ACS AMERICAN COLLEGE OF SURGEONS

THE SURGICAL ADHESIONS IMPROVEMENT PROJECT SUMMIT

The Royal Sonesta / Washington, DC
September 19-20, 2024

American College of Surgeons

The American College of Surgeons (ACS) is dedicated to improving the care of the surgical patient and safeguarding standards of care in an optimal and ethical practice environment. The ACS was founded in 1913 and has been improving the quality of surgical care ever since.

ACS Division of Research and Optimal Patient Care

Dr. Ernest Codman, born in 1869, was a founding member of the American College of Surgeons (ACS) whose lifelong pursuit of quality assessment and improvement in surgical care embodies the very tenets of the ACS Division of Research and Optimal Patient Care (DROPC). The mission of the DROPC is to improve the quality of surgical care by making the best scientific evidence available in all aspects of daily practice with respect, compassion, and dignity for all patients. The DROPC promotes the practice of evidence-based surgery by developing new knowledge through basic and clinical research, the setting and verification of standards, development of best practices and guidelines, educational activities, and the collection and measurement of outcomes.

The Carlino Family

We extend our deepest gratitude to the Carlino family for their steadfast support, unwavering trust, and enduring commitment to addressing the challenges of surgical adhesions. Their dedication and support have been instrumental in this endeavor.

ACS AMERICAN COLLEGE OF SURGEONS

Dear Colleagues,

Welcome to the Surgical Adhesions Improvement Project, led by the American College of Surgeons (ACS) with support from the Carlino family. This initiative addresses the critical issue of surgical adhesions, which form after surgery and affect many patients undergoing surgical procedures. There is a pressing need for uniform prevention and treatment strategies. Our project unites global experts to identify knowledge gaps and develop effective solutions. Guided by the ACS Division of Research and Optimal Patient Care, we aim to enhance patient outcomes through innovation and evidence-based practices.

We are honored to have representation from 13 countries and 66 prestigious institutions. Our global network spans from Australia to Bangladesh, Belgium to Canada, Ethiopia to Germany, Mexico to the Netherlands, Pakistan to Switzerland, and Zambia. In the United States, 46 institutions are involved, including leading universities and national health organizations, all contributing to a robust and comprehensive dialogue on surgical adhesions.

Our mission is to create an international forum to tackle the challenges of surgical adhesions. The Surgical Adhesions Improvement Project Summit, on September 19–20 in Washington, DC, will feature in-depth presentations and discussions aimed at producing a comprehensive white paper and an adhesion consensus statement. These documents will summarize current knowledge, identify gaps, and recommend improvements.

The summit welcomes scientists and patient advocates to collaborate on improving patient outcomes and healthcare systems worldwide. Discussion topics will include the causes of abdominal adhesions, prevention strategies, regulatory insights, and funding opportunities.

This collaborative effort is a unique opportunity to advance the prevention and treatment of surgical adhesions. Your participation is vital to driving meaningful change and innovation in the field. Together, we can improve patient outcomes on a global scale.

Thank you for your dedication to this important cause. We look forward to your valuable contributions and a productive summit.

Sincerely,

Clifford Y. Ko, MD, MS, MSHS, FACS, FASCRS
Director, ACS Division of Research and Optimal Patient Care

Anthony Atala, MD, FACS
Chair, ACS Board of Regents

ACS SURGICAL ADHESIONS IMPROVEMENT PROJECT SUMMIT AGENDA

Agenda and speakers are subject to change. The views expressed by individual speakers are their own and do not necessarily reflect those of the American College of Surgeons.

THURSDAY, SEPTEMBER 19

BREAKFAST: 7:30-8:30 AM

SESSION 1: 9:00–10:30 AM

Introduction: Clifford Y. Ko, MD, MS, MSHS, FACS, FASCRS - **Moderator**

Welcome Address: Anthony Atala MD, FACS

Literature Review: Melinda Maggard Gibbons, MD FACS and Tara Russell, MD PhD, FACS

Guided General Discussion

SESSION 2: 10:30 AM–12:00 PM

Clinical Panel: Walter Koltun, MD, FACS – **Moderator**

"The problem of abdominal adhesions/Available prophylactics for abdominal adhesions"
Richard ten Broek, MD, PhD, Radboud University, the Netherlands

"Clinically available prophylactics for pelvic adhesions"
Rudy Leon De Wilde, MD, PhD, University of Oldenburg, Germany

Guided General Discussion

NETWORKING LUNCH - 12:00-1:30 PM

SESSION 3: 1:30–3:00 PM

Basic Science Panel: Samuel Carmichael, MD, FACS – **Moderator**

"The peritoneal environment during homeostasis"
Steven Mutsaers, PhD, University of Western Australia

"The innate immune system in abdominal adhesion formation"
Joel Zindel, MD, PhD, University of Bern, Switzerland

"The coagulation system in abdominal adhesion formation"
Jessica C. Cardenas, PhD, University of Colorado

