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Abdominal core health encompasses the stability and function of the abdominal core and associated quality of life. Interventions to maintain core health include surgical and non-surgical therapies that integrate the functional relatedness of the abdominal core components.	
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The incidence of ventral hernias in the United States is in increasing. Herein, the author details the etiology of congenital and acquired ventral hernias as well as the risk factors associated with the development of each of these types of ventral hernias.	
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Millions of laparotomies are performed annually, carrying up to a 41% risk of developing into a hernia. Incisional hernias are associated with morbidity, mortality, and costs; an estimated \$9.6 billion is spent annually on repair of ventral hernias. Although repair is possible, surgeons must prevent incisional hernias from occurring. There is substantial evidence on surgical technique to reduce the risk of incisional hernia formation. This article aims to critically summarize the use of surgical technique and prophylactic mesh augmentation during fascial closure to inform decision-making and reduce incisional hernia formation.	
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It is estimated that approximately one in four men and one in 20 women will develop an inguinal hernia over the course of their lifetime. A non-mesh inguinal hernia repair via the Shouldice technique is a unique approach that necessitates dissection of the entire groin region as well as careful assessment for any secondary hernias. Subsequently, a pure tissue laminated	

closure allows the repair to be performed without tension. Herein, the authors describe a brief overview of inguinal hernias and discuss the relevant patient evaluation, operative steps of the Shouldice procedure, and post-operative considerations.

The Minimally Invasive Inguinal Hernia: Current Trends and Considerations

875

Thomas Q. Xu and Rana M. Higgins

Inguinal hernias are one of the most common surgical pathologies faced by the general surgeon in modern medicine. The cumulative incidence of an inguinal hernia is around 25% in men and 3% in women. The majority of inguinal hernias can be repaired minimally invasively, utilizing either robotic or laparoscopic approaches.

Management of Chronic Postoperative Inguinal Pain

889

David M. Krpata

Chronic postoperative inguinal pain, CPIP, afflicts 10% to 15% of the nearly 700,000 Americans who have inguinal hernia surgery every year. CPIP is challenging to manage because it poses many diagnostic dilemmas that can be overcome with a thorough history, examination, differential diagnosis, and imaging. The initial treatment of CPIP should explore all nonsurgical therapies including medications, physical therapy, interventional pain management and cognitive therapy. When nonoperative methods fail, surgical interventions including neurectomy and hernia mesh removal have proven to be beneficial for patients with CPIP.

Primary Uncomplicated Ventral Hernia Repair: Guidelines and Practice Patterns for Routine Hernia Repairs

901

Matthew Hager, Colston Edgerton, and William W. Hope

Surgical repair of primary umbilical and epigastric hernias are among the most common abdominal operations in the world. The hernia defects range from small (<1 cm) to large and complex even in the absence of prior incision or repair. Mesh has generally been shown to decrease recurrence rates, and its use and location of placement should be individualized for each patient. Open, laparoscopic, and robotic approaches provide unique considerations for the technical aspects of primary repair with or without mesh augmentation.

Preoperative Optimization for Abdominal Wall Reconstruction

917

Archana Ramaswamy

Patients requiring abdominal wall reconstruction may have medical comorbidities and/or complex defects. Comorbidities such as smoking, diabetes, obesity, cirrhosis, and frailty have been associated with an increased risk of postoperative complications. Prehabilitation strategies are variably associated with improved outcomes. Large hernia defects and loss of domain may present challenges in achieving fascial closure, an important part of restoring abdominal wall function. Prehabilitation of the abdominal wall can be achieved with the use of botulinum toxin A, and preoperative progressive pneumoperitoneum.

Ventral Hernia Repair: Does Mesh Position Matter?

935

Nir Messer and Michael J. Rosen

Mesh positioning is a commonly discussed detail in ventral hernia repair and is often cited as a major contributor to the outcome of the operation. However, there is a paucity of data that establishes one plane as superior to others. In this article, we will provide an overview of all potential planes to place prosthetic material and review the relevant literature supporting each option and the complications associated with accessing each anatomic plane.

