

Labouring and Giving Birth in Water

Water birth around the world

Water is revered in every culture for its life-sustaining and healing properties. Women have been using water in labour and birth for millennia. Ancient Egyptian petroglyphs depict water births of babies destined to become preists or priestesses. The oral histories of indigenous peoples on every continent – from New Zealand to Mongolia, Panama to Japan – include stories about women giving birth in the ocean tide pools, in streams and in shallow lakes.

In the 1960s, Igor Tjarkovsky, a swimming instructor and midwife, popularized water birth in Russia. In 1983, Herman Ponette, an obstetrician, began installing birthing tubs in his hospital in Belgium. Since then, he attended over 5,500 water births.

In the United Kingdom, even the government recognizes the potential benefits of water birth. In 1992, the UK House of Commons recommended that whenever possible, women have the option to birth in water. Nearly half of all maternity hospitals in the UK have installed birthing pools and there are at least 2,000 water births per year.

What are the benefits of water birth?

Many women find that being immersed in water during labour and birth gives them an increased sense of control, comfort and relaxation. If you are the kind of person who enjoys spending time in water, you may enjoy the following benefits from birthing your baby in water:

- You may feel more relaxed and better able to cope with your contractions
- You may need less pain medication because your contractions are easier to cope with
- You may find it easier to move intuitively to ease your baby through your pelvis
- Your cervix may open faster and your labour may be shorter
- You may have less need for medication to help your labour because your contractions work better
- You may have less need for help from forceps, vacuum or caesarean to give birth to your baby
- You may have less need for an episiotomy and less chance of having a serious tear
- Some people have also suggested that water birth is a gentler experience for baby as well as for the birthing person

Is water birth safe?

The research about the safety of water birth is not conclusive. However, the existing studies suggest that birthing in water is a safe option for women with healthy pregnancies and uncomplicated labours.

To understand the available evidence about water birth, you need to know a little about medical research. The gold standard for a research study is a Randomized Controlled Trial (RCT), meaning that the subjects are randomly assigned to either a treatment group or a control group. However, there have not been any good RCTs about water birth because most women would not be willing to be randomly directed to birth in water or on land.

The next best thing to an RCT is a cohort study. A cohort study compares a treatment group with a control group but the subjects are not randomly assigned so there is a chance for bias. There are a number of large cohort studies looking at water birth. They have all found that when compared with land birth, water birth is associated with:

- Similar or lower rates of infection in mothers and babies
- Similar or better results on tests that evaluate the baby's wellbeing after birth
- Similar or lower rates of babies admitted to special care nurseries
- Similar or lower rates of baby deaths

A case study describes the experience of one patient or a few patients. Case studies are the weakest form of evidence, although they are sometimes the only way to learn about very rare problems. A number of case studies have reported on babies who have become sick or died after being born in water. However, these problems have not been reported by any of the larger, better quality studies.

What stops babies from breathing underwater?

A number of factors inhibit babies from breathing underwater at the time of birth:

- **Hormones:** You might be surprised to learn that your baby has already begun practicing breathing before birth, inside the uterus. Researchers have observed breathing movements in the human fetus as much as 40% of the time. However, in the days before labour begins, breathing activity decreases dramatically because of prostaglandins, hormones released by the placenta which also play a role in starting labour.
- **Temperature:** Newborn babies are sensitive to temperature. They are stimulated to breathe by the cooler temperature of air compared to the warm environment inside the mother. However, when born into water that is at a similar temperature to the mother's body temperature, they are not stimulated to breathe.
- **Dive Reflex:** Humans have a powerful dive reflex which maximizes their ability to hold their breath underwater. This reflex is associated with the larynx, the opening to the lower airway. The opening to the larynx is covered with more taste buds than the entire surface of the tongue. These taste buds can distinguish between bodily fluids (like mucus, urine, blood, or amniotic fluid) and other foreign fluids (like water). When they encounter a foreign fluid, they elicit the dive reflex. The opening to the airway closes and the fluid is swallowed, not inhaled. In addition, nerves in the face sense when the face is immersed in water and send messages to the brain. The brain responds by inhibiting breathing, decreasing heart rate, and redirecting blood to the

brain and heart where it is needed most. This reflex helps to prevent babies from gasping for air when they are born underwater.

- Hypoxia: Babies are born experiencing acute hypoxia, meaning they are temporarily lacking oxygen. This inhibits breathing. However, babies born experiencing severe, prolonged lack of oxygen may gasp for air. As a result, your midwife will monitor your baby's well being during labour. If there are any signs that your baby may be experiencing a prolonged lack of oxygen, your midwife will ask you to get out of the water.

Guidelines for water birth

Whether at home or the hospital, there are some situations where birthing in the water may not be clinically advisable and your provider may ask you to get out at the last minute. Certain providers have different levels of experience and comfort with delivering the baby and/or the placenta in the tub, therefore you should ask beforehand, if this is important to you.

To help keep you and your baby safe while having a water birth you need to:

- Be having a healthy pregnancy and uncomplicated labour
- Be 37 weeks gestation or later
- Be in a warm (not hot) bath (between 36-37.5°C)
- Have no strong medications such as morphine or epidural
- Leave the water if your care provider has any concerns with your or your baby's wellbeing. In order to closely monitor postpartum bleeding, we recommend leaving the water after the birth of your baby to birth your placenta on land.

Can I have a water birth in the hospital?

BC Women's Hospital supports women who choose to have water births. Unfortunately, there is no guarantee that your hospital room will have a bathtub. Also, hospital policy is to have the birthing person get out of the tub as soon as the baby is born, before the placenta is delivered.

Adapted from a handout developed by Pomegranate Midwives, Vancouver, BC