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FALL 2019 • VOLUME 11, NUMBER 3



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From the Chair | Douglas B. Evans, MD

PERCS (the important Perk[c]s of training at MCW)

PERCS is the mnemonic we have used to describe why 4th year medical students should choose MCW for their surgical training. Obtaining a residency position in surgery has become increasingly competitive, and we are fortunate to have such talented students from



all over the country travel to Milwaukee to view first-hand the special training program we have developed under the leadership of Dr. Matt Goldblatt and our entire faculty. Our first interview day is in October — an opportunity for us to discuss: our **People** who make this program great; our **Educational** framework, culture, and curriculum; our unique **Research** opportunities; our

Clinical experiences which surpass most all other training programs; and our **Synergy** and spirit of collaboration and professionalism. Most all who visit our department will explore and evaluate their “fit” – is there an obvious **Synergy** between what they see in us and what they perceive in themselves?

While this impression is of obvious importance, the **People**, **Educational** infrastructure, and **Clinical** and **Research** opportunities are objective measures of a program’s excellence which can be quantitated. For



example, our faculty and residents have published over 300 unique peer-reviewed manuscripts in 2018 calendar year, and they have been on the podium at countless academic meetings. Their ability to help shape and mentor the career of young residents is invaluable. Our educational curriculum is nationally known and provides an important mechanism to teach the art of surgery outside of the operating room and the patient bedside – this educational infrastructure allows our residents to peak at the highest level and become the best they can be. Research opportunities have been greatly enhanced with the development of the Division of Research under the direction of Gwen Lomberk, PhD. For many competitive fellowships, dedicated research time is a must – and importantly, that research time must be productive. The Division of Research and the ever-expanding list of faculty mentors across all of MCW insures that every resident’s research time is as productive as it can be. The **Clinical** experience at MCW across all divisions is simply unmatched in breadth and depth – from the trauma bay to our community hospital experiences to our world-renowned Children’s Hospital to the amazing and beautiful new integrated operating room platform at Froedtert Hospital. The Making of a Surgeon is indeed no mystery at MCW – our story is told almost every day! •



IN THIS ISSUE:

A Comprehensive Approach to Treating Trauma as a Disease and the Case of Violence: A New Model of Care for Those Who Carry the Largest Burden of Trauma	2
MCW Partners with Ma'Ruf Center to Teach and Inspire At-Risk Teens	4
The Use of Neoadjuvant Chemotherapy in the Treatment of Locally Advanced Rectal Cancer	6

Contralateral Prophylactic Mastectomy in Average-Risk Women: Is It Necessary?	10
Innovation and Research	12
The Growth of the Quality Minute	13
Whole Blood Trauma Resuscitation Makes an Impact	14
Leading the Way	16

Hats off to the Kentucky Derby Fundraiser	18
Faculty Listing	19
Mark Your Calendars	20

MCW Surgery
knowledge changing & saving life

A Comprehensive Approach to Treating Trauma Violence: A New Model of Care for Those



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Gun violence has hit epidemic proportions over the last decade, with Level I Trauma Centers experiencing a surge in penetrating wounds. In 2018, the United States saw the highest number of firearm deaths in 50 years.¹ Gun violence disproportionately impacts men of color, with Black American and Latino men ages 15-35 significantly more likely to die by guns than White American men of the same age.² Gun violence is the third leading cause of death for Black American men and the second leading cause of death for Latino men.³ A recent study by the Violence Policy Center found that Wisconsin had the second highest Black homicide victimization rate in the country.⁴ For those who survive bullet wounds – over 67,000 individuals in the United States annually – there is a 20-40% risk of being shot again.^{5,6} Additionally, 20% of homicide victims were treated for a gunshot-related injury in the preceding five years.⁶ Compounding the issue is a two-fold increase in risk for post-traumatic stress disorder (PTSD) and depression in patients who experience gun violence compared to those who experience non-assaultive related injury.⁷ Therefore, not only is subsequent risk for mortality higher after a gunshot wound, but there is a significant increase in the morbidity of gun violence survivors.⁸⁻¹⁰

Violence is a preventable, infectious disease disproportionately affecting urban populations at epidemic proportions.⁶ In fact, it is

acknowledged by the American Public Health Association as a public health crisis.¹¹ Like other infectious diseases, gun violence clusters, spreads in nonlinear waves, and transmits invisibly through contact with a person with the condition (i.e., perpetrator or survivor of gun violence).¹² For example, a survivor of gun violence is at an increased risk for not just further victimization but also retaliation, particularly for those injured in the very neighborhoods they live in.¹³ And, like other infectious diseases, a public health approach is needed to prevent the spread of the contagion.

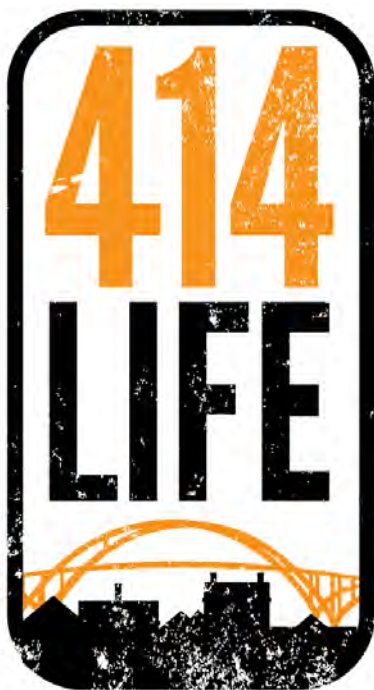
Trauma center care has reduced mortality after penetrating injury substantially since 2005.¹⁴ Yet, the significant psychological and social aspects associated with gun violence are not currently addressed in the standard of care. Trauma centers are well positioned to tackle this epidemic utilizing Hospital-Based Violence Interrupter Programs (HVIPs). Treating epidemics involves detecting and interrupting the disease by detecting persons with the condition and enabling socio-behavioral norm and environmental change to combat the spread of violence.¹² There are examples of evidence-based programs addressing violence as a disease across the United States, such as Cure Violence (Chicago, IL), Project Ujima (Children's Hospital of Wisconsin, Milwaukee, WI), and Caught in the Crossfire (Oakland, CA). For example, the Cure Violence (Chicago) program saw a 41% reduction in gunshot wounds during the program's operation.¹⁵ And while the programs can require funding up front to hire personnel, a study found that HVIPs are cost-effective for hospitals as the prevention of only 3.5 injury recidivists per year renders a program cost-neutral.¹⁶ An HVIP program overall saves hospitals an estimated \$500,000 per year, and recidivism reduction is happening with these programs. For example, the Wraparound Project in San Francisco, CA, reduced violence recidivism within 254 patients engaged in the program from 16% to 4.5% during a six-year period.¹⁷ Similarly, patients enrolled in the Bridging the Gap program at Virginia Commonwealth University's Level I Trauma Center saw not only a reduction in violence recidivism (15% to 3.6%), but also an improved emergency department resource utilization and follow-up for clinic visits, along with an increase in community service connection for mental health care and employment internships.¹⁸

At Froedtert Hospital and the Medical College of Wisconsin there exists an integrated approach to the physical and psychological care of trauma patients, with a trauma psychology program imbedded with the surgical care of patients. However, missing within this care model is an approach that helps to address the further spread of the disease of violence in a meaningful and culturally-specific way. A partnership between Froedtert Hospital, the Medical College of Wisconsin, and

Trauma as a Disease and the Case of Who Carry the Largest Burden of Trauma

the City of Milwaukee Health Department's Office of Violence Prevention (OVP) has formed to develop and implement a local HVIP. In the fall of 2018, the OVP initiated the 414LIFE program to deploy full-time violence interrupters in the community to incidents of violence in an attempt to mitigate the spread of the disease. The 414LIFE hospital arm of the program was launched in May 2019 at Froedtert Hospital – the only Adult Level I Trauma Center in the city of Milwaukee. This initiative significantly aligns with the American College of Surgeons Committee on Trauma's recent initiatives to improve morbidity and reduce mortality related to gun violence.¹⁹ The long-term goal is to evoke socio-behavioral norms and environmental changes that will help address the health disparities that are disproportionately shouldered by racial/ethnic minorities (often economically disadvantaged) in urban environments across the country. The program focuses on targeted violence intervention engagement to address behavior change with those most at-risk for future violent injury and mortality. Individuals are eligible for the program if they are presented to Froedtert Hospital with a gunshot wound, are 15-35 years of age, and injured in and/or a resident of the city of Milwaukee. If the criterion is met, then the social workers in the Emergency Department page the 414LIFE team, who deploy a trained hospital responder to meet with the patient and family, with the focus on behavior change to reduce the spread of the disease. Additionally, the hospital responder is well-versed in trauma center care and is integrated with the team, encouraging follow-ups in trauma clinic and for psychological care when needed. Therefore, the aim of the HVIP arm of 414LIFE is to also improve follow-up care for those most at risk for poor morbidity in addition to combating the disease of violence.

