



**AMERICAS HERNIA SOCIETY  
QUALITY COLLABORATIVE FOUNDATION**  
**ANNUAL REPORT**  
**2019**

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# PRESIDENT'S MESSAGE

On behalf of the entire AHSQC Foundation Board, thank you to our patients, surgeons, FDA colleagues and Foundation partners who share our vision and continue to invest their time and resources in support of our endeavors. Your dedication is truly inspiring.



It is an honor to share the progress we have made together as a Collaborative over this past year. To say I'm proud and humbled by our collective achievements would be an understatement.

The AHSQC continued to grow, with increasing numbers of surgeon participants and procedures captured. Our ranks now include over 400 surgeons across the country who collectively donate thousands of hours to the AHSQC each year. Thanks to their commitment, the AHSQC registry surpassed 50,000 patients mid-year and by December contained data from close to 60,000 patients. With patients at the core of the AHSQC's mission, we continually strive to understand and improve their experiences – before, during and after surgery. This year the AHSQC took several opportunities to team up with health care providers in other disciplines, extending our collaborative reach. AHSQC surgeons forged dynamic interrelationships with colleagues specializing in pain management, anesthesiology, physical therapy, occupational therapy, nursing and rehabilitation services, and jointly created several interactive and engaging tools for patients and their care providers. These include

our AHSQC mobile app, Abdominal Core Surgery Patient and Physical Therapy Rehabilitation Guides, and informational handouts to educate patients on the risk of opioids and offer alternative pain management options following hernia surgery.

We know that providing these tools to patients can help play a tremendous role in enhancing surgical outcomes. Patients who are engaged and educated ultimately become more informed decision makers who we hope feel more empowered to dialog with their care providers and take a more active role in the management of their individual care.

The AHSQC is a preeminent source of high quality, comprehensive, clinically relevant information on hernia surgery. We continue to relentlessly search for data-driven answers to questions surrounding our treatment of hernia patients in order to optimize outcomes. The bibliography of peer-reviewed publications utilizing AHSQC data analyses has now reached 40, with 14 new articles published in high impact journals in 2019.

Professional development remains a top priority of the AHSQC. Building on the success of last year's inaugural Quality Improvement Summit, we closed 2019 by hosting our second QI Summit "A Collaborative Approach to Improving the Hernia Patient Experience - Spotlight on Optimizing Umbilical Hernia Repair" in December. The meeting facilitated networking with peers and collaborative learning during interactive sessions. Attendees discussed approaches to continually improve techniques with high performing colleagues and considered best practice suggestions to implement when returning home. AHSQC offers unique coaching and video mentoring programs which were featured at the Summit as opportunities for further training and development. Post-meeting survey feedback was phenomenal with 100% of surgeons rating their overall satisfaction with the QI Summit and the overall value to their practice as Excellent (88%) or Good (12%). I'm excited to share that plans for the 2020 QI Summit are already underway.

We continue to forge relationships at the federal level. The AHSQC helps direct the FDA's MDEpiNet Abdominal Core Health Coordinated Registry Network which has made significant progress in developing unique methods to enhance post-market surveillance. And, once again, the AHSQC was recognized by CMS as a Qualified Clinical Data Registry. 2019 was a tremendous year of growth in service to our community of patients, surgeons, care teams and partners. We enter the new decade energized and fully committed to our mission to improve hernia patient care. We welcome you to join us.

A handwritten signature in black ink, appearing to read "mf", written in a cursive style.

Michael Rosen, MD  
Medical Director  
Americas Hernia Society Quality Collaborative  
rosenm@ccf.org

# 2019 LEADERSHIP

## GOVERNING BOARD



Michael Rosen, MD  
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AHSQC Medical Director



Benjamin Poulouse, MD, MPH  
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## MEMBERS AT LARGE



Ajita Prabhu, MD



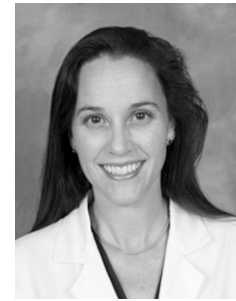
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William Hope, MD



David Webb, MD



Rebecca Petersen, MD

### EXECUTIVE DIRECTOR

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Nicole Goddard

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### RESIDENT/FELLOW RESEARCH GRANT COMMITTEE

Jake Greenberg, MD, EdM  
David Webb, MD

### OPIOID REDUCTION TASK FORCE CHAIR

Michael Reinhorn, MD

### INGUINAL HERNIA TASK FORCE

David Chen, MD  
Jeffrey Blatnik, MD  
Richard Pierce, MD

### ABDOMINAL CORE SURGERY REHABILITATION WORKING GROUP CHAIR

Benjamin Poulouse, MD, MPH

# OVERVIEW

Through collaboration among our stakeholders, the AHSQC utilizes continuous quality improvement methods and a systematic, user-friendly patient-centric approach to streamline real world data collection from hernia procedures.

Our process allows for systematic collection of clinically relevant information including pre-, intra- and post-operative details that can be critically analyzed to identify areas where patient outcomes may be enhanced. We share this information widely via multiple avenues and across a range of platforms to maximize our direct impact on hernia patient care.

The AHSQC provides best practices, decision support, care pathways and ongoing performance feedback to participants and partners. The AHSQC is a CMS Qualified Clinical Data Registry and is an authoritative resource for organizations to assess quality metrics and demonstrate a commitment to efficient, value-based patient centered hernia care. Participation in the AHSQC can help surgeons fulfill Part 4 of the American Board of Surgery Maintenance of Certification Program.