Guided General Discussion

BREAK: 3:00-3:15 PM

SESSION 4: 3:15–5:00 PM

Discovery Panel: Timothy Donahue, MD, FACS – **Moderator**

"Adhesions: How did we get here and where are we going?"
David Wiseman, PhD, MRPharmS, International Adhesions Institute

"Bioengineering approaches for prevention of abdominal adhesions"
Eric A. Appel, PhD, Stanford University, California

"Abdominal adhesion biology and prevention"
Deshka Foster, MD, PhD, Memorial Sloan Kettering, New York

"Origins and mechanisms of adhesion pathobiology"
Yuval Rinkevich, PhD, Helmholtz Zentrum, Munich

Guided General Discussion

NETWORKING SOCIAL - 20 F STREET NW, TERRACE: 5:00-6:30 PM

FRIDAY, SEPTEMBER 20

BREAKFAST: 7:30-8:15 AM

SESSION 5: 8:30–9:45 AM

Regulatory Panel: Clifford Y. Ko, MD, MS, MSHS, FACS, FASCRS – **Moderator**

"New frontiers in abdominal adhesion treatment and regulatory science from the FDA perspective"
Steven R. Bauer, MD, PhD, Wake Forest Institute for Regenerative Medicine, North Carolina

"Navigating adhesions funding opportunities though the NIH"
Dana Andersen, MD, National Institute of Diabetes and Digestive and Kidney Diseases, Maryland

Guided General Discussion

BREAK: 9:45-10:00 AM

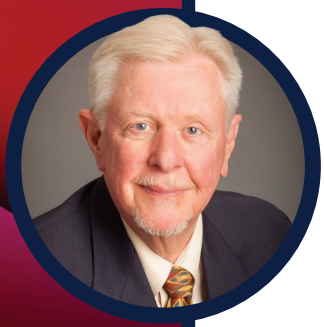
SESSION 6: 10:00 AM–12:00 PM

Delphi Survey Results and Discussion: Melinda Maggard Gibbons, MD FACS and Tara Russell, MD PhD, FACS - **Moderators**

This session will present the modified Delphi survey results with group discussion followed by in-person re-rating.

Guided General Discussion

CLOSING REMARKS: 12:00–12:30 PM



DANA ANDERSEN, MD
National Institute of Diabetes and Digestive and Kidney Diseases, Maryland

PRESENTER

Dana Andersen, MD, completed his undergraduate and medical degrees at Duke University, where he also trained in internal medicine and general surgery. His illustrious career includes appointments at the State University of New York Health Sciences Center at Brooklyn, The University of Chicago, Yale University, the University of Massachusetts, and Johns Hopkins. At Yale, he served as professor and chief of general surgery; at the University of Massachusetts, he was chair of surgery; and at Johns Hopkins, he was vice-chair of surgery and surgeon-in-chief at Johns Hopkins Bayview Medical Center. Dr. Andersen's research on pancreatic and gastrointestinal hormone physiology has been funded by the National Institutes of Health (NIH), where he also served as a member of the Surgery and Bioengineering Study Section. His clinical interests focus on benign and malignant disorders of the pancreas, organ-sparing pancreatic surgery, and pancreatogenic diabetes. He is a past president of the Association for Academic Surgery, a co-editor of Schwartz's Principles of Surgery, and a member of the Board of Directors of the National Pancreas Foundation and the American Pancreatic Association Foundation.

ERIC A. APPEL, PhD
Stanford University, California

PRESENTER

Eric A. Appel, PhD, is an associate professor of materials science & engineering at Stanford University. He earned his BS in chemistry and MS in polymer science from Cal Poly, San Luis Obispo, with his MS thesis research conducted at the IBM Almaden Research Center. He completed his PhD

in chemistry at the University of Cambridge under Dr. Oren A. Scherman, focusing on dynamic and stimuli-responsive supramolecular polymeric materials, earning the Jon Weaver PhD prize and a Graduate Student Award from the Materials Research Society. After his PhD, he received a National Research Service Award from the NIH and pursued a Wellcome Trust Postdoctoral Fellowship at MIT with Robert S. Langer, developing supramolecular biomaterials for drug delivery and tissue engineering. At Stanford, his research on biomimetic polymeric materials aims to understand biological processes and engineer healthcare solutions, leading to more than 100 publications, 35 patents, and the foundation of three start-up companies. His accolades include the Margaret A. Cunningham Immune Mechanisms in Cancer Research Award and young faculty awards from the Hellman Scholars Fund, American Diabetes Association, American Cancer Society, and the PhRMA Foundation. He was honored with the International Union of Pure and Applied Chemistry (IUPAC) Hanwha-TotalEnergies IUPAC Young Scientist Award in 2022, Society for Biomaterials Young Investigator Award in 2023, and Biomaterials Science Lectureship Award from the Royal Society of Chemistry in 2023.