Since the start of the program, 89 referrals have been made to the 414LIFE team. Eighty percent have been male, with most of the injuries occurring in the evening. Research is ongoing to determine if engagement



414LIFE.com

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with follow-up care is improved in this population of patients, and long term, if there is a reduction in survivable and non-survivable gunshot wounds in the city of Milwaukee. The National Academies of Science, Engineering, and Medicine's 2016 National Trauma Care System report calls for the acceleration towards zero preventable deaths after injury and minimizing disability.¹⁴ Treating trauma as a disease and incorporating comprehensive care models that combine the biological, psychological, and social components of care are vital to reduce the spread of violence. •

FOR ADDITIONAL INFORMATION on this topic, see references, visit mcw.edu/surgery, or contact Dr. deRoon-Cassini at tcassini@mcw.edu.

REFERENCES

1. Mervosh S. Nearly 40,000 People Died from Guns in U.S. Last Year, Highest in 50 Years. The New York Times website. <https://www.nytimes.com/2018/12/18/us/gun-deaths.html>. December 18, 2018. Accessed May 29, 2019.
2. Wintemute GJ. The epidemiology of firearm violence in the twenty-first century United States. *Annual Review of Public Health*. 2015 Mar 18;36:5-19.
3. Nat'l Ctr. for Injury Prevention & Control, U.S. Centers for Disease Control and Prevention, Web-Based Injury Statistics Query & Reporting System (WISQARS) Injury Mortality Reports, 1999-2009, for National, Regional, and States (Sept. 2011), http://webappa.cdc.gov/sasweb/ncipc/dataRestriction_inj.html
4. <http://vpc.org/press/missouri-ranked-1-for-black-homicide-victimization/>
5. Fowler KA, Dahlberg LL, Haileyesus T, Annett JL. Firearm injuries in the United States. *Preventive Medicine*. 2015 Oct 1;79:5-14.
6. Sims DW, Bivins BA, Obeid FN, Horst HM, Sorensen VI, Fath JJ. Urban trauma: a chronic recurrent disease. *The Journal of Trauma*. 1989 Jul;29(7):940-6.
7. deRoon-Cassini TA, Mancini AD, Rusch MD, Bonanno GA. Psychopathology and resilience following traumatic injury: a latent growth mixture model analysis. *Rehabilitation Psychology*. 2010 Feb;55(1):1.

CONTINUED ON PAGE 4

8. DiScala C, Sege R. Outcomes in children and young adults who are hospitalized for firearms-related injuries. *Pediatrics*. 2004 May 1;113(5):1306-12.
9. Greenspan AI, Kellermann AL. Physical and psychological outcomes 8 months after serious gunshot injury. *Journal of Trauma and Acute Care Surgery*. 2002 Oct 1;53(4):709-16.
10. Richmond TS, Wiebe DJ, Reilly PM, Rich J, Shults J, Kassam-Adams N. Contributors to postinjury mental health in urban black men with serious injuries. *JAMA Surgery*. 2019 Jun 5.
11. Gun Violence. The American Public Health Association website <https://www.apha.org/topics-and-issues/gun-violence>. Updated 2019. Accessed May 30, 2019.
12. Slutkin G. Violence is a contagious disease. In contagion of violence, forum on global violence prevention, workshop summary. Institute of Medicine and National Research Council. Washington, DC: *The National Academies Press* 2013 (pp. 94-111).
13. Decker SH. Collective and normative features of gang violence. *Justice Quarterly*. 1996 Jun 1;13(2):243-64.
14. Berwick DM, Downey AS, Cornett EA. A national trauma care system to achieve zero preventable deaths after injury: recommendations from a national academies of sciences, engineering, and medicine report. *JAMA*. 2016 Sep 6;316(9):927-8.
15. Scientific Evaluations. CURE Violence website <http://cureviolence.org/results/scientific-evaluations/>. Updated 2011-2019. Accessed July 10, 2019.
16. Juillard C, Smith R, Anaya N, Garcia A, Kahn JG, Dicker RA. Saving lives and saving money: hospital-based violence intervention is cost-effective. *Journal of Trauma and Acute Care Surgery*. 2015 Feb 1;78(2):252-8.
17. Smith R, Dobbins S, Evans A, Balhotra K, Dicker RA. Hospital-based violence intervention: risk reduction resources that are essential for success. *Journal of Trauma and Acute Care Surgery*. 2013 Apr 1;74(4):976-82.
18. Aboutanos MB, Jordan A, Cohen R, Foster RL, Goodman K, Halfond RW, Poindexter R, Charles R, Smith SC, Wolfe LG, Hogue B. Brief violence interventions with community case management services are effective for high-risk trauma patients. *Journal of Trauma and Acute Care Surgery*. 2011 Jul 1;71(1):228-37.
19. Recommendations from the American College of Surgeons Committee on Trauma's Firearm Strategy Team (FAST) Workgroup: Chicago Consensus I. *Journal of American College of Surgeons*. Available at: [https://www.journalacs.org/article/S1072-7515\(18\)32155-0/fulltext](https://www.journalacs.org/article/S1072-7515(18)32155-0/fulltext).

MCW Partners Inspire At-Risk

By: Elizabeth B. Chen, Education Program Coordinator I,

Ninety-six.¹ That's how many people died by gunshot in Milwaukee last year.

As the only Level 1 Trauma Center in the Milwaukee area, Froedtert Hospital and the Children's Hospital of Wisconsin (CHW) carries the responsibility of saving the lives of those wounded by gunshot. Though Froedtert and CHW faculty have had success in limiting the number of deaths, Sabina Siddiqui, MD, recognizes that the only way to truly decrease these deaths is to focus on prevention and engage with the community.

Over the summer, Dr. Siddiqui partnered with the Ma'Ruf Center for Youth Innovation – a Lincoln Park neighborhood-based organization devoted to providing safe and educational experiences for area youth – to host a two-day program within the community and at the Children's Hospital of Wisconsin. The program, created by Dr. Siddiqui who was assisted by second-year MCW research student Afua Amoabin and administrative assistant Alyssa Graffy, took place on July 10-11, with the goal of empowering Ma'Ruf campers on how to act in vital, life-threatening situations related to gun violence. The program revamped the highly intensive ATLS curriculum into a version that the students could participate in – teaching the students health care skills, but more importantly, demystifying the role of the trauma team and reinforcing the students' ability (with proper training) to perform the tasks at hand.

On day one, Ma'Ruf campers participated in a Q&A panel, in which Medical College of Wisconsin and Children's Hospital of Wisconsin faculty discussed their role in the hospital, described their journey into medicine, and answered any of the campers' healthcare questions. The panel was followed by a "Stop the Bleed" course, sponsored by the Division of Pediatric Surgery, where campers learned the vital steps of applying pressure to wounds and calling 911. Campers also learned how to tie tourniquets, practicing on foam legs with fake wounds.

The day concluded with an intense presentation by the I Will Not Die Young Campaign,² in which speakers Muhibb Dyer and Kwabena Antoine Nixon revealed their experience with gun violence during childhood and highlighted the importance of staying out of high-risk lifestyles. The campers wrote down their goals, hopes, and

with Ma'Ruf Center to Teach and Teens

Department of Surgery



“We are a Band-Aid to the solution – a good clinician gets to the root of the problem.”

— Sabina Siddiqui, MD

dreams, helping them solidify the image of their future and steering them away from high-risk lifestyles.

“We can’t ignore what [the children] are going home to that may affect their ability to even pursue their dreams,” Amoabin said, emphasizing the importance of Dyer and Nixon’s roles in helping and inspiring the campers.

The campers’ favorite part of the program took place on the second day – the trauma simulation lab and debriefing led by surgery resident Christina Bence, MD. After spending the morning learning the ABCDs of Trauma resuscitation in a high-school friendly curriculum, the students were asked to put their newly acquiring skills to the test during a ‘shadow simulation.’ During the simulation, the campers paired up with medical students, residents, or staff, to experience treating a gunshot wound using a mannequin with gunshot wounds to the arm and stomach. While the campers applied everything they had learned over the past two days, the medical students, residents, and staff talked them through the exercise, explaining the process of treating the “patient.” Since the simulation lab was so popular, not all the campers were able to participate.

