BCCN&M British Columbia College of Nurses & Midwives

900 – 200 Granville St
Vancouver, BC
Canada V6C 1S4

T: 604.742.6200
Toll-free: 1.866.880.7101
bccnm.ca

FOR BCCNM REGISTERED MIDWIVES

Guideline for the use of water in labour and birth

The therapeutic properties of water immersion have been used for comfort and as a method of pain management during labour and birth for many years. Immersion in water for labour and birth continues to be a common choice made by midwifery clients. The British Columbia College of Nurses and Midwives (BCCNM) has reviewed available evidence, community standards and best practices to create this guideline in order to assist BC midwives when counselling and caring for clients interested in the use of water immersion during labour and/or birth.

Key to the effective use of water immersion during labour and/or birth is that midwives educate, inform, assist and safely care for clients who choose to use water during their labour and/or birth. Midwives are advised to ensure comprehensive prenatal preparation and screening and should be confident and competent to facilitate labour and birth in water.

Prenatal preparation

Choosing to labour and/or give birth in water should be founded in an informed choice[1] decision-making process, including but not limited to a discussion of potential risks and benefits as well as inclusion criteria, exclusion criteria and practical and individual considerations. In their facilitation of informed choice decision-making, the midwife should refer to the quality and local applicability of evidence related to water immersion during labour/and or birth and discuss areas where more evidence is needed. It is noted that as per a retrospective cohort study, water immersion births attended by registered midwives between 2005 and 2016 in British Columbia were not associated with higher rates of adverse neonatal outcomes than conventional births attended by midwives (Hodgson *et al,* 2020). Further, as per the 2018 Cochrane *Systematic Review* on water immersion during labour and birth:

> *"in healthy women at low risk of complications there is moderate to low-quality evidence that water immersion during the first stage of labour probably has little effect on mode of birth or perineal trauma but may reduce the use of regional analgesia. The evidence for immersion during the second stage of labour is limited and does not show clear differences on maternal or neonatal outcomes intensive care. There is no evidence of increased adverse effects to the fetus/neonate or woman from labouring or giving birth in water. Available evidence is limited by clinical variability and heterogeneity across trials, and no trial has been conducted in a midwifery-led setting" (Cluett et al).*

[1] Refer to BCCNM's Policy on Informed Choice

It is recommended that informed decision-making take place during the prenatal period and is revisited in labour.

Screening

Clients who choose water immersion in labour should ideally:

- have provided consent to do so following an informed choice process;
- be healthy, with no medical or obstetric risk factors;
- have a term, singleton pregnancy;
- be fully conscious, mobile and able to get in and out of the tub with ease;
- have and maintain normal vital signs;
- not be a carrier of, or infected with, a blood-born pathogen (HIV, Hepatitis B or C);
- not have received opioid analgesia in labour; if the client has received opioid analgesia administered and requests water immersion in labour, clinical judgement should be used as to whether this is appropriate;
- have normal fetal heart rate surveillance; and
- be agreeable to leave the water if there is any evidence of maternal or fetal compromise.

Clients who wish to remain in water for birth should ideally meet the inclusion criteria listed above AND meet the following additional inclusion criteria:

- have clear amniotic fluid;
- not have any obstetric risk factors that increase the likelihood of birth complications;
- not have received opioid analgesia in the last twenty-four (24) hours;
- not have taken any other medication during pregnancy or labour that may impact the neonate's respiratory effort.

Clients who do not meet the above inclusion criteria for labour in water and/or birth should be advised that the benefits and risks of water immersion in labour and birth as demonstrated in the literature may no longer be applicable to them on an individual level. Midwives should refer to the *Policy on Requests for Care Outside Standards* for further guidance. As when caring for any client or newborn, the midwife is responsible for using their clinical judgment, responding appropriately to complications that may arise, and for documenting all care and recommendations provided.

Facilitating labour and birth in water

The midwife works in partnership with the client and offers continuous support and care during labour and birth. Additional care to that which is routinely provided is recommended when clients choose water immersion during labour and/or birth.