## ***Our Mission***

***To maximize quality and value of hernia care through collaboration***

## **AHSQC GUIDING PRINCIPLES**

- We are steadfastly committed to our patients and their quality of life
- We strive to enhance hernia patient experiences with everything we do
- We foster collaboration among all stakeholders in the continuum of hernia patient care
- We aspire to be the leading source of the highest quality, most comprehensive, clinically relevant real world data on hernia surgery
- We provide meaningful data-driven analyses and materials of value to our stakeholders
- We share our resources broadly for the greater good of hernia patients and their care teams
- We use our collective real world experiences as our teacher

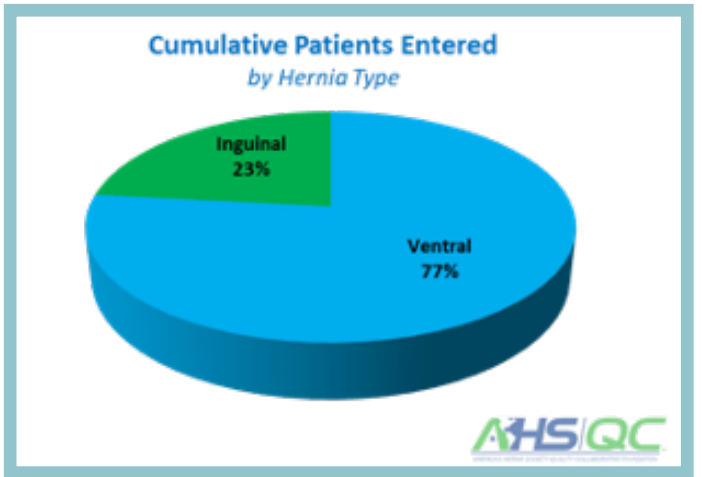
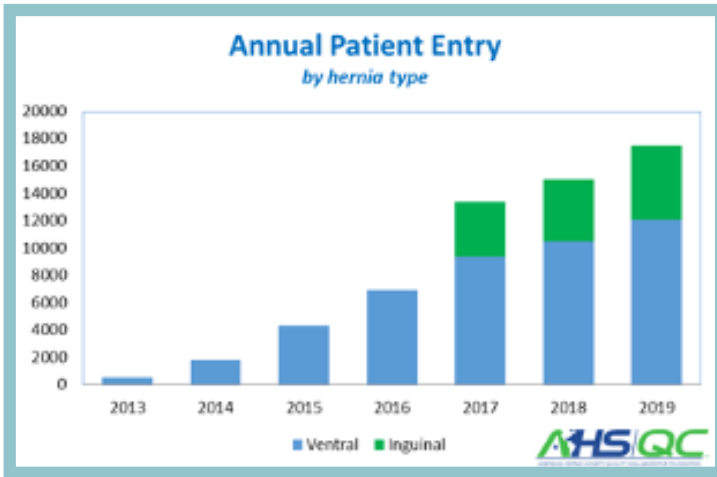
# COLLABORATIVE ENGAGEMENT

Surgeons and healthcare providers recognize the tremendous value the AHSQC brings to the care of hernia patients as demonstrated by increasing membership and participation in the Collaborative. AHSQC closed 2019 with over 400 participating surgeons in private practice and academic institutions across the country. Over the past 4 years, the number of surgeons involved in the Collaborative has grown 129%.

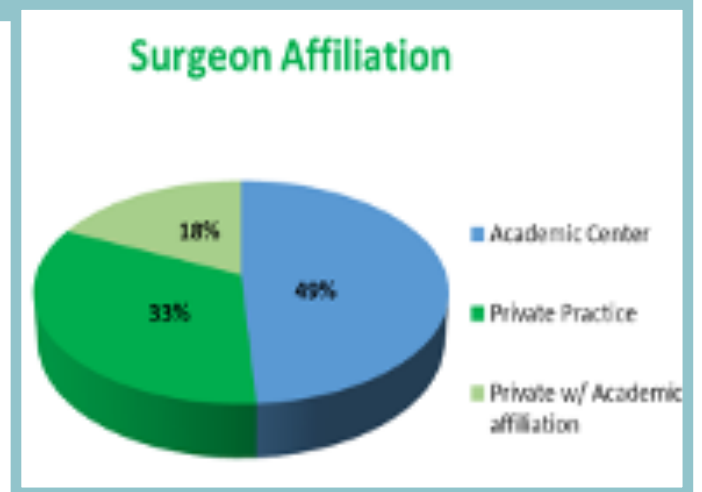
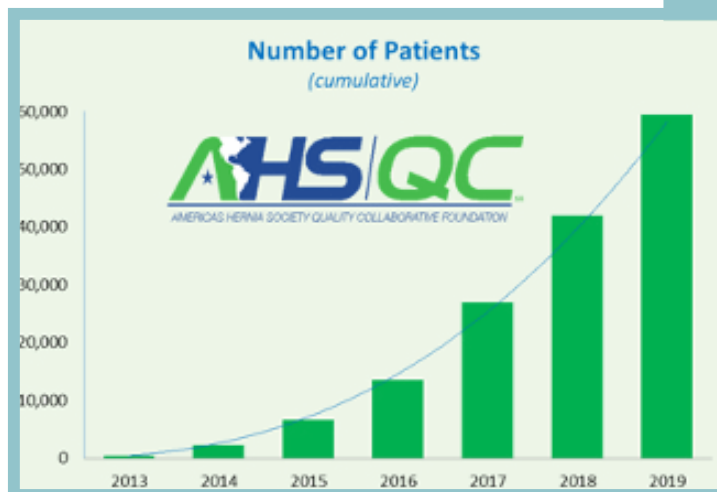


The AHSQC registry captures extensive information on a variety of hernia surgical procedures including ventral and inguinal cases. Cumulatively, millions of data points collected from close to 60,000 cases are held securely in the AHSQC registry.

