



# Warm water immersion during labour

At Gold Coast University Hospital, we know that your choices and care during labour and birth can impact your journey to motherhood as well as your long-term health and wellbeing. We aim to provide you with information to support your decision-making.

Warm water immersion during labour offers comfort, relaxation and pain relief. Women who use water during labour describe feeling empowered, liberated and deeply satisfied with an increased sense of control.

## Benefits for you and your baby

During labour, warm water offers an environment where a woman can move freely, behave instinctively and feel more in control.

Water provides support and buoyancy that promotes relaxation and offers a sense of weightlessness. Moving in water helps the birth process and reduces the need for birth intervention.

Warm water immersion in labour promotes the release of muscle tension and increases production of endorphins, the body's natural pain-relieving hormone.

## What we know about water immersion

Most research regarding risks, benefits and safety of water immersion has focused largely on water immersion in second stage of labour (birthing the baby in water) and in women considered 'low risk', that is:

- healthy women with no pregnancy complications (healthy baby)
- pregnant with one baby who is presenting head-first
- full-term - at least 37 weeks pregnant
- women who go into labour spontaneously (not induced)
- Women who have not previously had a caesarean section.

This means many women who do not meet the eligibility criteria were previously unable to enjoy the opportunity of water immersion during labour.

## What we know about waterbirth

Healthy babies born into water do not generally attempt to breathe until their head comes out of the water and into air. Some unwell babies may attempt to breathe under water but it's difficult to predict which babies these might be. For this reason, when there are concerns regarding an unborn baby's wellbeing, birthing in water is not recommended.

Research has shown that some babies may be more vulnerable during labour. For some women who wish to use water immersion during labour, additional care such as continuous fetal monitoring (CTG) will be recommended to help monitor the baby's wellbeing. The two tables outlined at the end of this document include recommendations to support decision-making based on your circumstance.

**If you are considering water immersion during labour, please discuss this with your midwife and/or doctor to ensure an individualised birth plan can be developed.**



## What does this mean for me?

At Gold Coast University Hospital (GCUH) we know that women who feel supported in their labour and birth choices have better birth experiences and enjoy better postnatal mental health. Our recommendations are designed to support your choices, while also keeping you and your baby safe.

To support safe access to water immersion for more women, our approach focus on two distinct stages of labour:

### 1. First stage (during labour)

This is because we know that water immersion during the first stage of labour (when your cervix dilates from 0-10cm) is almost always safe for women who can quickly and easily mobilise in and out of the pool, if they need to.

### 2. Second stage (waterbirth)

This is because less is known about waterbirth for women with risk factors. Some women who use water immersion in first stage may be asked to leave the pool and birth on land.

**Importantly, the beneficial effects of water immersion occur during labour regardless of whether you birth in water or on land.**



### Using water immersion during labour

If you choose to use warm water immersion during labour, there are some things to consider:

- The pool is filled with tap water - no pool oils, gels, soaps or salt are to be used
- Water immersion is most effective when labour is well established
- Hydration - keep hydrated by sucking ice chips or sipping water regularly
- Bladder care – it is important that you exit the pool regularly to empty your bladder
- Gas is available as an extra pain relief option while you are in the water.

### Care during water immersion

When you are in labour a midwife will conduct a thorough assessment of you and your baby's health. This will include your ability to get in and out of the pool, and factors that might impact your baby's health and wellbeing. This assessment will help determine your suitability for water immersion and/or water birth.

If you choose to have a water immersion during labour, a waterproof doppler or CTG machine will be used to assess your baby's heart rate.

### You may be asked to leave the pool if:

- there is a concerning change in your unborn baby's heart rate
- you have a high temperature
- your blood pressure increases
- you have excessive vaginal bleeding
- your baby passes meconium
- contractions slow down or stop or there is an indication that labour is not progressing normally
- if you choose to have an opioid injection or an epidural
- if your midwife or doctor has any other concerns during labour.

### When things do not go according to plan

Labour and birth are unpredictable. Despite birth planning, sometimes things do not go according to plan. If your midwife and doctor have any concerns, water immersion may not be recommended, or you may be asked to leave the pool.

Please be assured, if you are unable to labour and/or birth in water, our midwives and doctors have many ways to support you to ensure a positive birth experience.

