Sweeping of Membranes

Induction of labour is a commonly performed procedure to expedite delivery and avoid risks of remaining pregnant for a number of maternal and fetal conditions. In the setting of post-dates pregnancy, compared to expectant management, induction reduces the rates of meconium aspiration syndrome, perinatal death, and caesarean section [2]. However, induction of labour also carries risks, including uterine tachysystole, hypertonus, failed induction, uterine rupture, and complications associated with amniotomy [3]. Sweeping of membranes is a relatively non-invasive technique performed at term that promotes the onset of labour and thereby aims to avoid formal induction [4].

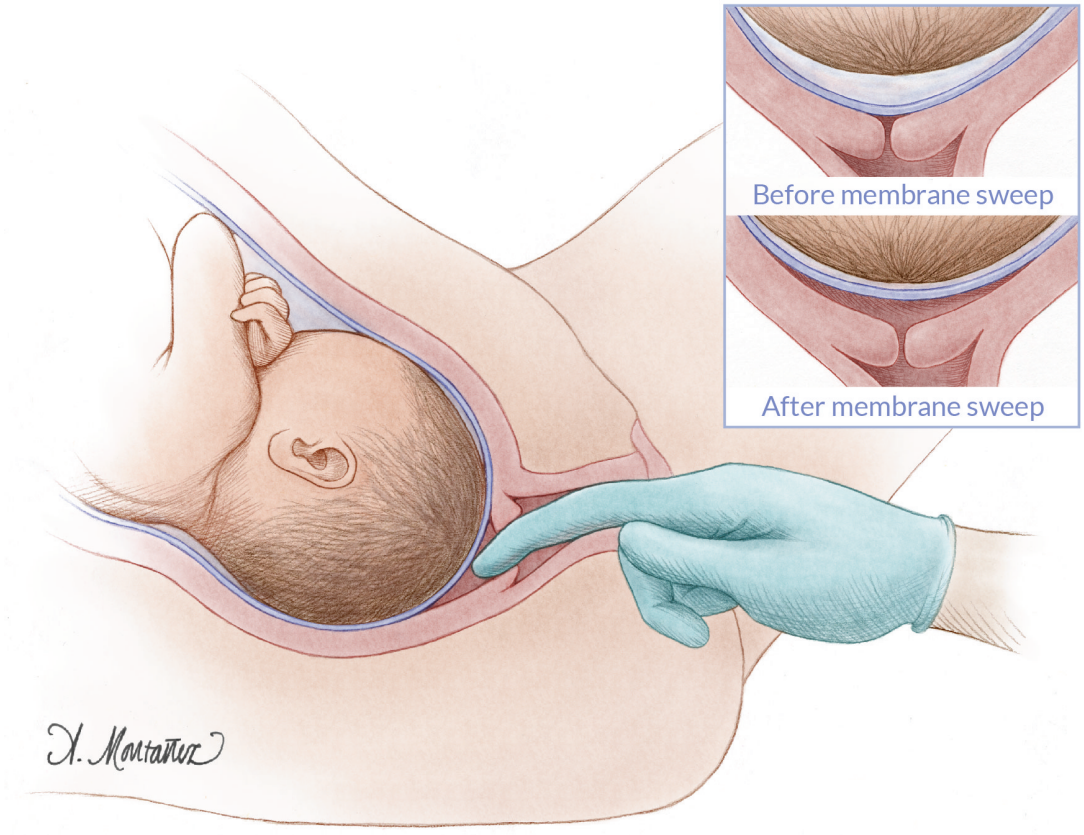

Figure 1. Sweeping of membranes technique[1]

Technique: Sweeping of membranes is performed in clinic during routine cervical examination at term (>38 weeks). The clinician's examining finger stretches the cervical canal if necessary, and is then flexed slightly at the level of the internal os. The inferior pole of the membranes is separated from the cervix using a circular motion of the examining finger [4, 5]. Alternatively, **cervical massage** can be performed when the cervical canal does not permit passage of the examining finger [4-6]. The surface of the cervix is massaged for 15-30 seconds with the forefinger and middle finger[9]. Sweeping of membranes increases the plasma concentration of prostaglandins, similar to amniotomy, and may thereby promotes labour [7].

Efficacy: A meta-analysis of twenty-two trials revealed that sweeping of membranes promotes the onset of labour in women at term, as a method to reduce the rates of post-dates pregnancy. Sweeping of membranes reduces the incidence of pregnancy progressing beyond 41 weeks (RR 0.59, 95% CI 0.46-0.74) and 42 weeks (RR 0.28, 95% CI 0.15-0.50). As well, sweeping of membranes increased the likelihood of labour within 48 hours (RR 0.77, 95% CI 0.70-0.84) and delivery within one week (RR 0.71, 95% CI 0.65-0.78). Sweeping of membranes reduced the need for formal induction (RR 0.60, 95%CI 0.51-0.71). **To avoid one formal induction, sweeping of membranes must be performed on eight women at term (NNT=8)** [4]. However, further large randomized controlled trials are needed.

Side Effects and Complications: Women receiving sweeping of membranes reported minor side-effects, including: pain during vaginal examination, vaginal bleeding, and painful contractions not leading to labour during the first 24 hours following the intervention. However, there was no increase in serious maternal or fetal outcomes, including: meconium, Apgar scores less than seven at five minutes, neonatal intensive care unit (NICU) admission, pre-labour rupture of membranes, maternal or neonatal infection. As well, there were no differences in the use of epidural analgesia, instrumental delivery, or caesarean section rate [4].

Conclusions: Based on this evidence, the Society of Obstetricians and Gynaecologists of Canada recommends "Women should be offered the option of membrane sweeping commencing at 38 to 41, following a discussion of risks and benefits." (I-A)[8]. Although further well-designed RCTs are necessary, the absence of serious risks and probable efficacy warrants clinician comfort with the technique and routine discussion of the risks and benefits.

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