Over the past 2 years, the data collected on inguinal hernias has expanded, with approximately 30% of the patients entered in 2019 treated for an inguinal hernia. Overall, inguinal hernia procedures now represent close to one quarter of all cases captured in our Registry.



Surgeon Participants  
129%  
over 4  
years



# COLLABORATIVE IMPACT

## EVALUATING REAL WORLD DATA TO UNDERSTAND REAL WORLD OUTCOMES

The AHSQC welcomes rigorous analysis and review of the data collected in our Registry. In order to encourage clinically relevant research, AHSQC offers high level analytic resources to participating surgeons who may not otherwise have access to biostatisticians. Requests for research data are reviewed and approved by the AHSQC Data Use and Publications Committee and analyses are performed in partnership between the requesting surgeon or group and the AHSQC Data Analytics Centers. This service is provided free of charge to participating AHSQC surgeons.

14  
NEW Peer Reviewed  
Papers

## 2019 PEER REVIEWED PUBLICATIONS

Fourteen new peer reviewed papers were published in high impact journals in 2019. This brings the total number of publications utilizing AHSQC data to 40.

1. An Evaluation of Fascial Closure Techniques in Open Ventral Hernia Repair: Practice Patterns and Short-Term Outcomes. Fox SS, Huang LC, Hooks WB 3rd, Fischer JP, Hope WW. *Am Surg*. 2019 Nov 1;85(11):1213-1218.
2. Primary uncomplicated midline ventral hernias: factors that influence and guide the surgical approach. Alkhatib H, Fafaj A, Olson M, Stewart T, Krpata DM. *Hernia*. 2019 Oct;23(5):873-883. doi: 10.1007/s10029-019-02051-2. Epub 2019 Oct 10.
3. Outcomes of transversus abdominis release (TAR) with permanent synthetic retromuscular reinforcement for bridged repairs in massive ventral hernias: a retrospective review. Alkhatib H, Tastaldi L, Krpata DM, Petro CC, Fafaj A, Rosenblatt S, Rosen MJ, Prabhu AS. *Hernia*. 2019 Sep 23. doi: 10.1007/s10029-019-02046-z. [Epub ahead of print]
4. Telescopic dissection versus balloon dissection for laparoscopic totally extraperitoneal inguinal hernia repair (TEP): a registry-based randomized controlled trial. Tastaldi L, Bencsath K, Alaedeen D, Rosenblatt S, Alkhatib H, Tu C, Fafaj A, Krpata DM, Prabhu AS, Petro CC, Rosen MJ. *Hernia*. 2019 Aug 6. doi: 10.1007/s10029-019-02001-y. [Epub ahead of print]
5. Impact of modifiable comorbidities on 30-day wound morbidity after open incisional hernia repair. Alkhatib H, Tastaldi L, Krpata DM, Petro CC, Huang LC, Phillips S, Fafaj A, Rosenblatt S, Rosen MJ, Prabhu AS. *Surgery*. 2019 Jul;166(1):94-101. doi: 10.1016/j.surg.2019.03.011.
6. Review of inguinal hernia repair techniques within the Americas Hernia Society Quality Collaborative. AlMarzooqi R, Tish S, Huang LC, Prabhu A, Rosen M. *Hernia*. 2019 Jun;23(3):429-438. doi: 10.1007/s10029-019-01968-y.
7. Posterior component separation with transversus abdominis release (TAR) for repair of complex incisional hernias after orthotopic liver transplantation. Tastaldi L, Blatnik JA, Krpata DM, Petro CC, Fafaj A, Alkhatib H, Svestka M, Rosenblatt S, Prabhu AS, Rosen MJ. *Hernia*. 2019 Apr;23(2):363-373. doi: 10.1007/s10029-019-01918-8.

