

Membrane Sweeping to Decrease Rates of Postdate Induction

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Clinical Question

Does membrane sweeping at term reduce rates of postdate induction?

Evidence-Based Answer

In uncomplicated pregnancies, membrane sweeping at 38 to 40 weeks' gestation safely decreases the rate of postdate inductions. Membrane sweeping increases the incidence of spontaneous labor, especially in the subsequent seven days, and results in fewer pregnancies extending beyond 41 weeks. (Strength of Recommendation: A, based on a systematic review and meta-analysis of randomized controlled trials [RCTs].)

Evidence Summary

Membrane sweeping or stripping is routinely used in late pregnancy. It involves inserting a finger into the cervical os and sweeping it circumferentially to separate the fetal membranes from the uterus. A 2005 Cochrane review evaluated membrane sweeping for induction of labor in 22 RCTs with a total of 2,797 pregnant women at term.¹ Sweeping was primarily compared with no intervention, although several small trials compared it with prostaglandin or oxytocin (Pitocin) administration. Time to spontaneous delivery was 2.5 days shorter in the intervention group (10 trials; N = 1,580; mean difference [MD] = -2.5; 95% confidence interval [CI], -3.0 to -2.0), and there was a decreased need for formal labor induction (12 trials; N = 1,493; risk ratio [RR] = 0.28; 95% CI, 0.15 to 0.5). After membrane sweeping, fewer patients were undelivered after 48 hours (five trials; N = 726; RR = 0.77; 95% CI, 0.70 to 0.84), after one week (nine trials; N = 1,375; RR = 0.71; 95% CI, 0.65 to 0.78),

by 41 weeks' gestation (six trials; N = 937; RR = 0.59; 95% CI, 0.46 to 0.74), and by 42 weeks' gestation (six trials; N = 722; RR = 0.28; 95% CI, 0.15 to 0.50). There was no difference in rates of cesarean delivery or serious maternal-fetal events compared with no intervention, prostaglandin administration, or oxytocin administration, although patients who underwent membrane sweeping had more minor bleeding and irregular contractions.

A 2010 RCT compared the effects of membrane sweeping at 38 to 40 weeks' gestation (N = 179) to pelvic examination alone (N = 167).² Patients with viable, singleton, normosomic pregnancies in cephalic presentation were included in the study; exclusion criteria included contraindications to vaginal delivery or a prior cesarean delivery. A single sweeping performed at 38 to 40 weeks significantly increased the incidence of spontaneous labor by 41 weeks (91% vs. 71%; odds ratio [OR] = 3.4; 95% CI, 2.1 to 5.3; number needed to treat [NNT] = 6) and within seven days (74% vs. 46%; OR = 4.0; 95% CI, 2.2 to 7.2; NNT = 4). Delivery occurred within an average of four days in the sweeping group and within eight days in the control group ($P < .0001$).

A 2006 RCT compared membrane sweeping starting at 41 weeks with expectant management in preventing postterm pregnancy in 742 low-risk patients.³ Sweeping reduced rates of postterm pregnancy (23% vs. 41%; RR = 0.57; 95% CI, 0.46 to 0.71; NNT = 6). Sweeping also reduced the need for labor induction at 42 weeks (15% vs. 26%; RR = 0.56; 95% CI, 0.42 to 0.75).

The American College of Obstetricians and Gynecologists has updated its definition

of term pregnancy to include early term (37 0/7 to 38 6/7 weeks), full term (39 0/7 to 40 6/7 weeks), and late term (41 0/7 to 41 6/7 weeks). Some of these studies include early term and full term for the sweeping arms, and late term and postterm for the follow-up outcomes.⁴

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