

 <p>MIDWIFERY CLINICAL PRACTICE GUIDELINE</p>	Title: Water Immersion in Labour and Birth	Policy Number: MWPG-2
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A. PREAMBLE

Guidelines outline recommendations to guide health care practitioners in specific practice situations and to support the process of informed decision-making with clients. The best available evidence is helpful in assisting thoughtful management decisions and may be balanced by experiential knowledge and clinical judgment. It is not intended to demand unquestioning adherence to its doctrine as even the best evidence may be vulnerable to critique and interpretation. The purpose of practice guidelines is to enhance clinical assessment and decision-making in a way that supports practitioners to offer a high standard of care. This is supported within a model of well-informed, shared decision-making with clients in order to achieve optimal clinical outcomes.

B. PURPOSE

Guide informed choice discussions regarding immersion in water for labour and birth.
 Ensure a safe and evidence based practice of water immersion in labouring and birthing individuals.
 Provide increased options for pregnant individuals to enhance their birth experience satisfaction.

C. BACKGROUND

Immersion in water for non-pharmacological pain relief in labour is common practice in the U.K., U.S. and Canada.
 There is no available evidence that perinatal mortality and morbidity increases or decreases, including admissions to special care nurseries, for infants born in water from infants born on land.

D. DEFINITIONS

Water immersion in labour: A pregnant individual's body is submerged in water during labour, where the water covers her abdomen.

Water birth: Spontaneous birth of infant under water.

Pool: In this guideline, "pool" refers to a pool of water used during labour and/or birth and is synonymous with tub and bath.

Birthing individual: The client / patient.

E. POTENTIAL BENEFITS AND RISKS OF WATER IMMERSION

1. Benefits
 - Supports physiological birth

- Greater freedom of movement - Buoyancy of water provides support, and hydrostatic pressure enhances stability and flexibility, allowing for increased freedom of movement
- Enhanced client satisfaction with the birthing experience
- Less use of analgesia and decreased severity of pain
- Reduction in interventions

2. Risks

- Labour: Hyperthermia and dehydration
- Postpartum: Estimated blood loss is more difficult to assess in water

3. Unknown or no effect (Cluett et al. Cochrane Review, 2018)

- a. No effect on perineal trauma during birth
- b. No clear evidence of adverse effects on fetus/neonate or birthing individual in labour or birth

F. CRITERIA AND CONTRAINDICATIONS FOR WATER IMMERSION IN LABOUR AND BIRTH

1. Criteria

- Uncomplicated singleton pregnancy of at least 37 weeks gestation
- Vertex presentation
- Spontaneous, active labour

2. Contraindications

- Client Mobility - inability to get in and out of tub without delay, in an emergency
- Maternal infection with a blood-borne pathogen such as Hepatitis B or C or human immunodeficiency virus (HIV); active herpes infection
- Any concern for maternal well-being, e.g. maternal fever ($\geq 37.5^{\circ}\text{C}$), antepartum hemorrhage
- Any concern for fetal well-being, e.g. abnormal fetal heart rate (FHR), meconium, intrauterine growth restriction

G. INDICATIONS FOR LEAVING THE POOL

- Any concern for maternal well-being, e.g. maternal fever ($\geq 37.5^{\circ}\text{C}$), antepartum hemorrhage
- Any concern for fetal well-being, e.g. abnormal fetal heart rate (FHR), meconium

H. SPECIAL CONSIDERATIONS

1. Care Provider Experience and Training: All birth care providers who use this guideline are trained in supporting clients with water immersion for labour and birth. Continuing education will be made available to those who have not previously been trained and as needed for ongoing practice.

2. Caution is advised if nitrous oxide inhalation has been administered to the birthing person. Individual responses to nitrous oxide vary. The birthing person must be conscious and aware of surroundings while in the water and at no time left alone in the tub.
3. Cord avulsion or tearing is uncommon but cord evulsion or tearing has been reported in water birth. Be aware of factors which would lead to cord evulsion or tearing such as cord length, water level, maternal position at birth, speed at which infant is brought to the surface
4. Estimated maternal blood loss: If there is evidence of excessive bleeding or if the practitioner is unable to assess blood loss, the individual should be assisted out of the pool.
5. Discuss mobility issues with pregnant individual. Consider practice session for getting in and out of the pool prenatally.