8. Comparison of Outcomes After Partial Versus Complete Mesh Excision. Kao AM, Arnold MR, Otero J, Huang LC, Prasad T, Lincourt AE, Augenstein VA. *Ann Surg.* 2019 Jan 17. doi: 10.1097/SLA.0000000000003198.
9. Development and Validation of the Ventral Hernia Repair Outcomes Reporting App for Clinician and Patient Engagement (ORACLE). Haskins IN, Olson MA, Stewart TG, Rosen MJ, Poulouse BK. *J Am Coll Surg.* 2019 May 2. pii: S1072-7515(19)30235-2. doi: 10.1016/j.jamcollsurg.2019.03.014. [Epub ahead of print]
10. History of surgical site infection increases the odds for a new infection after open incisional hernia repair. Tastaldi L, Petro CC, Krpata DM, Alkhatib H, Fafaj A, Tu C, Rosenblatt S, Prabhu AS, Poulouse BK, Rosen MJ. *Surgery.* 2019 Jul;166(1):88-93. doi: 10.1016/j.surg.2019.01.032. Epub 2019 Mar 23.
11. The effect of increasing body mass index on wound complications in open ventral hernia repair with mesh. Tastaldi L, Krpata DM, Prabhu AS, Petro CC, Rosenblatt S, Haskins IN, Olson MA, Stewart TG, Rosen MJ, Greenberg JA. *Am J Surg.* 2019 Jan 25. pii: S0002-9610(18)31481-8. doi: 10.1016/j.amjsurg.2019.01.022. [Epub ahead of print]
12. Length of Stay and Opioid Dose Requirement with Transversus Abdominis Plane Block vs Epidural Analgesia for Ventral Hernia Repair. Warren JA, Carbonell AM, Jones LK, Mcguire A, Hand WR, Cancellaro VA, Ewing JA, Cobb WS. *J Am Coll Surg.* 2019 Apr;228(4):680-686. doi: 10.1016/j.jamcollsurg.2018.12.017. Epub 2019 Jan 8.
13. Outcomes of transversus abdominis release in non-elective incisional hernia repair: a retrospective review of the Americas Hernia Society Quality Collaborative (AHSQC). Alkhatib H, Tastaldi L, Krpata DM, Petro CC, Olson M, Rosenblatt S, Rosen MJ, Prabhu AS. *Hernia.* 2019 Feb;23(1):43-49. doi: 10.1007/s10029-019-01878-z. Epub 2019 Jan 9.
14. Cost-Utility Analysis of Biologic and Biosynthetic Mesh in Ventral Hernia Repair: When Are They Worth It? Schneeberger S, Phillips S, Huang LC, Pierce RA, Etemad SA, Poulouse BK. *J Am Coll Surg.* 2019 Jan;228(1):66-71. doi: 10.1016/j.jamcollsurg.2018.10.009. Epub 2018 Oct 22.



# SPOTLIGHT:

## OPIOID REDUCTION INITIATIVE

With the opioid epidemic continuing to plague the US, the AHSQC is committed to using our collaborative network to identify actionable measures to confront this national crisis.

The AHSQC Opioid Reduction Task Force, a multi-disciplinary team, was incredibly productive in 2019, dedicating tremendous efforts to the development of comprehensive postoperative pain management strategies that can be effectively utilized following hernia repair.

- The Opioid Reduction Task Force focuses on:
- Setting realistic expectations about postoperative pain and pain management
- Reduced opioid prescribing
- Reduced opioid consumption
- Measurement of outcomes related to hernia surgery and opioid use

By critically analyzing data obtained from AHSQC participating surgeons and their patients, the Task Force implemented a pilot study collecting details on post-operative prescriptions as well as patient reported need and utilization of pain medications following their hernia surgeries. Findings were shared at the 2nd Annual Quality Improvement Summit and recommendations were presented to the Collaborative.

To complement the recommendations and practice suggestions of the Opioid Reduction Task Force, the AHSQC provides a patient education brochure describing post-operative pain management strategies and the risks of opioid use. The AHSQC provides this brochure for download free of charge on our website. <https://www.ahsqc.org/patients/opioid-reduction-initiative>

*"The key take-away from our Task Force pilot study was that patients reported using significantly less opioid tablets than were prescribed post-operatively. As a result, the Task Force strongly encourages surgeons to limit the number of opioid tablets prescribed post-operatively."*

- Michael Reinhorn, MD  
Chair AHSQC Opioid Reduction Task Force

### Opioid Reduction Task Force

Michael Reinhorn, MD, Chair – Boston, MA  
Chad Brummett, MD – Ann Arbor, MI  
Teresa Dews, MD – Cleveland, OH  
Thomas Gillespie, MD – Phoenix, AZ  
Amitabh Goel, MD – Geneva, OH  
Gordon H. Hafner, MD – Falls Church, VA  
Todd S. Harris, MD – Newport Beach, CA  
Rana Higgins, MD – Milwaukee, WI  
Anthony Iacco, MD – Troy, MI  
Lauren Ott, PA-C - Wellesley, MA  
Arielle Perez, MD, MPH- Chapel Hill, NC  
Clayton Petro, MD – Cleveland, OH  
Ruth Potee, MD – Greenfield, MA  
Benjamin Poulouse, MD – Columbus, OH  
Michael Rosen, MD – Cleveland, OH  
Jeremy Warren, MD – Greenville, NC  
Carl J. Wescott, MD – Winston-Salem, NC

### AHSQC Opioid Task Force Recommendation:

- Surgeons are encouraged to limit post-operative opioid prescription to 0-10 tablets following inguinal and umbilical hernia surgery.
- Incorporate multimodal, non-opioid pain management strategy as a first line approach and opioids as a "rescue" medication

### Practice Suggestions:

- Surgeons are encouraged to have meaningful conversations with patients regarding pain expectations, management and the use of opioids as a rescue therapy when OTC, first line medications (e.g. acetaminophen, NSAIDs) do not provide sufficient relief.
- AHSQC provides surgeons an educational brochure describing pain management and opioids to assist with this discussion and encourages it be shared with all patients.



