

Perspective

Benefits of Minimal Invasive Surgery for Inguinal Hernia Repair in Bangladesh

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Abstract

Inguinal hernia is a common condition where intestinal or fatty tissue protrudes through a weak spot in the abdominal wall, often causing discomfort and restricted movement. Traditional open surgery has been the standard treatment, but minimally invasive surgery (MIS), including laparoscopic and robotic-assisted techniques, has gained popularity due to its advantages. These advanced procedures involve small incisions, specialized instruments, and a camera for precise hernia repair, leading to faster recovery, reduced pain, and lower complication risks. Laparoscopic surgery uses a camera and small tools to place a reinforcing mesh, while robotic-assisted surgery provides enhanced precision through robotic arms controlled by the surgeon. MIS results in less postoperative pain, quicker recovery, and a lower risk of infections, hematomas, and nerve damage. Additionally, it leaves minimal scarring and allows for the simultaneous repair of bilateral hernias. Larger or complicated hernias. Additionally, it requires highly skilled surgeons and has higher initial costs. Despite these limitations, MIS is becoming the preferred approach for inguinal hernia repair, offering better patient outcomes and contributing to improved healthcare in Bangladesh.

Keywords: Minimal Invasive Surgery; Inguinal Hernia Repair; Laparoscopic surgery

Received: 02 September, 2024; **Accepted:** 20 November, 2024; **Published:** 1 December 2024

DOI: <https://doi.org/10.3329/jmomc.v10i2.80108>

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How to cite this article: Saha PK, Roy RR, Yusuf MA. Benefits of Minimal Invasive Surgery for Inguinal Hernia Repair in Bangladesh. Journal of Monno Medical College, 2024 December;10 (2):107-109.

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Introduction:

Inguinal hernia is a common condition that occurs when a portion of the intestine or fatty tissue protrudes through a weak spot in the abdominal wall, usually in the groin area. It affects millions worldwide and is a significant cause of discomfort, pain, and restricted physical activity. Traditional open surgery has been the standard treatment for inguinal hernia repair; however, advancements in medical technology have introduced minimally invasive surgical techniques, such as laparoscopic surgery. These techniques offer numerous benefits, including faster recovery, reduced postoperative pain, and lower risks of complications. Inguinal hernia repair is a common surgical procedure in

Bangladesh, with minimally invasive techniques such as laparoscopic. These advanced methods offer numerous benefits over traditional open surgery, including reduced postoperative pain, quicker recovery times, and lower complication rates.

Understanding Minimally Invasive Surgery

Minimally invasive surgery (MIS) for inguinal hernia repair primarily includes laparoscopic surgery and robotic-assisted surgery. Unlike traditional open surgery, which requires a large incision, MIS involves small incisions, specialized instruments, and a camera to guide the procedure.

Laparoscopic Hernia Repair: This technique involves making three to four small incisions in the abdominal wall. A thin tube with a camera (laparoscope) is inserted through one of these incisions to provide a detailed view of the internal structures. The surgeon then uses specialized instruments to place a mesh over the weakened area, reinforcing the abdominal wall and preventing the hernia from recurring.

Reduced Postoperative Pain: Since MIS involves smaller incisions, there is less trauma to muscles and surrounding tissues, leading to significantly lower pain levels after surgery. This often reduces the need for pain medications. Minimally invasive inguinal hernia repairs are associated with less postoperative discomfort compared to open surgeries. The laparoscopic approach involves smaller incisions, leading to minimal disruption of surrounding tissues and muscles. This results in decreased pain during recovery, often eliminating the need for narcotic pain relief. A study published in the *Annals of Laparoscopic and Endoscopic Surgery* highlights that laparoscopic repairs are linked to reduced postoperative pain and a faster return to daily activities.

Faster Recovery and Return to Activities: Patients undergoing laparoscopic hernia repair can return to daily activities much sooner than those who have open surgery. Many patients can resume light activities within a few days and strenuous activities within a few weeks. Patients undergoing minimally invasive hernia repair typically experience a quicker return to normal activities. The smaller incisions used in laparoscopic and robotic-assisted surgeries contribute to less tissue trauma, facilitating faster healing.

Lower Risk of Complications: MIS has been associated with a lower risk of complications such as infections, bleeding, and nerve damage. The smaller incisions reduce exposure to external contaminants, lowering the chances of postoperative infections. Minimally invasive techniques are associated with a reduced risk of postoperative complications. The precision of laparoscopic and robotic-assisted surgeries minimizes the likelihood of infection, hematoma, and wound-related issues.

Minimal Scarring: Due to the small incisions used in laparoscopic and robotic-assisted procedures, scarring is minimal compared to traditional open surgery, which requires a larger incision.

Lower Recurrence Rates: Studies have shown that laparoscopic repair, particularly when performed with mesh reinforcement, has lower recurrence rates compared to traditional open surgery.

Bilateral Hernia Repair in a Single Procedure: One major advantage of laparoscopic and robotic-assisted surgery is the ability to repair hernias on both sides of the groin simultaneously, which is not easily feasible with open surgery.

Availability and Success Rates in Bangladesh

In Bangladesh, minimally invasive inguinal hernia repair techniques are increasingly accessible, with several medical centers offering laparoscopic. Pristyn Care, for instance, provides laparoscopic hernia surgery with a reported 95% success rate. The growing adoption of these techniques reflects a commitment to improving patient outcomes and embracing advanced surgical methods.

Cost Considerations

The cost of minimally invasive hernia surgery in Bangladesh varies depending on the hospital and surgeon's fees. Generally, the expenses range between BDT 80,000 and BDT 2,00,000. While the initial cost may be higher than that of open surgery, the benefits of reduced postoperative pain, shorter recovery times, and lower complication rates can offset the overall expenses by decreasing the need for extended medical care and facilitating a quicker return to work.

Limitations of Minimal Invasive Surgery

While minimally invasive surgery offers numerous benefits, it may not be suitable for all patients. Certain factors should be considered:

Patient Suitability: MIS is typically recommended for patients with recurrent or bilateral hernias, whereas open surgery may still be preferred for individuals with larger or complicated hernias.

Higher Initial Costs: Minimally invasive procedures may have a higher upfront cost due to the specialized equipment and expertise required. However, the reduced need for prolonged hospital stays and quicker recovery may offset the cost over time.

Surgeon Expertise: Not all surgeons are trained in advanced laparoscopic hernia repair. Patients should seek experienced surgeons specializing in MIS to ensure optimal outcomes.

Conclusion

Minimally invasive surgery has become a preferred method for inguinal hernia repair due to its numerous advantages, including reduced pain, faster recovery, lower risk of complications, and minimal scarring. As medical technology continues to advance, the accessibility and effectiveness of these techniques will further improve,

providing patients with better treatment options and outcomes. However, careful patient selection and the expertise of the surgeon remain crucial factors in ensuring a successful surgery. Minimally invasive surgery for inguinal hernia repair offers significant benefits, including reduced postoperative pain, faster recovery, lower complication rates, and enhanced surgical precision. In Bangladesh, the increasing availability of these advanced techniques provides patients with effective and efficient treatment options, contributing to improved healthcare outcomes.

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