

# Vaginal misoprostol for cervical ripening and induction of labour

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## Vaginal misoprostol is effective in inducing labour but more research is needed on safety

Sometimes it is necessary to bring on labour artificially because of safety concerns for the mother or baby. Misoprostol is a hormone given by insertion through the vagina or rectum, or by mouth to ripen the cervix and bring on labour. The review of trials found that misoprostol given vaginally is more effective than prostaglandin and that oxytocin is used in addition less often. However, misoprostol also increases hyperstimulation of the uterus. The trials reviewed are too small to determine whether the risk of rupture of the uterus is increased. More research is needed into the safety and best dosages of misoprostol.

### Abstract

#### Background

Misoprostol (Cytotec, Searle) is a prostaglandin E1 analogue widely used for off-label indications such as induction of abortion and of labour. This is one of a series of reviews of methods of cervical ripening and labour induction using standardised methodology.

#### Objectives

To determine the effects of vaginal misoprostol for third trimester cervical ripening or induction of labour.

#### Search strategy

The Cochrane Pregnancy and Childbirth Group trials register (February 2004), the Cochrane Central Register of Controlled Trials (The Cochrane Library, Issue 4, 2003) and bibliographies of relevant papers.

#### Selection criteria

Clinical trials comparing vaginal misoprostol used for third trimester cervical ripening or labour induction with placebo/no treatment or other methods listed above it on a predefined list of labour induction methods.

#### Data collection and analysis

A strategy was developed to deal with the large volume and complexity of trial data relating to labour induction. This involved a two-stage method of data extraction.

#### Main results

Seventy trials have been included. Compared to placebo, misoprostol was associated with reduced failure to achieve vaginal delivery within 24 hours (relative risk (RR) 0.36, 95% confidence interval (CI) 0.19 to 0.68). Uterine hyperstimulation, without fetal heart rate changes, was increased (RR 11.66 95% CI 2.78 to 49).

Compared with vaginal prostaglandin E2, intracervical prostaglandin E2 and oxytocin, vaginal misoprostol was associated with less epidural analgesia use, fewer failures to achieve vaginal delivery within 24 hours and more uterine hyperstimulation. Compared with vaginal or intracervical prostaglandin E2, oxytocin augmentation was less common with misoprostol and meconium-stained liquor more common.

Lower doses of misoprostol compared to higher doses were associated with more need for oxytocin augmentation and less uterine hyperstimulation, with and without fetal heart rate changes.

Information on women's views is conspicuously lacking.

### **Authors' conclusions**

Vaginal misoprostol in doses above 25 mcg four-hourly was more effective than conventional methods of labour induction, but with more uterine hyperstimulation. Lower doses were similar to conventional methods in effectiveness and risks. The studies reviewed were not large enough to exclude the possibility of rare but serious adverse events, particularly uterine rupture, which has been reported anecdotally following misoprostol induction. The authors request information on cases of uterine rupture known to readers. Further research is needed to establish the ideal route of administration and dosage, and safety. Professional and governmental bodies should agree guidelines for the use of misoprostol, based on the best available evidence and local circumstances.