G. PRACTICE GUIDELINE

1. Pool and Room Preparation
 - Use ordinary tap water, with no additives (e.g. essential oils), to fill the tub to cover the birthing individual's abdomen
 - Hoses for filling pool are new
 - Disposable debris net is available
 - Prepare an alternative birth place close to the pool
 - Plan for removing the birthing person from the tub in an emergency
 - Infection Control protocols for cleaning are used after the pool is used
 - Ambient room temperature is ideally maintained at comfortable level (e.g. 21-28 °C)
 - Set-up NRP station and supplies closer to the pool and appropriate equipment to facilitate tub-side resuscitation (e.g. cardiac board)
 - Water temperature maintained throughout at 36 °C to 37.7°C
2. Maternal and fetal/newborn well-being assessments and interventions
 - a. First stage of labour
 - Maternal vital signs assessment: Temperature assessed every 2 hours; BP q4h. Assist birthing person out of the pool if body temperature exceeds 37.5°C
 - Water temperature should be maintained according to maternal comfort and recorded hourly
 - FHR is assessed by intermittent auscultation as for any labour and birth.
 - Hydration: Encourage birthing person to drink to maintain hydration and decrease the risk of hyperthermia and tachycardia.
 - Voiding in the pool: may void in the water since urine is sterile provided there is no active urinary tract infection. While it is preferable to assist a birthing person to the toilet, any urine passed involuntarily does not require a full clean and change of the water
 - The care provider or support person will be in attendance at all times when the client is in the pool
 - When nitrous oxide is being used, the care provider must be in constant attendance

- If the birthing person requires IV antibiotic treatment for GBS, the catheter may be left and covered with an Opsite

- b. Second Stage: pushing and birth**
 - Water temperature is maintained at 36-37.7 °C and recorded every 30 minutes.
 - Spontaneous second stage pushing is encouraged.
 - Control of fetal head and support of the perineum is not required during birth
 - To prevent stimulation of neonatal breathing or gasping and subsequent water aspiration, the infant is to be born completely under water with no air contact:
 - Allow for restitution
 - Gently lift the head, followed by shoulders and then body and legs out of the water
 - Take caution regarding the length of the cord. If the cord seems short have the client stand up as the care provider retrieves the baby from the water in the same fashion
 - Place the infant immediately skin to skin on mother and assessed for the need for resuscitation as per NRP guidelines
 - In emergency situations (for example a suspected shoulder dystocia, PPH) assist birthing person out of pool immediately. This may mean asking the client to stand in the pool or supporting the client to exit the pool completely

- c. Third Stage: from birth of baby to birth of the placenta**
 - The third stage is completed according to client's preference and care provider's assessment of risk. I.e. physiological or active management
 - Do not administer injections under water. Oxytocin can be given into the deltoid muscle.
 - If third stage is completed in water, the client should be assisted out of tub if there is evidence of excessive bleeding to assess vital signs and more accurate assessment of blood loss, administration of oxytocics and other actions
 - To prevent neonatal hypothermia, while the client is in the pool with the newborn, keep infant's body skin to skin, body in the water
 - The newborn's head must be clear of the water, dried and a hat may be put on the newborn
 - Assess newborn's vital signs
 - Maternal and newborn assessments as per current guidelines.

H. INFECTION PREVENTION AND CONTROL

- Use routine practices including hand hygiene throughout the water birth to prevent cross infection or contamination.
- Personal protective equipment for health care providers could include shoulder length gloves, waterproof gown and facial/eye protection.
- If using an inflatable birth pool: it should be emptied, cleaned and deflated once it has dried. The used liner of inflatable birth pools should be discarded in the garbage. If no liner is used, the pool should be discarded.