ANTHONY ATALA, MD, FACS
ACS Board of Regents Chair
Wake Forest University Institute for Regenerative Medicine, North Carolina

MODERATOR

Anthony Atala, MD, FACS, is the G. Link Professor and Director of the Wake Forest Institute for Regenerative Medicine and the W. Boyce Professor and Chair of Urology. A practicing surgeon and leading researcher in regenerative medicine, Dr. Atala has overseen the clinical application of 15 technologies from his lab. He has authored more than 800 journal articles, edited 25 books,

and holds more than 250 patents. Dr. Atala's contributions have earned him election to the Institute of Medicine of the National Academies of Sciences, Engineering, and Medicine; National Academy of Inventors as a Charter Fellow, and American Institute for Medical and Biological Engineering. His numerous awards include the Christopher Columbus Foundation Award, World Technology Award in Health and Medicine, and Smithsonian Ingenuity Award for Bioprinting Tissue and Organs. Twice featured in Time magazine's Top 10 Medical Breakthroughs of the Year, he has been recognized as one of the world's most influential people in biotechnology by Scientific American and one of 14 Pioneers of Medical Progress in the 21st Century by US News & World Report. Dr. Atala has also led national committees, including those at the National Institutes of Health and National Cancer Institute, and is a founding member of multiple organizations dedicated to advancing regenerative medicine.

ANGELA BAILEY, MD
ACS Clinical Scholar in Residence

LITERATURE REVIEW CONSORTIUM MEMBER

Angela Bailey, MD, has research interests that center on reducing health disparities, particularly for Spanish-speaking patients and those with mental health disorders. Her fascination with big data research and the potential to create personalized care tools was sparked during her time at the Michigan Genomics Initiative. Her journey led her to delve into health informatics and machine learning; in medical school, she collaborated on a project using machine learning to predict newborn readmission risks. These skills are transferable, and Dr. Bailey aims to apply them to benefit trauma patients during her dedicated academic development. Her commitment to leveraging data and technology to improve healthcare is evident in her pursuits.

H. RANDOLPH BAILEY, MD, FACS
ACS Foundation Chair
McGovern Medical School, Texas

SURGICAL ADHESIONS IMPROVEMENT PROJECT ADVISORY COMMITTEE EXECUTIVE MEMBER

Dr. Bailey is a Professor Emeritus in the Department of Surgery at McGovern Medical School. He is also a Clinical Professor of Surgery at Weill Cornell Medical College, Texas A&M University Health Science Center, and Baylor College of Medicine. He is a past president of the American Society of Colon and Rectal Surgeons and has also served as President of the American Board of Colon and Rectal Surgery. He is the Emeritus Program Director of the residency training program in colon and rectal surgery at McGovern Medical School. He is a native of Texas and received his undergraduate education at Rice University and attended medical school at The University of Texas Southwestern Medical School in Dallas. He has also served as a member of the Board of Regents of the American College of Surgeons. He is active in the practice of colon and rectal surgery in Houston, Texas, as a member of UT Physicians Colon & Rectal Clinic. He is Chief of the Division of Colon and Rectal Surgery at Memorial Hermann Hospital TMC. He is also the Deputy Chief of Surgery at The Methodist Hospital in Houston. His areas of interest include colorectal cancer, anorectal disorders, and screening for colorectal cancer.

STEVEN R. BAUER, PhD
Wake Forest Institute for Regenerative Medicine, North Carolina

PRESENTER

Steven R. Bauer, PhD, is the chief regulatory science affairs program officer and co-director of the Translational Core at the Wake Forest Institute for Regenerative Medicine (WFIRM) in Winston-Salem, North Carolina, where he also serves as a

regulatory science advisor for the Regenerative Medicine Hub. With more than 3 decades of experience in regulatory science research, regulatory oversight, and policy development, Dr. Bauer is a prominent figure in regenerative medicine. Before joining WFIRM, he was chief of the Cellular and Tissue Therapies Branch at the US Food & Drug Administration's (FDA's) Center for Biologics Evaluation and Research (CBER). There, he supervised the review of cell- and gene-based therapies, policy development in cellular therapies, and relevant research. Dr. Bauer has reviewed hundreds of regulatory submissions from IND to BLA, including novel cell, gene, and tissue engineering applications. He led the FDA's multipotent stromal cell (MSC) research consortium, publishing more than 20 papers on MSC-based products. Dr. Bauer earned his PhD in biochemistry from the University of Maryland in 1986 and was a scientific member of the Basel Institute for Immunology in Switzerland. His research focuses on improving the characterization of stem cell-based therapies and understanding how manufacturing processes affect these products' biological properties.

