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[Intervention Review]

# Effect of partogram use on outcomes for women in spontaneous labour at term

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## ABSTRACT

### Background

The partogram (sometimes known as partograph) is usually a pre-printed paper form on which labour observations are recorded. The aim of the partogram is to provide a pictorial overview of labour, to alert midwives and obstetricians to deviations in maternal or fetal wellbeing and labour progress. Charts often contain pre-printed alert and action lines. An alert line represents the slowest 10% of primigravid women's labour progress. An action line is placed a number of hours after the alert line (usually two or four hours) to prompt effective management of slow progress of labour.

### Objectives

To determine the effect of use of partogram on perinatal and maternal morbidity and mortality.

To determine the effect of partogram design on perinatal and maternal morbidity and mortality.

### Search methods

We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (31 May 2013).

### Selection criteria

Randomised and quasi-randomised controlled trials involving a comparison of partogram with no partogram, or comparison between different partogram designs.

### Data collection and analysis

Three review authors independently assessed eligibility, quality and extracted data. When one review author was also the trial author, the two remaining authors assessed the studies independently.

### Main results

We have included six studies involving 7706 women in this review; two studies assessed partogram versus no partogram and the remainder assessed different partogram designs. There was no evidence of any difference between partogram and no partogram in caesarean section (risk ratio (RR) 0.64, 95% confidence interval (CI) 0.24 to 1.70); instrumental vaginal delivery (RR 1.00, 95% CI 0.85 to 1.17) or Apgar score less than seven at five minutes (RR 0.77, 95% CI 0.29 to 2.06) between the groups. When compared to

a four-hour action line, women in the two-hour action line group were more likely to require oxytocin augmentation (RR 1.14, 95% CI 1.05 to 1.22). When the three- and four-hour action line groups were compared, caesarean section rate was lowest in the four-hour action line group and this difference was statistically significant (RR 1.70, 95% CI 1.07 to 2.70, n = 613, one trial). When a partogram with a latent phase (composite) and one without (modified) were compared, the caesarean section rate was lower in the partogram without a latent phase (RR 2.45, 95% CI 1.72 to 3.50, n = 743, one trial).

### **Authors' conclusions**

On the basis of the findings of this review, we cannot recommend routine use of the partogram as part of standard labour management and care. Given the fact that the partogram is currently in widespread use and generally accepted, it appears reasonable, until stronger evidence is available, that partogram use should be locally determined. Further trial evidence is required to establish the efficacy of partogram use.

## **PLAIN LANGUAGE SUMMARY**

### **Effect of partogram use on outcomes for women in spontaneous labour at term**

A partogram is usually a pre-printed form, the aim of which is to provide a pictorial overview of labour progress and to alert health professionals to any problems with the mother or baby. It has been unclear whether a partogram should be used and, if so, which design of partogram is better for women and babies. The review authors identified six randomised controlled trials involving 7706 women in spontaneous labour at term. Two studies, with 1590 women, assessed introducing the use of a partogram versus routine care without a partogram. Four studies, involving 6116 women, compared different types of partograms. Overall, there was no evidence from this review that using a partogram reduced or increased caesarean section rates or had any effect on other aspects of care in labour. Where different types of partogram were compared, no design appeared better than others. A single centre study, conducted in India, however, comparing a partogram with a latent phase (composite) and one without, demonstrated more favourable outcomes for the mother and baby when the modified chart was used. It is possible that partograms may be useful in settings with poorer access to healthcare resources, as studies in Mexico and Africa also showed some reduction in caesarean section rates with partogram use and early intervention for delayed progress in labour.