- Hot tubs or pools with recirculating water pumps and or heaters should not be used under any circumstances for intrapartum water immersion
- The pool should be emptied, cleaned and refilled if the pool water has been filled for five hours
- The pool should be emptied, cleaned and refilled if it is contaminated with maternal bowel movement that cannot be easily removed.
- A support person may enter the pool with the client if there is no evidence of infection or illness, including GI upset in last 48 hours.
- Ensure all large by-products of birth are removed from the pool and placed in biohazard waste container before draining. i.e. placenta, blood clots, etc.
- In home environments, all the above infection control guidelines must be followed

I. CARE PROVIDER SAFETY

- Use proper body mechanics throughout labour assessment, labour support and during the birth
- Request assistance if needed when helping an individual in or out of the pool
- Knee pads or floor pad is recommended if kneeling beside the pool
- Dry all water spills on the floor immediately
- Use seating aids i.e. stool, physio ball, and cushions or pillows
- Midwives must be familiar with and able to conduct emergency evacuation from the pool

J. DOCUMENTATION

- Informed choice discussions for water labour and birth
- Time of entering and leaving the pool
- Reason for leaving the pool , if applicable
- Temperature of water every hour
- Time of birth and whether infant was born under water
- Water immersion and waterbirth audit: the use of water in labour and birth for midwifery clients is documented on the midwifery discharge summary form.

SCOPE: This guideline is to be used in all settings for all labours and births in the WRHA.

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REFERENCES

- Batten, M., Stevenson, E., Zimmermann, D, Isaacs, C. (2017). Implementation of a Hydrotherapy Protocol to Improve Postpartum Pain Management. *Journal of Midwifery and Women's Health*, 62(2); 210-214.
- Carpenter, L., & Weston, P. (2012). Neonatal respiratory consequences from water birth. *Journal of Paediatrics & Child Health*, 48(5), 419–423. <https://doi.org/10.1111/j.1440-1754.2011.02241.x>
- Cluett, E.R., Burns, E., Cuthbert, A. (2018). Immersion in water during labour and birth. Cochrane Database of Systematic Reviews 2018, Issue 5. Art. No.: CD000111. DOI: [10.1002/14651858.CD000111.pub4](https://doi.org/10.1002/14651858.CD000111.pub4)
- College of Midwives of British Columbia. (2014). Guideline for the Use of Water in Labour and Birth. Retrieved from <http://cmbc.bc.ca/wp-content/uploads/2015/12/17.07-Guideline-for-the-use-of-Water-in-Labour-Birth.pdf>
- College of Midwives of Manitoba. (2014). Guideline for Water Immersion in Labour and Birth. College of Midwives of Manitoba Registrant's Handbook. Retrieved from http://www.midwives.mb.ca/policies_and_standards/33%20Guideline%20for%20Water%20Immersion%20in%20Labour%20and%20Birth%20Oct%2020%202014.pdf
- Collins, S. L., Afshar, B., Walker, J. T., Aird, H., Naik, F., Parry-Ford, F., . . . Cresswell, T. (2016). Heated birthing pools as a source of Legionnaires' disease. *Epidemiology and Infection*, 144(4), 796-802. doi:10.1017/s0950268815001983
- Cooper, M., McCutcheon, H., & Warland, J. (2017). A critical analysis of Australian policies and guidelines for water immersion during labour and birth. *Women and Birth*. doi:http://dx.doi.org/10.1016/j.wombi.2017.04.001
- Davies, R., Davis, D., Pearce, M., & Wong, N. (2014). The effect of waterbirth on neonatal mortality and morbidity: a systematic review protocol. JBI Database of Systematic Reviews & Implementation Reports, 12(7), 89–100. <https://doi.org/10.11124/jbisrir-2014-1689>
- Granseth, G., Bhattarai, R., Sylvester, T., Prasai, S., & Livar, E. (2017). Two Cases of Legionnaires' Disease in Newborns After Water Births — Arizona, 2016. *MMWR: Morbidity and Mortality Weekly Report*, 66(22), 590-591. doi:10.15585/mmwr.mm6622a4
- Harding, C., Munro, J., Jokinen, M. (2012). Evidence Based Guidelines for Midwifery-Led Care in Labour: Immersion water for labour and birth. Royal College of Midwives. Retrieved from https://www.rcm.org.uk/sites/default/files/Immersion%20in%20Water%20%20for%20Labour%20and%20Birth_0.pdf
- Jones, L., Othman, M., Dowswell, T., Alfirevic, Z., Gates, S., Newburn, M., ... JP, N. (2012). Pain management for women in labour: an overview of systematic reviews. *Cochrane Database of Systematic Reviews*, (3), N.PAG-N.PAG. Retrieved from <http://um.lidm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=108170383&site=ehost-live>

