three community surgeons, six trauma surgeons and one transplant

surgeon. A semi-structured interview script was developed. The script included two case vignettes and 13 questions about surgical decision-making in patients with acute surgical illness (i.e. patients whose outcome would be death without intervention), including influences on decision-making, participants in decision-making, sources of pressure, contraindications to surgical management, and futility as perceived by the surgeon.

We analyzed the qualitative data by using a grounded theory approach,⁵ which has previously been used in analysis of medical decision-making by both patients and providers.⁶⁻⁹ Thematic analysis of interview transcripts was performed independently by two researchers (JR and ACC) using the qualitative data analysis software NVivo 11 (QSR International, Burlington, MA). Saturation of the data was reached when no new themes were identified for two consecutive interviews.⁵

Thematic analysis revealed six major themes, including responsibility for the decision to operate, perceived futility, surgeon judgment, surgeon introspection, pressure to operate, and cost of surgery. Futility was universally reported as a contraindication to surgical intervention. This quote represents surgeons' perception of futility: "Futile would mean that there is no chance that the intervention

Surgeon's Perspective

Futility	Defining Futility	<p>“Futile would mean that there is no chance that the intervention will alter the outcome, and the outcome is death. I think part of the problem with our definition that way is that there are very, very few things that we can say are 100% in medicine so it becomes really difficult to say it is truly futile.”</p> <p>“The patient who will not survive the OR. That’s a solid contraindication in my mind. I don’t think patients should die on the table.”</p>
	Determining Futility	<p>“The catch of course to all of this is ‘Who the hell am I?’. I’m good at what I do, but I’m wrong sometimes and there’s no reason to think that there aren’t patients who I think are undergoing futile care...who make a great recovery. I have seen it happen, I know it has happened.”</p> <p>“I find it significantly easier to say we’re not going to do a surgery on a patient when I can’t come up with a realistic benefit for it.”</p>

Table 1. Thematic Analysis: Futility.

will alter the outcome, and the outcome is death...there are very, very few things that we can say are 100% in medicine, so it becomes really difficult to say it is truly futile.” However, an inability to definitively define futility led participants to emphasize patient self-determined risk-benefit analysis to determine whether to proceed with surgical intervention. For example, one surgeon stated, “I can have my own opinions, but it’s not my right to inject my opinions on somebody else. You can leave recommendations, but ultimately they have to decide what is meaningful...and that is 100% subjective.” More experienced surgeons described increased comfort in communicating to patients that a condition was not amenable to surgery and reserved the right to refuse surgery.

In conclusion, surgeons tend to err on the side of operative intervention due to external pressure and cultural expectations, despite perceived futility. However, consultation with senior surgeons and the palliative care team increases surgeon confidence in shared decision-making, allowing surgeons to offer both aggressive interventions and comfort measures. We must provide greater support for surgeons from colleagues performing end-of-life SDM conversations, and create objective measures of futility to change the culture of medicine from “do everything,” to “do what is best for the patient”. •

FOR ADDITIONAL INFORMATION on this topic, see references, visit mcw.edu/surgery, or contact Dr. Morris, 414-955-1730, ramorris@mcw.edu.

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Very Early vs. Early Readmissions in General and



LINDSEY N. CLARK, MD
General Surgery Resident



JON C. GOULD, MD
Professor and Chief
Division of General Surgery
Alonzo P. Walker Chair

Hospital readmissions rates are a publicly reported quality metric. Most often, readmissions are reported up to 30 days post-discharge. In 2012, Medicare initiated the Hospital Readmission Reduction Program, which decreases the payment a hospital receives if readmission rates within specified diagnoses are greater than expected. The program initially included readmissions related to heart failure, pneumonia, and myocardial infarction, but has since added multiple surgical procedures. It is reasonable to assume this program will continue to expand. In addition to financial penalties, a hospital's readmission rate is an important factor in hospital rankings and can ultimately play a role in whether third party payers elect to keep a hospital or clinical program in their network.

Medical patients are more likely to be readmitted for exacerbations of their underlying comorbidities, and surgical patients are more commonly readmitted for complications after their index procedures. Not all readmissions following surgical procedures may be preventable. Identifying a cohort of patients at higher risk for readmission can help guide prevention tactics. With an escalating focus on compressing the length of stay following all surgical procedures, the timing of the readmission relative to the index procedure and the day of discharge may be relevant. There has been relatively little investigation into the timing of a post-surgical readmission within the 30-day time frame.

We conducted a study investigating readmissions in general and vascular surgery patients using data from The American College of Surgeons National Surgical Quality Improvement Program (NSQIP) over a two-year period. We hypothesized that readmissions that occurred within the first three days of discharge from the hospitalization ('very early readmissions') were related to different factors than those that occurred later in the 30-day window, between

the 4th and 30th day following discharge ('early readmissions'). In our review with over 800,000 patients, 6.4% of patients were readmitted to the hospital in the first 30 days (Figure 1). A significant portion of these readmissions, nearly one of every four, occurs in the first three days following discharge from the hospital (Figure 2). Patients most likely to experience a readmission are those undergoing a vascular surgical procedure (OR 1.14, 95% CI 1.10-1.17), patients with multiple comorbidities (OR 1.49, 95% CI 1.45-1.52), and those undergoing major surgical procedures (based on longer operative time (OR 1.27, 95% CI 1.24-1.30), inpatient status (OR 1.53, 95% CI 1.48-1.58), and duration of hospital stay exceeding three days for the index procedure (3-7 days OR 1.81, 95% CI 1.77-1.86; 8-30 days OR 1.99, 95% CI 1.93-2.06)). The most significant risk factor for very early readmission within three days of discharge is having experienced a serious surgical complication during the index admission (OR 1.41, 95% CI 1.30-1.54).

