



## SURGICAL EVIDENCE

By

**Egyptian Group for Surgical Science and Research**

*Nabil Dowidar, EGSSR Moderator*

*Ahmed Hazem, EGSSR Secretary General*

*Said Rateb, Mohamed Farid, Ahmed Hussein*

Correspondence to: Nabil Dowidar, Email: nabil\_dowidar@hotmail.com

We present published evidence on surgical practice that does not require specialized training or significant resources for its implementation. Surgeons are advised to read the full text of the evidence before following the study conclusions.

### **Effect of Stitch Length on Wound Complications after Closure of Midline Incisions A Randomized Controlled Trial**

*Daniel Millbourn, Yucel Cengiz, Leif A. Israelsson*

Arch Surg. 2009;144:1056-9.

**Hypothesis:** In midline incisions closed with a single-layer running suture, the rate of wound complications is lower when a suture length to wound length ratio of at least 4 is accomplished with a short stitch length rather than with a long one.

**Design:** Prospective randomized controlled trial.

**Setting:** Surgical department.

**Patients:** Patients operated on through a midline incision.

**Intervention:** Wound closure with a short stitch length (ie, placing stitches <10 mm from the wound edge) or a long stitch length.

**Main Outcome Measures:** Wound dehiscence, surgical site infection, and incisional hernia.

**Results:** In all, 737 patients were randomized: 381 were allocated to a long stitch length and 356, to a short stitch length. Wound dehiscence occurred in 1 patient whose wound was closed with a long stitch length. Surgical site infection occurred in 35 of 343 patients (10.2%) in the long stitch group and in 17 of 326 (5.2%) in the short stitch group ( $P = .02$ ). Incisional hernia was present in 49 of 272 patients (18.0%) in the long stitch group and in 14 of 250 (5.6%) in the shortstitch group ( $P < .001$ ). In multivariate analysis, a long stitch length was an independent risk factor for both surgical site infection and incisional hernia.

**Conclusion:** In midline incisions closed with a running suture and having a suture length to wound length ratio of at least 4, current recommendations of placing stitches at least 10 mm from the wound edge should be changed to avoid patient suffering and costly wound complications.

**Trial Registration:** clinicaltrials.gov Identifier: NCT00508053

**Author Affiliations:** Department of Surgery, Sundsvall Hospital, Sundsvall, Sweden (Drs Millbourn and Cengiz), and Department of Surgery and Perioperative Sciences, Umeå University, Umeå, Sweden (Dr Israelsson).

## **Shouldice technique versus other open techniques for inguinal hernia repair.**

**Amato B, Moja L, Panico S, Persico G, Rispoli C, Rocco N, Moschetti I.**

Dipartimento di Chirurgia Generale (Edif. 6), Università degli Studi di Napoli, Via S. Pansini, 5, Napoli, Italy, 80131.

Cochrane Database Syst Rev. 2009;(4):CD001543.

**Background:** Inguinal hernia repair is the most frequent operation in general surgery. There are several techniques: the Shouldice technique is sometimes considered the best method but different techniques are used as the "gold standard" for open hernia repair. Outcome measures, such as recurrence rates, complications and length of post operative stay, vary considerably among the various techniques.

**Objectives:** To evaluate the efficacy and safety of the Shouldice technique compared to other non-laparoscopic techniques for hernia repair.

**Search Strategy:** We searched MEDLINE, EMBASE, and The Cochrane Central Register of Controlled Trials (CENTRAL), April 2008, for relevant randomised controlled trials.

**Selection Criteria:** Any randomised or quasi-randomised controlled trials (RCT) on the treatment of primary inguinal hernia in adults were considered for inclusion.

**Data Collection and Analysis:** All abstracts identified by the search strategies were assessed by two independent researchers to exclude studies that did not meet the inclusion criteria. The full publications of all possibly relevant abstracts were obtained and formally assessed. Missing or updated information was sought by contacting the authors.

**Main Results:** Sixteen trials contributed to this review. A total of 2566 hernias were analysed in the Shouldice group with 1121 mesh and 1608 non-mesh techniques. The recurrence rate with Shouldice techniques was higher than mesh techniques (OR 3.80, 95% CI 1.99 to 7.26) but lower than non-mesh techniques (OR 0.62, 95% CI 0.45 to 0.85). There were no significant differences in chronic pain, complications and post-operative stay. Female were nearly 3% of included patients.

**Authors' Conclusions:** Shouldice herniorrhaphy is the best non-mesh technique in terms of recurrence, though it is more time consuming and needs a slightly longer post-operative hospital stay. The use of mesh is associated with a lower rate of recurrence. The quality of included studies, assessed with Jaded scale, were low. Patients have similar characteristics in the treatment and control group but seem more healthy than in general population, these features may affect the dimension of effect in particular recurrence rate could be higher in general population. Lost to follow-up were similar in the treatment and control group but the reasons were often not reported. The length of follow-up varies broadly among the studies from 1 year to 13.7 years.

## **Randomized clinical trial of small-incision and laparoscopic cholecystectomy in patients with symptomatic cholecystolithiasis: primary and clinical outcomes.**

**Keus F, Werner JE, Gooszen HG, Oostvogel HJ, van Laarhoven CJ.**

Department of Surgery, St Elisabeth Hospital, Tilburg, the Netherlands.

Arch Surg. 2008;143:371-7; discussion 377-8.

**Objective:** To evaluate the primary and clinical outcomes in laparoscopic and small-incision cholecystectomy.

**Design:** Blinded randomized single-center trial emphasizing methodologic quality and generalizability.

**Setting:** General teaching hospital in the Netherlands.

**Patients:** A total of 257 patients undergoing cholecystectomy for symptomatic cholecystolithiasis.

**Interventions:** Laparoscopic cholecystectomy and small-incision cholecystectomy, performed mainly by surgical residents.

**Main outcome measures:** Complications and symptom relief were primary outcome measures; conversion rate, operative time, and hospital stay were secondary outcome measures. Feasibility of performing both procedures by residents was evaluated as well.

**Results:** In the 257 patients, surgical residents performed 105 laparoscopic and 118 small-incision cholecystectomies. There were no significant differences in complications, conversion rates, and hospital stay. Operative time was significantly shorter with the small-incision technique.

**Conclusions:** No differences in primary clinical outcome measures were found between laparoscopic and small-incision cholecystectomy in this randomized trial with emphasis on methodologic quality and generalizability. The gold standard status of laparoscopic cholecystectomy is questionable. Trial Registration [isrctn.org](http://isrctn.org) Identifier: ISRCTN67485658.