



AN OVERVIEW OF WATER BIRTH

“Where the waters do agree, it is quite wonderful the relief they give.”

-Jane Austin

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ABSTRACT

The aim of this information sheet is to provide overall information regarding the water birth. The birth of a baby is one of the most important events of women's entire life. Water is a soothing natural element. Even the sounds of water can be relaxing. Water birth is a gift that lasts lifetime. A water birth means at least a part of women's labor, delivery, or both happen while she is in a birth pool filled with warm water. It can take place in a hospital, a birthing center, or at home. The specialized or skillful team (doctor, nurse-midwife, or midwife) will help the women throughout the process. Water birth optimizes a woman's birth experience and helps her to fully realize her primordial female power, take control of birth and create her own personal miracle of love and empowerment.¹

Keywords: *Water birth, labour in water, advantages of water birth.*

INTRODUCTION

Over the last 5 decades, many changes in care practices; during pregnancy and child birth has been taken place. Family presence during labor and birth, access to a trial of labor after a previous cesarean birth, pain management, choices during labor and respectful maternal care are the changes among them. As women are increasingly requesting to birth in water, and have many questions related to the same.²

Water birth was first reported in an 1805 medical journal, and became more popular in the 1980s and 1990s. The safety of water immersion *during labor* is well accepted (Cluett & Burns 2009; Shaw-Battista 2017). However, on the other hand, people in the United States (U.S.) and some other countries disagree about the safety of waterbirth.² In 2006, Dr. Neilson did an independent review of all the literature on water birth, including obstetric, nursing, midwifery, and pediatric. He concluded, “There is no credible evidence that water birth is a potential harm for either mothers or babies.”³

DEFINITION

- A water birth is considered as the natural birthing process or the alternative way of giving birth. It is the process of giving at least a part of the labor, delivery, or both happen while women in a birth pool filled with warm water that allows a reduced pain birthing experience for the mother and a gentler entry for the newborn. It can take place in a hospital, a birthing center, or at home. It is also considered as the gentlest birth⁴

BIRTHING CENTERS:

Birthing centers are medical facilities that offer a more homelike setting than a hospital and more natural options for women having babies. Women who deliver in a birth center usually have already given birth without any problems or have a low-risk pregnancy (meaning they are in good health and are not likely to develop complications). Women are carefully screened early in pregnancy and given prenatal care at the birth center to monitor their health throughout their pregnancy.

Epidural anesthesia usually isn't offered at birth centers. So, women are free to move around in labor, get in the positions most comfortable to them, etc. Comfort measures (such as hydrotherapy, massage, warm and cold compresses, and visualization and relaxation techniques) are often used.

A variety of health care professionals work at birth centers, such as registered nurses, CNMs, and doulas (professionally trained providers of labor support and/or postpartum care). A doctor usually isn't on-site and medical interventions are rare. But most birth centers work with obstetric and pediatric consultants as a team. Nurse-midwives provide care during a woman's pregnancy, labor, and delivery. The OB/GYN consultants are available if she develops complications that put her into a higher risk category.⁵

The baby's heart rate is monitored often during labor, typically with a handheld Doppler device. Birth centers do have medical equipment available, such as IV lines and fluids, oxygen for the mother and the infant, and other equipment necessary to treat sick babies and moms.

A birth center can provide natural pain control and pain control with mild narcotic medicines. But if a woman decides she wants an epidural, or develops complications, she must be taken to a hospital.

Birth centers provide a homey birth setting for the mother, baby, and extended family. In most cases, they're freestanding buildings, though some are attached to a hospital. They often include amenities such as private rooms with soft lighting, showers, whirlpool tubs, and a kitchen for the family to use. Accreditation of the birth centers are done by the Commission for the Accreditation of Birth Centers (CABC).⁶

THEORY BEHIND THE WATER BIRTH:

1. The baby has been in the amniotic sac for nine months and emerging in a water environment is gentler and less stressful for both the mother and the baby.
2. It is also believed that it reduces stress during labor and birth which also reduces fetal and maternal complications.⁷