Readmission as a quality and cost-containment metric is a major focus of attention for hospitals, clinicians, and policy makers. High readmission rates are often viewed as evidence of suboptimal care during the initial hospitalization or during follow-up. The evidence supporting this view is compelling in the case of surgical conditions, where patients returning to the hospital in the first 30 days after surgery often do so because of complications from the initial procedure. The health care costs associated with readmissions are substantial. Unplanned readmissions have an economic impact estimated at \$17.4 billion per year.² Although debatable, a significant portion of hospital readmissions may be preventable.

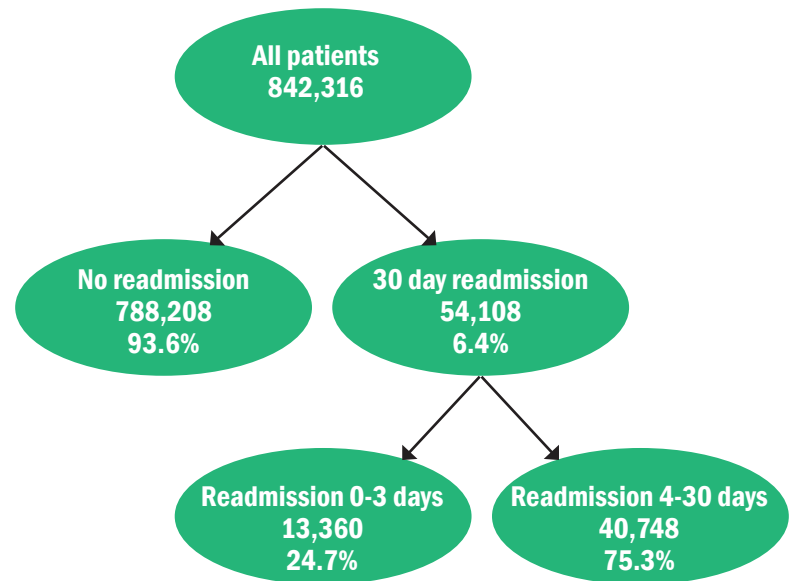


Figure 1: Sample breakdown by readmission group.

Vascular Surgery Patients

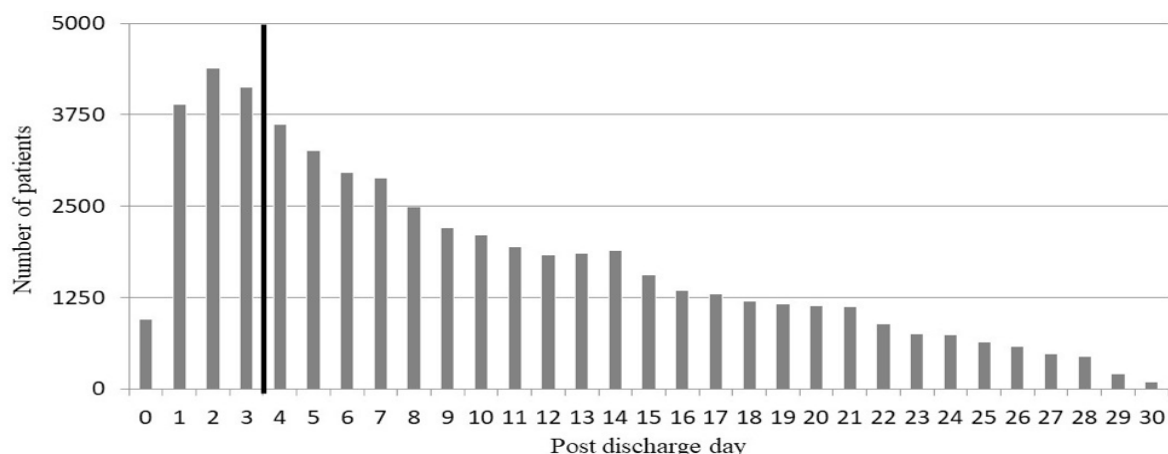


Figure 2: Number of readmissions by discharge day.

A recently published systematic review of readmissions in general and vascular surgery found that reliable predictors of readmission following surgery included postoperative complications, medication-related issues, comorbidity, and postoperative length of stay (longer stay with a higher risk of readmission). The findings of our study are similar. In our analysis, a patient who experienced a significant complication during the index admission is 40% more likely to be readmitted in the first three days after discharge compared to a patient who did not experience such a severe complication. Significant complications during the index admission may make patients more vulnerable to transitions of care.

Identification of the factors associated with unplanned surgical readmissions can help direct future surgical quality improvement efforts. Based on our findings, patients who have a prolonged length of stay might be targeted for interventions that address the issues that lead to readmission. These interventions may include tactics such as earlier follow-up visits and better outpatient management of complications that happen prior to discharge. A recently published summary of the literature on readmission reduction strategies concluded that interventions involving multiple components (patient needs assessment, medication reconciliation, patient education, arranging timely outpatient appointments, and providing telephone follow-up) have successfully reduced readmission rates for patients discharged to home. Interestingly, these authors determined that the effect of interventions on readmission rates is related to the number of components implemented. Home-based services, information technology, mental health care, caregiver support, community partnerships, and new transitional care personnel were identified as promising strategies necessitating future investigation. Given the frequency of readmissions in the first three days we observed in our analysis, patients who experience a significant postsurgical complication during the index admission represent a good group for targeted readmission prevention initiatives. ●

FOR ADDITIONAL INFORMATION on this topic see references, visit mcw.edu/surgery, or contact Dr. Gould, 414-955-1770, jgould@mcw.edu.

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A Chance to Make a Difference: Building a Cardiac Reside



LYLE D. JOYCE, MD, PHD
Professor
Division of Cardiothoracic Surgery
Chief, Section of Adult Cardiac Surgery

Agneta is an unusually talented young Kenyan physician who is passionate about caring for the masses of sick people in her region. She graduated from the Tenwek General Surgery Program four years ago and has been quite active in non-cardiac thoracic work since then. She dreams of becoming a cardiac surgeon capable of treating the patients dying of rheumatic valvular heart disease. By anyone's standards in the US, she would be considered an elite candidate for one of our CV Surgery Residency Programs. But until now, that dream could never transpire because there are no training programs in the entire African continent between Cairo, Egypt and South Africa.