INFECTION CONTROL & EQUIPMENT: RECOMMENDATIONS FOR ADDITIONAL CARE

- The midwife wears appropriate personal protective equipment to protect from anticipated contamination with body fluid/substances such as blood, amniotic fluid, urine and fecal matter.
- In order to mitigate risk of *Legionella and Pseudomonas* infection in the newborn:
    - Pure tap water is used in the tub/pool/bath.
    - The water is run for several minutes before filling the tub/pool/bath.
    - The tub/pool/bath is filled just prior to use.
    - Hot tubs/jetted tubs are not used for water immersion birth.
- After the tub/pool/bath is used, it is emptied, cleaned and disinfected following the usual cleaning/disinfecting procedures using facility-approved cleaners and disinfectants and a chlorine-releasing agent to kill any blood-borne pathogens.
- Hoses used to fill and drain the pool/tub/bath are kept as short as possible, and disinfected or discarded after each use.
- Long gloves, kneeler pads, towels and evacuation equipment are readily available.

FIRST STAGE OF LABOUR: RECOMMENDATIONS FOR ADDITIONAL CARE

- The area around the pool/tub/bath is kept dry and free of standing water.
- The client enters the pool/tub/bath in established active labour.
- The fetal heart is monitored according to accepted fetal health surveillance guidelines, using a waterproof Doppler device or telemetry machine.
- The water level is maintained at the level of the maternal chest when sitting.
- The water is kept as clean as possible. Fecal matter and blood clots are removed from the tub immediately using a sieve. The pool/tub/bath is drained, cleaned and refilled if being used for a lengthy period or if contaminants cannot be easily removed.
- The temperature of the water is monitored and adjusted according to maternal comfort and preference.
- The client's temperature is monitored according to local protocol; if the client feels too hot, they should be encouraged to leave the pool/tub/bath.

- Should the client's temperature exceed 37.5°C on more than one occasion, the client is asked to leave the pool/tub/bath for a full assessment of maternal and fetal well-being.
- The client is encouraged to maintain adequate hydration.
- The client leaves the pool/tub/bath to urinate at regular intervals.
- The client leaves the pool/tub/bath on the advice of the midwife.
- The midwife or support person always remains with the client while they are in the pool/tub/bath.
- The midwife sets up an alternative place of birth close to the pool.
- The midwife is trained and prepared to lead the team to evacuate the client from the tub/pool/bath in case of emergency.

SECOND STAGE OF LABOUR & BIRTH: RECOMMENDATIONS FOR ADDITIONAL CARE

- Two midwives, or one midwife and one other health care professional are in continuous attendance during second stage.
- The water temperature is monitored and maintained between 36° and 37.5° C for the birth.
- The midwife encourages physiologic pushing.
- As the birth approaches, a mirror may be used to observe progress.
- The midwife avoids unnecessary touching of the head and awaits spontaneous restitution and birth of the body to minimize tactile stimulation of the newborn.
- The newborn is born slowly, gently and completely underwater with no air contact until the head is brought to the surface.
- Once the head is above water, the midwife ensures the head is not resubmerged and checks the cord immediately for undue tension and cord avulsion.
- The midwife ensures that cord clamps and scissors are immediately available should they be required.
- The midwife closely monitors newborn transition and initiates resuscitation in accordance with Perinatal Services BC's Standards for Neonatal Resuscitation.
- Warmth of the newborn is maintained through uninterrupted skin-to-skin contact, drying of the head and keeping the rest of the newborn under water or covered with warm towels.
- Care is taken to maintain the newborn's temperature to prevent hypo or hyperthermia.
- The midwife is trained and prepared to lead the team to evacuate the client from the tub/pool/bath in case of emergency.

THIRD STAGE OF LABOUR: RECOMMENDATIONS FOR ADDITIONAL CARE

- Ideally, the client leaves the tub/pool/bath for third stage and the placenta is delivered outside of the tub in order to accurately assess maternal bleeding.
- If the client chooses active management of the third stage, they exit the tub/pool/bath and deliver the placenta outside the tub.
- If the client chooses physiologic management and does not want to leave the tub/pool/bath, the cord is left unclamped. Once pulsation of the cord has ceased, the placenta and membranes are delivered in the water.
- Intramuscular injections are not given under water.
- The cord is not clamped or cut the cord under water.
- If there is any evidence of compromise or postpartum hemorrhage, the client is assisted to leave the tub/pool/bath immediately.
- Two people are always present to assist exit from the tub/pool/bath.
- The midwife is trained and prepared to lead the team to evacuate the client from the tub/pool/bath in case of emergency.

References

American Academy of Pediatrics Commentary. (2005). Vol. 115 #5: 1413-1414.