# PROFESSIONAL DEVELOPMENT PROGRAMS

## SPOTLIGHT: AHSQC QUALITY IMPROVEMENT SUMMIT

AHSQC hosted our 2nd Annual Quality Improvement Summit *“Enhancing the Patient Experience – Analyses of AHSQC Real World Data Yield Opportunities to Impact Patient Outcomes”* in December 2019. This year, we convened in Denver, CO, a centrally located, easily accessible venue, to encourage attendance by all participants. The QI Summit is designed to help our membership make the most of the Collaborative, in an open, comfortable atmosphere. Attendees are able to share real world experiences with peers and return home with helpful data-driven insights that can be immediately put into practice.

**“Fantastic meeting and great venue – one of the best meetings in Surgery today.”**

**“Love the small size and interactive nature of the meeting!!”**

**“Hard to top this!”**

- 2019 QI Summit Attendee Feedback



*Attendees convened in Denver for the 2019 QI Summit*

## 2019 Featured Break-Outs: Hot Topics in Hernia Surgery - Assessing Options

The 2019 QI Summit featured highly interactive sessions designed to stimulate collective examination and healthy debate surrounding controversial topics in hernia care. Attendees identified key clinical questions that warrant further examination of the AHSQC data and presentation at future QI Summit meetings.

- Enhanced Recovery Protocols (ERAS)
- Robotics in Hernia Surgery
- Hernia Mesh – Choosing Materials

Following the Summit, we surveyed attendees to gather feedback and suggestions for future meetings. The responses were phenomenal – with 100% of respondents rating overall satisfaction, quality and value of the Summit as Excellent (88%) or Good (12%). Highlights and presentations from the 2019 QI Summit details are available on the AHSQC website, [www.ahsqc.org](http://www.ahsqc.org).

**“This continues to be a very unique and stimulating organization. ”**

- AHSQC Participant

### QI SUMMIT SURVEY RESULTS

- 100% of surgeon respondents rated their overall satisfaction with the QI Summit as Excellent (88%) or Good (12%)
- 100% of respondents rated the overall value to their practice as Excellent (88%) or Good (12%)
- 100% of respondents rated the quality of presentations as Excellent (88%) or Good (12%)

# CONCLUSIONS & RECOMMENDATIONS FROM THE 2019 QUALITY IMPROVEMENT SUMMIT

## PATIENT FACTORS & CONSIDERATIONS

### OBESITY

- Umbilical hernias In obese patients can be repaired via laparoscopic or open techniques with similar 30-day wound morbidity rates
- More data is needed to assess potential differences in long-term recurrence

### SMOKING

- Longer duration of pre-operative abstinence from smoking is associated with lower rates of wound complications in ventral hernia repair
- Smokers who quit within a year of surgery had a 26% higher risk of recurrence and 45-54% higher risk of surgical site infection compared to non-smokers or those who quit greater than 1 year prior to surgery.

### DIABETES

- Further study is needed to assess any association between HbA1c and surgical-site occurrence or infection at 30 days following surgery.
- Infected Mesh
- In cases of chronic mesh infection, surgical excision and abdominal wall repair approaches can be managed using complete (fascial closure with mesh) or staged (fascial closure without mesh or no fascial closure with mesh) approaches.
- Complete repairs were not associated with increased morbidity or mortality

### CONCOMITANT CHOLECYSTECTOMY

- Concomitant cholecystectomy in abdominal wall repair was not shown to increase wound morbidity.
- Consideration of patient factors & hernia complexity may help guide decision making.

### UMBILICAL HERNIAS

- Mesh repairs result in reduced recurrence rates
- Laparoscopic repairs have reduced wound morbidity, but operative time is longer.
- Patient factors and preference should be considered when contemplating mesh or suture repairs

### SURGICAL SETTING

- Patient outcomes following complex abdominal wall reconstructions performed at a non-academic institution can compare favorably to results achieved at major academic institutions
- Dedicated care coordination and continuous review of support staff is necessary to assure quality of care. This may require investment in essential infrastructure in non-academic facilities.



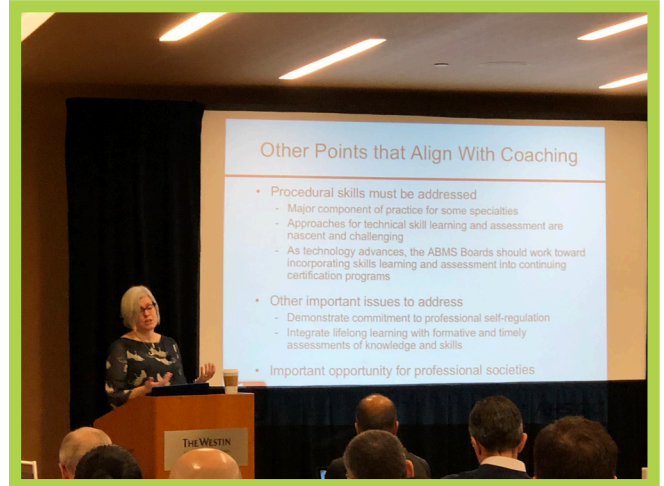
*Meeting participants meet in breakout groups to discuss pertinent topics of the AHSQC*

# PEER TO PEER COACHING PROGRAM

In conjunction with the Wisconsin Surgical Coaching Program team, AHSQC surgeons have the opportunity to participate in a study evaluating approaches to surgical training using surgical peer coaching via a video-based collaborative learning approach.