By 2050, Africa is expected to more than double its population of 1.2 billion people, and yet vast regions of the continent remain underdeveloped with little or no access to modern medicine. Though there are many talented young Africans like Agneta poised to become the medical leaders of tomorrow, they lack the opportunities to train.

While the ravaging effects of rheumatic heart disease are overtaking the continent, the much-needed cardiac surgery to correct the problem is largely unavailable to those who live in the sub-Saharan continent. This is often due to the complexity of the surgery and the infrastructure that is needed to offer these services. Many suggest that this surgery is too expensive, and money should be spent on treating diseases like HIV and TB. Yet when a heart valve operation can be performed at a cost of no more than \$3500, if one



Dr. David and Lyle Joyce operating with the Kenya surgical team.



considers the longevity of life that this operation provides, the cost per year of life extended is lower than the cost of treating some of the communicable diseases.

Much of medical care in Africa is provided by foreign missionaries serving on either a full-time basis or part-time bringing in limited supplies to help. While this is helpful and often lifesaving for a fortunate few, it is not adequate to keep up with the demand. Society must develop a mechanism by which the generosity of the too few volunteers can be converted into the training of locals so that they can multiply the efforts when the foreign workers are gone. One medical center that has this vision is Tenwek Hospital located in Bomet, Kenya.

Tenwek Hospital was founded in 1937 by World Gospel Mission and has since grown to be a leading teaching and referral hospital in the region, and one of the largest mission hospitals in the world. It has 300 beds, and offers a wide range of high-quality, affordable primary and specialized healthcare such as orthopedics and ophthalmology. Through partnerships with various international organizations like Samaritan's Purse, visiting physicians provide Tenwek patients with a variety of specialized hospital care such as cardiac surgery.

After operating with some of these visiting cardiovascular surgical teams for several years, Dr. Russ White performed the first solo cardiac surgery procedure in 2015. Dr. White is a cardiothoracic surgeon who grew up on the mission field in the Belgian Congo, and returned to Tenwek after his General Surgery Residency at Brown and CV Surgery Fellowship at Frenchay Hospital in Bristol, England. During his fellowship, he specialized in thoracic surgery since he was certain that due to the infrastructure needed, he would never be able to perform cardiac surgery at Tenwek. However, he soon learned that

ncy Program in Kenya



Team members who joined Drs. Lyle and David Joyce in May 2017 during a mission trip that they organized from the Mayo Clinic prior to joining the Medical College of Wisconsin. A similar MCW team departed on May 25, 2018, for two weeks.

congenital and rheumatic heart disease is a leading cause of death in Africa. He realized that he must retrain himself in the cardiac aspect of his surgical subspecialty.

When Dr. David Joyce and I took a Mayo cardiac surgical team to Tenwek last May, we operated on the sickest patients—but also trained Dr. White and the local team so they could continue caring for patients after we left. Since there were only three ventilators and four ICU beds, we were limited to two cases a day, provided we were able to extubate patients in the OR. Our team included two surgeons, an anesthesiologist, a perfusionist, a cardiologist, an intensivist, an infectious disease specialist, and two ICU nurses. The team's skills and training were often put to the test, faced with challenges like extubating patients in the OR after the operation and rethinking the type and amount of anesthesia used, or developing new protocols that worked with the available resources. Each team member came back to the US tired, but anxious to return.

Tenwek recently received approval by the College of Surgeons of East, Central, and Southern Africa and the Pan-African Academy of Christian Surgeons (PAACS) to become the first official cardiothoracic training site in that organization. It will be the only official training program in Africa outside of Cairo, Egypt, and South Africa. This is an opportunity to systematically and comprehensively teach young general surgeons to become cardiac surgeons. At any given time, there are over 300 patients waiting for cardiac surgery at Tenwek. Training cardiac surgeons will help meet this need.

To build a successful teaching program, Tenwek will depend on visiting faculty to teach the skills needed. Our goal is to replicate what we did last May in taking team members over to not only do surgery, but also train the residents and nurses to provide these services themselves throughout Africa.

An ideal teaching program would include a reciprocal residency program whereby Tenwek residents could swap with MCW residents for a quarter. Each set of residents would have the opportunity to learn in an environment that is vastly different from the one they have come from. For example, US residents would have the opportunity to treat rheumatic heart disease, which is common in Africa but not in the US, and Kenyan residents would treat acute coronary syndromes, which are common in the US but not in Kenya.

I have been appointed to the PAACS CT Surgery Council, which is charged with developing the curriculum, writing exams for annual evaluations of the fellows, and assisting with faculty rotations. I believe this program fits nicely with the MCW Global Health initiatives. Dr. Paul Pearson and I will be taking a MCW team for an inaugural visit to Tenwek this May. We will have the opportunity to teach Agneta (their first resident) and her colleagues some new skills and play a small part in making her dreams come true. Through this and future visits, we hope to be able to save thousands of lives by merely training a few young physicians who share Agneta's dream and desire to serve. ●

FOR ADDITIONAL INFORMATION on this topic, visit mcw.edu/surgery, or contact Dr. Joyce, 414-955-6969, ljoyce@mcw.edu.

Surgical Collaboratives and Quality Improvement



JON C. GOULD, MD

Professor and Chief of General Surgery
Vice Chair of Quality
Medical College of Wisconsin Department of Surgery
Co-chair, Executive Committee for the Surgical Collaborative of Wisconsin

It is difficult for any individual surgeon to accomplish quality improvement in isolation. While there are publications and conferences that promote and describe advances, there are few opportunities to discuss the granular aspects of surgical care that significantly impact outcomes. It can be difficult to recognize patterns of infrequent, but major complications. It may be impossible for the individual surgeon to analyze processes of care or patient selection associated with poor outcomes in order to make improvements.