American Academy of Pediatrics Committee Opinion. (2014). No. 594. 1-4.

Alderdice, R., Renfrew, M., & Marchant, S. (1995). Labour and birth in water in England and Wales: Survey report. *British Journal of Midwifery*, 3, 375 – 382.

Barton,M et al. (2017). Legionellosis following water birth in a hot tub in a Canadian neonate. *CMAJ* 189 (42) E1311-E1313; DOI: 10.1503/cmaj.170711

Beaulieu, C. (2011). *Hydrotherapy in Labour and Birth: A Manual for Health Professionals in Canada*.

Bovbjerg, M., Cheyney, M., Everson, C.(2016). Maternal and Newborn Outcomes Following Waterbirth: The Midwives Alliance of North America Statistics Project, 2004-2009 Cohort. Journal of Midwifery & Women's Health, 61(1), p 11-20.

Box D., & Cochran D. (1992). Safe reduction in administration of naloxone to newborn infants: an observational study. *Acta Paediatrica*, *95*(9), 1083-6.

Burns, E. (2001). Waterbirth. *MIDIRS Midwifery Digest*. *Supplement 2*, S10 – S13.

Burns, E., & Kitzinger, S. (2000). *Midwifery Guidelines for Use of Water in Labour*. Oxford: Brookes University.

BC Women's Hospital & Health Centre (2016). *Labouring in Water* (Policy WW.05.04). Vancouver, BC. Retrieved from http://policyandorders.cw.bc.ca/resource-gallery/Documents/BC%20Women's%20Hospital%20-%20Fetal%20Maternal%20Newborn/WW.05.04%20Labour%20in%20Water.pdf

BC Women's Hospital & Health Centre (2016). *Water Immersion Birth*. (Policy WW.05.20). Vancouver, BC. Retrieved from http://policyandorders.cw.bc.ca/resource-gallery/Documents/BC%20Women's%20Hospital%20-%20Fetal%20Maternal%20Newborn/WW.05.20%20Water%20Immersion%20Birth.pdf

Canterbury District Health Board. (2011). *The use of water in labour and birth.*

Cluett, E.R., Burns, E. & Cuthbert, A. (2018). Immersion in water in labour and birth (Review). *Cochrane Database of Systematic Reviews*, Issue 5. Art. No.: CD000111.

Cluett, E., Pickering, R., Getliffe, K. & Saunders, N. (2004). Randomised control trial of labouring in water compared with standard of augmentation for management of dystocia in first stage of labour. *British Medical Journal*, *328*, 314.

Davies R, Davis D, Pearce M, Wong N. (2015). The effect of waterbirth on neonatal mortality and morbidity: a systematic review and meta-analysis. JBI Database System Rev Implement Rep;13:180–231.

Eckert, K., Turnbull, D., & MacLennan, A. (2001). Immersion in water in the first stage of labor; A randomized controlled trial. *Birth*, *28* (2), 84-93.

Enkin, Keirse, Neilson, Crowther, Duley, Hodnett and Hofmeyr (Eds) (2000). *Control of pain in labour. A Guide to Effective Care in Pregnancy and Childbirth Third Edition*. Oxford: Oxford University Press.

Gilbert R.E. & Tookey, P.A. (1999). Perinatal mortality and morbidity among babies delivered in water: Surveillance study and postal survey. *British Medical Journal*, 319 (7208), 483-487.

Government of Western Australia (2017). Statewide Clinical Guidelines for Women Requesting Immersion in Water for Pain Management during labour and/or Birth. Retrieved from: https://ww2.health.wa.gov.au/~/media/Files/Corporate/Policy%20Frameworks/Clinical%20Services%20Planning%20and%20Programs/Policy/Women%20requesting%20immersion%20in%20water%20for%20pain%20management/Supporting/Statewide-clinical-guidelines-for-women-requesting-immersion-in-water.pdf

Grant, Gilbert J, MD. (2013) Pharmacologic management of pain during labor and delivery. *Uptodate*. www.uptodate.com.

Harper, B. (2002). Taking the plunge: Re-evaluating waterbirth temperature guidelines. *MIDIRS Midwifery Digest*, 12(4), 506-508.

Harper, B. (2006). Guideline for a Safe Water Birth. *Waterbirth International*. Retrieved from: www.waterbirth.org

Harmsworth, G. (1994). Safety first. *Nursing Times,* 90, 31-32.

