

# 2024

# SARD

SURGICAL ANNUAL RESEARCH DAY



# Agenda

- **Opening remarks**
- **SESSION 1**
  - Research Project Management Office (PMO)
  - HRPP / IRB Regulations and Submissions
  - Meta-analyses for Surgeons
  - Presentation of submitted research projects
- **SESSION 2**
  - QI 101: how to initiate and check progress
  - Presentations of selected QI projects / audits
- **SESSION 3**
  - Innovation in Surgery
    - Pushing the Envelope of Artificial Intelligence in Pediatric Urology
    - Use of virtual reality in surgery
    - Tech Transfer: Bring Your Innovation to Realization (Sidra-specific)
- **SESSION 4**
  - Award presentations for 1st place for research and QI projects

# Second Surgical Annual Research Day



Surgery Department Surgeons, Nurses, Allied Health and Admin during the SARD 2024

## IN THE SPOTLIGHT

### 2<sup>nd</sup> Surgical Annual Research Day (SARD) 2024



Sidra Medicine's Surgery Department is set to host its second Surgical Annual Research Day (SARD) on January 24, 2025, building upon the success of the inaugural event in 2023. SARD 2024 maintains its commitment to fostering collaboration and knowledge exchange in the field of pediatric surgery.

This year's event expands its scope with broader objectives and a more diverse range of topics. SARD 2024 aims to describe the current status of research in pediatric surgical subspecialties both locally and internationally, outline available resources for clinical research and quality improvement projects, and create an annual gathering for sharing insights and expertise. The conference will cover subjects including research overviews by PMO and IRB offices, systematic reviews in surgery, presentations of Sidra Medicine surgical research projects, and innovations in surgery from Qatar and beyond.

SARD 2024 welcomes a broader audience, including surgeons, surgical trainees, surgical clinical nurses, medical students, and allied healthcare workers. Notably, the event has gained accreditation as a Group Learning Activity Category 1 by the Ministry of Public Health's Department of Healthcare Professions-Accreditation Section (DHP-AS), approved for a maximum of 4 hours. The organizing committee, led by Dr. Noora Alshahwani, clinical lead of research in surgery and attending in General and Thoracic Surgery, along with Dr. Mansour Ali, Chair of Surgery, continues to play a crucial role in Sidra Medicine's commitment to promoting innovation and collaboration in healthcare. SARD 2024 promises to provide an enriching platform for professionals to engage in meaningful dialogue, share experiences, and explore opportunities for collaborative research in pediatric surgery.





# Session 1



Ms. Lara Djansezian

**Lead – Research Projects Administration**  
**Project Management Office**  
**Sidra Medicine**

# Research Project Management Office (PMO)

## Objectives

- Explain the mission and purpose of Sidra's PMO in supporting the organization's project delivery.
- Highlight how the PMO manages the full lifecycle of projects at Sidra, ensuring projects are delivered on time, within budget, and meet objectives.
- Showcase how the PMO provides centralized project reporting and communication to stakeholders and leadership for transparent oversight.
- Highlight the research contribution by the Surgery Department
- Emphasize the PMO's work in bridging researchers, clinicians, and operational teams to facilitate collaboration and communication.



Ms. Nour Saleh

**Director**  
**Human Subject Research Protection Program**  
**Sidra Medicine**

# HRPP / IRB Regulations and Submissions

## Objectives

- Identify the purpose and key components of a Human Research Protection Program (HRPP) and how it ensures compliance with ethical and regulatory standards.
- Explain the role and responsibilities of an Institutional Review Board (IRB) in protecting the rights, safety, and welfare of research participants.
- Differentiate between types of IRB review (exempt, expedited, full board) and determine which type of review is appropriate for different types of human subjects research.
- Describe the steps involved in preparing and submitting a research protocol to the IRB, including required forms, supporting documents, and investigator responsibilities.
- Apply regulatory requirements and institutional policies to case examples in order to ensure ethical compliance and successful IRB submission.



