



**TITLE: Immersion in Water During Active Labour and Delivery: Clinical Effectiveness, Safety, and Guidelines**

**DATE:** 30 July 2014

## **RESEARCH QUESTIONS**

1. What is the clinical effectiveness of immersion in water during active labour and delivery?
2. What is the clinical evidence regarding the safety of immersion in water during active labour and delivery?
3. What are the evidence-based guidelines regarding immersion in water during active labour and delivery?

## **KEY FINDINGS**

Three systematic reviews, two randomized controlled trials, nine non-randomized studies, and one evidence-based guideline were identified regarding the clinical effectiveness and safety of immersion in water during active labour and delivery.

## **METHODS**

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2014, Issue 7), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2009 and July 15, 2014. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

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## RESULTS

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, and evidence-based guidelines.

Three systematic reviews, two randomized controlled trials, nine non-randomized studies, and one evidence-based guideline were identified regarding the clinical effectiveness and safety of immersion in water during active labour and delivery. No relevant health technology assessments were identified.

Additional references of potential interest are provided in the appendix.

## OVERALL SUMMARY OF FINDINGS

Three systematic reviews<sup>1-3</sup> discussed the clinical effectiveness and safety of immersion in water during active labour and delivery. Two systematic reviews<sup>1,3</sup> demonstrated that water birth was associated with a decreased use of analgesia during labour without evidence of increased maternal or neonatal harms. However, the authors of another systematic review<sup>2</sup> concluded that there was insufficient evidence to determine the effect of water immersion during the first and second stage of labour on perineal trauma.

Two randomized controlled trials<sup>4,5</sup> and nine non-randomized studies<sup>6-14</sup> evaluated a number of clinical outcomes for both mother and baby following immersion in water during active labour and delivery. Compared with labour and deliveries not involving immersion in water, water immersion during labour and/or deliveries was associated with:

- reduced pain<sup>5,7,12</sup>
- decreased anxiety without a reduction in pain<sup>14</sup>
- decreased use of analgesia<sup>4,12</sup>
- shorter<sup>4,12,13</sup> or similar<sup>7,10</sup> durations of labour
- fewer labour inductions<sup>12</sup>
- increased rates of uncomplicated vaginal delivery<sup>4,8</sup>
- lower rates of Caesarean section<sup>7</sup>, including for births occurring in non-hospital midwifery care units<sup>8</sup>
- lower rates of episiotomies<sup>6,10,12</sup>
- more perineal tears of any severity<sup>12</sup>, second degree tears<sup>6</sup>, or third degree tears<sup>13</sup>
- decreased rates of all perineal tears and episiotomies for water births compared with delivery using a birthing stool<sup>9</sup>
- less postpartum bleeding for water births than delivery using a birthing stool;<sup>9</sup> no significant difference in the rates of postpartum bleeding otherwise<sup>7,10</sup>
- decreased postpartum stress urinary incontinence symptoms<sup>7</sup>
- no difference in neonatal Apgar scores under 7 at five minutes<sup>7,10</sup> or at an unspecified time<sup>12</sup>
- significantly lower rate of neonatal Apgar scores under 7 at five minutes compared with babies delivered in a semi-recumbent position<sup>9</sup>
- greater severity of acidosis and need for treatment in babies with respiratory distress.<sup>11</sup>

One evidence-based guideline<sup>15</sup> stated that there is no established relationship between water immersion during labour and the likelihood of Caesarean section.

## REFERENCES SUMMARIZED

### Health Technology Assessments

No literature identified.

### Systematic Reviews and Meta-analyses

1. Chaillet N, Belaid L, Crochetiere C, Roy L, Gagne GP, Moutquin JM, et al. Nonpharmacologic approaches for pain management during labor compared with usual care: a meta-analysis. *Birth*. 2014 Jun;41(2):122-37.  
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*See: Option – Water Births, pages 18-20*
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### Non-Randomized Studies

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[PubMed: PM20453024](#)

### Guidelines and Recommendations

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*See: section "No Influence on Likelihood of CS"*

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**APPENDIX – FURTHER INFORMATION:**

**Economic Evaluations**

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**Guidelines and Recommendations**

*Unclear Methodology*

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