FACTORS PREVENTING THE BABY FROM INHALING WATER DURING WATER BIRTH

1. **Prostaglandin E2 levels** from the placenta which cause a slowing down or stopping of the fetal breathing movements. When baby is born and the prostaglandin level is still high, the baby's muscles for breathing simply don't work, thus engaging the first inhibitory response.
2. **Babies are born experiencing mild hypoxia or lack of oxygen.** Hypoxia causes apnea and swallowing, not breathing or gasping.
3. **Water is a hypotonic solution** and lung fluids present in therefore are hypertonic. So, even if water were to travel and pass larynx, they could not pass into the lungs based on the fact that hypertonic solutions are denser and prevent hypotonic solutions from merging or coming into their presence.
4. **Dive reflex** and resolves around the larynx. The larynx is covered all over with chemoreceptors or taste buds. It has 5 times as many as taste buds as the whole surface of tongue. So, when a solution hits the back of the throat, passing the larynx, the taste buds interprets what substance it is and the glottis automatically closes and the solution is then swallowed not inhaled.⁸

ADVANTAGES

FOR MOTHER

- **Lower mean duration of labor:** Statistical evidence is in favor of water birth as relates to a shorter mean duration of labor with greater maternal relaxation. This is mostly due to a reduction in the duration of the second stage of labor. A significantly increased percentage reported satisfaction with their birth experience and relaxation during the labor, as well as a significant reduction in the perception of pain when looking back on it.
- **Less perineal damage:** The mother finds it easy to balance her weight in the water, to stay upright during labor and delivery, and no forcible manual intervention is carried out until the baby is fully born. The perineum is therefore much more likely to be intact, and the birth to be slower and more controlled.
- **Lowers postpartum blood loss:** Several studies showed that water birth was associated with a lower mean blood loss during and following delivery, as well as a higher mean maternal hemoglobin level in the postpartum period.
- **Infant safety following birth in water:** the physiological processes that underlie birth ensure that the baby does not take a breath while it is submerged. There are several triggers for breathing, which include gravitational pressure on the face, and chemoreceptors that sense the presence of oxygen and

carbon dioxide. These trigger the change from fetal to newborn circulation and stimulate breathing. A mild physiological hypoxia is present which prevents premature breathing while under water. During this time an important event occurs, namely, the swallowing of the contents of the mouth. This accomplishes the clearing of the airway, and the introduction of regulated foreign matter into the fetal intestines in the form of vaginal and amniotic fluid, and other sources of benign bacteria. These enter the gut and begin to colonize it, building neonatal immunity and helping helpful species to establish their hold. Thus breathing almost always occurs only after this initial swallowing act, often followed by a spit or a sneeze.

- **Thermoregulation following water birth:** Infants born in the water tub regulate their temperature well because of the immediate and continued skin-to-skin contact with the mother, along with the improved capillary filling due to the delayed cord clamping. This means that radiant warming and warm clothing are not necessities in this setting.⁹

Other advantages for mother:

Improves maternal and baby bonding, reduces pressure of abdomen, normal neonate outcomes, helps mother to conserve energy, promotes deep relaxation, facilitates position change, relaxes pelvic floor muscles, warm water minimizes pain, reduces need of drugs and artificial simulation of labor, reduces blood pressure, facilitates second stage of labor, greater involvement of father, enhances parent-child relationship, water stimulates the touch and temperature nerve fibers in the skin, enhanced family relationships, empowerment of the mother, evolving humanity in positive direction, immersion is often more effective and safer than an epidural, it frees feel good hormones, satisfaction with birthing experience.¹⁰

FOR CHILD

- Same environment as amniotic fluid
- Reduces stress to baby¹²
- Ease of transition from extra-uterine life, this reducing the need and side-effects of any needed analgesia.¹¹

CONTRAINDICATIONS

The research shows that contraindications for waterbirth include mothers desiring a VBAC (vaginal birth after a cesarean), Pitocin augmentation/induction or where telemetric EFM is not available. Maternity units may elect to add to the list of contraindications the use of analgesia or anesthesia, multi-fetal gestation, and gestational age less than 37 weeks.¹³

Continuous electronic fetal monitoring isn't possible during a water birth, it is possible, if the pregnancy has been low-risk so far. That means water birth is not recommended if one:

- Had a previous difficult labor or delivery, including a prior C-section
- A chronic medical condition like hypertension, diabetes or herpes (which spreads more easily in water)
- A pregnancy complication like gestational diabetes or preeclampsia
- A baby in a breech position, since this usually makes a C-section your safest option
- Preterm labor, because going into labor more than two weeks ahead of your due date means the baby will likely need to visit the NICU for extra monitoring and care.¹⁴