Dr. Amr Al-Saeid

Pediatric Surgeon  
HMC

# Meta-analyses for Surgeons

## Objectives

- Define meta-analysis and explain its role in evidence-based surgical practice.
- Identify the key steps in conducting a meta-analysis, including literature search, study selection, data extraction, and statistical synthesis.
- Critically appraise published meta-analyses in surgical research for quality, validity, and applicability to clinical practice.
- Interpret forest plots, heterogeneity measures, and effect estimates to draw meaningful conclusions from meta-analytic data.
- Apply insights from meta-analyses to guide surgical decision-making, treatment selection, and guidelines development.



A photograph of a modern building with a curved facade made of horizontal wooden slats and large glass windows. Green foliage is visible on the right side of the building.

# RESEARCH PRESENTATIONS

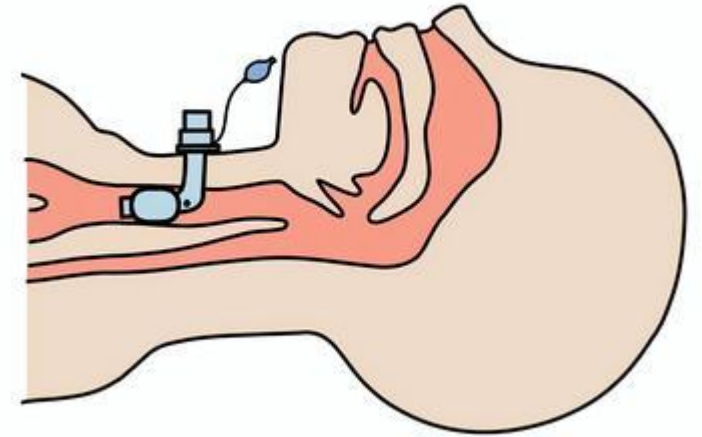


# Establishing a National Pediatric Tracheostomy Surveillance Program

Ms. Larkin Accinelli, Dr. Niveen Mukhtar, Dr. Taseer Din  
ENT Division

## Presentation Summary:

- Establishing a national pediatric tracheostomy surveillance program has proven both challenging and essential for improving patient safety. Pediatric tracheostomy care carries significant risks, and centralizing services provides an opportunity to prevent life-threatening complications.
- At Sidra ENT in Qatar, our team performs 15–20 new pediatric tracheostomies per year and currently follows approximately 150 patients across Qatar and neighboring countries, many of whom present with unique challenges related to high rates of genetic disorders and consanguinity.
- The COVID-19 pandemic disrupted routine surveillance and follow-up, leading to increased complications such as tracheostomy-related bleeding emergencies, obstructive granuloma formation, tracheal crusting from poor hydration, and stoma-related issues. In response, the development of a national surveillance program was initiated to centralize care, standardize monitoring, and improve outcomes for tracheostomized children.
- This initiative highlights the importance of identifying key stakeholders, demonstrate the advantages of a unified national tracheostomy service, and share the benefits and challenges of implementing routine airway surveillance. Although establishing such a program has required overcoming multiple barriers, our experience shows that it can significantly reduce complications, enhance safety, and serve as a model for other growing programs internationally.



# Establishing a National Pediatric Otolaryngology Drooling Service in a Unique Population

Dr. Mai Elhassan, Ms. Larkin Accinelli, Dr. Faisal Abdulkader, Dr. Taseer Din  
ENT Division

## Presentation Summary:

- In October 2023, Sidra Medicine's Pediatric Otolaryngology department established a multidisciplinary National Drooling Service to address the high burden of drooling among children in Qatar, many with underlying genetic disorders.
- In a prospective, ongoing study, twenty patients underwent procedures including botulinum toxin injections, parotid duct ligations, and submandibular gland excisions.
- Outcomes assessed with the Drooling Impact Scale showed significant post-operative improvement. Patients also required fewer clinic visits and anesthetics, reflecting a more streamlined and efficient care pathway.
- The service has enhanced patient outcomes, improved family satisfaction, and demonstrated the value of a centralized, multidisciplinary approach for managing drooling in this unique population.

