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Water birth and hydrotherapy for pregnant people with suspected or confirmed COVID-19

The Royal College of Obstetricians and Gynecologists (RCOG) guideline ‘Coronavirus (COVID-19) Infection in Pregnancy’ includes information for health care providers regarding water birth. RCOG states that *“the use of birthing pools in hospital should be avoided in suspected or confirmed cases [of COVID-19], given evidence of transmission in faeces and the inability to use adequate protection equipment for healthcare staff during water birth.”* (1)

This guidance does not concern the feasibility of water birth for the well pregnant person during the COVID-19 pandemic¹. Rather, this opinion specifically indicates the use of birthing pools in hospitals should be avoided if the pregnant person has suspected or confirmed COVID-19. Although not explicitly stated, presumably this means that the pregnant person must either:

- Be symptomatic or asymptomatic with a positive COVID-19 test, or
- Have signs and symptoms consistent with COVID-19 case definitions and results from COVID-19 testing are pending.

Furthermore, RCOG’s guidance appears to be specifically in reference to birth within a pool, and not hydrotherapy, although this distinction is not clear. RCOG’s advice against the use of birthing pools for water birth is on account of *“evidence of transmission of faeces and the inability to use adequate protection equipment”*. In reviewing the evidence, we have also considered whether the same risks with regards to transmission exist with hydrotherapy as with a water birth. For the purposes of this evidence review, we refer to hydrotherapy as deep submersion in warm water. (2)

With regards to water birth and hydrotherapy, we will need to consider the following:

- a) The potential of fecal transmission and
- b) The feasibility and effectiveness of the use of personal protective equipment (PPE)

Can COVID-19 be detected in feces?

Yes. However, there is very limited evidence of this available at this point in time.

¹ The Royal College of Midwives (RCM) has published a clinical briefing on the safety of waterbirth for those without symptoms during the COVID-19 pandemic. Please see *RCM Clinical Briefing: Waterbirth – COVID-19* for more information. (15)

- In a retrospective analysis of 14 people with COVID-19, researchers discovered that five of the 14 patients' stool samples tested positive for the virus. (3)
- In another study, researchers isolated COVID-19 from a stool sample and detected the live virus. Researchers stated that in addition to contact and droplet transmission, the virus may be transmitted through the fecal-oral route. (4)
- According to a case report of the first case of COVID-19 in the United States, a stool sample collected from this individual tested positive for COVID-19. (5)

The available evidence, while limited, demonstrates that COVID-19 can be detected in feces. However, as of March 2020, the World Health Organization (WHO) states that there has been no evidence of fecal-oral transmission of the virus. Nevertheless, WHO states that the feces of individuals with suspected or confirmed COVID-19 "*must be treated as a biohazard and handled as little as possible*", and recommend the use of PPE. (6)

What are the implications for water birth?

Passing stool is common during the second stage of labour. During a water birth, stool can get in the water, and potentially contaminate the environment. (7) The midwife may become exposed to the fecal matter carrying the virus from contaminated water from the birth tub or by handling the stool when clearing it from the water. The infant, in turn, may also be exposed during water birth through being in contact with contaminated water, or through aspiration of contaminated water (although this is rare). (8) Additionally, there is also the potential that fecal particles containing the virus are inhaled/circulated in the process of cleaning out the tub.

Available evidence has shown that COVID-19 can be detected in feces. (3–5) According to the Chinese CDC, "*stool samples may contaminate hands, food, water and cause infection when the microbes enter the mouth or eyes, or are inhaled*". (4) If the client has COVID-19 and passes stool, a water birth may expose the midwife and baby to an additional route of transmission (fecal-oral).

What are the implications for hydrotherapy (immersion in water)?

The risk of fecal transmission appears highest during the second stage of labour, when the pregnant person is actively pushing. If the pregnant person is immersed in water and has not entered the second stage of labour, the risk of stool contaminating the water is very low. As such, the risk of transmission via the fecal-oral route in this case is very low.

There is no evidence as of yet that the virus has been detected in other bodily fluids that may be expelled while submersed in water, such as urine or amniotic fluid. (5,9,10)

Can midwives protect themselves from exposure to COVID-19 during a water birth?