PREPARATION FOR WATER BIRTH

In addition to standard delivery items, the midwife/ doctor should ensure that the following is in readiness for a birth in water:

1. Water thermometer & waterproof gown and apron
2. Maternal thermometer & waterproof Doppler
3. Gloves of sufficient length to cover bare skin when in contact with amniotic fluid or blood.
4. A sieve should be provided to remove fecal contamination
5. A means to remove the woman from the bath if required
6. Kneeler pads, cushions, low stool and birthing balls should be provided for health and safety of midwives and birth companion
7. An attached shower facility over the bath should be considered whenever practicable, for additional maternal comfort to ease backache.¹⁵

PRECAUTIONS

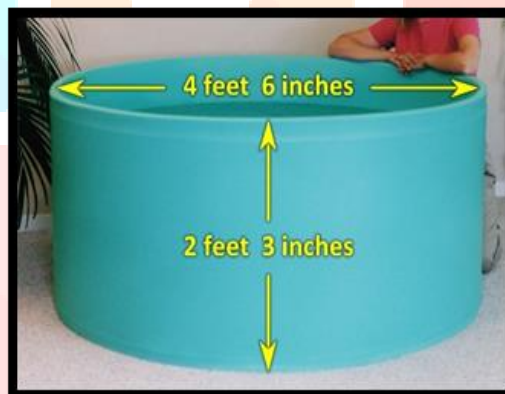
The occupational health, safety and welfare of the mother, midwife/ doctor and baby is to be preserved.

- Ordinary tap water is to be used with no additives (e.g. no essential oils)
- Principles of infection control will be maintained in accordance with National Infection Control Guidelines.
- Personal protective clothing should be worn as appropriate.
- Gloves should be used to avoid contact with maternal blood and body fluids in the bath water, as per National Infection Control Guidelines. Any breaks in skin integrity are to be covered with a waterproof dressing.
- Midwives/ doctors are to remain outside the bath/pool. Knee pads are recommended.
- Proper back care for the midwife/ doctor should be maintained.
- Emergency equipment must be available and ready for use, inside or outside the room.
- Staffing levels should be adequate to ensure that the woman can be removed from the bath if she is unable to do so herself.

- If the bath becomes heavily contaminated, the woman should be asked to leave the bath temporarily until the water can be changed and the bath cleaned.
- After use, the bath and sieve must be thoroughly cleaned and allowed to air dry before next use.¹⁶

PROCEDURE

- The midwife/doctor will ensure that maternal and fetal wellbeing are monitored by making certain that all observations are undertaken as for any normal birth.
- The bath should be filled to the level of the woman's breasts when she is sitting in the bath but the woman's vulval/ perineal must be completely submerged for the birth.
- The woman has a choice of birth position
- The woman can leave the bath at any time she wishes
- The woman will be asked to leave the bath if complications arise and is expected to comply with the request.
- Record the times that the woman enters and leaves the bath.
- Midwife, doctor or support person to be in the room at all times that the bath is in use.
- Recommended optimum temperature range of bath water for maternal comfort is 35 – 37 degree



Celsius.

- It should not exceed 37 degree Celsius because the temperature of the fetus is 1 degree Celsius higher than the mother's during pregnancy.
- Monitor bath temperature hourly while in the bath and record on the partogram.
- Encourage oral fluids to prevent dehydration and overheating.
- The woman should leave the bath to urinate
- Vaginal examination may be performed underwater if deemed necessary
- Proceed as for normal delivery
- Nitrous oxide and oxygen may be used in the bath if required
- It is important in the bath environment as on land, to guide the woman in the use of nitrous oxide and oxygen, to prevent hyperventilation and reduced maternal control.
- The woman can opt in and out of this form of pain relief as she wishes, thus remaining alert and in control.
- The gas is not retained in the body and has no known significant side effects on the fetus/ neonate.¹⁶