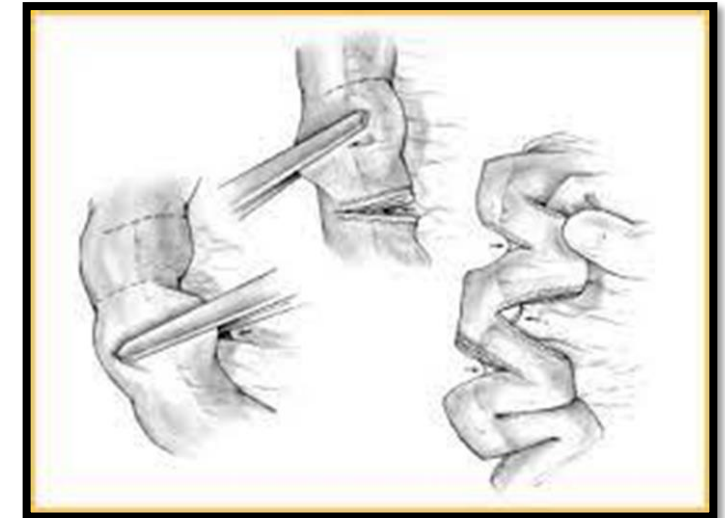
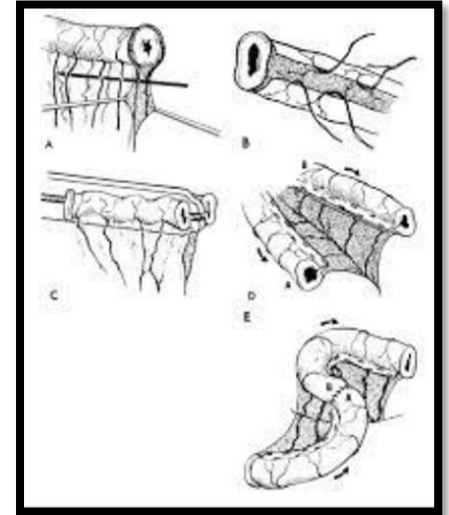


# Turning Challenges into Triumphs: Short Gut Syndrome Solutions

Dr. Saleem Mammoo, Dr. Noora Al Shahwani, Dr. Hasan Baghazal, Dr. Nouredine Bouhadiba, Dr. Guy Brisseau, Dr. Mansour Ali  
General and Thoracic Surgery Division

## Presentation Summary:

- Short Bowel Syndrome (SBS) is a complex condition often requiring long-term TPN.
- At Sidra Medicine's Advanced Intestinal Rehabilitation Unit, 46 children were managed through multidisciplinary care, including bowel lengthening, hepatosparing TPN, and structured follow-up.
- Lengthening procedures achieved up to a 246% increase in bowel length, and 80% of patients were successfully weaned off TPN, even in severe and ultrashort cases.
- These results highlight the effectiveness of specialized, multidisciplinary rehabilitation in reducing TPN dependence, preventing complications, and improving quality of life for children with SBS.



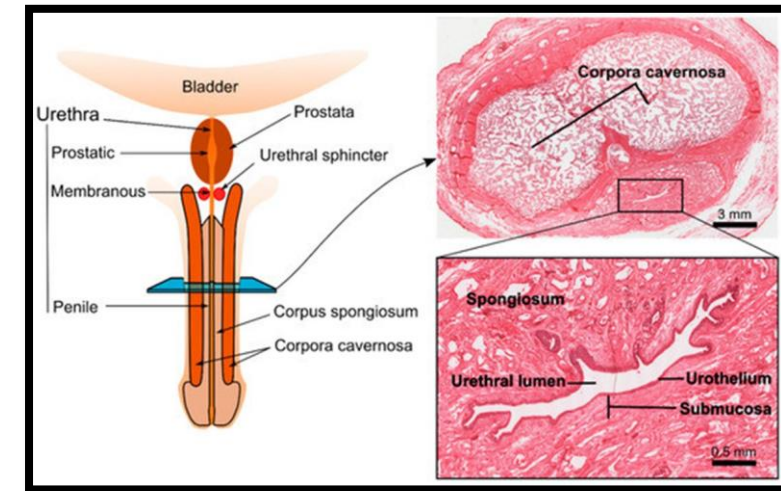


# Trilayer composite scaffold for urethral reconstruction: in vitro evaluation of mechanical, biological, and angiogenic properties