ARON BERCZ, MD
Memorial Sloan Kettering, New York

LITERATURE REVIEW CONSORTIUM MEMBER

Aron Bercz, MD, is a general surgery resident at the University of Cincinnati, currently in his second year of research at Memorial Sloan Kettering Cancer Center under the mentorship of J. Joshua Smith, MD, PhD. His primary research focuses on organ preservation and optimizing treatment responses in rectal cancer. Additionally, Dr. Bercz is an active contributor to a taskforce conducting a systematic review of the efficacy of prophylactic agents for preventing intra-abdominal adhesive disease.

RICHARD ten BROEK, MD, PhD
Radboud University, the Netherlands

PRESENTER

Richard ten Broek, MD, PhD, is president of the Dutch Adhesion Group and supervises an eight-PhD student research group on late complications of surgery. He performed several large epidemiological studies on adhesions (LAPAD and SCAR-update), as well as innovative studies on the diagnosis and treatment of adhesions and adhesion-related chronic pain. He authored the most recent update of the Bologna guidelines on treatment of adhesive small bowel obstruction (ASBO). Recently his group was awarded a grant to study the efficacy of elective adhesiolysis to prevent recurrence of ASBO.

JESSICA C. CARDENAS, PhD
University of Colorado

PRESENTER

Jessica C. Cardenas, PhD, is a prominent researcher dedicated to understanding how vascular endothelial cells (ECs) regulate thromboinflammation during hemorrhagic shock (HS) and other critical illnesses. Her research integrates in vitro systems, in vivo animal models, and clinical approaches using a patient biorepository to identify key EC pathways and their role in vascular thrombus formation, leukocyte infiltration, and organ dysfunction. Dr. Cardenas' work highlights the importance of EC cross-talk with circulating blood cells, such as platelets and platelet-derived extracellular vesicles (EVs), in modulating EC signaling. Her team has established the dysregulation of the antithrombin-heparin/heparan sulfate system as a driver of thrombotic and thromboinflammatory complications post-HS, and they are developing novel multi-modal prophylaxis strategies to mitigate these complications in both pre-clinical and human studies.

SAMUEL CARMICHAEL, MD, FACS
Literature Review Consortium Vice-Chair
Wake Forest University, North Carolina

MODERATOR

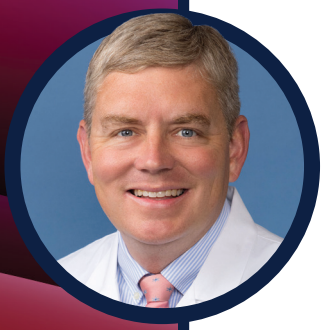
Samuel Carmichael, MD, FACS, is an assistant professor of surgery in the Section of Acute Care Surgery at Wake Forest University School of Medicine. He completed a general surgery residency at the University of Kentucky in 2018 followed by fellowship in Acute Care Surgery at Wake Forest University School of Medicine in 2020. Since that time, he has conducted research at the Wake Forest Institute for Regenerative Medicine (WFIRM), investigating human placental stem cell-based therapies for prevention of abdominal adhesions under Dr. Anthony Atala. He has received funding in this effort from the American Association for the Surgery of Trauma and through an intramural KL2 award. Presently, his continuing efforts seek to describe the native surface glycobiology of the abdomen, the epithelial glycocalyx, under conditions of homeostasis and surgical injury to guide development of future reliable prophylactics for prevention of abdominal adhesions.

REID CHRISTENSEN
Wake Forest University, North Carolina

LITERATURE REVIEW CONSORTIUM MEMBER

Reid Christensen is a second-year medical student at Wake Forest University School of Medicine, actively engaged in various projects within the Department of Surgery and the Institute for Regenerative Medicine. His pre-clinical research leverages advanced microscopic techniques to study the peritoneal epithelial glycocalyx and mesothelial cells, as well as the components of peritoneal fluid during adhesion formation. Additionally, Reid's team is exploring regenerative medicine approaches to restore the

peritoneal environment post-injury, aiming to reliably prevent adhesion formation. Supported by the American College of Surgeons, Reid is contributing to a perspective review of pre-clinical approaches to abdominal adhesion prophylaxis and evaluating current clinical adhesion prophylactics, scoring systems, and patient-reported outcome metrics.



TIMOTHY DONAHUE, MD, FACS
ACS Surgical Research Committee Chair
University of California, Los Angeles

MODERATOR

Timothy Donahue, MD, FACS, is chief of the Division of Surgical Oncology and a professor of surgery at the David Geffen School of Medicine at the University of California, Los Angeles (UCLA), with a joint appointment in the Department of Molecular and Medical Pharmacology to advance his research efforts. As the surgical director of the UCLA Agi Hirshberg Center for Pancreatic Diseases, Dr. Donahue is a highly skilled and dedicated pancreatic surgeon, performing three to four complex surgeries each week. His team is renowned for achieving some of the best outcomes globally in these challenging procedures. Dr. Donahue is deeply committed to providing state-of-the-art care for patients with pancreatic cancer. In addition to his clinical practice, he leads a National Institutes of Health-funded research laboratory focused on developing innovative drugs and treatment strategies for pancreatic cancer. His work involves extensive collaboration with researchers across the UCLA campus. Dr. Donahue is also passionate about mentoring the next generation of surgeons, serving as the program director of the UCLA General Surgery Residency.