The pursuit of quality is a team effort. A Quality Improvement Collaborative is an organization comprised of health stakeholders—physicians, hospitals, related health care providers, administrators, payers, and related health care organizations—that aims to improve performance on a well-defined quality measure or set of measures. There are many established surgical quality collaboratives throughout the country that vary in structure and funding models.

The Michigan Surgical Quality Collaborative saved \$232 million statewide from 2008-2012.¹ Implementation of a surgical site infection (SSI) colectomy bundle through the collaborative resulted in a 42% reduction in SSI between 2012-2016.² Many states, health care systems, and surgical societies have created collaboratives to help drive quality improvement on a larger scale. In the state of Wisconsin, there is an opportunity to collaborate on surgical quality, while adapting best practices from established surgical collaboratives and emphasizing strategies that encourage participation from surgeons across both community and academic settings.

The Surgical Collaborative of Wisconsin (SCW) was recently established as a collaborative practice change community that aims to optimize quality and reduce costs by improving surgical care and fostering provider professional development. I am proud to have been appointed as co-chair of the Executive Committee along with my colleague Dr. Jeff Landercasper from Gunderson Lutheran in La Crosse. To achieve our mission, SCW will:

- Establish a collaborative, non-competitive environment in which surgeons, related health care providers, and hospital administrators around the state can gather to promote the delivery of surgical care that is safe, effective, equitable, and patient-centered.
- Develop a platform for comparative benchmarking of member-defined performance measures.



- Disseminate evidence-based guidelines and facilitate tailoring of site-specific implementation strategies.
- Provide a forum for individualized feedback and continued surgeon performance improvement.

Hospitals and payers already submit healthcare data to the Wisconsin Hospital Association (WHA) and Wisconsin Healthcare Information Organization (WHIO). The Wisconsin Surgical Outcomes Research Program (WiSOR, Directed by Caprice Greenberg, MD, MPH; Co-Directed by Elise Lawson, MD, MSHS), which serves as SCW's coordinating center, will take this data an additional step. Based on the quality improvement targets identified by collaborative members, biostatisticians and programmers will create confidential benchmarked reports for individual hospitals and surgeons. These reports will be used to help identify patterns of care that can inform quality-improvement initiatives and interventions. Our initial projects will involve decreasing variation in re-excision lumpectomy rates for breast cancer in the state of Wisconsin and enhanced recovery following colectomy. Additional projects and initiatives will be determined by the membership. Any surgeon in the state of Wisconsin can join. There is no fee to participate. Data used to direct quality improvement efforts is already submitted by your hospital to the WHA and WHIO, and additional data extraction will not be a requirement.

You can learn more about the SCW at www.scwisconsin.org. You may also contact us via email at info@scwisconsin.org.

FOR ADDITIONAL INFORMATION on this topic, see references, visit mcw.edu/surgery, or contact Dr. Gould, 414-955-1770, jgould@mcw.edu.

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MCW Surgery

knowledge changing life



Tune In—Knowledge Changing Life

“The Word on Medicine” is a radio show that was initiated by the MCW Department of Surgery in the Fall of 2017. The program is made possible by a research and educational grant from Selig Leasing Company. The goal of “The Word on Medicine” is to highlight the innovation and discovery of the faculty at MCW. The moderators for the program are Dr. Douglas Evans and Dr. Rana Higgins. The first program aired in October of 2017, and 18 shows have been recorded thus far over the past six months. The program airs on Saturday afternoons on 1130 WISN, AM talk radio, on alternating Saturdays. The live schedule is available on the MCW website, Facebook page and Twitter account. Once aired, these recordings are available on iTunes podcasts, Podbean, Stitcher, the iHeart radio website, and iHeart radio app – just search “The Word on Medicine.” A wide variety of topics have been recorded thus far, including cardiac surgery, pancreatic cancer, bariatric surgery, and vascular disease, just to name a few. Tune in to “The Word on Medicine,” where knowledge is changing life!



The Word on Medicine

Join us on NEWS/TALK 1130 WISN for upcoming “The Word on Medicine” programs. You can listen to the show on 1130 AM WISN or live-stream from their website or the iHeartRadio app. Podcasts of previously aired shows are available on iHeartRadio, Stitcher, Podbean, and iTunes



June 23, 2018 - 5:00 p.m.
LYME DISEASE

Sept. 8, 2018 - 4:00 p.m.
TRAVEL MEDICINE

July 7, 2018 - 4:00 p.m.
MELANOMA

Sept. 22, 2018 – 4:00 p.m.
INFLAMMATORY BOWEL DISEASE

July 28, 2018 - 3:00 p.m.
FETAL SURGERY

Oct. 13, 2018 - 3:00 p.m.
RECTAL CANCER

August 11, 2018 - 3:00 p.m.
PERSONALIZED MEDICINE

Oct. 27, 2018 - 3:00 p.m.
PSORIASIS

August 18, 2018 - 4:00 p.m.
HERNIAS

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Kidney Transplant, a Family Affair

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

Kidney failure has been a whirlwind experience for Kathie Vrakas Jones. She came to learn that it impacted her family more than she was aware. It's no secret that the diagnosis of disease or a health condition affects the entire family—the person living with the disease, parents, siblings and extended family. Her illness also made her see just how much her family cared about her, how much they were willing to do to improve her quality of life.

Kathie's best chance of survival depended on getting a kidney from a living donor, so she turned to her family. Every family member offered to help, including Joel Kwiatkowski, the son of her father's loving partner, Diane. Joel, who volunteered to be a living donor, said "I am blessed for the opportunity to give the gift of life. All the staff from housekeeping to the surgeon were all very comforting. It's been a great experience made easy by the coordinator. More people should consider this simple gift." Joel, a non-relative, went through a lot of testing, but on July 12, 2017 they learned he was a compatible match. Two months later, on September 13, 2017, Kathie received the most incredible gift of life from Joel.

