



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Guideline on the Management of Water Birth, HSE Home Birth Service

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1. Guideline Statement

The SECMs provide holistic intrapartum care to women, and if the woman chooses to birth in water it is integrated into such practice as long as there are no contradictions and the SECM is skilled and competent in facilitating water birth. It is necessary for each SECM to ensure that he/she maintains and regularly updates these skills to provide this service.

2. Purpose

- 2.1. The purpose is to guide SECMs on providing safe, evidence-based care to women choosing to use a birthing pool for labour and/or birth.
- 2.2. To provide healthy women with uncomplicated pregnancies an alternative form of pain relief during labour and/or birth, whilst ensuring that the safety of the woman and baby is maintained throughout its use.

3. Scope

- 3.1 This guideline applies to women who choose to have a water birth at home facilitated by SECMs who are competent to provide such care on behalf of the HSE Home Birth Service.
- 3.2 This guideline is provided to SECMs as a guide to practice. It is acceptable for SECMs to deviate from this guideline if, based on their professional judgement, an alternate approach is in the best interest of the woman whilst adhering to principles of best practice. Should this occur, the rationale for same **must** be documented clearly in the woman's maternity chart.
- 3.3 Midwives are accountable professionals and, as such, are mindful of their requirements to their regulatory body, the Nursing and Midwifery Board of Ireland, which sets out its requirements under the following: Code of Professional Conduct & Ethics (2014), Practice Standards for Midwives (2015) and the Scope of Nursing and Midwifery Practice Framework (2015).

4. Legislation, Codes of Practice, Standards and Guidance

- 4.1 Health Acts, 1947 to 2015 and regulations made thereunder
- 4.2 Nurses and Midwives Act, 2011
- 4.3 Clinical Guideline for Intrapartum Birthing Pool Use (Coombe Women and Infants Maternity Hospital 2015)
- 4.4 The Scope of Nursing and Midwifery Practice Framework (NMBI 2015)
- 4.5 The Code of Professional Conduct and Ethics for Registered Nurses and Registered Midwives (NMBI 2014)
- 4.6 Practice Standards for Midwives (NMBI 2015)
- 4.7 Recording Clinical Practice (NMBI 2015)
- 4.8 Guidance for Nurses and Midwives on Medication Management (ABA 2007)
- 4.9 NICE Clinical Guideline 190 – Intrapartum Care: Care of Healthy Women and their Babies during Childbirth (NICE 2014)
- 4.10 Evidence Based Guidelines for Midwifery Care in Labour (RCM 2008)

- 4.11 The Irish Maternity Early Warning System (IMEWS) NCEC (DOH 2014)
- 4.12 Communication (Clinical Handover) in Maternity Services NCEC (DOH 2014)
- 4.13 Sepsis Management NCEC (DOH 2014)
- 4.14 HSE Policy and Procedure for Notification of Home Births to the National Ambulance Service (National Ambulance Service HSE 2015)
- 4.15 Clinical Practice Guideline, Prevention and Management of Primary Postpartum Haemorrhage (HSE 2012).
- 4.16 Standards and Recommended Practices for Healthcare Records Management (HSE 2011)
- 4.17 National Consent Policy (HSE 2013)
- 4.18 Safety Incident Management Policy (HSE 2014)
- 4.19 National Maternity Strategy 2016-2026 (DOH 2016)

This list is not exhaustive and reference should be made at all times to the guideline for reference sources or the database of legislation, codes of practice, standards and guidance (Clinical Governance Group for the HSE Home Birth Service 2016).

5. Definition & Background

- 5.1. **Birthing Pool:** is a receptacle of sufficient size containing a depth of water to enable a pregnant woman to adopt a range of different positions to optimise her mobility, comfort and the physiology of labour.
- 5.2. **Water Birth:** is where a baby is born fully submerged into water. Once the baby is born, s/he is gently and immediately brought to the surface. The midwife ensures that the baby's head remains above the water. The baby's body can remain in the water to maintain warmth, unless the baby's condition dictates otherwise.