Alberta Health Services recommends the following PPE during a water birth under non-pandemic conditions:

- Clean gloves long enough to prevent exposure to potentially contaminated water, waterproof gown and facial/eye protection (goggles and mask, or a face shield). (7)

The AOM does not currently provide prescriptive guidance (under non-pandemic conditions with the well client) regarding PPE during water birth; midwives are advised to do their own risk assessments to determine what PPE is required at any given birth.

Are current PPE recommendations for clients with suspected or confirmed COVID-19 feasible for a water birth?

Current PPE recommendations for clients with suspected or confirmed COVID-19 are likely not feasible for a water birth for a number of reasons:

- Water might get in gloves and midwife may in turn touch their face, increasing the risk of fecal-oral transmission
- Water from the birth tub may splash into eyes, despite eye protection
- PPE is more likely to become wet, which may increase risk of contamination
- PPE will need to be changed if it becomes wet, as it is no longer effectively protecting the wearer
 - Public Health Ontario recommends that masks be changed if they become wet; wet masks do not work effectively; Alberta Health Services also recommends that PPE (masks, eye protection, and gowns) is changed when wet. (11–13)

Are current PPE recommendations for clients with suspected or confirmed COVID-19 feasible for hydrotherapy (immersion in a birthing tub)?

A client who is immersed in the tub for pain relief purposes and not for giving birth into water will likely need less physical support from their midwife. Therefore, there may be a lower risk of the midwife's PPE becoming wet. Furthermore, it is unlikely that a client would pass stool when they are not actively pushing, which lessens the risk of fecal-oral transmission.

Ontario currently faces a critical shortage of PPE. Providing care to clients that involves a high likelihood of PPE becoming wet (such as during waterbirth or hydrotherapy) will likely result in higher usage of PPE and the potential that midwives may not have enough PPE for the duration of any given labour or birth.

Considerations for midwives

1. **Water birth is not recommended for clients who have suspected or confirmed COVID-19.**
 - a. Water birth exposes both newborns and midwives to an additional route of transmission of the virus (via the fecal-oral route).
 - b. Providing care to clients having a water birth increases the likelihood that PPE will become wet, reducing effectiveness of the PPE. If this happens, midwives will need to change PPE which will prove challenging as this presents the potential for further contamination, as well as the fact that PPE is in short supply throughout the province.

2. **Due to existing shortages of PPE, and the higher likelihood that a midwife's PPE may become wet if providing care to clients during hydrotherapy (i.e. a shower or deep submersion in water) midwives should consider offering alternate methods of pain relief to clients with suspected or confirmed COVID-19.**
 - a. *Although fecal transmission is not likely, there is still a risk that PPE may become wet, reducing its effectiveness if the midwife is providing care to a client using hydrotherapy.* Midwives should assess the risk of their PPE becoming wet on an individual basis and take into account the feasibility of changing their PPE, considering the existing shortages. Midwives should inform their clients with suspected or confirmed COVID-19 that hydrotherapy may not be possible during their labour (given availability of PPE) and discuss alternate forms of pain relief with them.
 - b. If the midwife is providing care to a client using hydrotherapy who has suspected or confirmed COVID-19, they should consider having additional PPE on hand in the event that their PPE becomes wet. Midwives may mitigate the risk of their PPE becoming wet by avoiding contact with water. For instance, midwives can:
 - i. Recommend that the client has a shower as opposed to being submersed in water
 - ii. Assess fetal heart rate by asking clients who are submersed in water to adjust their position so that their hands do not need to be submerged in the water **or** by asking clients to get out of shower/turn water off
 - iii. Ask the client's support person to assist the client in entering and exiting the tub or shower
 - iv. Ask clients to get out of the water prior to the second stage of labour
3. If PPE becomes wet when providing care to an individual with suspected or confirmed COVID-19 in a shower or submerged in water for pain relief purposes, midwives are advised to change their PPE.
4. Contact AOM On-Call if you have any questions or concerns about the use of PPE.

Note: PCMCH is currently advising against water birth, and is advising that care providers protect themselves from exposure to water if the birthing parent with suspected or confirmed COVID-19 is using water for pain relief purposes. (14)

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