ISABEL ENG
University of California, Los Angeles

LITERATURE REVIEW CONSORTIUM MEMBER

Isabel Eng is a fourth-year medical student at the David Geffen School of Medicine at the University of California, Los Angeles. She has broad surgical research interests, with projects focused on topics ranging from perioperative management of heart transplant recipients to health literacy in colorectal surgery patients. As a collaborator on the Surgical Adhesions Improvement Project, Isabel has led the review of currently utilized scoring methodologies for post-operative abdominal adhesive disease.

DESHKA FOSTER, MD, PhD
Memorial Sloan Kettering, New York

PRESENTER

During her PhD, post-doc, and early career as a surgeon-scientist at Stanford in Michael Longaker's laboratory, Deshka Foster, MD, PhD, now at Memorial Sloan Kettering, New York, has focused her research on understanding abdominal adhesion biology and developing clinical tools for adhesion prevention. Spanning nearly a decade, her work has leveraged expertise in wound healing and fibrosis, leading to the development of a mouse model to study abdominal adhesion formation. She conducted in-depth analyses at the cellular, transcriptomic, and protein levels in both mouse and human tissues. Her research identified c-Jun signaling as a key early driver of abdominal adhesion formation in peritoneal fibroblasts. Through small molecule c-Jun inhibition, she significantly reduced adhesion formation and fibrotic signaling. In collaboration with the Appel laboratory, she developed a sustained release formulation for clinical translation, now being validated in a large animal model.

TESS HUY, MD
University of California, Los Angeles

LITERATURE REVIEW CONSORTIUM EXECUTIVE COMMITTEE

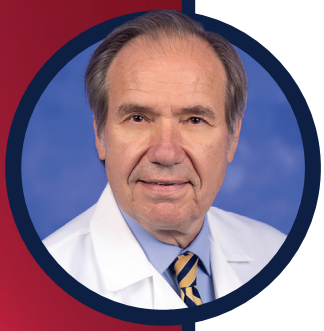
Tess Huy, MD, is a general surgery resident at the University of California, Los Angeles. She is currently in her dedicated research training years. Her research interests focus on the use of the robotic platform in acute general surgery at the Veterans Affairs hospital in Los Angeles and in breast surgical oncology resident education.

CLIFFORD Y. KO, MD, MS, MSHS, FACS, FASCRS
ACS Division of Research and Optimal Patient Care Director
Surgical Adhesions Improvement Project Advisory Committee Executive Member
University of California, Los Angeles

MODERATOR

Clifford Y. Ko, MD, MS, MSHS, FACS, FASCRS, oversees the American College of Surgeons quality improvement programs, focusing on surgical quality of care, including quality measurement, process improvement, value-based care, and high reliability in surgical care. Dr. Ko has advised national and international organizations, including the World Health Organization, Institute of Medicine, and National Quality Forum, on enhancing quality and safety in healthcare. He has secured millions in grant funding from prestigious institutions such as the National Institutes of Health, Centers for Disease Control and Prevention, and Centers for Medicare & Medicaid Services to study quality of care. Clinically, Dr. Ko is a double board-certified surgeon specializing in colorectal cancer at UCLA, where he is the Robert and Kelly Day Professor of Surgery and a professor of health services at the University of California, Los Angeles (UCLA) School of Public Health. He earned his BA, MS, and MD from The University of Chicago and an MS in health services/outcomes research from

UCLA as a Robert Wood Johnson Clinical Scholars Fellow. Dr. Ko completed his general surgery residency at UCLA Medical Center and specialized in colon and rectal surgery at the Lahey Clinic in Boston. He has authored more than 400 peer-reviewed manuscripts and more than 20 book chapters.



WALTER KOLTUN, MD, FACS
Surgical Adhesions Improvement Project Advisory Committee Executive Member
Pennsylvania State University

MODERATOR

Walter Koltun, MD, FACS, is chief of the Division of Colon and Rectal Surgery at Penn State Cancer Institute and holds the Peter and Marshia Carlino Chair in Inflammatory Bowel Disease within the Department of Surgery. A Harvard Medical School graduate, Dr. Koltun completed his general surgery residency and internship at Brigham and Women's Hospital and a fellowship in colon and rectal surgery at Lahey Clinic Medical Center. His research focuses on diverticular disease and inflammatory bowel disease, with academic interests in colon and rectal cancer and surgical education. Dr. Koltun has received numerous accolades, including being named Best Doctor for Colon and Rectal Surgery and a Castle-Connelly Top Doctor, and he has twice received the Thomas V. N. Ballantine Memorial Award for Excellence in Surgical Education.