Surgeons choosing to participate receive:

- Free assessment of operative performance by colleagues
- Free video-based feedback from a trained surgeon-coach
- Access to de-identified peer videos
- Potential to improve performance and/or clinical outcomes
- Early experience with new model for professional development



*Dr. Caprice Greenberg leads an interactive video mentoring session*

The AHSQC encourages all surgeons to consider participating in this collaborative learning opportunity and featured a session dedicated to the surgical coaching program at the QI Summit.



*Meeting attendees participate in the interactive coaching session*

# SPOTLIGHT: AHSQC DEBUTS ABDOMINAL CORE SURGERY REHABILITATION PROTOCOL

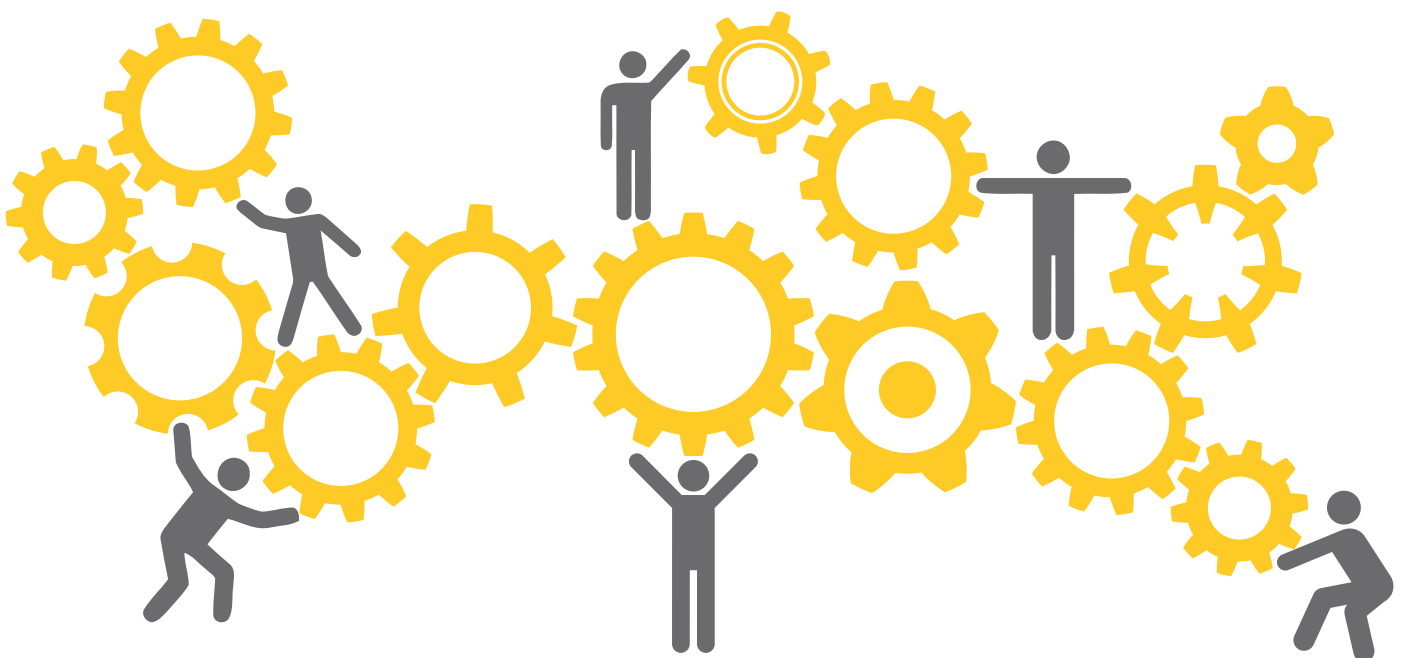
The AHSQC Abdominal Core Surgery Rehabilitation Protocol represents the culmination of 2 years' work by our dedicated, interdisciplinary Abdominal Core Surgery Rehabilitation Working Group. The protocol has been successfully administered to hernia patients and can be integrated as part of multi-disciplinary Enhanced Recovery After Surgery (ERAS) programs.

## PATIENT FOCUSED TOPICS INCLUDE:

- **Self-Care for Healing and Recovery** - After hernia surgery, your abdominal tissues will continue healing for several months. The first four weeks are when the patient is most susceptible to re-injury. Recovery helps patients protect their hernia repair and reduce risk of developing health problems during recovery.
- **Stretching** - Helps reduce discomfort, improve circulation and maintain abdominal core movement. Also helps reduce scarring and scar tissue. This section includes stretches with tips to protect your hernia repair.
- **Activities of Daily Living** - Techniques to protect the hernia repair while patients perform routine daily activities such as sleeping, walking, bending, etc.
- **Exercises** - Developing weakness after surgery is very common and may prolong recovery. These exercises can help reduce loss of strength while avoiding excess stress to the hernia repair.

**"We must take a panoramic view of our patients in order to provide comprehensive care. This protocol fills a gap in the management of hernia repair patients by highlighting physical therapy and exercise as an integral part of the recovery process."**

- Benjamin Poulouse, MD MPH, Chair



## THERE ARE THREE COMPONENTS TO THE PROTOCOL:

**1. AHSQC Abdominal Core Surgery Rehabilitation Protocol Patient Guide** - This serves as a 'manual' for patients to guide them through preoperative and postoperative instructions and exercises with which they should become familiar. This is handed to patients prior to the operation or may be given at the time of discharge. An easy to follow timeline along with proper techniques for recommended, self-directed exercises and an exercise plan is provided in the guide.