Kathie's life is filled with new possibilities. She and Joel are doing well and look forward to memorializing their one-year anniversary. "I thank my family and Joel for their love, kindness and support. I'm the luckiest person alive. Dealing with kidney disease has indeed been a family affair. It has been a true miracle."

With more than 2,000 individuals on the waiting list for a kidney transplant in Wisconsin, among more than 100,000 in the nation, more living donors are needed. Living donors share the greatest gift of all, the gift of life. These generous people save the lives of hundreds of patients every year, many of whom, for various reasons, would not otherwise receive a kidney.

Not only does this story bring awareness to kidney disease and organ donation, it is also one of hope, patience, friendship and family. Overwhelmed by the kindness of Kathie's caretakers at Froedtert and the Medical College of Wisconsin, the Vrakas family made a gift to support innovative medical research for the Organ Transplant Research Program at the Medical College of Wisconsin.

If you would like to learn more about the Organ Transplant Research Program, or are interested in making a gift, please contact Meg Bilicki, Director of Development, at mbilicki@mcw.edu or (414) 955-1841. •



The Kathie Vrakas Family

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

HISTORY CORNER

The “Rocking Chair Conference” A Short History of a Fifty-Year Tradition

By: Stuart D. Wilson, MD, Emeritus Professor, Department of Surgery

Visiting Professors to our Department, in addition to their usual signature lectures, lunch with residents, and a faculty dinner, are typically treated to a one-hour “Rocking Chair Conference.” The Visiting Professor sits in the front of a conference room in a rocking chair, sometimes with an accompanying MCW faculty moderator to keep order. The session is constructed to allow the visitor to tell a life story, as well as to allow the students and residents to ask questions about paths to success – hobbies, family, maintaining a work-life balance and career advice. In general, there are no restrictions on questions. In earlier decades, a rocking chair was given to the Visiting Professor as a gift with a plaque attached. Over the years, these rocking chair sessions have proven to be a most memorable part of the visit for them, as well as our housestaff and faculty.

The genesis and history of this conference is most interesting, as it morphed from an “afternoon tea” to a “rocking chair.” Several years prior to the recruitment of Dr. Edwin Ellison as our first full-time Chairman for Marquette Medical School (now MCW), he visited Dr. Lester Dragstedt’s Surgery Department at the University of Chicago. Dr. Dragstedt introduced vagotomy for the treatment of duodenal ulcer. He was one of the giants of 20th century surgery and physiology. Perhaps as important was his pathologist, Dr. G. Gomori, a leading expert on histologic identification of pancreatic islet cells. Dr. Ellison’s visit came just before the American Surgical Association’s famous presentation by Zollinger and Ellison, hypothesizing an “ulcerogenic hormone” from pancreatic islet cell tumors. Dr. Ellison was in the hunt to define the source of the ulcerogenic hormone. He was seeking help from Drs. Dragstedt and Gomori.

Dr. Dragstedt, without fail, unless he was detained in the operating room, would meet with his laboratory staff and residents at 4pm for an “afternoon tea” – tea and cookies were served but



Above: Michael DeBakey, MD, Houston, Texas. Note the teapot and cups.

Above Right: Ben Narodick, MD, Edwin Ellison, MD and Joe Darin, MD with the Maxwell Street rocking chair.

Right: Fraser N. Gurd, MD, McGill University, Montreal.



the principle fare was conversation about laboratory research. Dr. Ellison presented his hypothesis at one “afternoon tea” and everyone was excited. Dr. Ellison became enamored with this conference concept and he introduced it to his new Department of Surgery in Milwaukee for our Visiting Professors.

The first few years, tea was actually served at the “Rocking Chair Conference” (see picture of Dr. DeBakey above), but this conference morphed into a “Rocking Chair Conference” in the late 1960’s.

Drs. Ben Narodick and Joe Darin obtained and refurbished a used, ornate rocker obtained from the notorious Maxwell Street (Chicago) open market and presented it to Dr. Ellison, who knows—it may have been “hot,” a stolen item! Several Divisions of the Department of Surgery still use this chair for their Visiting Professor Rocking Chair Conferences. Former Visiting Professors and our alumni fondly remember the “Rocking Chair Conferences.” History and traditions are important and they help to define us. •

Leading the Way

WELCOME NEW DEPARTMENT OF SURGERY FACULTY

CARDIOTHORACIC SURGERY



Lucian A. (Buck) Durham III, MD, PhD, Associate Professor of Surgery, recently joined us from Driscoll Children's Hospital in Corpus Christi, Texas where he was the Director of Cardiovascular Surgery and Mechanical Circulatory Support. Following military

service in the United States Navy, he joined the University of Rochester Medical Center in Rochester, New York where he was the Director of Pediatric Cardiovascular Surgery and Medical Director of the ECMO program, which he established. He also spent nine years at the Mayo Clinic where he was a co-principal investigator for many mechanical assist device/bridge to transplant trials. Dr. Durham earned his medical degree from the Medical College of Virginia in Richmond where he also received a PhD in biochemistry. His general surgery residency was at Baylor College of Medicine in Houston and the University of Colorado Health Sciences Center in Denver. He was the John Alexander Fellow in Pediatric Cardiovascular Surgery at the University of Michigan Medical Center in Ann Arbor. In addition to organ procurement, Dr. Durham is a multitasking heart surgeon who is a great addition to our lung and heart transplant programs.



Mario G. Gasparri, MD, Professor of Surgery, returns to the MCW Department of Surgery in July 2018 from Dean St. Mary's Outpatient Center in Madison where he was Chief of the Division of Cardiothoracic Surgery and Trauma Medical Director.