RUDY LEON DE WILDE, MD, PhD
University of Oldenburg, Germany

PRESENTER

Rudy Leon De Wilde, MD, PhD, is a distinguished professor and head of the University Hospital for Gynecology at Pius-Hospital Oldenburg, Carl von Ossietzky University Oldenburg, Germany. With an impressive career dedicated to advancing gynecological minimally invasive surgery, Dr. De Wilde has held several prestigious leadership positions. He is a past president of the German

Society for Gynecological Minimal Invasive Surgery (AGE), European Society for Gynecological Minimal Invasive Surgery (ESGE), German Society of Gynecological and Obstetrical Endoscopy (DGGGE), German Society of Plastic and Reconstructive Surgery (DGPW), and German Gynecological Operative Forum (FOG). Currently, he serves as a member of the Directory Board and co-director of the European Academy of the ESGE. Additionally, he chairs the Special Interest Group Adhesions Research within the ESGE. Dr. De Wilde's extensive contributions to the field have established him as a leading authority in gynecological and obstetrical endoscopy.

MELINDA MAGGARD GIBBONS, MD, FACS
University of California, Los Angeles

LITERATURE REVIEW CONSORTIUM CHAIR

Dr. Melinda Maggard-Gibbons, MD, MSHS, FACS, is a Professor of Surgery at UCLA's David Geffen School of Medicine. She earned her B.S. in bioengineering from the University of Washington and her M.D. from Harvard. Following a general surgery residency at UCLA, she completed the Robert Wood Johnson Clinical Scholars Program, obtaining a Master's in Health Services. A general surgeon with expertise in surgical oncology, she co-founded UCLA's Center for Surgical Outcomes and Quality and directs the Breast Cancer Navigation Program at Olive View-UCLA. Dr. Maggard-Gibbons is Vice Chair of Academic Affairs and a key member of the Surgical Adhesions Improvement Project team.

STEVEN MUTSAERS, PhD
University of Western Australia

PRESENTER

Associate Professor Steven Mutsaers is a principal research fellow within the Institute for Respiratory Health and lecturer in Pharmacology and Toxicology, University of Western Australia. His main research

interest is investigating the mechanisms regulating tissue repair and regeneration and how a breakdown in these processes lead to diseases such as lung and pleural fibrosis, post-operative-adhesions, and malignant mesothelioma. Dr. Mutsaers's early studies into the mesothelium examined the mechanism of serosal repair and identified macrophages as fundamental to inducing mesothelial cell proliferation in serosal tissue. Subsequent studies demonstrated the importance of free-floating mesothelial cells as a source of regenerating mesothelium. Dr. Mutsaers also demonstrated that mesothelial cells could be induced to differentiate into other cell types, which may explain the different structures present in post-operative adhesions and may be a source of cells for tissue engineering. With Prof. Sarah Herrick, he also showed that adhesions contained many different tissue types including nerves and showed that these nerves had the potential to conduct pain.

YUVAL RINKEVICH, PhD
Helmholtz Zentrum, Munich

PRESENTER

Yuval Rinkevich, PhD, has made transformative contributions to regenerative medicine and tissue repair. His pioneering work established foundational concepts on how fate-restricted stem cells drive organ regeneration, elucidating these processes across various tissues, including limbs, organ surfaces, kidneys, skin, and liver. His research on fibroblast heterogeneity has redefined our understanding of scarring in mammalian tissues, uncovering the mechanisms that shift from fetal regenerative healing to adult scarring. Beyond basic science, he has introduced innovative clinical interventions for connective tissue pathologies, addressing critical issues such as skin scarring, internal organ fibroses, and surgical adhesions. Notably, Dr. Rinkevich's discovery of fascia as a reservoir of pre-made mobile extracellular matrix

(ECM) has introduced a groundbreaking paradigm in tissue repair, influencing multiple organs and significantly advancing the field.

TARA RUSSELL, MD, MPH, PhD
University of California, Los Angeles

LITERATURE REVIEW CONSORTIUM VICE-CHAIR

Tara Russell, MD, MPH, PhD is an assistant professor-in-residence at the University of California, Los Angeles (UCLA) David Geffen School of Medicine. She completed medical school at New York University in 2013 and her general surgery residency at UCLA in 2021, during which she participated in the Robert Wood Johnson National Clinical Scholars Program and earned a PhD in health policy and management from the UCLA Fielding School of Public Health. Following residency, she completed advanced training in colon and rectal surgery at the Cleveland Clinic. Dr. Russell's research interests include surgical quality improvement, implementation science, and health policy evaluation. She has presented at national and international meetings, is an active member of the American College of Surgeons and American Society of Colon and Rectal Surgeons, and reviews for several academic journals. Clinically, she is skilled in managing colorectal cancer, inflammatory bowel disease, pelvic floor dysfunction, fecal incontinence, and anorectal disease. Dr. Russell aims to expand and improve access to high-quality surgical care for diverse populations at Olive View Medical Center in Los Angeles County.