Instead, campers watched their friends on a livestream while volunteers explained what was going on.

“It was important for the campers to see their friends doing that because they identify with their friends,” Amoabin said. “So then they can more easily see themselves in those situations.”

At the end of the program, campers were given information on how to get involved with MCW Pipeline Programs and resources detailing how to start a career in healthcare.

Dr. Siddiqui’s impact with this program has expanded past the confines of Milwaukee; she has gained attention from other healthcare institutions interested in initiating similar programs, asking her to share her project proposal and innovative curriculum.

“I think that we need to, as healthcare providers, get out of the hospital and engage in the community,” Dr. Siddiqui said. “Because [restricting] ourselves to the hospital limits our ability to impact and truly engage with our patients’ lives.” •

FOR ADDITIONAL INFORMATION on this topic, contact Dr. Siddiqui at ssiddiqui@mcw.edu.

REFERENCES

1. <https://projects.jsonline.com/apps/Milwaukee-Homicide-Database/>
2. <http://www.iwillnotdieyoungcampaign.com/>

The Use of Neoadjuvant Chemotherapy in the



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Current treatment of locally advanced (stage II or III) rectal adenocarcinoma consists of neoadjuvant chemoradiation, followed by total mesorectal excision and adjuvant chemotherapy.¹ With standard treatment, approximately 8-24% of patients are able to achieve a pathologic complete response (pCR), which has been associated with decreased rates of local recurrence and improved survival.^{2,3} One possible means to increase complete response rates is to utilize neoadjuvant chemotherapy (NC), where systemic chemotherapy is given upfront in the preoperative setting, in addition to chemoradiation.

Multiple phase II clinical trials have reported positive outcomes associated with use of NC regimens, including increased disease-free survival compared to standard treatment and increased rates of complete response, which may allow for carefully selected patients to avoid an operation.⁴⁻⁷ Another possible benefit of NC is improved delivery of chemotherapy to the primary tumor if given prior to vascular disruption caused by surgery and radiation.⁷ Additionally, total mesorectal excision for rectal cancer is associated with significant morbidity that can delay or prevent adjuvant treatment.⁸ Giving chemotherapy upfront before surgery may improve tolerance and insure that all patients receive systemic therapy.^{1,9} Although the exact role of neoadjuvant chemotherapy in the treatment of rectal cancer is still under evaluation, total neoadjuvant treatment is becoming more common and is now considered by the National Comprehensive Cancer Network (NCCN) as an acceptable treatment strategy in locally advanced rectal cancer (LARC).^{1,9}

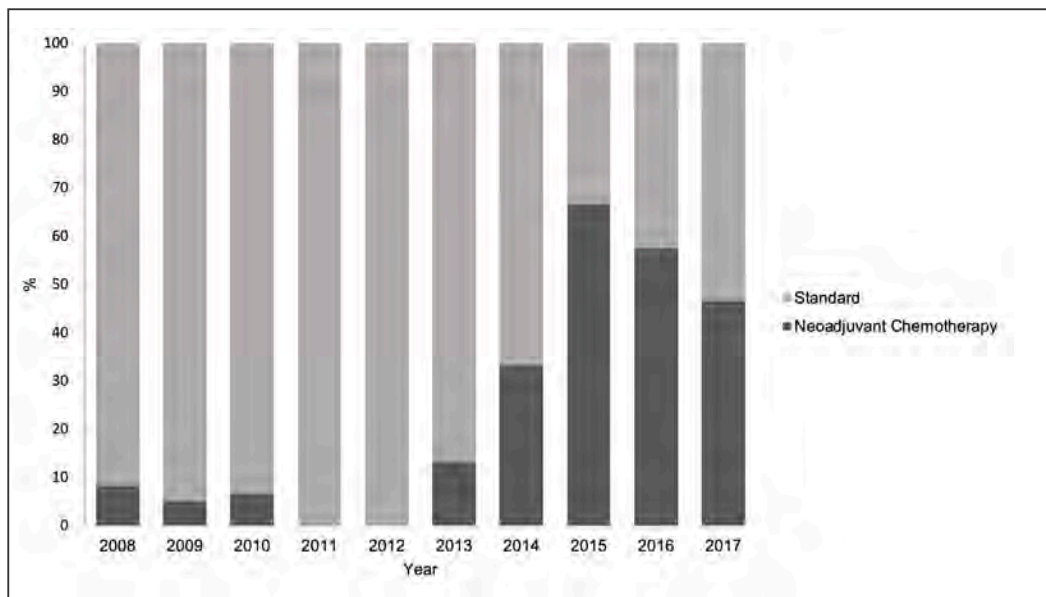


Figure 1. Frequency of institutional utilization of neoadjuvant chemotherapy over time. Use of NC in patients with LARC has significantly increased over time at our institution, from only 3.4% of patients in 2008-2012 to 48.5% in 2013-2018.

Treatment of Locally Advanced Rectal Cancer

	Standard Treatment n=134	Neoadjuvant Chemotherapy (NC) n=50	p-value
Time period, n (%)			<0.01
2008-2012	84 (62.7)	3 (6.0)	
2013-2018	50 (37.3)	47 (94.0)	
cT classification, n (%)			<0.01
1	5 (3.7)	0	
2	14 (10.4)	3 (6.0)	
3	100 (74.6)	32 (64.0)	
4	12 (9.0)	13 (26.0)	
Missing	3 (2.2)	2 (4.0)	
cN classification, n (%)			<0.01
0	34 (25.4)	4 (8.0)	
1	81 (60.4)	30 (60.0)	
2	13 (9.7)	16 (32.0)	
Missing	6 (4.5)	0	
Clinical stage, n (%)			<0.01
2	38 (28.4)	4 (8.0)	
3	96 (71.6)	46 (92.0)	
Pathologic stage, n (%)			<0.01
0	19 (14.2)	7 (14.0)	
1	35 (26.1)	6 (12.0)	
2	23 (17.2)	10 (20.0)	
3	44 (32.8)	14 (28.0)	
4	2 (1.5)	0	
No operation	9 (6.7)	13 (26.0)	
Missing	2 (1.5)	0	
Underwent planned surgery, n (%)			<0.01
Yes	125 (93.3)	37 (74.0)	
No – offered watch/wait	7 (5.2)	10 (20.0)	
No – other*	2 (1.5)	3 (6.0)	
Complete response (CR), n (%)	26 (19.4)	17 (34.0)	<0.01
Pathologic CR (pCR)	19 (14.2)	7 (14.0)	
Clinical CR (cCR)	7 (5.2)	10 (20.0)	
Clinical Stage 2	7 of n=38 (18.4)	0	
Clinical Stage 3	19 of n=96 (19.8)	17 of n=17 (100%)	

Table 1. Patient characteristics and treatment outcomes.

*Patient declined surgery or was no longer a surgical candidate due to comorbidities or metastatic disease.

We conducted a retrospective review of patients with LARC who received treatment from the Division of Colorectal Surgery at MCW from January 2008 through June 2018. Our objective was to assess patterns of NC utilization at our institution over time, comparing differences in patient characteristics and treatment response based upon the receipt of standard treatment versus NC. LARC was defined as a clinical stage II or III (cT3/T4 N0 or any cT N1/N2) rectal adenocarcinoma. Patients were excluded from the review if they were referred for treatment of recurrent disease, had metastatic disease, or did not receive chemoradiation (i.e.

underwent surgery alone or chemotherapy alone). Standard treatment was defined as neoadjuvant chemoradiation followed by planned total mesorectal excision and adjuvant chemotherapy. NC included any type of chemotherapy regimen administered in the neoadjuvant setting, excluding chemosensitizing doses delivered during radiation therapy. Pathologic complete response (pCR) was defined as no viable tumor cells in the resection specimen. Clinical complete response (cCR) was defined as no

CONTINUED ON PAGE 8

CHEMOTHERAPY CONTINUED FROM PAGE 7

evidence of disease on follow-up endoscopic or imaging evaluation. Patients were offered the option to defer surgery and to “watch and wait” if they achieved cCR. We used the term complete response (CR) to identify patients who were documented to have either a pCR or cCR.

Of the 184 patients who met inclusion criteria, 134 (72.8%) received standard treatment with chemoradiation and 50 (27.2%) received NC. There were no significant differences in age, sex, race, or BMI between the two groups. There was an increased institutional utilization of NC over time, with 3 of 87 (3.4%) patients receiving NC from 2008-2012, compared to 47 of 97 (48.5%) from 2013-2018 ($p<0.01$) (Figure 1).