Dr. Tariq Abbas, Hemalatha Parangusan, Huseyin C Yalcin, Mohamed Hassan, Lubna Zakrif, Nooshin Zandi, Cristian P Pennisi  
Urology Division

## Presentation Summary:

- Regeneration of damaged urethral tissue remains a major challenge in lower urinary tract reconstruction.
- To address this, we developed a trilayer hybrid scaffold composed of poly(lactic acid) (PLA) sandwiched between two layers of chitosan, fabricated via sequential electrospinning.
- Compared to electrospun PLA and acellular dermis (Alloderm) controls, the CPC scaffolds demonstrated superior mechanical properties, including higher elastic modulus and tensile strength, while retaining clinical suitability with appropriate extensibility and suture-holding capacity.
- Biologically, the CPC scaffolds showed enhanced hydrophilicity, were non-cytotoxic, promoted fibroblast-mediated wound closure, and supported smooth muscle cell growth, a key component for functional urethral regeneration.
- Importantly, the scaffolds also exhibited increased angiogenic potential in a chicken embryo model, suggesting capacity for improved vascularization. These findings highlight the CPC trilayer scaffold as a promising candidate for urethral tissue engineering, offering advantages over purely synthetic or natural alternatives and warranting further in vivo evaluation.





# Session 2



Dr. Lisabeth Goldsworthy

Senior Attending Physician  
Emergency Department  
Sidra Medicine

# Clinical Audit as a Quality Improvement Tool

## Objectives

- Have revised 'what is clinical audit'
- Recognize its value as a quality improvement tool in analysis of patient care
- Through examples, evaluate the improvements possible, and recognize benefit of 'top down' and 'bottom up' quality initiatives
- Review future plans for clinical audit here at Sidra Medicine





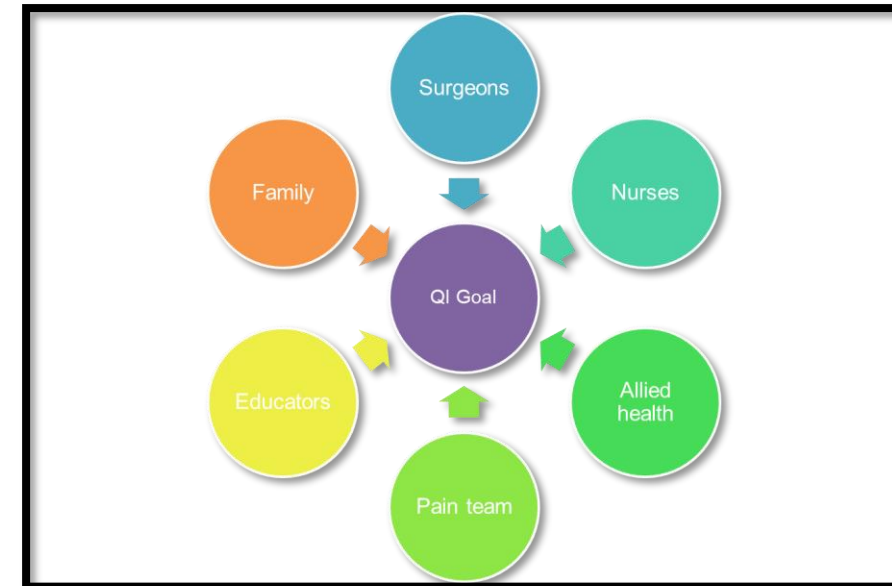
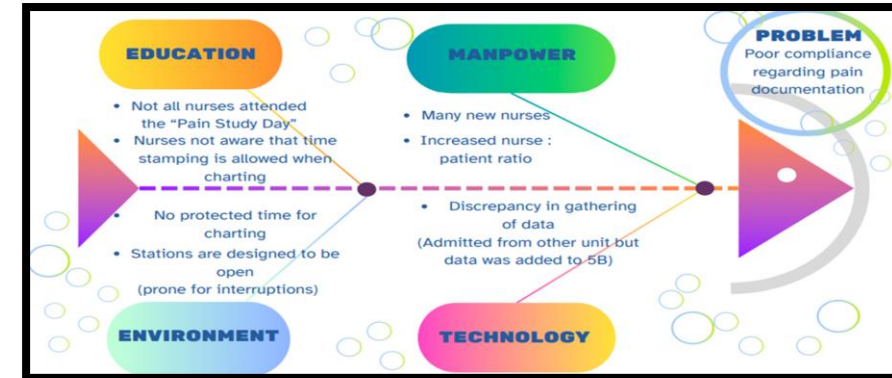
# QI PRESENTATIONS

