



**Cochrane**  
**Library**

Cochrane Database of Systematic Reviews

## Controlled cord traction for the third stage of labour (Review)

Hofmeyr GJ, Mshweshwe NT, Gülmezoglu AM

Hofmeyr GJ, Mshweshwe NT, Gülmezoglu AM.  
Controlled cord traction for the third stage of labour.  
*Cochrane Database of Systematic Reviews* 2015, Issue 1. Art. No.: CD008020.  
DOI: [10.1002/14651858.CD008020.pub2](https://doi.org/10.1002/14651858.CD008020.pub2).

[www.cochranelibrary.com](http://www.cochranelibrary.com)

[Intervention Review]

# Controlled cord traction for the third stage of labour

G Justus Hofmeyr<sup>1</sup>, Nolundi T Mshweshwe<sup>2</sup>, Ahmet Metin Gülmezoglu<sup>3</sup>

<sup>1</sup>Walter Sisulu University, University of Fort Hare, University of the Witwatersrand, Eastern Cape Department of Health, East London, South Africa. <sup>2</sup>Department of Obstetrics and Gynaecology, Effective Care Research Unit, East London, South Africa. <sup>3</sup>UNDP/UNFPA/UNICEF/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction (HRP), Department of Reproductive Health and Research, World Health Organization, Geneva, Switzerland

**Contact:** G Justus Hofmeyr, Walter Sisulu University, University of Fort Hare, University of the Witwatersrand, Eastern Cape Department of Health, East London, South Africa. [justhof@gmail.com](mailto:justhof@gmail.com).

**Editorial group:** Cochrane Pregnancy and Childbirth Group.

**Publication status and date:** Edited (no change to conclusions), published in Issue 5, 2019.

**Citation:** Hofmeyr GJ, Mshweshwe NT, Gülmezoglu AM. Controlled cord traction for the third stage of labour. *Cochrane Database of Systematic Reviews* 2015, Issue 1. Art. No.: CD008020. DOI: [10.1002/14651858.CD008020.pub2](https://doi.org/10.1002/14651858.CD008020.pub2).

Copyright © 2019 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.

## ABSTRACT

### Background

Active management of the third stage of labour (AMTSL) consists of a group of interventions, including administration of a prophylactic uterotonic (at or after delivery of the baby), baby, cord clamping and cutting, controlled cord traction (CCT) to deliver the placenta, and uterine massage. Recent recommendations are to delay cord clamping until the caregiver is ready to initiate CCT. The package of AMTSL reduces the risk of postpartum haemorrhage (PPH), as does one component, routine use of uterotonics. The contribution, if any, of CCT needs to be quantified, as it is uncomfortable, and women may prefer a 'hands-off' approach. In addition its implementation has resource implications in terms of training of healthcare providers.

### Objectives

To evaluate the effects of controlled cord traction during the third stage of labour, either with or without conventional active management.

### Search methods

We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (29 January 2014), PubMed (1966 to 29 January 2014), and reference lists of retrieved studies.

### Selection criteria

Randomised controlled trials comparing planned CCT versus no planned CCT in women giving birth vaginally.

### Data collection and analysis

Two authors assessed trial quality and extracted data using a standard data extraction form.

### Main results

We included three methodologically sound trials with data on 199, 4058 and 23,616 women respectively. Blinding was not possible, but bias could be limited by the fact that blood loss was measured objectively.

There was no difference in the risk of blood loss  $\geq 1000$  mL (three trials, 27,454 women; risk ratio (RR) 0.91, 95% confidence interval (CI) 0.77 to 1.08). Manual removal of the placenta was reduced with CCT (two trials, 27,665 women; RR 0.69, 95% CI 0.57 to 0.83). In the World Health Organization (WHO) trial the reduction in manual removal occurred mainly in sites where ergometrine was used routinely in the third stage of labour. The non-prespecified analysis excluding sites routinely using ergometrine for management of the third stage of labour found no

difference in the risk of manual removal of the placenta in the WHO trial (one trial, 23,010 women; RR 1.03, 95% CI 0.73 to 1.46). The policy of restricting the third stage of labour to 30 minutes (4057 women; RR 0.69, 95% CI 0.53 to 0.90) may have had an effect in the French study.

Among the secondary outcomes, there were reductions in blood loss  $\geq 500$  mL (three trials, 27,454 women; RR 0.93, 95% CI 0.88 to 0.99), mean blood loss (two trials, 27,255 women; mean difference (MD) -10.85 mL, 95% CI -16.73 to -4.98), and duration of the third stage of labour (two trials, 27,360 women; standardised MD -0.57, -0.59 to -0.54). There were no clear differences in use of additional uterotonics (three trials, 27,829 women; average RR 0.95, 95% CI 0.88 to 1.02), blood transfusion, maternal death/severe morbidity, operative procedures nor maternal satisfaction. Maternal pain (non-prespecified) was reduced in one trial (3760 women; RR 0.78, 95% CI 0.61 to 0.99).

The following secondary outcomes were not reported upon in any of the trials: retained placenta for more than 60 minutes or as defined by trial author; maternal haemoglobin less than 9 g/dL at 24 to 48 hours post-delivery or blood transfusion; organ failure; intensive care unit admission; caregiver satisfaction; cost-effectiveness; evacuation of retained products; or infection.

### Authors' conclusions

CCT has the advantage of reducing the risk of manual removal of the placenta in some circumstances, and evidence suggests that CCT can be routinely offered during the third stage of labour, provided the birth attendant has the necessary skills. CCT should remain a core competence of skilled birth attendants. However, the limited benefits of CCT in terms of severe PPH would not justify the major investment which would be needed to provide training in CCT skills for birth attendants who do not have formal training. Women who prefer a less interventional approach to management of the third stage of labour can be reassured that when a uterotonic agent is used, routine use of CCT can be omitted from the 'active management' package without increased risk of severe PPH, but that the risk of manual removal of the placenta may be increased.

Research gaps include the use of CCT in the absence of a uterotonic, and the place of uterine massage in the management of the third stage of labour.

## PLAIN LANGUAGE SUMMARY

### Cord traction to deliver the afterbirth

The third stage of labour refers to the time between birth of the baby and complete expulsion of the placenta. Some degree of blood loss occurs after the birth of the baby as a result of this separation of the placenta. Postpartum haemorrhage (PPH) is a major cause of maternal deaths in both high-income and low-income countries. 'Active management of the third stage of labour' refers to the processes of giving the mother a medicine (usually by injection) to help the womb to contract, clamping the baby's cord, and pulling on the cord while applying counter pressure to help deliver the placenta (controlled cord traction, CCT). It may be uncomfortable for the mother and may interfere with her preference for a natural birth process. Birth attendants need specific training to carry out CCT.

This review of randomised controlled trials included three trials in women giving birth vaginally. The trials were methodologically good and findings were consistent. One of these trials was a large study conducted across eight countries, involving over 23,000 women, another was conducted in several sites in France involving over 4000 women and one was a single centre trial in Uruguay involving nearly 200 women. CCT did not clearly reduce severe PPH (blood loss  $\geq 1000$  mL) but resulted in a small reduction in PPH (blood loss  $\geq 500$  mL) and mean blood loss. It did reduce the risk of having to manually remove the placenta. Its use should be recommended if the care provider has the skills to administer CCT safely.