The NC group included a greater proportion of patients with T4 tumors (26.0% vs. 9.0%, $p<0.01$), node-positive disease (92.0% vs. 70.1%, $p<0.01$), and clinical stage III disease (92.0% vs 71.6%, $p<0.01$) compared to the standard treatment group. The combined CR rate in the standard treatment group was 19.4% ($n=26$, with 7cCR and 19 pCR) compared to 34.0% ($n=17$, with 10cCR and 7pCR) in the NC group. In the standard treatment group, 18.4% of patients with clinical stage II disease and 19.8% of patients with clinical stage III disease achieved CR. In contrast, all patients in the NC group who achieved CR had clinical stage III disease (Table 1).

Multivariate logistic regression analysis identified NC to be significantly associated with achievement of CR (OR 3.02, 95% CI 1.37-6.67, $p=0.01$). Using cT1 disease as a reference, higher clinical T-stage was also associated with decreased likelihood of achieving CR (cT4 OR 0.06, 95% CI 0.01-0.56, $p=0.01$), though the relationship between cT2-3 disease and CR (OR 0.38, 95% CI 0.05-2.96, $p=0.32$ and OR 0.14, 95% CI 0.02-0.87, $p=0.09$, respectively) did not achieve statistical significance.

This study revealed several patterns of utilization of NC at our institution over the past ten years. Use of NC in patients with LARC has significantly increased over time, from only 3.4% of patients in the first half of our study period (2008-2012), to 48.5% in 2013-2018. This change is consistent with the timing of new updates regarding NC in the literature. Several of the larger studies investigating NC were published in the early to mid 2010s, as was the update to the NCCN guidelines that categorized total neoadjuvant treatment as an acceptable treatment pathway for LARC.

Despite typically having more advanced diseases, a greater proportion of patients who received NC at our institution were able to achieve CR, with 34.0% of NC patients achieving a pCR or cCR compared to 19.4% of those who received standard treatment regimens. The association between NC and CR remained significant after multivariate analysis, with an associated OR of 3.02. In our analysis, clinical T-stage was the only other clinical factor significantly associated with CR, with higher T-stage

associated with lower likelihood of achieving CR. Odds of achieving CR in patients with cT4 disease was 0.06 in comparison to those with cT1 tumors.

Despite the growing body of evidence supporting the use of NC in patients with LARC, it is still unknown if NC is the optimal treatment sequence for LARC; as it is not well defined. To date, the available evidence supporting the use of NC comes from retrospective review and phase II clinical studies, where there has been wide variability in the type of chemotherapy utilized, as well as duration and timing of treatment.⁴⁻⁶ This variability in the literature is reflected in our data, where multiple NC regimens were utilized during the study period. Further studies are warranted to determine if NC improves long-term outcomes and survival, and if so, which regimen is most effective. •

FOR ADDITIONAL INFORMATION on this topic, see references, visit mcw.edu/surgery, or contact Dr. Ridolfi at tridolfi@mcw.edu.

REFERENCES

1. National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines - Rectal Cancer (Version 3.2018).; 2018. https://www.nccn.org/professionals/physician_gls/PDF/rectal.pdf.
2. Maas M, Nelemans PJ, Valentini V, et al. Long-term outcome in patients with a pathological complete response after chemoradiation for rectal cancer: A pooled analysis of individual patient data. *Lancet Oncol*. 2010;11(9):835-844. doi:10.1016/S1470-2045(10)70172-8
3. García-Aguilar J, Hernandez de Anda E, Sirivongs P, Lee S-H, Madoff RD, Rothenberger DA. A pathologic complete response to preoperative chemoradiation is associated with lower local recurrence and improved survival in rectal cancer patients treated by mesorectal excision. *Dis Colon Rectum*. 2003;46(3):298-304. doi:10.1097/01.DCR.0000054637.75996.DF
4. Chau I, Brown G, Cunningham D, et al. Neoadjuvant Capecitabine and Oxaliplatin Followed by Synchronous Chemoradiation and Total Mesorectal Excision in Magnetic Resonance Imaging–Defined Poor-Risk Rectal Cancer. *J Clin Oncol*. 2006;24(4):668-674. doi:10.1200/JCO.2005.04.4875
5. Garcia-Aguilar J, Chow OS, Smith DD, et al. Effect of adding mFOLFOX6 after neoadjuvant chemoradiation in locally advanced rectal cancer: A multicentre, phase 2 trial. *Lancet Oncol*. 2015;16(8):957-966. doi:10.1016/S1470-2045(15)00004-2

6. Marco MR, Oommen S, Stamos MJ, et al. Consolidation mFOLFOX6 Chemotherapy After Chemoradiotherapy Improves Survival in Patients With Locally Advanced Rectal Cancer. *Dis Colon Rectum*. 2018;61(10):1146-1155. doi:10.1097/dcr.0000000000001207
7. Cercek A, Goodman KA, Hajj C, et al. Neoadjuvant chemotherapy first, followed by chemoradiation and then surgery, in the management of locally advanced rectal cancer. *J Natl Compr Canc Netw*. 2014;12(4):513-519. doi:10.6004/jncn.2014.0056
8. Bosset J-F, Daban A, Calais G, et al. Chemotherapy with Preoperative Radiotherapy in Rectal Cancer. *N Engl J Med*. 2006;355(11):1114-1123. doi:10.1056/nejmoa060829
9. Cercek A, Roxburgh CSD, Strombom P, et al. Adoption of Total Neoadjuvant Therapy for Locally Advanced Rectal Cancer. *JAMA Oncol*. 2018;4(6):e180071. doi:10.1001/jamaoncol.2018.0071

Please join us

American College of Surgeons Clinical Congress

**San Francisco, CA
October 28, 2019**

**You are invited to join us on
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reception during the American College of
Surgeons 105th Clinical Congress.**

**The reception will be held
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Contralateral Prophylactic Mastectomy in



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The number of women choosing to have a contralateral prophylactic mastectomy (CPM) has increased by approximately 150% over the last two decades, despite better systemic treatment options for breast cancer.¹⁻⁷ From 1998-2011, CPM rates have increased from 1.9% to 10.2% across all age groups; however, Caucasian women < 45 years of age had the largest increase from 4.8% to 30.2%.² Increases in CPM rates are largely confined to the United States with differing trends across the country.^{3,8} Greater patient awareness of tumor biology such as larger tumors, higher grade, advanced stage, and lobular histology has contributed to increases in CPM rates.^{1-3,6,9} Other trends associated with CPM included higher socioeconomic status, higher education, private insurance, receipt of a breast MRI, a female surgeon, treatment at an academic institution, and advances in reconstruction options.^{2-4,6,8-10} While some of the increases in CPM rates are secondary to increased awareness and availability of genetic testing, pathogenic gene mutations account for the minority of CPM. The majority of CPMs are in average-risk women without a pathogenic gene mutation or significant family history.

CPM rates are increasing at a time when contralateral breast cancer rates are decreasing secondary to targeted systemic chemotherapy and endocrine therapy.^{1,3,6-9} Since endocrine therapy became the standard of care in 1985, contralateral breast cancer rates have decreased by approximately 3% per year.^{5,8} A CPM will decrease an average risk of a woman's chance of going on to develop contralateral breast cancer by 91-100%; however the annual incidence of developing a contralateral breast cancer is only 0.25%-0.75%.^{1,4,6-9,11} The risk of developing contralateral breast cancer is lower than the risk of either local, regional, or distant recurrence from the index breast cancer.³ Additionally, there is no overall survival benefit to a CPM as the patient's survival will be driven by distant recurrence of the primary breast cancer.^{1-8,10-12} Portschy et al. created a decision analysis that demonstrated the absolute survival benefit of a CPM was less than 1% at 20 years across all breast cancer biology types.⁶

Women pursuing a CPM have higher surgical complication rates especially when combined with reconstruction.^{1,7,10,12} Women undergoing bilateral mastectomies with reconstruction for a unilateral

cancer have complication rates around 20%, approximately half of these complications occurring on the prophylactic side.^{8,9} Unanticipated reoperations occurred in 4% of women without reconstruction and up 64% of those who chose reconstruction on a recent Cochrane review.¹² Surgical complications can lead to delays in adjuvant breast cancer treatment.