# Improving Patients Management Through Proper Pain Documentation

Ms. Catherine Mendoza, Rozalinda Razon, Shienanton Alday, Rowena Zamora Ma.Christine Salinas, Janine Jordan, Sunila Joseph,  
Lazarus John Kanagarethinam, Emelita Felix, Pauline Agolito  
Pediatrics Inpatient Unit

## Presentation Summary:

- Pain is one of the most common and challenging symptoms managed in healthcare, particularly in surgical settings where inconsistent documentation remains a barrier to effective relief.
- Recognizing that high-quality pain management requires accurate assessment, timely reassessment, and collaborative, evidence-based care, Sidra Medicine's Surgical Department implemented a year-long quality improvement project using the Plan-Do-Study-Act (PDSA) model.
- Data were collected through the hospital's Electronic Medical Records and monitored via a Quality Dashboard to ensure compliance with established pain management guidelines.
- Results from January to December 2023 demonstrated an average compliance rate of 93.7% in pain assessment, reassessment, and documentation, with a further improvement to 94.8% by the project's conclusion. These improvements highlight the importance of consistent pain evaluation following interventions, enabling tailored care to meet patient needs. Ultimately, structured pain documentation not only improves patient satisfaction but also enhances recovery, reduces complications, and shortens hospital stays.

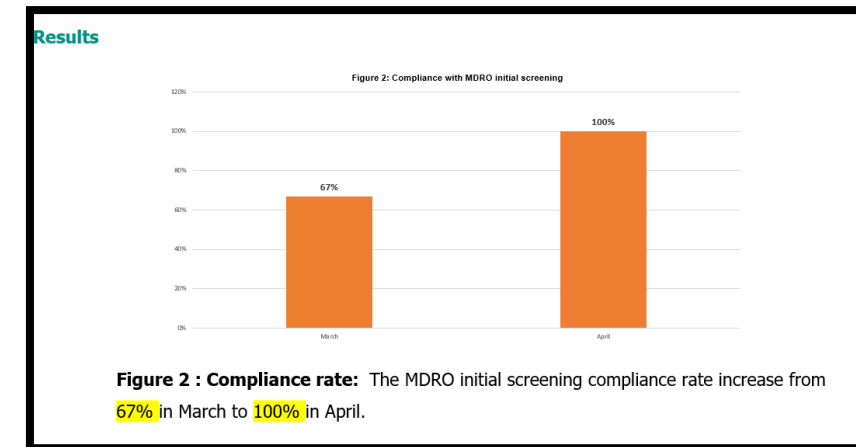
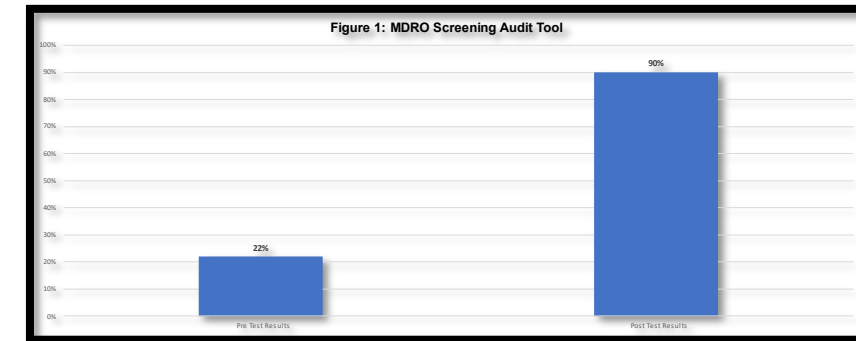