6. Roles and Responsibilities

6.1. The Director of Primary Care shall ensure:

- 6.2.1 The provision of appropriate systems and structures to support the SECM to provide midwifery care for women and their families availing of the HSE Home Birth Service.

6.2. The Chief Officer shall:

- 6.2.1 Ensure the implementation of systems and structures for the SECM to provide midwifery care for women and their families availing of the HSE Home Birth Service.
- 6.2.2 Request that the SECM and DMO report any adverse incidents to the National Incident Management System (NIMS) as per HSE Safety Incident Management Policy 2014.

6.3. The Designated Midwifery Officer (DMO) shall:

- 6.3.1 Ensure that the appropriate systems and structures are in place to implement this guideline.
- 6.3.2 Ensure that the SECM has evidence of competency in care in water during labour and birth.

- 6.3.3 Ensure that the SECM receives this guideline, and monitor adherence to same.
- 6.3.4 Ensure that completed incident forms are received from the SECM and forwarded to the National Incident Management System (NIMS) as per HSE Safety Incident Management Policy 2014.

6.4. The Self-Employed Community Midwife (SECM) shall:

- 6.4.1 Ensure competence in managing the care of women in water during labour and birth, keeping up to date in knowledge and skills base as required.
- 6.4.2 Ensure that the woman has an appropriate pool and that they have all the equipment required for water birth.
- 6.4.3 Ensure that the woman and her partner are prepared during pregnancy for the use of water in labour and birth, read the background information provided (**Appendix I**) and are prepared for the possibility of exiting from the pool if required by the SECM.
- 6.4.4 Ensure that he/she has a second SECM in attendance for assistance at the water birth.
- 6.4.5 Liaise with Ambulance Control as per National Policy for communication with National Ambulance Service (HSE 2015) and Transfer Policy, HSE Home Birth Service (HSE 2016)
- 6.4.6 The SECM should be cognisant of the risks associated with using water in labour, document this risk assessment and include it in the clinical record.
 - a. Woman – slipping and injuring herself when getting into or out of the pool.
 - b. Infant – will be wet and therefore it is easy for the infant to slip from the midwife’s hands
 - c. Midwife – musculo-skeletal injury from bending over the pool while assisting at a water birth
 - d. Infection – although probably almost negligible, consideration should be given to the risk of legionella from water supply feeding the birthing pool and implications for mother and baby.
- 6.4.7 Report any adverse incidents via the DMO to the National Incident Management System (NIMS) as per HSE Safety Incident Management Policy 2014.
- 6.4.8 It is the responsibility of the SECM to be aware of and sign that they have read, understood and comply with this practice guideline.

7. Procedure

- 7.1 The use of the birthing pool for labour and/or birth should be discussed with women during antenatal visits and her consent documented for using the pool for labour and birth. Appendix I should be provided to the woman prior to obtaining consent. Taylor et al (BMJ 2016) state that their *"systematic review and meta-analysis did not identify definitive evidence that waterbirth causes harm to neonates compared with land birth. However, there is currently insufficient evidence to conclude that there are no additional risks or benefits for neonates when comparing waterbirth and conventional delivery on land"*.
- 7.2 Equipment: Hydrotherapy pack

