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[Intervention Review]

# Abdominal decompression for suspected fetal compromise/pre-eclampsia

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## ABSTRACT

### Background

Abdominal decompression was developed as a means of pain relief during labour. It has also been used for complications of pregnancy, and in healthy pregnant women in an attempt to improve fetal wellbeing and intellectual development.

### Objectives

The objective of this review was to assess the effects of antenatal abdominal decompression for maternal hypertension or impaired fetal growth, on perinatal outcome.

### Search methods

The Cochrane Pregnancy and Childbirth Group's Trials Register (2 February 2012).

### Selection criteria

Randomised or quasi-randomised trials comparing abdominal decompression with no decompression in women with pre-eclampsia and/or fetuses thought to be compromised.

### Data collection and analysis

Eligibility and trial quality were assessed by one review author.

### Main results

Three studies were included, all with the possibility of containing serious bias. Therapeutic abdominal decompression was associated with the following reductions: persistent pre-eclampsia (relative risk 0.36, 95% confidence interval 0.18 to 0.72); fetal distress in labour (relative risk 0.37, 95% confidence interval 0.19 to 0.71); low birthweight (relative risk 0.50, 95% confidence interval 0.40 to 0.63); Apgar scores less than six at one minute (relative risk 0.26, 95% confidence interval 0.12 to 0.56); and perinatal mortality (relative risk 0.39, 95% confidence interval 0.22 to 0.71).

### Authors' conclusions

Due to the methodological limitations of the studies, the effects of therapeutic abdominal decompression are not clear. The apparent improvements in birthweight and perinatal mortality warrant further evaluation of abdominal decompression where there is impaired fetal growth and possibly for women with pre-eclampsia.

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## PLAIN LANGUAGE SUMMARY

### **Antenatal abdominal decompression for maternal hypertension or impaired fetal growth**

Abdominal decompression was first used to increase blood flow and the forward movement of the uterus during labour contractions as a way of relieving pain. A rigid covered dome is placed about the abdomen and the space around the abdomen is decompressed to -50 to -100 mm Hg for 15 to 30 seconds out of each minute for 30 minutes once to thrice daily, or continuously during labour. Observations that fetal wellbeing appeared to be improved led to its investigation for complications of pregnancy.

Three randomised controlled studies with a total of 356 pregnant women were identified from a search of the medical literature, all with the possibility of containing serious methodological limitations. The studies were reported on between 1967 and 1973. One study involved women with pre-eclampsia, essential hypertension, or chronic nephritis. The other two trials assigned women carrying babies that were small for their gestational age to abdominal decompression or no decompression.

Abdominal decompression appeared to have a beneficial effect on the progression of pre-eclampsia. This one trial also reported less fetal distress during labour and fewer low 1-minute Apgar scores in the group who received abdominal decompression. The apparent large improvement in birthweight and perinatal deaths reported in all three studies is sufficiently striking to warrant the further evaluation of abdominal decompression in cases of impaired fetal growth, and possibly for women with pre-eclampsia, by means of methodologically sound controlled trials. Because of the methodological shortcomings mentioned above, clinical use of abdominal decompression cannot be supported on the basis of the present trials.