J. JOSHUA SMITH, MD, PhD
Memorial Sloan Kettering, New York

LITERATURE REVIEW CONSORTIUM MEMBER

J. Joshua Smith, MD, PhD, is an associate member on the Colorectal Service in the Department of Surgery at Memorial Sloan Kettering (MSK). His objective as a surgeon and scientist is to uncover more precise

treatments for each individual rectal and colon cancer patient. He actively cares for patients with rectal, colon, and anal cancer using modern surgical methods in a cutting-edge multidisciplinary setting in New York. He is the co-chair of the GI oncology portfolio for the Alliance for Clinical Trials in Oncology and is a member of the National Cancer Institute's (NCI's) Rectal Anal Task Force. He also serves as co-chair of the GI Surgery Committee for the Alliance for Clinical Trials in Oncology. He serves as the Chair and PI for The Janus Rectal Cancer Trial, an NCI-approved Phase II/III trial investigating nonoperative management (NOM) and disease-free survival in patients with rectal cancer through the Alliance for Clinical Trials in Oncology, SWOG Cancer Research Network, and NRG Oncology (NCT05610163). He leads a growing translational laboratory and is the PI of an NCI-funded laboratory at MSK. His group is working to understand the molecular underpinnings of disease progression in patients with rectal cancer and develop individualized disease models facilitating both effective research and precision treatment. Dr. Smith is also the contact PI of the MSK T32 Surgical Oncology Training Grant and is a contributing member of the taskforce undertaking a systematic review of the efficacy of prophylactic agents for intra-abdominal adhesive disease.

DAVID WISEMAN, PhD, MRPharmS
International Adhesions Society

PRESENTER

David Wiseman, a PhD research bioscientist specializing in pharmacy, pharmacology, immunology, and experimental pathology, is a leading expert in surgical adhesions and biomaterials. After joining Johnson & Johnson in 1987, he contributed to the launch of INTERCEED and hyaluronic acid products and became one of 66 research fellows leading R&D programs and US Food & Drug Administration (FDA) submissions. Since 1996, his company, Synechion,

has consulted major medical companies, focusing on surgical adhesions. He has played a key role in launching clinical programs for several products and supported many others. Dr. Wiseman has authored numerous publications, co-edited the Handbook of Biodegradable Polymers, and founded the International Adhesions Society, which led to recognizing Complex Abdominal and Pelvic Pain Syndrome (CAPPS) and establishing a dedicated clinic. He has also led public policy initiatives with the FDA, Centers for Disease Control and Prevention, National Institutes of Health, and Agency for Healthcare Research and Quality on informed consent, opioid use, and pain management. Dr. Wiseman is president of KevMed, LLC, focused on pain treatment.

JOEL ZINDEL, MD, PhD
University of Bern, Switzerland

PRESENTER

Joel Zindel, MD, PhD, is a distinguished researcher and clinician affiliated with the University of Bern. His groundbreaking work in post-surgical adhesions has greatly advanced our understanding of the mechanisms driving adhesion formation. Dr. Zindel has uncovered the pivotal role of GATA6+ cavity macrophages in forming aggregates in response to mesothelial injury, a process integral to post-surgical adhesion development. He has also been instrumental in developing robust pre-clinical models that serve as essential tools for studying these adhesions. Additionally, Dr. Zindel's research has identified the link between bacterial contamination and EGFR signaling as major drivers of Mesothelial to Mesenchymal Transition (MMT) following surgery, providing critical insights that are shaping new preventive and therapeutic strategies. His contributions are paving the way for improved patient care and outcomes in the management of post-surgical adhesions.

We recognize the Summit participants whose expertise, commitment, and engagement has been essential in driving this initiative forward. Their contributions, along with countless others working in this field, are significant in advancing efforts to address the complex challenges of surgical adhesions and improving care.