- 7.2.1 The pool and pool liner used for a home birth are normally rented or purchased by the woman. This pack usually comes with pump and accessories for ease of filling and emptying the pool.
 - 7.2.2 The SECM must ensure that an appropriate thermometer is provided to assist the midwife measuring the water temperature and regulating it to a comfort level not exceeding 37.5°C. There are handheld waterproof thermometers available especially for pool use.
 - 7.2.3 Maternal thermometer
 - 7.2.4 Waterproof doppler
 - 7.2.5 Personal protective equipment (PPE) including long 'gauntlet' gloves.
 - 7.2.6 Kneeler pads, cushions and low stool are advisable for the health and safety of the midwife and birth companion.
- 7.3 Process criteria
- 7.3.1 The expectant parents should practice preparing and filling the pool in the antenatal period so they are aware how long it can take to have it ready for labour and birth.
 - 7.3.2 Record the time when hydrotherapy commences (i.e. when the woman enters the pool) and ceases use (woman exits the pool) on the partogram/midwifery record.
 - 7.3.3 The woman should have 1:1 midwifery care whilst using the pool.
 - 7.3.4 The birthing pool is filled to a level that would allow the water level to rise to the woman's xiphysternum when she is sitting in the pool.
 - 7.3.5 The woman may choose to wear her bra or a T-shirt while in the pool or whatever she wishes to wear herself.
 - 7.3.6 Temperature of baby is 1°C higher than the mother's temperature during pregnancy (Royal College of Obstetricians and Gynaecologists 2001b). The recommended range for pool water is 35-37°C during the first stage of labour and 37-37.5°C in the second stage. However, this is individual and it is acceptable to allow women to regulate the pool temperature to their own comfort and encourage them to leave and re-enter the pool in the first stage of labour as and when they wish. But the temperature should not exceed 37.5°C (Royal College of Obstetricians and Gynaecologists 2001a, NICE, 2014).
 - 7.3.7 Monitor pool temperature at least hourly and record on the partogram/in midwifery records.
 - 7.3.8 It is recommended that any soiling should be removed immediately with a disposable scoop and water should be changed if it is heavily soiled as bacterial growth will increase.
 - 7.3.9 Entonox may be used by the woman using hydrotherapy if required. It is important in the pool environment, as on land, that the midwife guides the woman in judicious inhalation of Entonox in order to prevent hyperventilation and reduced maternal control. If a woman becomes drowsy or experiences side effects such as nausea/vomiting, Entonox should be discontinued. Women can opt in and out of this form of pain relief as they wish, thus remaining alert and in control.
- 7.4 Maternal monitoring
- 7.4.1. Maternal observations: as for all low-risk women in labour:
 - 7.4.1.1. Hourly maternal temperature, pulse and respirations.

- 7.4.1.2. A baseline BP is recorded when in labour. The BP should be repeated one hour following entry to the pool (to observe for hypotension), then record BP every four hours or more often if clinically indicated. All observations are recorded in the partogram.
- 7.4.1.3. As for all women in labour, uterine activity and PV loss should be observed and documented at half-hourly intervals. Vaginal examinations (VE) can be performed in the pool; however, it is important that an abdominal examination precedes a vaginal examination and so it is practical to request that the woman be asked to exit the pool so that an abdominal examination and vaginal examination can be performed on the mat/bed.
- 7.4.1.4. The VE can be performed four-hourly or more often where clinically indicated. It is important to balance the need for a VE with the risk of infection from numerous VEs and it is essential that contraction frequency, strength (measured by palpation) and general maternal behaviour/coping is kept under continuous monitoring as a guide to progress during labour – all of which should be documented at regular intervals.
- 7.4.1.5. Performing an amniotomy (ARM) is not recommended in water. There is no available evidence regarding performing an ARM in water; therefore, if an ARM is to be performed it is best completed out of the pool. This will also enable a clear assessment of liquor colour and quantity. Women may, however, experience a spontaneous rupture of membranes whilst in the pool. This may only be evident at the next vaginal examination.
- 7.4.1.6. Encourage and facilitate regular oral fluids (at least every hour) and light diet to maintain adequate hydration and to provide energy.
- 7.4.1.7. Encourage the woman to mobilise to the toilet to empty her bladder and bowels two-hourly or as required.
- 7.4.1.8. A woman may wish to exit the birthing pool at intervals to mobilise, use a birthing aid or rest on the mat/bed.
- 7.4.1.9. If it is noted that contractions decrease in their duration/strength, the woman can be encouraged to leave the water or mobilise. Increasing oral fluids should be considered or light diet offered to stimulate uterine contractions and the woman's care/management should be appropriately planned.
- 7.4.1.10. If at any time the woman requests to exit the birthing pool the midwife should assist the woman to do so safely.
- 7.4.1.11. Encourage the birth partner to be actively involved – can use massage, offer drinks etc.
- 7.4.1.12. Observe maternal behaviour during and between contractions and cues for labour transition, i.e.: visualise purple line and/or the Rhombus of Michaelis.
 - a. The purple line: the presence of a purple line during labour has been reported: it can be seen to rise from the anal margin and extend between the buttocks as labour progresses. Studies have shown a correlation between the length of this purple line, cervical dilatation and station of

the foetal head. It is thought that where the line is seen it may provide a useful guide for clinicians of labour progress, alongside other measures.

