

## **Surgical Staples Compared With Subcuticular Suture for Skin Closure After Cesarean Delivery A Randomized Controlled Trial**

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### **Abstract**

**Objective:** To compare the risk of cesarean wound disruption or infection after closure with [percutaneous metal] staples compared with subcuticular suture.

**Methods:** Women with viable pregnancies at 24 weeks of gestation or greater undergoing scheduled or unscheduled cesarean delivery were randomized to wound closure with [percutaneous metal] staples or absorbable suture. [Percutaneous metal s]tapes were removed at postoperative days 3–4 for low transverse incisions and days 7–10 for vertical incisions. Standardized wound evaluations were performed at discharge (days 3–4) and 4–6 weeks postoperatively. The primary outcome was a composite of wound disruption or infection within 4–6 weeks. Secondary outcomes included operative time, highest pain score on analog scale, cosmesis score, and patient

**Results:** Of 398 patients, 198 were randomized to [percutaneous metal] staples and 200 to suture (but four received staples). Baseline characteristics including body mass index, prior cesarean delivery, labor, and type of skin incision were similar by group. The primary outcome incidence at hospital discharge was 7.1% for [percutaneous metal] staples and 0.5% for suture (P,.001, relative risk 14.1, 95% confidence interval [CI] 1.9–106). Of 350 (87.9%) with follow-up at 4–6 weeks, the cumulative risk of the primary outcome at 4–6 weeks was 14.5% for [percutaneous metal] staples and 5.9% for suture (P5.008, relative risk 2.5, 95%CI 1.2–5.0). Operative time was longer with suture closure (median time of 58 versus 48 minutes; P,.001). Pain scores at 72–96 hours and at 6 weeks, cosmesis score, and patient satisfaction score did not differ by group.

**Conclusions:** [Percutaneous metal s]tapes closure compared with suture is associated with significantly increased composite wound morbidity after cesarean delivery.