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**Acupuncture or acupressure for relieving pain during labour**

**Membrane sweeping for induction of labour**

**Drug treatments and electronic cigarettes for stopping smoking in pregnancy**

### **Acupuncture or acupressure for relieving pain during labour**

Authors: Smith CA, Collins CT, Levett KM, Armour M, Dahlen HG, Tan AL, Mesgarpour B

We examined the evidence from randomised controlled trials on the use of acupuncture or acupressure in helping women to manage pain during labour. This is an update of a review last published in 2011.

#### **What is the issue?**

The pain women experience during labour can be intense, with body tension, anxiety and fear making it worse. Pain is caused by contractions of the uterus, the opening of the cervix and, in the late first and second stages, by stretching of the vagina and pelvic floor as the baby moves down the birth canal. Effective, satisfactory pain management needs to be individualised for each woman. Women may also use strategies to try to break the fear-tension-pain cycle and work with the pain. Working with the pain involves offering women support and encouragement, finding comfortable positions, immersion in water and self-help techniques.

Many women would like to go through labour without using drugs. Women may turn to acupuncture or acupressure to help reduce their pain and improve management of the pain.

#### **Why is this important?**

Acupuncture has a long history of use in Asia, including China, Korea and Japan. Technical needling skills are needed to apply the needles at the correct points. Acupressure also has its origins in early China. To apply acupressure, the therapist uses their hands and fingers to activate the same points as in acupuncture.

Sometimes only a few points are needed to alleviate pain or bring about a feeling of relaxation. Other times a combination of points may be required for greater effect. Some forms of acupressure are applied by trained health professionals, while others can be applied by the individual as a form of self-massage.

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**What evidence did we find?**

Our updated search in February 2019 identified 17 new trials.

This review now includes 28 trials reporting on 3960 women, with 27 trials contributing results. The trials compared acupuncture or acupressure with sham treatment as placebo, no treatment or usual care for pain management during labour. Thirteen trials reported on acupuncture and 15 trials reported on acupressure. For 18 of the 27 trials women were in spontaneous labour. In other studies labour may have been induced. Eight studies applied individualised traditional Chinese medicine while set acupuncture points were used in the majority of studies. We noted wide variation in how stimulation was applied (manually or with electro-stimulation), duration of needling, number of points used, and depth of needling. It is unclear how representative the trial treatments were of acupuncture in practice.

Most comparisons suggest a small beneficial effect from acupuncture, though the supporting evidence was limited. We are uncertain if acupuncture reduces the intensity of pain when compared with sham acupuncture (2 trials, 325 women), usual care (4 trials, 495 women) and no treatment (1 trial, 163 women). The certainty of the evidence was low or very low. Acupuncture may increase satisfaction with pain relief compared to sham acupuncture (one trial, moderate-certainty evidence). It slightly reduced the use of pharmacological analgesia compared to sham acupuncture (2 trials, 261 women, moderate-certainty evidence). Use of acupressure was associated with a reduction in pain intensity in labour when compared to a combined control (2 trials, 322 women, moderate-certainty evidence). Acupuncture did not appear to have any effect on the need for assisted vaginal births or caesarean births, but acupressure reduced the rate of caesarean section when compared to sham acupressure.

**What does this mean?**

Acupuncture may increase satisfaction with pain relief and reduce use of pharmacological pain relief.

Acupressure may help relieve pain during labour, although the pain reduction may not be large. However, for other comparisons of acupuncture and acupressure, we are uncertain about the effects on pain intensity and satisfaction with pain relief due to very low-certainty evidence. Acupuncture or acupressure may have little to no effect on assisted vaginal birth, but women having acupressure maybe less likely to need a caesarean section. Studies were conducted in different countries, which may reflect the different styles of applying acupuncture. A weakness of a number of trials continues to be that very few outcomes were measured and no safety outcomes were reported. More high-quality research is needed.

**Membrane sweeping for induction of labour**

Authors: Finucane EM, Murphy DJ, Biesty LM, Gyte GML, Cotter AM, Ryan EM, Boulvain M, Devane D

**What is the question?**

The aim of this Cochrane Review is to find out if membrane sweeping is a safe and effective way of inducing labour at or near term and if it is more effective than the formal methods of induction.

**Why is this important?**

Most commonly, formal induction of labour is offered to women when continuing with a pregnancy is considered probably more harmful for the mother or baby than the adverse effects of induction. The most common reason for formal induction of labour is post-term pregnancy (pregnancies that continue past 42 weeks' gestation).

Membrane sweeping is a relatively simple, low-cost procedure that seeks to reduce the use of formal induction of labour and it can be performed without the need for hospitalisation. It involves the clinician inserting one or two fingers into the lower part of the uterus (the cervix) and using a continuous circular sweeping motion to free the membrane from the lower uterus. Formal induction of labour involves artificially stimulating the uterus with drugs such as prostaglandins or oxytocin or by breaking the amniotic sack that holds the baby (breaking the waters).