- b. The Rhombus of Michaelis: is a kite-shaped area that includes the three lower lumbar vertebrae, the sacrum and the long ligament that reaches down from the base of the skull to the sacrum. This wedge-shaped area of bone moves backwards during the second stage of labour and as it moves back it pushes the wings of the ilea out, increasing the diameters of the pelvis. It may be evident when a labouring woman's hands reach upwards to find something to hold onto and her head goes back and her back arches. This happens as part of physiological second stage of labour and is thought to be an integral part of an active normal birth.

7.5 Foetal monitoring

- 7.5.1. Foetal heart (FH) is auscultated with a waterproof doppler. Foetal monitoring is as per all low-risk women in labour. Intermittent auscultation should be carried out at least every 15 minutes after a contraction and for a minimum of 60 seconds during the first stage of labour (HSE Clinical Guideline 2012) and at least every five minutes (immediately after a contraction for 60 seconds) in the second stage of labour. Palpate the woman's pulse every 15 minutes to differentiate between the two heart rates (NICE 2014). If there are any concerns regarding the foetal heart rate the woman must exit the pool and the reasons for this be documented. It is important that the midwife remains with the woman to ensure safe exiting from the pool in such circumstances.
- 7.5.2. If the midwife is unable to auscultate the FH effectively, the woman is asked to adopt a position that facilitates this.
- 7.5.3. If there are any concerns regarding maternal or foetal wellbeing, the woman must exit the pool and transfer to a maternity unit/hospital as per transfer policy.

7.6 Second Stage of labour

- 7.6.1. Some women may exit the pool for birth; others may choose to give birth in the pool. The woman is encouraged to do as she wishes as long as the SECM is happy for her to remain in the pool and is making normal progress during labour and/or birth.
- 7.6.2. The midwife continues to monitor maternal and foetal wellbeing and observes for signs of second stage (i.e. change in maternal behaviour, breathing, involuntary pushing/bearing down, visualisation of the purple line). Once birth is imminent, the midwife must have the assistance of a second midwife.
- 7.6.3. Encourage the woman to adopt a suitable position (preferably not supine). It is explained that she can push when she feels the urge to do so.
- 7.6.4. A 'hands off' approach is taken in regard to the delivery of the baby's head to minimise stimulus for the new-born under water. However, the midwife remains close by and continues to observe and monitor the mother carefully throughout. The midwife should be alert to imminent crowning of the baby's head in order to encourage the woman to breathe (pant) and birth her baby's head slowly.