Dr. Gasparri earned his medical degree from the Medical College of Wisconsin and completed general surgery residency at Henry Ford Hospital in Detroit. He joined the MCW Department of Surgery faculty after completing our cardiothoracic surgery fellowship. In addition to providing general thoracic surgery services and support of the lung transplant program, Dr. Gasparri will be Chief of Robotic Thoracic Surgery at Froedtert Hospital. He will also see patients at the Drexel Town Square Health Center and at Community Memorial Hospital.



Paul L. Linsky, MD, Assistant Professor of Surgery, will join us in August 2018 from the University of Alabama at Birmingham where he is completing a fellowship in cardiothoracic surgery. He earned his medical degree at UAB and completed general surgery

residency at the University of Louisville. Along with Dr. Gasparri, he will bring the most advanced techniques in robotic thoracic surgery to this campus.



Goya V. Raikar, MD, Associate Professor of Surgery, recently joined us from Oklahoma Heart Hospital and the University of Oklahoma College of Medicine. He is a pioneer in robotic heart surgery and performed the first robotic assisted mitral valve repair operation in

the Minneapolis-St. Paul area prior to being recruited to Oklahoma. Dr. Raikar earned his medical degree from the University of Nebraska Medical Center. His general surgery residency was at the Mayo Clinic in Rochester, Minnesota followed by a cardiothoracic surgery fellowship at the University of Wisconsin School of Medicine and Public Health. In addition to mitral valve repair, Dr. Raikar's practice includes minimally invasive surgical approaches for coronary artery bypass, cardiac tumors, adult congenital defect repairs, and cardiac arrhythmia procedures.

COMMUNITY SURGERY



Lan V. Raikar, MD, Associate Professor of Surgery, joins us in July 2018 from Fairview Lakes Medical Center in Fairview, Minnesota. She has also practiced in California and at the Marshfield Clinic in Wausau. Dr. Raikar earned her medical degree from the

University of Nebraska Medical Center in Omaha and completed general surgery residency at the Mayo Clinic. She will see patients at the Drexel Town Square Health Center and provide general surgical services at Froedtert Hospital.

PEDIATRIC SURGERY



Kyle Van Arendonk, MD, PhD, Assistant Professor of Surgery, will join us in September 2018 from the Monroe Carell Jr. Children's Hospital at Vanderbilt University in Nashville where he is completing a pediatric surgery fellowship. Dr. Van Arendonk was an

Academic All-American college basketball player and then attended the University of Iowa Carver College of Medicine. He completed general surgery residency training at Johns Hopkins Hospital in Baltimore where he also earned a PhD in clinical investigation from Johns Hopkins Bloomberg School of Medicine. Dr. Van Arendonk will provide pediatric general and thoracic surgical services at Children's Hospital of Wisconsin.

TRAUMA AND ACUTE CARE SURGERY



Anuoluwapo (Anu) F. Elgebede, MsC, MD, Assistant Professor of Surgery, returns to Wisconsin in September 2018 to join the MCW Department of Surgery from Indiana University where she is completing a fellowship in acute care surgery. She earned her medical degree at the University of Wisconsin School of Medicine and Public Health where she also completed general surgery residency training. She previously completed a fellowship in surgical critical care at Indiana University. Dr. Elgebede will provide clinical care of patients on the Trauma, Acute Care Surgery, and Critical Care services.

VASCULAR SURGERY



Abby Rothstein, MD, Assistant Professor of Surgery, will join the MCW Department of Surgery faculty in September 2018 upon completion of our two-year vascular surgery fellowship. Dr. Rothstein earned her medical degree from Rosalind Franklin University School of Medicine and Science in North Chicago. She completed general surgery residency training at MCW. Dr. Rothstein will provide vascular surgery services at Community Memorial Hospital in Menomonee Falls as well as the main campus.

American College of Surgeons Clinical Congress Boston, MA | October 22, 2018

Plan to join us on Monday, October 22, 2018 at the MCW Department of Surgery / Marquette Medical Alumni Association reception during the American College of Surgeons 104th Annual Clinical Congress.

The reception will be held 6:00 p.m. to 8:00 p.m. at The Boston College Club, 100 Federal Street, 36th Floor

WE LOVE JULY!

The Department of Surgery welcomes the incoming 2018–2019 PGY1 General Surgery Residents:

Erin Buchanan
New York Medical College

David Charles
Medical College of Wisconsin

Paul Dyrud
Medical College of Wisconsin

Kyla Fredrickson
Medical College of Wisconsin

Christina Georgeades
USF Health Morsani College of
Medicine

Lawrence Lin
Medical College of Wisconsin

John Marquart
Oregon Health & Science University
of Medicine

Kent Peterson
University of Minnesota Medical
School

Arielle Thomas
University of North Carolina at
Chapel Hill School of Medicine

Amer Rasheed
University of Illinois College of
Medicine - Rockford

Andrew Regent-Smith
Medical College of Wisconsin

Amanda Witte
Michigan State University College of
Human Medicine – Grand Rapids

Tyler Wittmann
University of Wisconsin School of
Medicine and Public Health

Raymond Yong
Rush Medical College of Rush
University Medical Center

Rakel Zarb
Medical College of Wisconsin

Leading the Way



HONORS AND AWARDS

MCW CONVOCATION CEREMONY TEACHING PINS

The Curriculum and Evaluation Committee (CEC) annually awards the MCW Outstanding Medical Student Teacher recognition pins. The CEC wishes to “recognize and affirm those individuals who, through their teaching excellence, advance student learning and provide added value to students’ required medical training.” Pins are awarded to faculty and residents for contributions in courses, clerkships, pathways, acting internships, or electives. The 2016-2017 Outstanding Medical Student Teacher Pin recipients from the Department of Surgery include the following individuals:

Full-Time Faculty

John Aiken, MD; G. Hossein Almassi, MD; Panna Codner, MD; John Densmore, MD; George Haasler, MD; Rana Higgins, MD; Christopher Johnson, MD; David Johnstone, MD; Jeremy Juern, MD; Andrew Kastenmeier, MD; Dean Klinger, MD; Amanda Kong, MD, MS; Dave Lal, MD, MPH; Cheong Jun Lee, MD; David Milia, MD; Charan Mungara, MD; Timothy Ridolfi, MD; Peter Rossi, MD; Allan Roza, MD; Susan Tsai, MD, MHS; Amy Wagner, MD; Travis Webb, MD, MHPE.