The increasing CPM rates, combined with research demonstrating a lack of survival benefit from a CPM, prompted the American Society of Breast Surgeons to develop the Choosing Wisely recommendation in 2016: "Don't routinely perform a double mastectomy in patients who have a single breast with cancer."¹³ Surgeons are educating women on the data, yet women still desire a CPM, which demonstrates the multifaceted decision-making involved including objective risk, subjective risk, vulnerability, body image, and education.^{10,11} The overall themes describing why women elect to have a CPM in qualitative interviews are centered around moving forward after cancer and the relationship they have with their body.^{4,10,11}

Many women choose a CPM for a "peace of mind" to help control underlying anxiety they have surrounding their breast cancer diagnosis.^{3,10-12} Women prefer a CPM to avoid the potential stress of another breast cancer diagnosis and treatment plan, especially to avoid additional chemotherapy despite knowledge that their risk is low.^{10,11} Some patients were told their diagnosis of breast cancer was a rare event, therefore they do not trust the low statistics of developing a contralateral cancer.^{3,10,11} This fear drives women to overestimate both their chance of recurrence and of developing a new primary breast cancer.^{4,10,11} Women who have witnessed a family member or friend's tough battle with breast cancer report that event had a stronger influence on their own surgical decision-making over the evidence provided by their surgeon.⁴ Additionally, many women associated breast imaging with the stress and fear they felt when they received their cancer diagnosis. Therefore, a CPM can help women avoid the anxiety of routine breast screening and potential call backs/biopsies.^{1,11}

Women also desire breast symmetry and a positive body image after their surgery.^{10,11} They would like their breasts to "look, feel, and age symmetrically."¹⁰ With the advanced reconstruction options available today, many patients prefer bilateral mastectomies to achieve what they feel is the best cosmesis and symmetry that can be achieved given their situation.^{1,10} This same concept is important for some women who choose to forego breast reconstruction; they want a symmetric chest wall.¹⁰

Average-Risk Women: Is It Necessary?

In long term follow up, up to 84% of women report some dissatisfaction with their choice to have a CPM.⁴ Approximately, 82% of women never experienced the “peace of mind” they hope for with CPM, secondary to anxiety about recurrence.^{10,11} Women also had varied satisfaction with their cosmetic outcomes.^{3,11,12} Women report they did not fully understand the impact that the permanent loss of sensation across the chest wall would have with their sexual intimacy.^{4,10} Women who did not have a positive body image prior to surgery missed their native breasts more than they had anticipated, which further negatively impacted body image.^{4,10} Despite a CPM not living up to some women’s expectations, 85-100% of women are satisfied long term (10+ years) with their decision to have a prophylactic mastectomy and would do it again.^{3,11,12}

Women felt they independently made the decision to have a CPM and many times had to initiate the conversation with their surgeon.^{10,11} They reported unnecessary stress during their breast cancer treatment when they were met with resistance from their surgeon when discussing the topic of CPM. If surgeons were not open to a CPM, women were motivated to find a surgeon who would perform it.^{10,11} A woman’s decision to proceed with a CPM is multifaceted; therefore, it is important for surgeons to fully understand why a woman is interested in it.^{11,13} Breast cancer surgery itself is complex as it gives women options on how they prefer to treat their cancer that can have lasting effects on their body image and intimacy with partners. Not only do we need to consider survival benefits and surgical complications from a CPM, we also need to consider the psychological well-being of the woman. Therefore, the decision to proceed with a CPM should be shared between the patient and surgeon with the help of our psychologist specializing in oncology. •

FOR ADDITIONAL INFORMATION on this topic, see references, visit mcw.edu/surgery, or contact Dr. Patten at cpatten@mcw.edu.

REFERENCES

1. Wong, S.M., et al., Growing Use of Contralateral Prophylactic Mastectomy Despite no Improvement in Long-term Survival for Invasive Breast Cancer. *Ann Surg*, 2017. 265(3): p. 581-589.
2. Grimmer, L., et al., Variation in Contralateral Prophylactic Mastectomy Rates According to Racial Groups in Young Women with Breast Cancer, 1998 to 2011: A Report from the National Cancer Data Base. *J Am Coll Surg*, 2015. 221(1): p. 187-96.
3. Pesce, C.E., et al., Changing surgical trends in young patients with early stage breast cancer, 2003 to 2010: a report from the National Cancer Data Base. *J Am Coll Surg*, 2014. 219(1): p. 19-28.
4. Covelli, A.M., et al., ‘Taking control of cancer’: understanding women’s choice for mastectomy. *Ann Surg Oncol*, 2015. 22(2): p. 383-91.
5. Hawley, S.T., et al., Social and Clinical Determinants of Contralateral Prophylactic Mastectomy. *JAMA Surg*, 2014. 149(6): p. 582-9.
6. Portschy, P.R., K.M. Kuntz, and T.M. Tuttle, Survival outcomes after contralateral prophylactic mastectomy: a decision analysis. *J Natl Cancer Inst*, 2014. 106(8).
7. Basu, N.N., et al., Contralateral risk-reducing mastectomy: review of risk factors and risk-reducing strategies. *Int J Surg Oncol*, 2015. 2015: p. 901046.
8. Hunt, K.K., et al., Society of Surgical Oncology Breast Disease Working Group Statement on Prophylactic (Risk-Reducing) Mastectomy. *Ann Surg Oncol*, 2017. 24(2): p. 375-397.
9. Portschy, P.R., et al., Perceptions of Contralateral Breast Cancer Risk: A Prospective, Longitudinal Study. *Ann Surg Oncol*, 2015. 22(12): p. 3846-52.
10. Bloom, D.L., et al., Reframing the conversation about contralateral prophylactic mastectomy: Preparing women for postsurgical realities. *Psychooncology*, 2019. 28(2): p. 394-400.
11. Tollow, P., et al., “It felt like unfinished business, it feels like that’s finished now”: Women’s experiences of decision making around contralateral prophylactic mastectomy (CPM). *Psychooncology*, 2019. 28(6): p. 1328-1334.
12. Carbine, N.E., et al., Risk-reducing mastectomy for the prevention of primary breast cancer. *Cochrane Database Syst Rev*, 2018. 4: p. Cd002748.
13. Ramaswami, R., M. Morrow, and R. Jagsi, Contralateral Prophylactic Mastectomy. *N Engl J Med*, 2017. 377(13): p. 1288-1291.

Innovation and Research



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“The abdomen, the chest, and the brain will forever be shut from intrusion of the wise and humane surgeon.”

–Sir John Ericksen, Surgeon to Queen Victoria in England, 1837

Modern surgical practice requires the knowledge and use of amazing technology. We have robots, computed tomography, magnetic resonance, stealth, radioactive bead placement, radio frequency ablation, energy systems that cut and seal vessels, harmonic scalpels – the list goes on. This list does not even include the ingenious new pharmaceuticals that are now available. These products and devices are available because there are people with impressive minds who have the inner drive to develop something new and innovative. These innovations have undoubtedly helped our patients live longer, more productive, and satisfying lives. The story does not end, however, when a brilliant mind makes a breakthrough. In 2001, The Institute of Medicine published *Crossing the Quality Chasm*, which stated that “it now takes an average of 17 years for new knowledge generated by randomized control trials to be incorporated into practice, and even then, application is highly uneven.”²²

“Innovation” has the connotation of being wonderful and harmless. Merriam-Webster defines it as “something new or a change made to an existing product, idea, or field.”²³ We owe it to our patients to develop new and improved ways of addressing surgical challenges. We must also consider what these changes or advances do to our patients, both to their benefit and harm. Merriam-Webster defines research as “investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws.”²⁴ Research implies something a bit more involved and, by definition, suggests the discovery and revision of laws.

To me, “innovation” may be using a ureteroscope to do a laparoscopic common bile duct exploration. “Research” may be using an animal model to test a new hernia mesh to see how it behaves when placed in a biologic system. Then we use that information to infer what may happen in humans when used in a human biologic system. The exact differences between innovation and research are difficult to clearly describe, but are important challenges to master.

The Tuskegee syphilis experiments were conducted on African American males. These men had syphilis but were not fully informed of their illness. Instead, they were observed by the U.S. Public Health Service without being offered treatment so

scientists could see the natural history of untreated syphilis. There were the Nazi experiments on twins at the Auschwitz concentration camp, which yielded essentially no scientific advances, but extreme suffering on the subjects.