Hodgson ZG, Comfort LR, Albert AAY. (2020) Water Birth and Perinatal Outcomes in British Columbia: A Retrospective Cohort Study. J Obstet Gynaecol Can. 42(2):150-155.

Johnson, P. (1996). Birth under water – to breathe or not to breathe. *BJOG, 103*, 202-208.

Kattwinkel, J (Ed). (2016). *Textbook of Neonatal Resuscitation, 7th Edition*. American Heart Association/Canadian Paediatric Society/American Academy of Pediatrics.

Herderson, Jane et al. (2014). Labouring women who used a birthing pool in obstetric units in Italy: prospective observational study. *BMC Pregnancy Childbirth*, 14-17. http://www.biomedcentral.com/bmcpregnancychildbirth

Hileman, Michelle. (2011). Clearing murky waters: An evidence-based clinical practice guideline for hydrotherapy in labor and waterbirth. *Waterbirth International*.

Lenstrup C., Schantz, A., & Berget, A. (1987) Warm tub bath during delivery. *Acta Obstetrica Gynecologica Scandinavia, 66*, 709-712.

Mallen-Perez L, Roé-Justiniano MT, Colomé Ochoa N, Ferre Colomat A, Palacio M, Terré-Rull C. (2018). Uso de hidroterapia durante el parto: evaluación del dolor, uso de analgesia y seguridad neonatal. *Enfermia Clinica* 28:309-315.

Mammas IN, Thiagarajan P. (2009). Water aspiration syndrome at birth - report of two cases. J Matern Fetal Neonatal Med;22:365–7.

Mattingly J.E., D'Alessio J., & Ramanathan J. (2003). Effects of obstetric analgesics and anesthetics on the neonate: a review. *Paediatric Drugs, 5*(9), 615.

New Zealand College of Midwives. (2015). NZCM Consensus Statement: The Use of Water for Labour and Birth.

Nutter, E., Meyer, S., Shaw, J., et al (2014). Waterbirth: An Integrative Analysis of Peer-Reviewed Literature. 59(3). 286-319.

Page, Lesley. (2000). *The New Midwifery: Science and Sensitivity in Practice*. Edinburgh: Churchill Livingstone.

Perinatal Services BC. (2017). ***Provincial Perinatal Guidelines: Standards for Neonatal Resuscitation***. V2.

Rawal, J., Shah, A., Stirk, F., & Mehtar, S. (1994). Water birth and infection in babies. *BMJ*, 309(6953), 511.

Royal College of Obstetricians and Gynaecologists and Royal College of Midwives. (2006). *Joint Statement No.1: Immersion in Water During Labour and Birth*.

Rush, J., Burlock, S. & Lambert, K. (1996). The effect of whirlpool baths in labour: A randomized controlled trial. *Birth, 23*, 136-143.

Schrock, Steven D., MD, and Harraway-Smith, Carolyn. MD. (2012). Labor Analgesia. University of Tennessee Health Science Center, Saint Francis Family Medicine Residency, Memphis, Tennessee *American Family Physician, 85* (5), 447-454.

South Australia Department of Health. (2010). *Policy for First Stage Labour and Birth in Water in South Australia*. Retrieved from http://www.sahealth.sa.gov.au/wps/wcm/connect/ae527200465ec14d8572ff2e504170d4/Directive_Birth_in_water_Dec2010_final.pdf?MOD=AJPERES&CACHEID=ae527200465ec14d8572ff2e504170d4. Accessed February 17, 2014.

Taylor H, Kleine I, Bewley S, Loucaides E, Sutcliffe A. (2016). Neonatal outcomes of waterbirth: a systematic review and meta-analysis. Arch Dis Child Fetal Neonatal Ed; 101:F357–65.

Vanderlaan J, Hall, PJ, Lewitt, MJ (2018) Neonatal outcomes with water birth: A systematic review and meta-analysis. Midwifery 59 27-38.

Waldenstrom, U. & Nilsson, C. (1992). Warm tub bath after spontaneous rupture of the membranes. *Birth,19*, 57-62.

Young K, Kruske S (2012) Water immersion in Queensland: evidence, access and uptake. Brisbane: Queensland Centre for Mothers and Babies, The University of Queensland.

Effective date: June 15, 2020

900 – 200 Granville St
Vancouver, BC V6C 1S4
Canada

www.bccnm.ca

Pub. No. 863