# Enhancing Knowledge of Sidra's MDRO Screening Policy in 5A Neuroscience Unit

Ms. Muna Adan, Ms. Roshna Praveen  
Pediatrics Inpatient Unit

## Presentation Summary:

- Multidrug-resistant organisms (MDROs) pose a serious threat to patient safety, requiring strict infection control and timely screening to minimize transmission in healthcare settings.
- To strengthen staff knowledge and ensure adherence to Sidra's MDRO Screening Policy, the 5A Neuroscience Unit launched a quality improvement project with a target of achieving 90% knowledge competency by June 2023.
- Using the PDSA cycle, one-to-one education, distribution of materials, and an e-learning module, nurses were actively engaged in awareness and training activities.
- Pre- and post-intervention assessments demonstrated a dramatic increase in knowledge from 22% to 90%, alongside improved awareness of MDRO transmission, screening protocols, and the importance of timely identification.
- The project also positively influenced infection control practices, with stronger adherence to hand hygiene, PPE use, and precautionary measures. Overall, this initiative significantly enhanced patient safety, promoted consistent application of screening policies, and serves as a model for future infection prevention efforts across Sidra and beyond.





# Enhancing Discharge Process in 5A: A Patient-Centered Approach

Ms. Muna Adan, Dara Villaruz, Roshna Praveen, Libylyn Adlaon  
Pediatrics Inpatient Unit

## Presentation Summary:

- The discharge process is a critical component of hospital care, directly influencing patient satisfaction and workflow efficiency.
- In the 5A unit, challenges in discharge procedures highlighted the need for improvement in communication, efficiency, and patient education. To address these gaps, a standardized discharge education checklist was introduced, alongside one-to-one staff training and implementation of the new Pediatric Patient Discharge Pathway.
- Conducted between July and September 2023, these interventions resulted in a 10% reduction in average discharge times, while also supporting clearer communication and improved patient education on post-discharge care.
- Overall, the project demonstrated that structured, patient-centered approaches can streamline processes, enhance outcomes, and ensure a better discharge experience for families.

### Methodology:

To achieve our objectives, we implemented several key strategies.

These included:

- ❖ Training on the new Pediatric Patient Discharge Pathway for 5A.
- ❖ The introduction of a standardized discharge education checklist.
- ❖ Provide one to one training for 5A nursing staffs & 5A unit clerk.

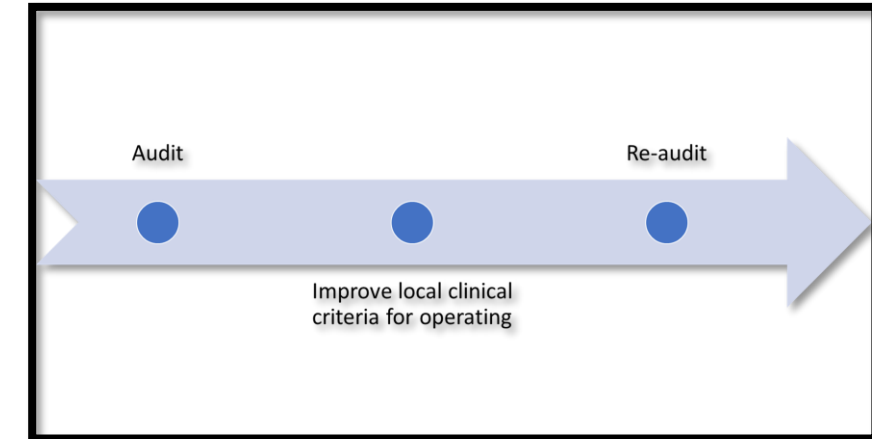
**The timeline for implementation spanned Mid of July 2023 to the end of September 2023.**