## Waterbirth safety

### For women considered low risk

For women considered at 'low risk' of developing complications before and during labour, water immersion and waterbirth is generally as safe as birthing on land; associated with:

- less epidural use during the first stage of labour

and no difference in:

- type of birth
- serious perineal tears
- adverse outcomes for mothers or babies<sup>1</sup>

### Neonatal outcomes

A review of neonatal outcomes which included 39 studies and 44,000 full-term babies born in hospital found no evidence of increased risk for babies who were born in water compared to those born on land.<sup>2</sup>

Research has shown that there is a slightly higher chance of snapped umbilical cord for babies born in water, however this risk is low - round 4 babies in every 1000 born in water compared to 1 in every 1000 babies born on land.<sup>2,3</sup>



### For women considered not low risk

Due to the ethical challenges of conducting research with women who may not be considered 'low risk', there is limited evidence available regarding the safety of water immersion for women that do not meet the criteria for 'low risk'.

**Importantly, a lack of high-quality evidence does not mean waterbirth is unsafe, it means the safety is not fully known.**

A few small studies that did include waterbirth for women considered at higher risk (*such as those planning labour after caesarean section and those experiencing induction of labour*) did not find any significant difference in adverse outcomes for mothers or babies, compared to women who birthed on land.<sup>4</sup>

This suggests waterbirth may be a feasible option for some women not deemed low risk, if the baby's condition is normal during labour and there are no concerns regarding the mother or baby's wellbeing.

### If you choose to birth your baby in water:

- During the birth of your baby's head, your baby should not be touched or stimulated in any way.
- Once born, your baby will be gently brought to the surface. Your baby's head must not be re-immersed in water.
- You will need assistance when leaving the water.
- Your baby's cord will not be cut under the water
- Your baby will be removed from the water immediately if he/she needs help with breathing.
- You will be asked to leave the pool to birth your placenta.

### Is water immersion right for me?

It is important that you discuss your birth plan with your midwife and/or doctor during your pregnancy to see if water immersion and/or waterbirth might be right for you and your baby.

### Water immersion is not recommended, can I still use water?

At Gold Coast University **Hospital**, we strive to deliver the safest possible care while also respecting your decision to accept or decline our recommendations.

If you request water immersion during labour when it is not recommended our staff must meet the following obligations:

- Your midwife must inform their team leader and doctor *before* you enter the pool
- The doctor will ask to talk to you to explore alternatives to support your decision-making, providing you and your care team an opportunity to develop a safe, individualised plan, that might include exiting the pool for birth and/or continuous fetal monitoring
- You will be asked to sign a 'Care plan outside of recommended guideline'
- Your care team will fully document all discussions, your personal choices and agreed ongoing plans for your care.

**It is always best to discuss your plans for water immersion with your care team during pregnancy to enable the development of an individualised care plan.**



Photo by Kate Kennedy



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### Interpreter services



Gold Coast Health provides interpreter services for patients attending the hospital who are from non-English speaking backgrounds. If you require the assistance of an interpreter, please indicate this on your registration form and advise the hospital prior to any medical appointments.

**Interpreter services are provided free-of-charge to all patients who require the service, including non-Medicare patients.**

### References

1. Cluett ER, et al. Immersion in water during labour and birth. Cochrane Database of Systematic Reviews 2018, Issue 5. Art. No.: CD000111
2. Vanderlaan, J., et al (2018). Neonatal outcomes with water birth: A systematic review and meta-analysis. *Midwifery*, 59, 27-38.
3. Bovbjerg, M. L., et al (2022). Maternal and neonatal outcomes following waterbirth: A cohort study of 17,530 waterbirths and 17,530 propensity score-matched land births. *BJOG*: 129(6); 950-958.
4. Burns, E., et al. (2022). Systematic review and meta-analysis to examine intrapartum interventions, and maternal and neonatal outcomes following immersion in water during labour and waterbirth. *BMJ Open*, 12(7), 056517.

GCHHS acknowledges the gender diversity of all pregnant people. Where the term women/woman is used in our documents, this includes all people requiring midwifery, gynaecological and obstetric care.