Rebecca Marcus, MD, one of our surgical residents, recently published *Facilitation of Surgical Innovation: Is It Possible to Speed the Introduction of New Technology While Simultaneously Improving Patient Safety*. In the article, Dr. Marcus and her research colleagues at MD Anderson Cancer Center describe the creation of a Continuous Quality Improvement Team (CQIT) made up of surgical quality officers and perioperative nurses. Surgeons come to them with new surgical devices and procedures. These devices and procedures were intensely scrutinized based on the rationale of introducing them, whether they had been used in other places in the hospital, and literature searches, among other things. This was done prior to presenting the new items or procedures to a group of surgeons and managers from the OR, who, in the past, had the final decision on whether new procedures or techniques were approved. When the pre- and post-CQIT results were compared, the results were astonishing. The total mean time to evaluation pre-CQIT to post-CQIT was 124 to 51 days ($p=0.007$) for new product requests. Device-related complications went from 10% to 0%. The authors surmised that the increased lag time for new items using the previous approval process was due to conflict within the committee, as its members had been trying to make decisions without safety information. When the safety task, among others, was shifted to the CQIT, the lag time significantly decreased.

Research and innovation are very important parts of modern surgical practice. Dr. Marcus and her colleagues at MD Anderson have shown that a comprehensive team with surgeons, administrators, and nurses can, through thoughtful deliberation, advance innovation with better outcomes.

When I was a resident, Dr. Lyle Henry, a surgeon and an alumnus of the MCW surgical training program, often asked: “Why are we so good?” The response for which he was looking was: “Because we are standing on the shoulders of giants.” With our continued research and innovation, I believe the current cohort of surgeons will provide the shoulders of future surgeons on which to stand. •

The Growth of the Quality Minute



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FOR ADDITIONAL INFORMATION on this topic, see references, visit mcw.edu/surgery, or contact Dr. Beckman at mbeckman@mcw.edu.

REFERENCES

1. Riskin DJ, et al. Innovation in Surgery A Historical Perspective. *Annals of Surgery*. 2006; 244:686-693
2. Crossing the Quality Chasm: A New Health System for the 21st Century. (2001). Committee on Quality of Health in America, Institute of Medicine.
3. <https://www.merriam-webster.com/dictionary/innovation>, accessed 6/30/19
4. <https://www.merriam-webster.com/dictionary/research>, accessed 6/30/19
5. Marcus RK, et al. Facilitation of Surgical Innovation Is It Possible to Speed the Introduction of New Technology While Simultaneously Improving Patient Safety. *Annals of Surgery*. 2019 Mar 26

The Quality Minute was a monthly addition to MCW Department of Surgery's Morbidity and Mortality conference that started in fall of 2017. It highlights an ongoing quality improvement initiative either within the department or the medical center. It is a presentation typically given by a resident on a topic of his or her choosing. The program is championed by Jon Gould, MD and was modeled after a similar program that started at the University of Pennsylvania.

The goal of the program is to facilitate the dissemination of QI projects and to increase the collaboration and dialogue regarding quality within the department. During its inaugural year, surveys were conducted and found that attendings and residents both perceived the program as a positive addition to the M&M conference. The project was embraced this year by the department; presentations were primarily undertaken by the members of the Resident Hospital Administration Committee.

In this second year of the Quality Minute, we have had presentations on the Surgical Collaborative of Wisconsin, as well as multiple hospital-wide initiatives, including the implementation of Ventilator-Associated Pneumonia rates and bundles to decrease incidence and pneumothoraces after central line placement and mandating all providers placing lines undergo a course. New quality policies were also highlighted, including venous thromboembolism prophylaxis, the inclusion within order sets – initiating a notification policy when important medications such as VTE prophylaxis or cardiac medications are refused by patients – and a new urinary retention protocol. The Discharge When Medically Ready Quality Improvement Project that FMLH has undertaken was also discussed with the rollout of the project's pilot. Quality metrics were reviewed, including readmission rates and the importance of reviewing these incidents, surgical site infection incidence notably in colorectal surgery, and hand-hygiene practices.

There was also a focus and multiple presentations on incident reporting as the residents have undertaken this as a project to increase the reporting of safety events. These presentations overviewed the basics of safety events, what should be reported, and what happens once an event is reported. Increases in reporting have previously been shown to be important in establishing a culture of safety. We hope to have follow-up presentations to assess how resident reporting changes over the coming months.

If you know of any ongoing quality improvement projects you would like to highlight in a future presentation, please contact Dr. Jon Gould, and we will be happy to discuss and facilitate that. We hope this monthly presentation continues to improve collaboration between divisions, facilitate resident involvement in quality projects, and increase the quality of dialogue within the department. •

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

Whole Blood Trauma Resuscitation



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This fall, Froedtert and the Medical College of Wisconsin will celebrate one year of offering low titer type O whole blood for the resuscitation of trauma patients. This makes Froedtert & MCW part of a relatively small number of trauma facilities in the United States to offer whole blood transfusion, keeping us on the forefront of evidence-based resuscitation and delivery of trauma care. Bringing whole blood to Froedtert & MCW was the result of a concerted effort by David Milia, MD, the Froedtert and MCW Trauma Medical Director; Marc de Moya, MD, the Chief of the Division of Trauma and Acute Care Surgery; Angela Trembl, MD, the Medical Director of Transfusion Medicine at the Froedtert Blood Bank; and Jonathan Rubin, MD, Froedtert/MCW Emergency Medicine.

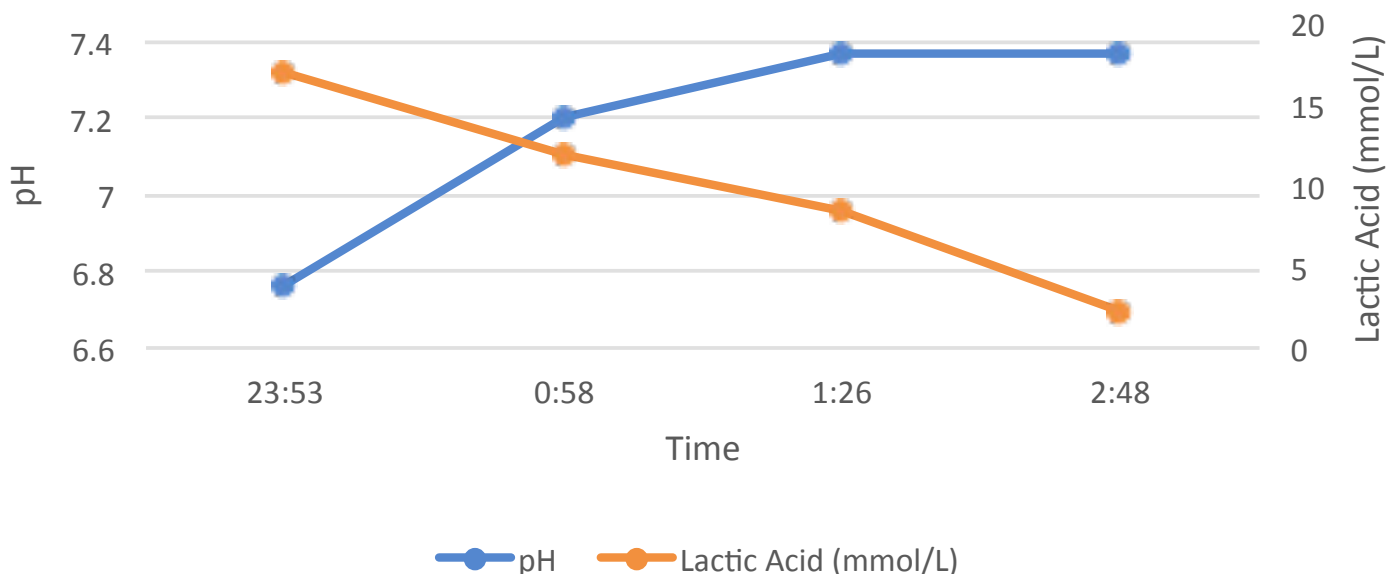
The art and science of trauma resuscitation has evolved substantially over time and has been influenced significantly by military research and advances in the care of combat injuries.^{1,2} During World War I, whole blood was the standard of care for trauma transfusions, however, the availability of whole blood was limited by storage considerations and blood banking technology of that time. The addition of freeze dried plasma as a resuscitative fluid in World War II solved some of the storage and transport issues, but whole blood was still utilized to a degree in military hospitals. In the

post-war era, rapid advancements in blood banking technology and blood fractionation allowed for the separation of whole blood into component therapies of packed red blood cells, fresh frozen plasma, pooled platelets and cryoprecipitate. The advantages of fractionated blood components are longer storage times, directed transfusions to specific blood deficiencies (i.e. platelet transfusion for thrombocytopenia), and logistical ease in the civilian arena.

