

# **Use of fibrin sealant (Tisseel/Tissucol) in hernia repair: a systematic review. [Review]**

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Publication Date: 2012

## **Abstract:**

**BACKGROUND:** Abdominal wall and inguinal hernia repair are the most frequently performed surgical procedures in the United States and Europe. However, traditional methods of mesh fixation are associated with a number of problems including substantial risks of recurrence and of postoperative and chronic pain. The aim of this systematic review is to summarize the clinical safety and efficacy of Tisseel/Tissucol fibrin sealant for hernia mesh fixation.

**METHODS:** A PubMed title/abstract search was conducted using the following terms: (fibrin glue OR fibrin sealant OR Tisseel OR Tissucol) AND hernia repair. The bibliographies of the publications identified in the search were reviewed for additional references.

**RESULTS:** There were 36 Tisseel/Tissucol studies included in this review involving 5,993 patients undergoing surgery for hernia. In open repair of inguinal hernias, Tisseel compared favorably with traditional methods of mesh fixation, being associated with shorter operative times and hospital stays and a lower incidence of chronic pain. Similarly, after laparoscopic/endoscopic inguinal hernia repair, Tisseel/Tissucol was associated with less use of postoperative analgesics and less acute and chronic postoperative pain than tissue-penetrating mesh-fixation methods. Other end points of concern to surgeons and patients are the risks of inguinal hernia recurrence and of complications such as hematoma formation and intraoperative bleeding. Comparative studies show that Tisseel/Tissucol does not increase the risk of these outcomes and may, in fact, decrease the risk

compared with tissue-penetrating fixation methods. When used in the repair of incisional hernias, Tisseel/Tissucol significantly decreased both postoperative morbidity and duration of hospital stay.

**CONCLUSIONS:** Clinical evidence published to date supports the use of Tisseel/Tissucol as an option for mesh fixation in open and laparoscopic/endoscopic repair of inguinal and incisional hernias. Guidelines of the International Endohernia Society recommend fibrin sealant mesh fixation, especially in inguinal hernia repair. Nonfixation is reserved for selected cases.