- Kvach, E., & Martonffy, A. I. (2012). Are there any risks to a water birth? *Evidence-Based Practice*, 15(4), 13. Retrieved from <http://uml.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=108173952&site=ehost-live>
- Miller, L. A. (2014). Water, Water Everywhere . . . Or Perhaps Not? *Journal of Perinatal & Neonatal Nursing*, 28(3), 164–166. <https://doi.org/10.1097/JPN.0000000000000045>
- Nutter, E., Shaw-Battista, J., & Marowitz, A. (2014). Waterbirth Fundamentals for Clinicians. *Journal of Midwifery & Women’s Health*, 59(3), 350–354. <https://doi.org/10.1111/jmwh.12193>
- Papile, L.-A., Baley, J. E., Benitz, W., Carlo, W. A., Cummings, J., Kumar, P., ... Watterberg, K. L. (2014). Immersion in Water During Labor and Delivery. *Pediatrics*, 133(4), 758–761. <https://doi.org/10.1542/peds.2013-3794>
- Petrikovsky, B. (2017). Benefits of Water Births Still Unclear. *Neonatal Intensive Care*, 30(4), 30–31. Retrieved from <http://uml.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=124772742&site=ehost-live>
- Pidgeon, J. (2010). Avoiding troubled waters. *Midwives*, 13(1), 42–43. Retrieved from <http://uml.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=105122951&site=ehost-live>
- Schafer, R. (2014). Umbilical Cord Avulsion in Waterbirth. *Journal of Midwifery & Women’s Health* 59(1), 91-94..
- Shaw-Battista, J., & Huwe, V. (2015). Should Water Birth Be Offered as an Option for Childbearing Women? *MCN: The American Journal of Maternal Child Nursing*, 40(4), 210–211. Retrieved from <https://doi.org/10.1097/NMC.0000000000000150>
- Simpson, K. R. (2013). Underwater Birth. *JOGNN: Journal of Obstetric, Gynecologic & Neonatal Nursing*, 42(5), 588–594. Retrieved from <https://doi.org/10.1111/1552-6909.12235>
- Simpson, K. R. (2014). Underwater Birth: An Elective Intervention With Safety Con. *MCN: The American Journal of Maternal Child Nursing*, 39(5), 340. Retrieved from <https://doi.org/10.1097/NMC.0000000000000070>
- Taylor, H., Kleine, I., Bewley, S., Loucaides, E., Sutcliffe, A. (2016). Neonatal outcomes of a waterbirth: a systematic review and meta-analysis. *Archives of Disease in Children, Fetal and Neonatal Edition*, (101): F357-365.
- Thisted, D., Norgaard, L, Molgaard, Meyere, H., Aabakke, A., & Secher, N. (2015). Water immersion and change sin the foetoplacental and uteroplacental circulation: an observation study with the case as its own control. *Journal of Fetal Neonatal Medicine*, 26(6): 661-665.
- Vanderlaan, J., Hall, P. J., Lewitt, M.J. (2018) Neonatal outcomes with water birth: A systematic review and meta-analysis. *Midwifery*, 59, pp. 27-38.

Weaver, M. H. (2014). Water Birth in the Hospital Setting. *Nursing for Women's Health*, 18(5), 365–369. Retrieved from <https://doi.org/10.1111/1751-486X.12144>

Young, K., & Kruske, S. (2013). How valid are the common concerns raised against water birth? A focused review of the literature. *Women & Birth*, 26(2), 105–109. Retrieved from <https://doi.org/10.1016/j.wombi.2012.10.006>

A Model Practice Template for Hydrotherapy in Labor and Birth. (2017). *Journal of Midwifery & Women's Health*, 62(1), 120–126. Retrieved from <https://doi.org/10.1111/jmwh.12587>

Committee Opinion No. 679 Summary: Immersion in Water During Labor and Delivery. (2016). *Obstetrics & Gynecology*, 128(5), 1198–1199. Retrieved from <http://uml.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=119524788&site=ehost-live>

Using Water for Labor and Birth. (2014). *Journal of Midwifery & Women's Health*, 59(3), 371–372. Retrieved from <https://doi.org/10.1111/jmwh.12188>

Water immersion: is it a viable option for facilitating normal birth? (2017). *Journal of Paediatrics & Child Health*, 53, 20. <https://doi.org/10.1111/jpc.13494> 51