Volume resuscitation in trauma evolved over the next 30 years to include massive amounts of crystalloid fluids and experiments in various colloidal fluids, before returning to blood products as the primary resuscitative fluid. Numerous military and civilian investigations sought to identify the ideal ratio of transfused blood product components for patients in hemorrhagic shock, including the PROMMTT and PROPPR trials.³⁻⁵ A 1:1:1 blood component transfusion ratio attempts to reconstitute one unit of whole blood, however, component transfusion is relatively anemic, thrombocytopenic, and has diminished coagulation factor activity in comparison to whole blood.¹ Additional research shows that the length of a transfusion significantly impacts the mortality of traumatically injured patients with a 5% increase in mortality for every minute delay in transfusion.⁶ Thus, some trauma centers in the US have adopted whole blood as the first line resuscitative fluid, including Froedtert and the Medical College of Wisconsin.

Whole blood transfusion at Froedtert has already made a difference for one of our patients. Recently, a middle-aged male sustained multiple stab wounds to torso, upper, and lower extremities, and presented in extremis to the trauma bay via EMS. There was brisk venous hemorrhage from a

Figure 1: Timeline of Resuscitation



Makes an Impact

large axillary stab wound. His carotid pulse was extraordinarily weak. Whole blood massive transfusion protocol was initiated within one minute of arrival and temporary hemorrhage control obtained with combat gauze and pressure, as it was not amenable to tourniquet application due to its junctional location. The patient was transfused four units of whole blood and additional resuscitative maneuvers included intubation and a left tube thoracostomy. An arterial blood gas obtained in the trauma bay returned with a pH of 6.76 and a lactic acid of 17 mmol/L, which was consistent with the patient's profound Class 4 hemorrhagic shock. Traumatically injured patients presenting with this degree of shock have markedly high morbidity and mortality rate. Animal models of hemorrhagic shock have demonstrated a >75% probability of death with a lactate >16 mmol/L after injury.⁸

Within 14 minutes of arrival, the patient was transported to the OR, where the axillary wound was explored and rapid control of hemorrhage was obtained. The axillary vein had been transected and was tied off. Serendipitously, the axillary artery was uninjured. Several other lacerations and injuries were repaired. The patient received an additional three units of pRBCs, two units of FFP and one unit of platelets in the OR.

Whole blood trauma resuscitation allowed for rapid volume resuscitation in this hypovolemic patient. In conjunction with expeditious operative hemorrhage control, whole blood transfusion successfully corrected the patient's profound acidosis. His pH was normalized in just over 90 minutes. He was extubated the next day with no neurologic impairment other than ulnar nerve deficit due to traumatic transection from his injuries. His post-operative course was relatively uncomplicated other than a DVT in the affected arm. Our patient had an excellent clinical outcome after presenting with life-threatening injuries due in part to the availability of whole blood transfusion and the multi-disciplinary efforts of Trauma Surgery, Emergency Medicine, Anesthesia, and the Blood Bank. The adoption of whole blood into our massive transfusion protocol represents the cutting edge of trauma resuscitation science. Currently, Froedtert and the Medical College of Wisconsin's Level I Trauma Center is the only facility in Wisconsin to offer the live-saving therapy of whole blood transfusion to our patients. •

FOR ADDITIONAL INFORMATION on this topic, see references, visit mcw.edu/surgery, or contact Dr. Streams at jstreams@mcw.edu.

REFERENCES

1. Seheult JN, Bahr MP, Spinella PC, Triulzi DJ and Yazer MH. The Dead Sea needs salt water ... massively bleeding patients need whole blood: The evolution of blood product resuscitation. *Transfus Clin Biol* 2019 Jun 15. pii: S1246-7820(19)30068-0
2. Borgman MA, Spinella PC, Perkins JG, et al. The ratio of blood products transfused affects mortality in patients

receiving massive transfusions at a combat support hospital. *J Trauma*. 2007;63(4):805–813

3. Holcomb JB, del Junco DJ, Fox EE, et al. PROMMTT Study Group. The Prospective, Observational, Multicenter, Major Trauma Transfusion (PROMMTT) study: comparative effectiveness of a time-varying treatment with competing risks. *JAMA Surg*. 2013;148(2):127–136.
4. Holcomb JB, Tilley BC, Baraniuk S et al. Transfusion of Plasma, Platelets, and Red Blood Cells in a 1:1:1 vs a 1:1:2 Ratio and Mortality in Patients with Severe Trauma. The PROPPR Randomized Clinical Trial. *JAMA* 2015;315(5):471-482.
5. Langan NR, Eckert M, Martin MJ. Changing patterns of in-hospital deaths following implementation of damage control resuscitation practices in US forward military treatment facilities. *JAMA Surg*. 2014;149(9):904–912.
6. Meyer DE, Vincent LE, Fox EE, et al. Every minute counts: Time to delivery of initial massive transfusion cooler and its impact on mortality. *J Trauma Acute Care Surg*. 2017;83(1):19–24.
7. Murdock A, Berseus O, Hervig T, Strandenes G and Lunde TH. *Whole Blood: The Future of Traumatic Hemorrhagic Shock Resuscitation*. *Shock* 2014 May;41 Suppl 1:62-9
8. Dunham CM, Siegel JH, Weireter L et al. Oxygen debt and metabolic acidemia or quantitative predictors of mortality and the severity of the ischemic insult in hemorrhagic shock. *Crit Care Med* 1991;19:231.

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Leading the Way

HONORS AND AWARDS

AAES MCW - Stuart D. Wilson, MD Historical Lectureship

At the 40th Annual Meeting of The American Association of Endocrine Surgeons (AAES), Dr. Stuart Wilson was honored with the *Medical College of Wisconsin – Stuart D. Wilson, MD, Historical Lectureship*. This will be an annual historical lectureship. Dr. James McClintock was the inaugural speaker. Pictured are Dr. Herb Chen, President of AAES; Dr. James McClintock, inaugural speaker; and Dr. Stuart Wilson.



Alonzo P. Walker, MD, Recipient of the Distinguished Service Award



Alonzo P. Walker, MD, received the Distinguished Service Award at MCW's Convocation Ceremony on Sept. 19. This award is the institution's highest faculty and staff honor. Dr. Walker, Ruth Teske Professor of Surgical Oncology, joined MCW in 1983.

An accomplished clinician, educator, scientist, leader, and mentor, Dr. Walker has served MCW with distinction for more than 35 years. During that time, he has developed a renowned clinical program for treating breast

cancer, enrolled countless patients in clinical trials, trained great residents, and has advanced diversity and inclusion at MCW.

Dr. Walker has been a driving force in the development of the Froedtert & MCW Breast Cancer Program, which has earned tremendous regional and national recognition for providing comprehensive care. He served as director of the Breast Cancer Program from 1990-2009. As a clinician, clinical scientist and leader, Dr. Walker helped create an interdisciplinary program with multidisciplinary review of all patients and set an expectation of meeting the highest quality standards in each element of care. He has been very active in clinical research over his career and was instrumental in growing the cooperative group clinical trial portfolio within the department of surgery. He led MCW's participation in large national clinical trials and coauthored manuscripts that have shaped the treatment of breast cancer. Dr. Walker's publication record reflects his devotion to modern, evidence-based multidisciplinary care and strong collaborations. In recognition of his exemplary reputation as a leading surgical oncologist, Dr. Walker was appointed the Ruth Teske Professor of Surgical Oncology in 2005.

As an institutional leader, Dr. Walker has contributed in a multitude of ways beyond breast cancer management, including serving as chief of the division of general surgery (2005-2011); director of the general surgery residency program (1995-1997, 2006-2011); chief of staff for Froedtert Hospital (2002-2005); and senior associate dean for faculty affairs and diversity (2010-2016). Dr. Walker is noted for his calm leadership style and selfless service. He spearheaded MCW's first formal diversity and inclusion efforts, including the creation of the Spring Festival of Cultures, the President's Diversity and Inclusion Awards, and the implementation of the National Coalition Building Institute (NCBI) workshops. More than 5,000 MCW community members have attended an NCBI workshop and advanced conversations to enhance a culture of diversity and inclusion.

Dr. Walker also is a dedicated teacher and mentor. He was recognized as an outstanding surgical educator by MCW medical students in 1998 and has continued to remain committed to the education of medical students and residents. Dr. Walker has served as a role model for so many; his impact on this department has been priceless. Lastly, Dr. Walker's approach to patient care and his dedication to patients and their families is legendary. He views every patient encountered as a precious gift from each patient that should not be taken for granted. All of us are grateful that Dr. Walker chose to spend his life at MCW; he defines what it means to be a doctor.