PARTICIPANTS

Nicole A. Wilson, MD, FACS, University of Rochester | **Adam Ackerman**, MD FACS, University of Vermont Medical Center | **Mazharul Alam Siddique**, FCPS, FACS, FICS, MPH, Mymensingh Medical College, Bangladesh | **José Arturo Aragón López**, MD, Hospital Español de Veracruz | **Octavio Avila**, MD, FACS, Hospital Millenium de Veracruz | **Adrian Barbul**, MD, FACS, Vanderbilt University | **Nebiyou Bayleyegn**, MD, FACS, Jimma University | **Nebiyou Bayleyegn**, MD, Jimma University | **Olga Beresneva**, MD, Boston University | **Kevin Bree**, MD, Fort Duncan Regional Medical Center | **Richard Carter**, MD, East Cooper Medical Center | **Kelley Chan**, MD, MS, American College of Surgeons | **Matt Chatoor**, MD, FACS, Memorial Regional Hospital | **Allen Chudzinski**, MD, University of South Florida | **Lauren Costella**, Luna Labs USA | **Robert Credi**, MD, Beacon Health | **Robert D. Bennett**, MD, University of South Florida | **Jeremiah Deneve**, DO FACS, University of North Carolina | **Betsy Diep**, MSN RN, Kaiser Permanente, SCAL | **Gere diZerega**, MD, US Biotest | **Jonathan DS Klein**, MD, FACS, St Joseph Hospital / Catholic Health Services of Long Island | **Miguel Eduardo Tobon Lascano**, MD, Wayne State university | **Juliet Emamaullee**, MD, FACS, University of Southern California | **Joanne Favuzza**, DO, FACS, FASCRS, St. Peter's Health Partners | **James Fleshman**, MD, FACS, Baylor University / American College of Surgeons | **Robert Galiano**, MD, FACS, Northwestern University Feinberg School of Medicine | **Charles H Cook**, MD, FACS, FCCM, Beth Israel Deaconess / Harvard Medical School | **Geoffrey Hobika**, MD, American College of Surgeons | **John Holcomb**, MD, University of Alabama Birmingham | **William Hope**, MD, Novant Health/New Hanover Regional Medical Center | **S. Iftikhar Alam**, MBBS, FCPS, MRCPS, Khyber Medical University-Institute Of Medical Sciences Kohat | **Obei Ilahi**, MD, Washington University St Louis | **Atif Jastaniah**, MD, MHSc, FRCSC, McGill University | **Brett Johnson**, MD, MS, American College of Surgeons | **Biren Juthani**, DO, Lehigh Valley Health Network | **Haytham Kaafarani**, MD, FACS, Harvard University | **Junuk Kim**, MD, Houston, TX | **Michael Kleinman**, PhD, FACS, Surgery Associates of Houston | **Krishna Kumar Govindarajan**, MD, University Hospital | **Steve Kwon**, MD, MPH, Roger Williams Medical Center/Boston University | **Jessica Liu**, MD, MS, American College of Surgeons | **Ambar Matta**, MD, Banner Desert Medical Center | **Vishes Mehta**, MD, MPH, Jacobi Medical Center | **Adam Misasi**, MD,FACS, Providence Medical Group, Kansas City, Kansas | **Anoosha Moturu**, MD, MS, American College of Surgeons | **Ashlie Nadler**, MD, MSc, MPH, Sunnybrook Health Sciences Centre/University of Toronto | **Matthew Ng**, MD, George Washington university | **Rick Ngo**, MD, FACS, Texas Hernia & Surgical Specialists | **Holly Nicole Blackburn**, MD, Yale University | **Uretz Oliphant**, MD, FACS, Carle Foundation Hospital | **Allen P. Chudzinski**, MD,FACS, University of South Florida Morsani College of Medicine | **Michael Phillips**, MD, UNC School of Medicine | **Shankar Raman**, MD MBA FACS FASCRS, MercyOne Des Moines Medical Center | **Sarah Remer**, MD, American College of Surgeons | **David Rothstein**, MD, MS, Seattle Children's Hospital/University of Washington | **Alan Saber**, MD, MS, FACS, FASMBS, Newark Beth Israel Medical Center | **Anthony Sandle**, MD, FACS, Childrens National Hospital | **Beth Schrope**, MD, PhD, Columbia University | **Steven Schwaitzberg**, MD, FACS, University of Buffalo | **Phillip Shadduck**, MD, DrHC, FACS, NC Specialty Hospital & Duke Regional Hospital | **Selma Siddiqui**, MD, Luminis Health | **Kuldeep Singh**, MD, FACS, MBA, Mercy Medical Center | **Kevin Skinner**, VMD | Gainosuke Sugiyama, MD, MS, Zucker School of Medicine at Hofstra-Northwell | **Magesh Sundaram**, MD, MBA,FACS, University of Maryland School of Medicine | **Phiri Titus**, MBChB, FZCMS, Levy Mwanawasa University Teaching Hospital | **Hobart W. Harris**, MD, MPH, University of California, San Francisco | **Kenneth W. Sharp**, MD, Vanderbilt University | **Albert Wolthuis**, MD, PhD, FEBS, FASCRS, FACS, University Hospital Leuven Belgium

ACS STAFF

Patricia L. Turner, MD, MBA, FACS, Executive Director and Chief Executive Officer | **Clifford Y. Ko**, MD, MS, MSHS, FACS, FASCRS, Director, Division of Research an Optimal Patient Care | **Sameera Ali**, MPH, Administrative Director, Division of Research an Optimal Patient Care | **Jorge Hernandez**, PhD, CQI Operations Lead, Division of Research an Optimal Patient Care | **Rachel Reardon**, Sr. Project Administrator CQI, Division of Research an Optimal Patient Care | **Beth White Carona**, Director, American College of Surgeons Foundation

Please note that this list may not be exhaustive, as there are many individuals whose contributions, though not explicitly mentioned, have been equally vital to the success of this project.

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