Volunteer Faculty

Anthony Nelson, MD; Kevin Packman, MD; Craig Siverhus, MD; Mark Timm, MD.

Residents

Christina Bence, MD; Alexis Bowder, MD; Michael Cain, MD; Keona Childs, MD; Daniel Davila, MD; Justin Dux, MD; Joseph Helm III, MD; Thejus Jayakrishnan, MD; Kaleb Kohler, MD; Gregory Larrioux, MD; Stephen Masnyj, MD; Rebecca Mitchell, MD; Tanner Spees, MD; Elizabeth Traudt, MD.

HEART TRANSPLANT PROGRAM RECEIVES CMS CERTIFICATION

In February of this year, the Froedtert & the Medical College of Wisconsin Heart Transplant Program earned recognition as a Medicare Certified Center from the Centers for Medicare and Medicaid (CMS). The certification followed a site visit by CMS that occurred Jan. 23 and 24.

To retain the certification, the Heart Transplant Program must continue to perform transplants within guidelines for volumes and outcomes that meet national benchmarks.

The Froedtert & the Medical College of Wisconsin Heart Transplant Program has been performing cardiac transplants since 1985. Over this time, our team has continually delivered exceptional care to patients needing transplant with outcomes that consistently meet or exceed national standards.

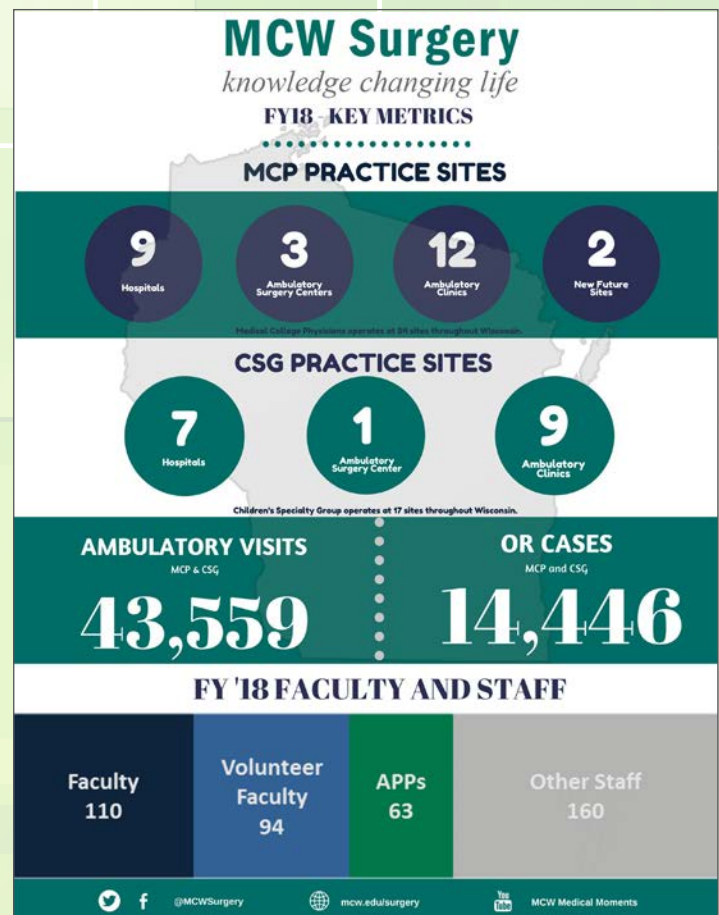
“This certification is a testament to all the hard work put in by members across the organization from the heart failure and transplant multidisciplinary team, to the OR and providers and staff in the cardiovascular intensive care unit,” said David

Joyce, MD, MCW Associate Professor of Surgery (Cardiothoracic Surgery) and Surgical Director of the Heart Transplant Program. “This accomplishment is another great step for our heart program, as we position ourselves as a destination for the high-quality cardiovascular care delivered by a world-class team of physicians and staff.”

DRS. LYLE AND DAVID JOYCE FEATURED IN MILWAUKEE BUSINESS JOURNAL



Dr. Lyle Joyce and Dr. David Joyce were featured in the *Milwaukee Business Journal* on February 1, 2018. The article features this father-son surgical team in the Division of Cardiothoracic Surgery at the Medical College of Wisconsin and Froedtert Hospital. Since they joined the faculty in 2017, both coming from Mayo Clinic, they have performed 13 heart transplants in their first year. In total, they have performed over 200 procedures, 50 of which were together. They are an incredible family, and this is only the beginning of an undoubtedly tremendous impact they will have together here at MCW.