Please join us on Friday, November 22 to honor Dr. Walker at the MCW Survivorship Symposium at the Crowne Plaza Hotel, from 1-5:30 pm.

For more information and to register, please visit ocpe.mcw.edu/surgery.

NEW FACULTY

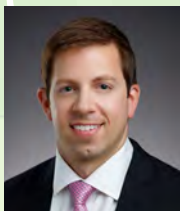
Pediatric General and Thoracic Surgery



Jack G. Schneider, MD, Assistant Professor of Surgery, returned to Wisconsin in August to join the Department of Surgery faculty from Pediatric Surgeons of West Michigan in Grand Rapids. He earned his medical degree from MCW and completed general surgery residency training at the University of Vermont in Burlington. Dr. Schneider completed a clinical

fellowship at the Colorectal Cancer Center for Children at Cincinnati Children's Hospital followed by a pediatric surgical critical care fellowship at MCW and Children's Hospital of Wisconsin. He also completed a pediatric surgery fellowship at the Children's Hospital at the University of Oklahoma Medical Center. Dr. Schneider will provide clinical care to patients of the General and Thoracic Pediatric Surgery service and serve as the Medical Director for Pediatric Surgery Critical Care at Children's Hospital of Wisconsin. He will also be the Associate Program Director for the Pediatric Surgery Critical Care Fellowship.

Surgical Oncology – Breast Surgery



Chandler S. Cortina, MD, Assistant Professor of Surgery, joins the Department of Surgery faculty this month after completion of a breast surgical oncology fellowship at the Lynn Sage Breast Center, Northwestern University Feinberg School of Medicine in Chicago, Illinois. He earned his medical degree from Louisiana State University Health Sciences Center

School of Medicine and did general surgery residency training at Rush University Medical Center and John H. Stroger Hospital of Cook County in Chicago. Dr. Cortina will provide clinical care to patients of the Surgical Oncology-Breast service at Froedtert & the Medical College of Wisconsin's Breast Care Center.

Surgical Oncology – Endocrine Surgery



Sophie Y. Dream, MD, Assistant Professor of Surgery, joins the Department of Surgery faculty after completion of an endocrine surgery fellowship at the University of Alabama at Birmingham. Dr. Dream earned her medical degree from the University of Cincinnati and completed surgery residency training at Henry Ford Hospital in Detroit, Michigan. Dr. Dream

will provide clinical care to patients of the Surgical Oncology-Endocrine service at Froedtert Hospital and the General Surgery service at the Zablocki VA Medical Center.

Trauma/ACS



Rachel S. Morris, MD, Assistant Professor of Surgery, joins the Department of Surgery faculty this month following completion of a surgical critical care fellowship at the University of Minnesota in Minneapolis. She earned her medical degree from Jefferson Medical College in Philadelphia. Dr. Morris

completed general surgical residency training at MCW and a two-year research fellowship at the University of Texas M. D. Anderson Cancer Center in Houston. She also did a postdoctoral fellowship at the University of Texas in San Antonio. Following residency training, she completed a quality and safety fellowship in the Division of Trauma and Acute Care Surgery, with our Department of Surgery. Dr. Morris will provide clinical care to patients of the Trauma, Acute Care Surgery and Critical Care services at Froedtert Hospital.

Vascular and Endovascular Surgery



Joseph P. Hart, MD, RVT, RVPI, Associate Professor of Surgery and Radiology, joins the Department of Surgery faculty this month from Eastern Maine Medical Center in Bangor. Dr. Hart earned his medical degree from Northwestern University Feinberg School of Medicine in Chicago, Illinois. Dr. Hart completed general surgery residency and fellowship training in vascular

surgery in the Department of Surgery at MCW. He also completed a research fellowship in the Department of Cardiothoracic Surgery at Columbia University College of Physicians and Surgeons in New York and a fellowship in advanced carotid and peripheral endovascular intervention at AZ Sint Blasius Hospital in Dendermonde, Belgium. Most recently, he completed an Executive Master of Healthcare Leadership from Brown University in Providence, Rhode Island. Dr. Hart will provide clinical care of patients at Froedtert Hospital.



Mona S. Li, MD, Assistant Professor of Surgery, joins the Department of Surgery faculty this month from Eastern Maine Medical Center in Bangor. Dr. Li earned her medical degree from the Medical College of Wisconsin, where she was recruited to complete her training in the general surgery residency program in the Department of Surgery. Subsequently, she completed a

Fellowship in Surgery (Phlebology) at the University of Rochester, Division of Vascular Surgery in Rochester, New York followed by an NIH T-32 Postdoctoral Fellowship at the Medical University of South Carolina, Department of Medicine, Division of Cardiology in Charleston, South Carolina. Dr. Li will provide clinical care of patients at the Tosa Health Center FORME Vein Clinic and at Froedtert Hospital.



Neel A. Mansukhani, MD, Assistant Professor of Surgery and Radiology, joined the Department of Surgery faculty in August. He earned his medical degree from University of Illinois at Chicago. He completed an integrated vascular surgical residency at Northwestern University McGraw Medical Center and a post-doctoral fellowship at Northwestern University Simpson Querrey

Institute for BioNanotechnology and Medicine in Chicago. Dr. Mansukhani will provide clinical care of patients at the Zablocki VA Medical Center and at Froedtert Hospital. •

Hats off to the Kentucky Derby Fundraiser

By Meg M. Bilicki, Director of Development, Department of Surgery

Milwaukee residents don't have to travel south to experience the thrill and extravagant garb of the Kentucky Derby.

For the second year in a row, the We Care Committee hosted its Derby de Mayo fundraiser on May 4, 2019, at Engine Company No. 3 in Milwaukee. The event supported the We Care Fund for Medical Innovation and Research, providing seed funds for physician-scientists in the MCW Department of Surgery.

We Care Committee Chair Arlene Lee said the idea for the Kentucky Derby party arose from the group's seasonal fundraiser last year, when they held a "Derby de Mayo" celebration in honor of Cinco de Mayo and the Kentucky Derby.

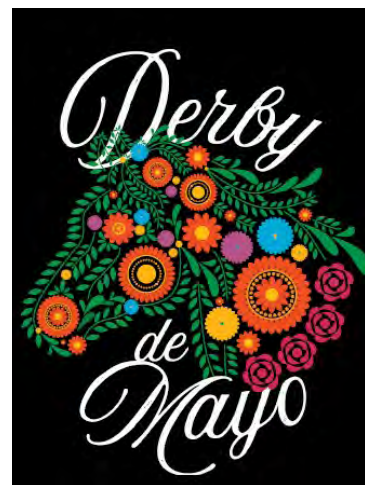
A rousing success in its inaugural year, the first fundraiser generated \$40,000 to advance the science of surgical specialties – that amount was doubled this year. This year's event established the Maggy Zito Schultz We Care Award in memory of a former committee member who was passionate about raising money to support innovative medical research – and who always enjoyed a good party.

Although not required, guests sported their extravagant outfits and extreme accessories while enjoying mint juleps and talking about thoroughbreds.

"It is a fun way to raise money for a good cause and have a wonderful time," said event co-chair Betsy Evans. "People get dressed up and become a part of the Kentucky Derby excitement, even if only from afar."

In addition to a fabulous silent auction, the fundraiser allowed people to buy raffle tickets supporting the horse they expected to win (or lose) the derby. At the end of the day, all proceeds were designated toward the We Care Fund. "This year we raised \$82,000," Lee said. "We are proud to have raised more than \$1.1M for the We Care Fund and awarded 19 grants within the past six years."

The success of the event would not have been possible without the support of many individuals and businesses in the local community. ●



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Upcoming Events

OCTOBER 23: John Waldhausen, MD, Schroeder Visiting Professor

**OCTOBER 25: MCW Pancreatic Cancer Translational Science Forum –
Froedtert Hospital – Cancer Center**

**OCTOBER 28: American College of Surgeons Clinical Congress Reception –
San Francisco, CA**

NOVEMBER: 13: Brian Dunkin, MD, Mendeloff Visiting Professor

**NOVEMBER 22: MCW Survivorship Symposium, celebrating Dr. Alonzo
Walker's Career – Crowne Plaza Milwaukee West**

**DECEMBER 7: Updates in General Surgery Symposium –
MCW-Green Bay Campus**

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

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Leading the Way is published three times yearly by The Medical College of Wisconsin – Department of Surgery, 8701 Watertown Plank Road, Milwaukee, WI 53226 ©2019

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