CARE OF THE WOMAN AND BABY DURING THE SECOND STAGE OF LABOUR

- ❖ The woman should not be encouraged to push before she has the urge as sustained and directed pushing is associated with lower Apgar score and umbilical artery Ph.
- ❖ Whenever possible, a “hands off” birth, supported by quite verbal guidance by the midwife, should be practice to minimize stimulation of the baby underwater.
- ❖ It is not necessary to feel for the presence of nuchal cord.
- ❖ The cord can be loosened and disentangled as the baby as the baby is born in the usual manner. If the cord is around the baby’s neck tightly and needs to be cut, the woman is to be assisted to stand out of the water so this process can occur safely. The woman remains standing to deliver the rest of the baby.
- ❖ The baby must be born completely underwater, with no air contact until he/she is brought gently to the surface immediately after the baby is delivered.
- ❖ Avoid undue traction on the umbilical cord as the baby’s head surfaces from the water. This minimizes the possibility of the cord snapping.
- ❖ Under no circumstances should the cord be clamped and cut under water. Clamping or cutting of the umbilical cord stimulates the baby to breathe and breathing must not occur under water.
- ❖ Under no circumstances should the baby’s head be re-submerged under water.
- ❖ Maintain warmth of baby by skin to skin contact with its mother. Dry baby’s exposed head and skin to reduce heat loss.
- ❖ Apgar score should be recorded at 1 and 5 minutes after birth.
- ❖ If respiration is not facilitated within one minute of birth, the cord should be but so clamped cut and the baby removed from the bath for resuscitation. Whereas standing birth commence neonatal resuscitation immediately.
- ❖ IM injection should not be given under water.¹⁶

CARE OF THE WOMAN AND BABY DURING THE THIRD STAGE OF LABOUR

- ❖ Before a potential water birth is engaged upon, the woman should be informed that the third stage will be managed out of the bath.
- ❖ The woman is to be asked to leave the bath for delivery of the placenta as per a normal delivery.
- ❖ After leaving the bath, the temperature of both mother and baby are measured and recorded.
- ❖ Postnatal observations of both mother and baby are completed as per any other normal birth.¹⁶

HOW LONG THE BABY SHOULD BE IN THE WATER AFTER THE BIRTH?

In the US, practitioners usually bring the baby out of the water within the first ten seconds after birth. There is no physiological reason to leave the baby under the water for any length of time.

Baby remains attached to the umbilical cord at the time of birth until it is clamped or cut. During a water birth baby will continue to receive all of its oxygen via the umbilical cord. Once baby is lifted out of the water and feels the temperature her body will be triggered to breathe.¹⁷

WHEN TO LEAVE THE WATER?

Mothers can stay in the water until the delivery of the placenta or leave the bath with baby still attached and deliver the placenta outside of the water.¹⁸

- ✓ If there is any deviation from normal observation of the women or fetus, the woman must be asked to leave the water.
- ✓ If the woman becomes unconscious, emergency procedures must be enacted immediately and measures taken to remove the woman from the bath.
- ✓ If the labor is “not progressing”, the woman may need to leave the water and mobilize, possibly eat and drink, to facilitate increased contractions.
- ✓ In rare case of emergency situation, such as intrapartum hemorrhage, shoulder dystocia; ask the woman to stand up and assist her with leaving the bath.

RISKS FOR MOTHER

- Infection
- Thermoregulation
- Perineal trauma from an accidental tear
- Slip, fall and dehydration.¹⁹

COMPLICATIONS

- ✚ Meconium stained liquor
- ✚ Fetal bradycardia/ tachycardia.
- ✚ Fetal infection
- ✚ Snap of umbilical cord
- ✚ Fetal hyperthermia / hypothermia
- ✚ Seizures
- ✚ Asphyxia
- ✚ Baby could breathe inside the water.²⁰

WATER BIRTH CENTRES IN INDIA

1. Birth village, the natural birthing centre – Kerala (kochi)
2. DAIMAAS natural birth and wellness centre- Mumbai- Maharashtra
3. C K Birla hospital- Gurgram, Haryana
4. Aastrika midwifery centre- Bangalore.

COST OF WATER BIRTH IN INDIA

- Portable pool on rent for either home or hospital birth usually costs about \$ 375, which includes all the charges.
- Insurance companies reimburse for all the expense of the rental pool.
- If the hospital has permanent birth pool equipment then it's much cheaper and the insurance companies need not to be informed. However, the cost of water birth in India varies from INR 80,000 to INR 1,50,000 depending upon hospital to hospital.

WHY LESS AVAILABILITY?

- Water birth profoundly demonstrates that a woman is empowered by “giving birth” not “being delivered”.
- Looking into the medical technological, model of birth.
- Hard to convince mothers about the efficacy and safety of water birth.
- Lack of awareness and knowledge related to water birth which leads to fear among mothers.

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