



C-Obs 24

Warm Water Immersion during Labour and Birth

Summary comments

Practitioners' views on water immersion for labour and birth tend to be polarised. Two practitioners may interpret the evidence very differently. This can be explained in part by:

- a low incidence of serious adverse events such that they do not occur often enough to be ascertainable in clinical studies but nevertheless may be of sufficient frequency and severity to achieve clinical importance to many or most women.
- Inclusion of non- or poorly randomised studies published by interest groups without necessarily having been subject to peer-review, poorly controlled for confounding factors and with inadequate mechanisms to remove selection bias.

Some women believe that water immersion during labour will enhance their birth experience and request water immersion in labour. However, the incidence of adverse sequelae has not been quantified with any degree of certainty. The level of risk is likely to remain uncertain for the foreseeable future, given the extremely large number of patients that would be needed for a clinically useful randomized trial and the methodological difficulties with cohort studies in such a patient population.

In the absence of accurate data, clinicians may agree to water immersion in labour where:

- the woman has a strong belief that it will confer benefit
- the woman is well informed of the potentially serious, but unquantified, associated risks
- the maternity unit is able to provide best practice physical structures and systems, staffed by appropriately trained personnel and with timely access to high level obstetric and neonatal facilities

In addressing this issue, it is necessary to separate “water immersion during labour” from birthing while immersed in water (i.e. “water birth”). There is much less support in the medical community for water birth in comparison to water immersion in labour and many of the hazards of water immersion during labour are the consequences of unintended water birth.

There are very clear differences in the level and nature of maternal and fetal risk that may be ascribed to “water immersion during labour” when compared to the consequences of giving birth while immersed in water (i.e. “water birth”). Although water immersion in labour has some adverse consequences of its own, many of the more serious hazards of water immersion during labour are actually the consequences of unintended water birth, which will inevitably occur in a variable proportion of cases.

Labouring in warm water

It is generally accepted that lying in warm water does promote a sense of relaxation. However, whether labouring immersed in water results in a reduction in pain or the requirement for pharmacological analgesia, is less clear.

Increased patient satisfaction and a reduction in the use of pharmacological agents for pain relief are reported in some but not all studies. The latest Cochrane review (Jan 2006) concluded that, on available international evidence, water immersion during the first stage of labour did reduce the use of analgesia and severity of reported maternal pain. In contrast, a randomised controlled trial performed in an Australian setting found no statistically significant difference in the use of alternative analgesia, labour augmentation rates, length of labour, mode of delivery or perineal trauma between women labouring conventionally and women using water immersion in labour. It is noteworthy, that women randomised to conventional care reported higher satisfaction ratings on questionnaires than did those randomised to water immersion.

Potential adverse consequences of water immersion in labour

Neonatal sepsis, maternal sepsis

- Contamination of the water with enteric bacteria is inevitable and cases of neonatal and maternal sepsis can logically be expected on first principles. However, it is unlikely that high level evidence of a causal relationship will become available due to limitations on the power of studies that can be undertaken in such a setting. Whilst the Cochrane meta-analysis in January 2006 showed no significant differences in neonatal infection rates compared with conventional labour and delivery, there are no appropriately powered prospective studies currently available addressing this issue. It is considered imperative that audit within units offering warm water immersion in labour include careful collection of data relating to maternal and neonatal sepsis.

Unplanned delivery in water

- Women who choose to labour immersed in water but with the intent of leaving the water for delivery should be afforded every support in fulfilling their desire by having appropriate protocols and arrangements in place to minimise the likelihood and hazards associated with unplanned delivery occurring immersed in water.
- Nevertheless, a proportion of women will deliver in water when that was not the prior intent, usually, but not always, as a result of rapid progress in the second stage. Any consideration of water immersion in labour, must also consider the consequences of unplanned delivery in water.

Management problems created by water immersion in labour

Fetal surveillance

- continuous electronic fetal monitoring (CEFM) is only possible using telemetry, which is not often available and fetal surveillance is limited to intermittent auscultation, usually with a hand held Doppler device

Progress of labour

- Vaginal examination to assess the progress of labour necessitates cessation of water immersion in order to maintain appropriate antisepsis. There is no quality evidence attesting to the safety of vaginal examination whilst immersed in water. The imperative of basic hygiene during vaginal examination in labour is credited to Semmelweis (1861).

The need to interrupt water immersion for vaginal examination may potentially lead to less adherence to institutional protocols about labour progress.

Oxytocin infusion

- oxytocin augmentation of labour may not be possible (as CEFM is obligatory and telemetry not universally available)

Obstetric emergencies

- Obstetric emergencies (e.g. Shoulder dystocia and maternal collapse)
- Cannot be managed appropriately in a birthing pool/bath.
- Emergency clinical scenarios can be associated with substantive occupational health and safety issues. Significant hazards exist when trying to transfer a patient rapidly from a birthing pool/bath onto a bed, particularly when flooring can be wet and slippery, and the woman unconscious or compromised. Electrically powered hoists are essential in such a setting in order to minimise risks to the woman and attending staff.

Birth in water

There is a paucity of quality scientific evidence and safety data regarding the benefits and risks of birth in water. Whilst proponents of water birth may argue that the practice should be supported as there is no evidence of higher perinatal mortality or neonatal morbidity associated with birth in water, considerable caution is advised in interpreting the available studies (based on small numbers), the real possibility of underreporting of special care nursery admission, and the lack of any information regarding women who laboured in water with the intent of water birth but who gave birth conventionally after the onset of obstetric complications. There is also currently no reliable evidence that can be used to inform women regarding the benefits and risks of experience in the third stage of labour immersed in water, although there are theoretical risks such as water embolism surrounding such a practice.

Complications that have been reported to occur in the setting of water birth include drowning, near drowning, respiratory problems, cord avulsion, and waterborne infections. In addition, management of some obstetric and neonatal emergencies cannot be completed adequately whilst a woman is immersed in water. For these reasons, planned birth in water cannot currently be favoured over conventional birth.

Nevertheless, where appropriate facilities exist, women who make an informed choice to deliver in water, acknowledging the difficulties in administering life saving treatment and accepting the possible increased risk of adverse maternal or neonatal outcome, should be supported in their decision-making and given every opportunity to do so in best practice facilities attended by appropriately trained staff.

Consent

Institutions are encouraged to obtain informed consent in writing from women who choose to use warm water immersion for labour and/or delivery, prior to the onset of labour.

Audit and Research

It is incumbent on any facility offering warm water immersion for labour and/or delivery to carefully collect and scrutinise appropriate audit data in a peer review setting. In addition to the various measures of maternal and neonatal outcomes, data should also be collected about ethnicity and aboriginality in the offer and use of warm water immersion, to address issues of cultural appropriateness and concerns about parity of access.

Given the lack of high quality data with which to advise women on this issue, further research is needed. It is imperative that all such research is adequately powered, appropriately structured and registered, randomised and is analysed according to intention to treat. Issues addressed should include maternal well-being, birth outcomes, incidence of obstetric and neonatal emergencies and rates of neonatal admission to special care nursery.

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Links to other related College Statements

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Patient Resources (including weblinks)

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