Aim: Acute pain following transabdominal preperitoneal inguinal hernia repair (TAPP) may be attributed to mesh fixation. The aim of the present study was to determine short and long-term complications following laparoscopic TAPP repair using either a self-gripping mesh or a tacked mesh.

Material and Methods: Healthy male subjects referred for unilateral inguinal hernia repair were randomized to a TAPP procedure using either a tacked mesh (Parietix, Medtronic; AbsorbaTack, Medtronic) or a self-gripping mesh (ProGrip TM, Medtronic). Acute postoperative pain and short and long-term complications were recorded using an e-mail generated questionnaire preoperatively and at days 1 and 7 and at 1, 3, 6 and 12 months postoperatively. Acute pain was assessed using the visual analogue scale (VAS).

Results: A total of 333 male subjects underwent elective repair of a medial (n = 107, 32%) or a lateral (n = 226, 68%) inguinal hernia. Patients were randomized to either a tacked (T = 178) or non-tacked procedure (N = 155). Mean follow-up time was 141 days. Mean number of tacks applied was 2.7 per operation. Mean preoperative VAS score was 2.21 (T) vs 1.78 (N) (P = 0.06). Postoperatively, the mean VAS-score (average within the observation period) was 2.80 (T) vs 3.12 (N) (P < 0.01), resulting in a 10% lower VAS-score following the tacked repair compared to the self-gripping mesh (P < 0.01). Patient-reported signs of recurrence at 12 months was 4.7% (T) vs 7.5% (N) (P = 0.35).

Conclusions: Postoperative acute pain after laparoscopic inguinal hernia repair is lower following a tacked than a non-tacked (self-adhesive mesh) procedure. Patient-reported recurrence did not differ between groups.