**2. AHSQC Abdominal Core Surgery Rehabilitation Protocol In-Hospital Physical Therapist and Patient Guide** - This guide informs both physical therapists and patients on exercises a patient can perform in the hospital while they are recovering from their operation should they have an overnight or inpatient stay.

**3. AHSQC Abdominal Core Surgery Rehabilitation Protocol Physical Therapist Guide** - This document is geared specifically for physical therapists, understanding that many patients wish to perform physical therapy close to their home. The Physical Therapist guide and the Patient guide are coordinated in terms of their timelines and exercises.

*Guides are downloadable free of charge on the AHSQC website and are also included on the AHSQC mobile app.*

## ABDOMINAL CORE SURGERY REHAB WORKING GROUP SURGERY

Benjamin Poulouse MD, MPH – Chair; Columbus, OH  
Richard Pierce MD, PhD – Nashville, TN  
Courtney Collins MD, MS – Columbus, OH  
Jeremy Warren MD, FACS – Greenville, SC  
Michael Rosen, MD – Cleveland, OH  
Ajita Prabhu, MD – Cleveland, OH  
David Krpata, MD – Cleveland, OH  
Clayton Petro, MD – Cleveland, OH

## PHYSICAL / OCCUPATIONAL THERAPY

Jennifer Emery PT, DPT, MOT – Nashville, TN  
Tiffany Priest PT, DPT, WCS – Nashville, TN  
Julie Richard PT, CSCS – Nashville, TN  
Laura Ward PT, DPT, MTC – Columbus, OH  
Stephanie Bobinger PT,DPT,WCS – Columbus, OH  
Maggie Abrams PT, DPT,CYT, WCS – Columbus, OH  
ReNea Owens PT – Columbus, OH  
Michelle Graf PT – Columbus, OH  
Andrew Morris PT, DPT – Columbus, OH  
Kelsey Dyer PT, DPT – Columbus, OH  
Phil Gregory PT, DPT, OCS, CSCS – Greenville, SC

## NURSING

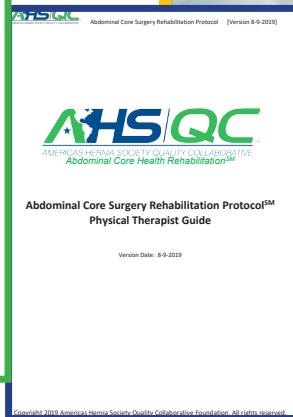
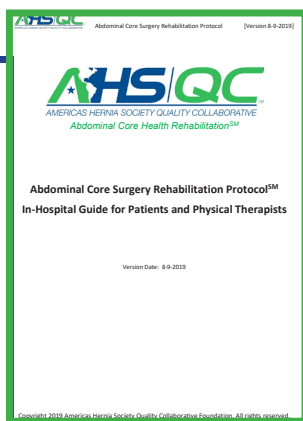
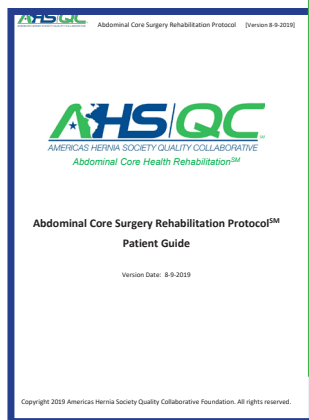
Shannon Bell MSN, ACNP-BC – Nashville, TN

## REHABILITATION SERVICES

Kenneth Kozlosky MS, CCC-SLP – Columbus, OH

## PROJECT COORDINATION

Savannah Renshaw BS – Columbus, OH  
Emily George BS – Columbus, OH



# NEW IN 2019 - AHSQC MOBILE APP

AHSQC launched our free mobile application providing guidance and support materials to help hernia patients and their care providers work together on an individual's care plan.

The app includes information to help patients understand and set appropriate expectations before and after abdominal surgery and includes helpful tips and video links to assist in recovery after a hernia operation.


Featured is the ORACLE Outcomes Reporting App that provides a patient-specific pre-operative estimate of post-operative outcomes that may be expected following ventral hernia repair with mesh. Also provided are pre-habilitation and post-surgical rehabilitation guides that provide patients with information and timeline to help guide surgical recovery.

### SURGEON PORTAL

The app's Surgeon Portal includes our data driven ORACLE (Outcomes Reporting App for Clinicians and Patient Engagement) tool.

ORACLE calculates an individual patient's risk for common post-operative events, such as:

- Surgical site infection
- Surgical site occurrence requiring a procedural intervention or readmission
- 1-year hernia recurrence



### PATIENT PORTAL


The Patient Portal features our interactive AHSQC Abdominal Core Surgery Rehabilitation Protocol, including:

- **Self-directed Physical Therapy Guide:** videos and diagrams to augment pre-habilitation and core health
- **In-hospital Guide:** postoperative recovery information and important opioid reduction strategies
- **Postoperative Guide:** weekly self-guided core strength rehabilitation plan

The protocol has been successfully administered to hernia patients and can be integrated as part of multi-disciplinary ERAS programs.



Oracle calculator to help estimate surgical outcomes.