**Table 1** Recommendations for water immersion during the first stage of labour and water birth in different circumstances

Criteria	Water immersion first stage	Water birth	Reason not recommended
Opioid injection	No	No	When administered within four hours of birth opioids can have a significant impact on mothers such as drowsiness. Opioids cross the placenta and may impact newborns' transition to breathing.
Maternal infection	No	No	Including HIV, Hepatitis A, B, C. To avoid transmission and protect baby and staff.
COVID-19	No	No	Symptomatic - To avoid transmission and protect baby and staff.
Maternal fever	No	No	Before birth a baby's temperature is higher than its mother's and labour may be more complicated.
Pre-eclampsia - severe	No	No	Due to the risk of eclamptic fit in water (seizures).
Pre-eclampsia - mild	Yes	No	While women with mild pre-eclampsia are less likely to have a seizure in labour, their babies may have been impacted by placental problems.
Preterm	No*	No	The reason for preterm labour may be due to infection or other reasons that may place the baby at greater risk. *Water immersion in first stage might be considered a safe option for some women after 34 weeks. Discuss with care providers during labour.
Twins	No**	No	Birth more than one baby can sometimes be more complicated and some women may need additional help, particularly with the birth of the second baby. GCUH does not recommend this, though some hospitals do support water immersion during labour in first stage. **Discuss individual circumstances with care providers.
BMI 40 or more	Yes	No	High body mass index can sometimes impact a woman's mobility and make it more difficult to assist if help is required to birth the baby.
Very large baby	Yes	No	Large babies can sometimes need assistance to be born (increased rate of shoulder dystocia).
Very small baby	Yes***	No	Small babies may be more vulnerable, particularly those confirmed as intrauterine growth restriction and abnormal placental blood flow. ***Water immersion in this circumstance would not be recommended.
Shoulder dystocia	Yes	No	Women whose previous births have resulted in shoulder dystocia might be more likely to experience this again.
Epilepsy	Yes	No	Due to the risk of seizure in water, particularly during more strenuous second stage.

**Table 2** Recommended care and other considerations in the context of (1) water immersion first stage and (2) waterbirth in other circumstances

Criteria	Additional recommended care	Water immersion first stage	Water birth	Reason not recommended
Malpresentation (Face/breech/brow)	CTG	No	No	Malpresentation is when your baby is not presenting in the typical head-down, chin-down position at the time of birth. Malpresenting babies are more likely to need some assistance to be born. Labouring in water can impede your midwife and doctor's ability to visualise and assess progress in labour and if assistance might be required.
Meconium-stained liquor	CTG	Yes	No	Meconium-stained liquor may be associated with an unwell baby.
Previous large postpartum haemorrhage	IVC and bloods	Yes	No	Assessing blood loss in the pool is difficult and may impact quick and efficient management in the event of a heavy blood loss.
Pre-labour rupture of the membranes	IV antibiotics	Yes	Yes****	For healthy women and babies, pre-labour and prolonged rupture of membranes is unlikely to impact the newborn when adequate intravenous antibiotics are given to the mother and in the presence of normal observations (including CTG if indicated). Some women may be asked to leave the pool for birth if the midwife or doctor has any concerns regarding you or your baby's wellbeing. ****In the presence of normal mother and baby observations.
Prolonged rupture of the membranes	IV antibiotics and CTG	Yes	Yes****	
Previous caesarean section	IVC and CTG	Yes	Yes****	Uterine rupture occurs in around 1 in 200 women who have a uterine scar during labour (i.e. women who have had a previous caesarean section or uterine surgery). Abnormal fetal heart rate, constant pain and vaginal bleeding are often the first signs of impending uterine rupture. In this circumstance you will be asked to leave the pool immediately. Uterine rupture can occur in the pool or on land. Uterine rupture is an obstetric emergency which requires immediate emergency care.  It is important to acknowledge that uterine rupture in the pool may delay emergency treatment which can impact the future health of you and your baby. ****In the presence of normal mother and baby observations.
Induction of labour	IVC, CTG, obstetric review	Yes****	No	The indication for induction of labour is an important consideration when assessing the appropriateness of water immersion. Water immersion may not be recommended for some women (depending on individual circumstances). Due to limited evidence to inform the safety of waterbirth in mothers who are induced, we recommend that you leave the pool for birth. ****In the presence of normal mother and baby observations.
Group B Streptococcus	IV antibiotics	Yes	Yes****	GBS is unlikely to impact the newborn when adequate intravenous antibiotics are given to the mother. ****In the presence of normal mother and baby observations.

**IVC:** Intravenous cannula; **CTG:** Continuous tocography (a way to continuously monitor baby's heartrate and contractions).