Laparoscopic Ventral Hernia Repair

947

Alexandra Hernandez and Rebecca Petersen



Video content accompanies this article at <http://www.surgical.theclinics.com>.

The laparoscopic approach to ventral hernia repair is a safe and effective approach for both elective and emergent repair. The preoperative technical considerations include assessment of incarceration and potential for extensive adhesiolysis, size of defect, and atypical hernia locations. Preoperative considerations include weight loss and lifestyle modification. There are multiple methods of fascial defect closure and mesh fixation that the surgeon may consider via a laparoscopic approach, making it adaptable to varying clinical scenarios and anatomic challenges. Compared with open repair laparoscopic repair is associated with reduced surgical wound site infection, and compared with robotic repair outcomes are similar.

Open Complex Abdominal Wall Reconstruction

961

Clayton C. Petro and Megan Melland-Smith

This article provides an approach to open complex abdominal wall reconstruction. Herein, the authors discuss the purpose of component separation as well as its relevant indications. The techniques and anatomical considerations of both anterior and posterior component separation are described. In addition, patient selection criteria, preoperative adjuncts that may assist with fascial or soft tissue closure, and complications of component separation will be discussed.

The Role of Robotics in Abdominal Wall Reconstruction

977

Sara Maskal and Lucas Beffa

Robotic abdominal wall reconstruction is becoming an accepted technique to approach complex hernias in a minimally invasive fashion. There remain a deficit of high-quality data to suggest significant clinical benefit but current randomized trials are ongoing. Robotic surgery can be applied to a range of abdominal wall defects safely and with positive outcomes which are at least equivocal to open abdominal wall techniques.

Parastomal Hernia Repair

993

Victoria R. Rendell and Eric M. Pauli

Parastomal hernias (PHs) are common and contribute to significant patient morbidity. Despite 45 years of evolution, mesh-based PH repairs continue

to be challenging to perform and remain associated with high rates of postoperative complications and recurrences. In this article, the authors summarize the critical factors to consider when evaluating a patient for PH repair. The authors provide an overview of the current techniques for repair, including both open and minimally invasive approaches. The authors detail the mesh-based repair options and review the evidence for choice of mesh to use for repair.

Devices in Hernia Surgery

1011

Ajita S. Prabhu

Despite the heavy reliance of surgeons on mesh with which to repair hernias, less attention is paid to the technical specifications of mesh and/or regulatory processes for bringing medical devices to market during surgical training. This article summarizes some of the key controversies and points regarding mesh materials and regulatory processes related to mesh devices.

Mesh Selection in Abdominal Wall Reconstruction: An Update on Biomaterials

1019

Ryan Ellis and Benjamin T. Miller

A wide array of mesh choices is available for abdominal wall reconstruction, making mesh selection confusing. Understanding mesh properties can make mesh choice simpler. Each mesh has characteristics that determine its durability, ability to clear an infection, and optimal position of placement in the abdominal wall. For clean retromuscular hernia repairs, we prefer bare, heavy weight, permanent synthetic mesh. For contaminated retromuscular abdominal wall reconstruction cases, such as parastomal hernia repairs, we typically use bare, medium weight, permanent synthetic mesh. Biologic and biosynthetic meshes also have acceptable wound event and hernia recurrence rates when used in contaminated cases.

Hernia Mesh Complications: Management of Mesh Infections and Enteroprosthetic Fistula

1029

Kathryn A. Schlosser and Jeremy A. Warren

The potential consequences of mesh infection mandate careful consideration of surgical approach, mesh selection, and preoperative patient optimization when planning for ventral hernia repair. Intraperitoneal mesh, microporous or laminar mesh, and multifilament mesh typically require explantation, whereas macroporous, monofilament mesh in an extraperitoneal position is often salvageable. Delayed presentation of mesh infection should raise the suspicion for enteroprosthetic fistula when intraperitoneal mesh is present. When mesh excision is necessary, the surgeon must carefully consider both the risk of recurrent infection as well as hernia recurrence when deciding on single-stage definitive reconstruction versus primary closure with delayed reconstruction.