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Preface: Hernia Surgery: Approaches, Implants, and Fixation Devices

Over 1,000,000 hernias of all types are repaired in the United States each year, and the techniques for repair have evolved, with significant improvements in the last 30 years. Hernias can occur where something either traverses or has previously traversed the abdominal wall or where the abdominal wall has been violated. In general, de novo hernias occur in locations that are potential weaknesses such as the inguinal region, the esophageal hiatus, the umbilicus, and the pelvic floor. Additionally, hernias can also result where the abdominal wall has been opened for an incision or stoma creation. This edition of the *Journal of Long-Term Effects of Medical Implants* includes articles written by hernia surgery experts and covers the breadth of abdominal wall hernia surgery.

More than 700,000 inguinal hernias are repaired each year in the United States. The first review article by Drs. Bowens and Morris is a comprehensive summary of open inguinal hernia repairs utilizing prosthetic materials. They have clearly summarized the history of prosthetic utilization, the surgical techniques, and the outcomes. Additionally, they have included an important discussion of mesh infection and management of this difficult situation. The role of neurectomy, a topic infrequently discussed, is addressed as well.

Drs. Ujiki and Leung have written an objective and unbiased review article on laparoscopic approaches to inguinal hernia repairs. They have addressed both the transabdominal approach and the totally extraperitoneal technique for laparoscopic inguinal hernia repair. Included is a comprehensive summary of mesh choice and fixation techniques. Mesh weight is discussed with increasing frequency and the authors have included a salient summary of the available literature.

Hernias occur fairly commonly in abdominal wall incisions and increase in frequency due to risk factors such as obesity, smoking, diabetes, and wound infection. Repair can be effective without mesh, but the recurrence rates are higher and secondary repairs are more difficult and not as effective. The addition of mesh to the surgeon's armamentarium has resulted in significant decreases in recurrence rates. More recently, laparoscopic techniques have been applied to incisional hernia repair and improved outcomes for larger hernias over traditional anterior approaches. Drs. Phillips and Nagle have written a thoughtful review of the indications and techniques for performing laparoscopic incisional hernia repairs. Unfortunately, these repairs do not reconstruct the abdominal wall integrity and can result in some cosmetic deformity. The component separation technique has recently gained popularity and has similarly been performed with increasing frequency using a minimally invasive approach. This approach does mobilize the abdominal wall musculature to improve the functional and cosmetic results. Drs. Dholakia and Reavis have summarized the indications and techniques for both the open and minimally invasive approaches to the component separation repair. Drs. Linn and Mikami have written a comprehensive summary of approaches to repair of a difficult problem, the parastomal hernia. These hernias are difficult to safely repair and are fraught with high recurrence rates, but new innovative approaches have improved outcomes.

Other hernias of the boundaries in the abdominal compartment include hernias of the esophageal hiatus and the pelvic floor. Hiatal repairs are commonly performed and have benefitted patients who have failed medical therapy or have large paraesophageal hernias. Drs. Sheff and Kothari have summarized the current approaches to hiatal hernia repair, including a discussion of the important issue of whether mesh should be used to repair the defective hiatus. Dr. Kann has addressed the issue of pelvic floor hernias

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in their review. These are difficult problems with the potential for significant functional issues, and the author has nicely summarized the important factors involved in treatment.

Finally, prosthetic materials have changed how we do hernia repairs of all types, and the recent addition of a wide variety of biologic prosthetics has given surgeons more options. Drs. El-Hayak and Chand have provided a comprehensive review of the increasing numbers of biologic prosthetics available. Their review of the biologic properties of these types of mesh is clear and coherent and will help surgeons in choosing the appropriate prosthetic.

All of these review articles have been written by experts in the field of hernia surgery and provide important information about the techniques and technologies available today.

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