# A single center retrospective study on predictors of negative appendectomy in children

Ms. Collette Donnelly, Dr. Sarra Aggoun, Dr. Ibrahim Tariq, Dr. Noora Al Shahwani  
General and Thoracic Surgery Division

## Presentation Summary:

- Appendicitis is the most common surgical emergency in children and appendectomy remains the standard of care. At Sidra Medicine, approximately 450–550 appendectomies are performed annually.
- Despite the use of standardized scoring systems such as PAS, our institution reported a higher negative appendectomy rate (9%) compared to the international NSQIP-P benchmark median of 2.2%. Possible contributors include limited CT utilization, reliance on ultrasound, and earlier case presentations without periods of inpatient observation.
- This retrospective study reviewed 475 pediatric appendectomy cases (July 2022–May 2023), excluding interval procedures, with the primary outcome being histopathology-confirmed negative appendectomy. Secondary analyses investigated associations with age, gender, BMI, lab markers, pARC scores, and imaging findings.
- Preliminary review underscores the challenges in pediatric appendicitis diagnosis and the need for consistent use of risk scores, improved ultrasound reliability, and potential reevaluation of imaging strategies to reduce unnecessary surgeries. Final data analysis, including predictors and diagnostic tool performance, will be presented at the meeting.





# Session 3





Dr. Tariq Abbas

Attending Surgeon  
Urology Division, Surgery Department  
Sidra Medicine

# Pushing the Envelope of Artificial Intelligence in Pediatric Urology

## Objectives

- Describe key applications of artificial intelligence (AI) in pediatric urology, including diagnosis, treatment planning, surgical assistance, and patient monitoring.
- Explain how AI-powered imaging analysis improves the accuracy and efficiency of detecting and classifying pediatric urologic conditions.
- Evaluate the role of AI-assisted surgical technologies in enhancing surgical precision, reducing complications, and improving patient outcomes in pediatric urology.
- Discuss the potential benefits and challenges of integrating AI into clinical workflows, including ethical, practical, and legal considerations specific to pediatric urology.
- Identify emerging trends and future directions in AI research that could transform pediatric urology care, education, and personalized treatment strategies.



Dr. Yosra Majdi Mekki

Department of Medicine  
Qatar University

# Use of Virtual Reality in Surgery

## Objectives

- Define virtual reality (VR) technology and explain its applications in surgical training and education.
- Describe how VR surgical simulations enhance anatomical understanding and technical skills in a risk-free, immersive environment.
- Discuss the benefits of VR in accelerating skill acquisition, improving surgical precision, and reducing procedural errors.
- Analyze the role of VR in providing real-time feedback and enabling repeated practice to build proficiency and confidence.
- Evaluate challenges and future directions for integrating VR into surgical curricula and clinical practice to improve patient outcomes.



Dr. Mariam Yasser Nofal

**Tech Transfer & Innovation Analyst**  
**Sidra Medicine**

# Tech Transfer: Bring Your Innovation to Realization (Sidra-specific)

## Objectives

- Understand the concept and importance of technology transfer within a healthcare and research institution like Sidra Medicine.
- Identify the key steps and stakeholders involved in Sidra's technology transfer process from research innovation to clinical application.
- Describe how Sidra's integrated research and clinical teams collaborate to advance biomedical innovations toward patient care.
- Explore Sidra's support mechanisms, including partnerships, grants, and the Office of Technology Commercialization, that facilitate innovation development and implementation.
- Recognize challenges and best practices in navigating intellectual property, licensing, and commercialization within the context of Sidra Medicine's innovation ecosystem.



# Session 4





# Awards Presentation

# Research Presentation Award

**Dr. Tariq Abbas**

Urology Surgery Division



# QI PRESENTATION AWARD



Ms. Muna Adan

Pediatrics Inpatient Unit