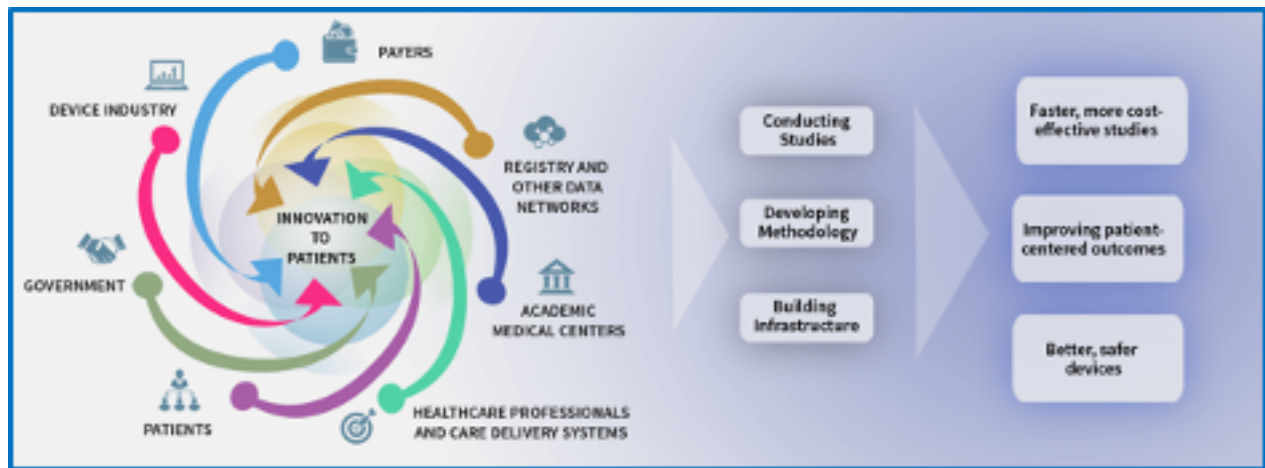
Use of ORACLE significantly aids in preoperative discussions with patients who can see specifically how recommendations like weight loss and smoking cessation can positively impact their outcomes.

The app is FREE and is available for download in iOS and Android formats via the Apple App Store and Google Play by searching "AHSQC" in the app store.

# FEDERAL INITIATIVES

## THE MEDICAL DEVICE EPIDEMIOLOGY NETWORK (MDEpiNet)

Since its establishment in 2010, MDEpiNet, part of the Epidemiology Research Program at FDA's Center for Device and Radiological Health (CDRH), has worked to utilize innovative approaches that support "robust, relevant and reliable evidence generation throughout the medical device life cycle." MDEpiNet is a global Public-Private Partnership that brings together leadership, expertise, and resources from health care professionals, industry, patient groups, payers, academia, and government to advance a national patient-centered medical device evaluation and surveillance system.



*Credit: mdepinet.org*

A key strategy of MDEpiNet is the development of Coordinated Registry Networks (CRNs) with "the goal of bringing together real-world data from a variety of sources to address the needs of device evaluation for multiple stakeholders." According to the group, "the CRN approach circumvents the limitations of traditional registries and data repositories by building linked data systems from multiple sources."

## ABDOMINAL CORE HEALTH CRN

The AHSQC has taken the lead on the Abdominal Core Health CRN, focusing on opportunities to develop an effective post market surveillance approach in the US initially, with an ultimate goal of international expansion and coordination of global hernia registries in the future. The Abdominal Core Health CRN is guided by the AHSQC Foundation, with input from our partners, including its Executive Council and MDEpiNet leadership. The CRN is supported by several collaborating agencies, foundations, and hospital organizations involved in managing abdominal wall hernia disease.

## STRATEGIC INITIATIVES

The Abdominal Core CRN is initially concentrating on:

- Opportunities to improve the collection of patient reported outcomes for short and long term follow up
- Assessing the potential for data linkages with administrative claims data sources

## PATIENT REPORTED OUTCOMES (PRO)

In concert with Abdominal Core Health CRN partners, the AHSQC is actively working on development and validation of a questionnaire for addressing long-term catastrophic surgical or device related complications. This project prioritizes the evaluation of outcomes such as readmission, reoperation, surgical site infection, and mesh-related complications, developing PROs sensitive to long-term, low rate, serious complications after hernia repair. Presentation and publication of results and the PRO questionnaire is planned.

## DATA LINKAGE

Aside from AHSQC registry data collection, the CRN is collaborating with MDEpiNet and Weill Cornell Medicine to access other data sources and evaluate the potential for linkage. In 2019, significant inroads were made in validating a process for data linkage between the AHSQC and a large administrative claims data base. Examination of data completeness and assessment of the potential to determine short and long-term outcomes of ventral hernia repair are ongoing. Following conclusion of the pilot study, the analytic center will seek to link Center for Medicare and Medicaid Services (CMS) claims data. The CRN anticipates the completion of the first linkage project in 2020.



# FOUNDATION PARTNERS

Industry Foundation Partners are a valued stakeholder in our Collaborative. They demonstrate dedication and a deep commitment to improving hernia patient care through their annual support of the AHSQC and our mission.

Thanks to the generosity of our industry partners, the Collaborative is able to offer services and access to the AHSQC registry free of charge to hernia care teams across the country. Additionally, Foundation Partner support allows us to continue to use the wealth of data collected to develop and share patient focused, outcomes-driven programs and materials to enhance the patient experience.

## GOLD LEVEL



## SILVER LEVEL

