

# Inguinal Hernia

## Mastering the Anatomy



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### KEYWORDS

• Inguinal herniorrhaphy • Lichtenstein • TAPP • Anatomy • Bassini • Inguinodynia

### KEY POINTS

- Success of inguinal herniorrhaphy is defined by low recurrence and complication rates and relies on the surgeon's knowledge and understanding of groin anatomy and physiology.
- Open tension-free mesh repair remains the most common and gold standard repair of inguinal hernias, building on knowledge and understanding of groin anatomy developed throughout history.
- A standardized dissection of the myopectineal orifice, following anatomic landmarks, allows for identification of all possible groin hernias and adequate mesh coverage of defects.

### INTRODUCTION

Inguinal hernias are a common problem that affect a large number of people around the globe. This leads to a surgical disease of significant scope, with 20 million inguinal hernia repairs completed annually worldwide, and in the United States more than 800,000 are completed by 18,000 surgeons across the country.<sup>1</sup> The success of an inguinal hernia repair is defined by the permanence of the operation while creating the fewest complications at minimal cost and allowing patients an early return to activity. This success relies and depends on the surgeon's knowledge and understanding of groin anatomy and physiology. This article reviews relevant anatomy to inguinal hernia repair as well as technical steps to common repair techniques as they relate to this anatomy.

### GENERAL ANATOMY AND IMPORTANT STRUCTURES AND LANDMARKS

- External landmarks of the abdominal wall are used for all approaches to gain access to the correct area of the groin for hernia repair. For open approaches, the

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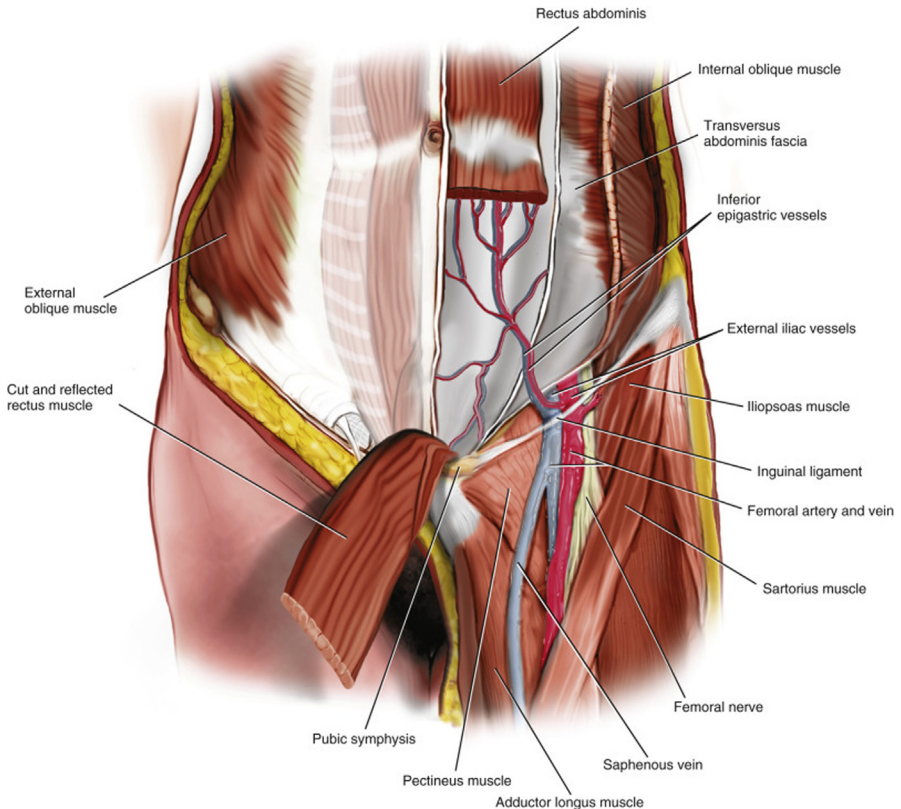
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initial incision is based on external landmarks, and for minimally invasive approaches, the use of external landmarks helps guide dissection and prevent complications. Take note of the anterior superior iliac spine (ASIS), the pubic tubercle, and the inguinal ligament (Fig. 1).

- Layers of the abdominal wall
  - From superficial to deep, the layers of the abdominal wall in the inguinal region are skin, subcutaneous tissue, Scarpa and Camper fascias, external oblique (EO) fascia and muscle, internal oblique (IO) fascia and muscle, transversus abdominis muscle (TAM), transversalis fascia (TAF), preperitoneal fat, and peritoneum. Medially the rectus abdominis muscle is encased by the anterior rectus sheath (ARS) throughout and the posterior rectus sheath above the



**Fig. 1.** The inferior epigastric vessels are important landmarks on the anterior abdominal wall, particularly because of their risk for injury during laparoscopic trocar entry. The artery arises from the lower medial aspect of the external iliac artery. The vein flows into the external iliac vein just cranial to the inguinal ligament. The femoral nerve emerges from within the substance of the psoas major muscle to be exposed directly under the tough inguinal ligament. This view shows the upper portion of the adductor longus, as well as the pectineus muscle. The latter overlies the obturator foramen (canal) and the obturator externus muscle, through which penetrate the obturator nerve plus the obturator vessels (not shown). Note also that the saphenous and femoral veins cross above the pectineus muscle. (From Baggish MS. Basic pelvic anatomy. In: Baggish MS, Karram MM, editors. Atlas of pelvic anatomy and gynecologic surgery. 4th edition. Philadelphia: Elsevier; 2016. p. 5–58; with permission.)

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