THE MEDICAL COLLEGE OF WISCONSIN DEPARTMENT OF SURGERY

FACULTY BY SPECIALTY

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
Kathleen Lak, MD
Andrew S. Resnick, MD, MBA

Cardiac Surgery

G. Hossein Almassi, MD
Lucian A. Durham III, MD, PhD
Viktor Hraska, MD, PhD
R. Eric Lilly, MD*
David L. Joyce, MD
Lyle D. Joyce, MD, PhD
Robert McManus, MD*
Michael E. Mitchell, MD
Paul J. Pearson, MD, PhD
Goya V. Raikar, MD
Chris K. Rokkas, MD
Mini Sivadasan, MD*
Ronald K. Woods, MD, PhD

Colorectal Surgery

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

General Surgery

Marshall A. Beckman, MD, MA*
Robert J. Brodish, MD*
Thomas Carver, MD
Kathleen K. Christians, MD
Panna Codner, MD
Christopher S. Davis, MD, MPH
Marc A. de Moya, MD
Christopher Dodgion, MD, MSPH, MBA
Matthew I. Goldblatt, MD
Jon C. Gould, MD
Rana M. Higgins, MD
Jeremy S. Juern, MD

General Surgery, continued

Andrew S. Kastenmeier, MD
Tammy L. Kindel, MD, PhD
Dean E. Klinger, MD*
Kathleen Lak, MD*
Kaizad Machhi, MD*
David J. Milia, MD*
Rachel Morris, MD
Kevin V. Moss, MD*
Todd A. Neideen, MD
Jacob R. Peschman, MD
Lan Raikar, MD* (7/18)
Andrew S. Resnick, MD, MBA
Philip N. Redlich, MD, PhD
Lewis B. Somberg, MD*
Eric A. Soneson, MD*
Mark A. Timm, MD*
Travis P. Webb, MD, MHPE

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
Kyle Van Arendonk, MD, PhD (9/18)
Amy J. Wagner, MD*

Research Faculty

John E. Baker, PhD
Charles E. Edmiston, Jr., MS, PhD, CIC
Mats Hidestrand, PhD
Michael A. James, PhD
Muthusamy Kunnimalaiyaan, PhD
Gwen Lomberk, PhD
Qing Miao, PhD
Aoy T. Mitchell, PhD
Kirkwood Pritchard, Jr., PhD
Toku Takahashi, MD, PhD
Raul A. Urrutia, MD

Surgical Oncology–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

Surgical Oncology–Endocrine Surgery

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

Surgical Oncology–Hepatobiliary and Pancreas Surgery

Kathleen K. Christians, MD
Callisia N. Clarke, MD
Douglas B. Evans, MD*
T. Clark Gamblin, MD, MS, MBA
Edward J. Quebbeman, MD, PhD
Susan Tsai, MD, MHS

Surgical Oncology–Regional Therapies

Callisia N. Clarke, MD
T. Clark Gamblin, MD, MS, MBA
Harveshp Mogal, MD

Thoracic Surgery

Mario G. Gasparri, MD (7/18)
George B. Haasler, MD
David W. Johnstone, MD*
Paul L. Linsky, MD

Transplant Surgery

Calvin M. Eriksen, MD
Johnny C. Hong, MD
Christopher P. Johnson, MD
Joohyun Kim, MD, PhD
Terra R. Pearson, MD
Jenessa S. Price, PhD
Allan M. Roza, MD
Motaz A. Selim, MBBCh, MSC, MD
Melissa Wong, MD
Stephanie Zanowski, PhD
Michael A. Zimmerman, MD

Trauma/ACS

Marshall A. Beckman, MD, MA*
Thomas Carver, MD
Panna A. Codner, MD
Christopher S. Davis, MD, MPH
Marc A. de Moya, MD
Terri A. deRoon-Cassini, PhD
Christopher Dodgion, MD, MSPH, MBA
Anuoluwapo F. Elgebede, MsC, MD (9/18)
Joshua C. Hunt, PhD, MA
Jeremy S. Juern, MD
David J. Milia, MD*
Todd A. Neideen, MD
Jacob R. Peschman, MD
Lewis B. Somberg, MD*
Travis P. Webb, MD, MHPE

Vascular Surgery

Shahriar Alizadegan, MD*
Kellie R. Brown, MD*
C.J. Lee, MD
Brian D. Lewis, MD
Michael J. Malinowski, MD
Peter J. Rossi, MD*
Abby Rothstein, MD (9/18)*
Gary R. Seabrook, MD
Max V. Wohlauer, MD

Affiliated Institution Program Directors

Gary T. Sweet Jr., MD
Aspirus Wausau Hospital
James Rydlewicz, MD
Aurora–Grafton
Alysandra Lal, MD
Columbia St. Mary's Hospital
Joseph C. Battista, MD
St. Joseph's Hospital
John G. Touzious, MD
Waukesha Memorial Hospital

Chief Surgical Residents

(2018–2019)
Justin Dux, MD
Nathan Kugler, MD
Gregory Larrieux, MD
Rachel Landisch, MD
Stephen Masnyj, MD
Robert McMillan, MD

* Participates in Community Surgery/Off-campus locations.

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Department of Surgery
8701 Watertown Plank Road
Milwaukee, WI 53226

MARK YOUR CALENDARS

Upcoming Events

JUNE 15: Rebecca M. Minter, MD, Eberbach Visiting Professor—Medical College of Wisconsin

AUGUST 21–23: Will Chapman, MD, Adams Visiting Professor and Solid Organ Transplantation Symposium—Medical College of Wisconsin

SEPTEMBER 21: Surgical Site Infection Summit—Wilderness Resort, Wisconsin Dells

SEPTEMBER 25–26: David McFadden, MD, Schroeder Visiting Professor—Medical College of Wisconsin

SEPTEMBER 27–28: Society of Asian Academic Surgeons Annual Meeting—Pfister Hotel, Milwaukee

DECEMBER 1: Advances in Minimally Invasive General Surgery Symposium—MCW-Green Bay

JANUARY 25, 2019: MCW Pancreatic Cancer Clinical Symposium—Harley-Davidson Museum, Milwaukee

We now offer ABMS MOC Part 2 Self-Assessment credit for our Grand Rounds Lectures. Email surgeryevents@mcw.edu for more info.

Please contact Heidi Brittnacher (surgeryevents@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
- Research
- Surgical Oncology
- Transplant Surgery
- Trauma/ACS
- Vascular Surgery

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Editors:

Rana Higgins, MD

*Heidi Brittnacher, 414-955-1831 or
hbrittna@mcw.edu*

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