



**Cochrane**  
**Library**

Cochrane Database of Systematic Reviews

## Immersion in water in labour and birth (Review)

Cluett ER, Burns E

Cluett ER, Burns E.

Immersion in water in labour and birth.

*Cochrane Database of Systematic Reviews* 2009, Issue 2. Art. No.: CD000111.

DOI: 10.1002/14651858.CD000111.pub3.

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

[Intervention Review]

# Immersion in water in labour and birth

Elizabeth R Cluett<sup>1</sup>, Ethel Burns<sup>2</sup>

<sup>1</sup>Faculty of Health Sciences, University of Southampton, Southampton, UK. <sup>2</sup>Oxford Brookes University, School of Health and Social Care, Oxford, UK

Contact address: Elizabeth R Cluett, Faculty of Health Sciences, University of Southampton, Nightingale Building (67), Highfield, Southampton, Hants, SO17 1BJ, UK. [e.cluett@soton.ac.uk](mailto:e.cluett@soton.ac.uk).

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

**Publication status and date:** Edited (no change to conclusions), published in Issue 2, 2012.

**Review content assessed as up-to-date:** 23 August 2011.

**Citation:** Cluett ER, Burns E. Immersion in water in labour and birth. *Cochrane Database of Systematic Reviews* 2009, Issue 2. Art. No.: CD000111. DOI: 10.1002/14651858.CD000111.pub3.

Copyright © 2012 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.

## ABSTRACT

### Background

Enthusiasts suggest that labouring in water and waterbirth increase maternal relaxation, reduce analgesia requirements and promote a midwifery model of care. Critics cite the risk of neonatal water inhalation and maternal/neonatal infection.

### Objectives

To assess the evidence from randomised controlled trials about immersion in water during labour and waterbirth on maternal, fetal, neonatal and caregiver outcomes.

### Search methods

We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (30 June 2011) and reference lists of retrieved studies.

### Selection criteria

Randomised controlled trials comparing immersion in any bath tub/pool with no immersion, or other non-pharmacological forms of pain management during labour and/or birth, in women during labour who were considered to be at low risk of complications, as defined by the researchers.

### Data collection and analysis

We assessed trial eligibility and quality and extracted data independently. One review author entered data and the other checked for accuracy.

### Main results

This review includes 12 trials (3243 women): eight related to just the first stage of labour: one to early versus late immersion in the first stage of labour; two to the first and second stages; and another to the second stage only. We identified no trials evaluating different baths/pools, or the management of third stage of labour.

Results for the first stage of labour showed there was a significant reduction in the epidural/spinal/paracervical analgesia/anaesthesia rate amongst women allocated to water immersion compared to controls (478/1254 versus 529/1245; risk ratio (RR) 0.90; 95% confidence interval (CI) 0.82 to 0.99, six trials). There was also a reduction in duration of the first stage of labour (mean difference -32.4 minutes; 95% CI -58.7 to -6.13). There was no difference in assisted vaginal deliveries (RR 0.86; 95% CI 0.71 to 1.05, seven trials), caesarean

sections (RR 1.21; 95% CI 0.87 to 1.68, eight trials), use of oxytocin infusion (RR 0.64; 95%CI 0.32 to 1.28, five trials), perineal trauma or maternal infection. There were no differences for Apgar score less than seven at five minutes (RR 1.58; 95% CI 0.63 to 3.93, five trials), neonatal unit admissions (RR 1.06; 95% CI 0.71 to 1.57, three trials), or neonatal infection rates (RR 2.00; 95% CI 0.50 to 7.94, five trials).

Of the three trials that compared water immersion during the second stage with no immersion, one trial showed a significantly higher level of satisfaction with the birth experience (RR 0.24; 95% CI 0.07 to 0.80).

A lack of data for some comparisons prevented robust conclusions. Further research is needed.

### **Authors' conclusions**

Evidence suggests that water immersion during the first stage of labour reduces the use of epidural/spinal analgesia and duration of the first stage of labour. There is limited information for other outcomes related to water use during the first and second stages of labour, due to intervention and outcome variability. There is no evidence of increased adverse effects to the fetus/neonate or woman from labouring in water or waterbirth. However, the studies are very variable and considerable heterogeneity was detected for some outcomes. Further research is needed.

## **PLAIN LANGUAGE SUMMARY**

### **Immersion in water in labour and birth**

This review includes 12 trials (3243 women). Water immersion during the first stage of labour significantly reduced epidural/spinal analgesia requirements, without adversely affecting labour duration, operative delivery rates, or neonatal wellbeing. One trial showed that immersion in water during the second stage of labour increased women's reported satisfaction with their birth experience. Further research is needed to assess the effect of immersion in water on neonatal and maternal morbidity. No trials could be located that assessed the immersion of women in water during the third stage of labour, or evaluating different types of pool/bath.