**What evidence did we find?**

We searched for evidence on 25 February 2019. We included 44 randomised studies that reported findings for 6940 women from a wide range of countries including high-, middle- and low-income countries.

Studies compared membrane sweeping with no intervention or sham intervention, and also compared membrane sweeping with vaginal or intracervical prostaglandins, oral misoprostol, oxytocin and repeated membrane sweeping.

Of the seven studies that reported financial funding, two studies reported funding from pharmaceutical companies. Overall, the certainty of the evidence was found to be low.

**Key results**

Compared with no intervention or a sham sweep (40 studies involving 6548 women), allocated to membrane sweeping may be more likely to have spontaneous onset of labour, but we found no clear difference in unassisted vaginal births. Women may also be less likely to have formal induction of labour. We also found no clear differences between the groups for caesarean section, instrumental vaginal births or serious illness or death of the mother or baby.

Compared with vaginal or intracervical prostaglandins (four studies involving 480 women), we found no difference in any outcomes although data were limited.

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We found insufficient data to draw any conclusions in the studies comparing membrane sweep with intravenous oxytocin, with or without breaking the waters, or with vaginal/oral misoprostol. Similarly for the comparison between different frequencies of membrane sweeping.

**What does this mean?**

Membrane sweeping appears to be effective in promoting labour but current evidence suggests this did not, overall, follow-on to unassisted vaginal births. Membrane sweeping may reduce formal induction of labour. Only three studies reported on women's satisfaction with membrane sweeping. Women reported feeling positive about membrane sweeping. While acknowledging that it may be uncomfortable, they felt the benefits outweighed the harms and most would recommend it to other women. Further research is needed to confirm our review findings and to identify the ideal time for membrane sweep and whether having more than one sweep would be beneficial. Further information on women's views is also needed.

**Drug treatments and electronic cigarettes for stopping smoking in pregnancy**

Authors: Claire R, Chamberlain C, Davey M, Cooper SE, Berlin I, Leonardi-Bee J, Coleman T

**What is the issue?**

Smoking during pregnancy harms women and infants. However, many women who smoke struggle to stop whilst pregnant. Medication for smoking cessation reduces the intensity of cravings, meaning that people trying to stop smoking are more likely to succeed in the long term. Providing pregnant women who smoke with these treatments could help them to stop smoking and have a positive impact on both their own health and the health of their infants.

**Why is this important?**

Medications commonly used to help people to stop smoking include nicotine replacement therapy (NRT), bupropion, and varenicline. Electronic cigarettes containing nicotine are also used by some who smoke to help avoid smoking. However, the safety and effectiveness of smoking cessation drugs and electronic cigarettes in pregnant women is unknown. We searched for studies looking at how good these aids were at helping pregnant women stop smoking and how safe they were when used during pregnancy.

**What evidence did we find?**

We searched for evidence on 20 May 2019 and identified 11 randomised studies (studies in which participants are assigned to one of two or more treatment groups using a random method) that enrolled a total of 2412 women. Nine studies tested NRT used alongside counselling to stop smoking, whilst the other two studies tested bupropion.

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Low-quality evidence suggests that NRT combined with behavioural support might help women to stop smoking in later pregnancy more than behavioural support alone. Medication trials often use placebos, that is tablets or patches that look like the drug but do not actually include it, so that each comparison group has equal expectation of success and there is a fairer test of the benefits of the medicine itself. When just the higher-quality, placebo-controlled trials were analysed, the evidence suggested that NRT was more effective than placebo NRT. There was no evidence that either nicotine patches or fast-acting NRT (such as gum or lozenge) was more effective than the other.

Low-quality evidence suggests that bupropion may be no more effective than placebo in helping women quit smoking later in pregnancy. We found no trials investigating other smoking cessation pharmacotherapies or electronic cigarettes.

There was insufficient evidence to conclude whether NRT had either positive or negative impacts on rates of miscarriage, stillbirth, preterm birth (less than 37 weeks), mean birthweight, low birthweight (less than 2500 g), admissions of babies to neonatal intensive care, or newborn deaths. However, in one trial where infants were followed until two years of age, those infants born to women who had been randomised to NRT were more likely to have healthy development. Similarly, it is unclear whether bupropion had a positive or negative impact on birth outcomes.

Studies that looked at whether women used their stop smoking medications as instructed found that use was generally low, and the majority of women used little of the NRT they were given.

### **What does this mean?**

More research evidence is needed, in particular placebo-controlled trials that test higher doses of NRT, encourage women to use sufficient medication, and follow infants into childhood. Furthermore, more studies are required investigating the effect and safety of bupropion, electronic cigarettes, and varenicline for giving up smoking during pregnancy.

If you have any questions or comments with regard to the above document please feel free to contact me.

Kind regards

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