- 7.6.5. A mirror can be used to visualise the head advancing. A hand-held torch can also be used to aid visibility.
 - 7.6.6. The baby's head and body may be delivered over one contraction or the head may be born first and the body follows (as with land births). Regardless, the lower part of the woman's body must remain submerged underwater while she is giving birth.
 - 7.6.7. NB: if the woman stands up/lifts the lower part of her body out of the water at any time during the birth of the baby's head, the birth MUST then be completed out of the water.
 - 7.6.8. Once the baby's head is born the time is noted. The baby should not be touched during the birth in order to prevent tactile stimulation, which may initiate respiration and inhalation of water. If concerned about a potential shoulder dystocia, proceed to point 7.8.2: Shoulder dystocia.
 - 7.6.9. There is no need to check for nuchal cord routinely; if the cord is loosely around the neck/body unravel the cord from around the baby's body. Where a tight nuchal cord is observed or suspected, see point 7.8.1 for the management of tight nuchal cord preventing birth of the baby's body.
 - 7.6.10. Once the baby's body is born the midwife gently guides the baby to the surface of the water, ensuring that the baby's head and face are well clear of the water so that spontaneous breathing can commence. NB: Avoid traction on the umbilical cord as the baby is guided to the surface in order to prevent a cord snap (Burns et al, 2012).
 - 7.6.11. The mother or birth partner should be encouraged to bring baby to the surface if this is their desire and if the clinical situation is appropriate.
 - 7.6.12. The baby is placed skin-to-skin, ensuring that only the baby's head and face are above water; the warmth of the pool will maintain normal body temperature. NB: if it is felt that the baby is at risk of becoming cold for any reason, consider clamping and cutting the cord. The midwife safely removes the baby from the water and dries the baby. The baby can be given to the birth partner (out of the pool) to perform direct skin-to-skin care i.e. placing the naked baby on the partner's chest if partner is present and wishes to have skin-to-skin. If skin-to-skin care is not possible, then the midwife can consider the need for use of a warmed clothing, hat and blankets.
- 7.7 Third stage of labour
- 7.7.1. The woman may remain in the pool for the delivery of the placenta and membranes provided that there is no excessive bleeding, she feels well, and she is happy to remain in the pool. As with all births, the woman is closely monitored during the third stage of labour.
 - 7.7.2. This includes taking her vital signs (B/P, pulse, temperature and respirations). The amount and consistency of vaginal blood loss should be monitored. The woman's colour and general wellbeing should be observed. If the woman complains of weakness or feeling faint she should be assisted to exit the pool.
 - 7.7.3. Physiological management of the third stage can be offered, reverting to active management if required. Where a cord has been clamped and cut prior to cessation of pulsation, active

- management should be considered. Where active management is required, the woman is asked to exit the pool.
- 7.7.4. If physiological management of the third stage is being performed it is wise to consider leaving the water in the pool until the woman and the baby have left. The water helps keep the mother and baby warm and water increases the woman's buoyancy.
 - 7.7.5. Having exited the pool, the woman and her baby are kept warm and comfortable, skin-to-skin contact encouraged and feeding is initiated.
 - 7.7.6. The woman's perineum is checked for tears and sutured as necessary.
 - 7.7.7. Following the birth, as with all births, the midwife completes the necessary documentation. It is important to document as to a) whether the woman used the pool during labour and b) whether she birthed in water.
- 7.8 In the event of intrapartum complications
- 7.8.1. Tight nuchal cord preventing birth of the baby's body:
 - 7.8.1.1. Seek second midwife assistance.
 - 7.8.1.2. Carefully assist the woman to exit the pool so the birth can be completed out of the water on a mat/bed.
 - 7.8.1.3. A clinical decision may be made by the midwife to clamp and cut the nuchal cord.
 - 7.8.1.4. *Clamping and cutting a tight nuchal cord underwater is not recommended as it can stimulate breathing.*
 - 7.8.2. Shoulder dystocia
 - 7.8.2.1. If shoulder dystocia is suspected, seek second midwife assistance and summon emergency assistance: call 999.
 - 7.8.2.2. The woman is asked to adopt a squatting position with her back against the side of the pool. In doing so, she is adopting the McRoberts position, but in an up-right fashion. (*Often by virtue of adopting this position the anterior shoulder may be delivered*). Simultaneously, the second midwife and partner could move the bed over to the side of the pool if there is room in the home. The bottom of the bed is facing the side of the pool. The woman is asked/assisted to stand upright and firstly rest back onto the edge of the pool where it meets the bed, and then assisted to lie back onto the bed. She is encouraged and carefully assisted to have her legs simultaneously drawn up and back, i.e. once she is positioned back onto the bed she is automatically in the McRoberts position.
 - 7.8.2.3. The woman may otherwise be asked to exit the pool. Often by virtue of the woman adopting the squatting position in the pool, or by standing upright to exit the pool, the anterior shoulder dislodges, resulting in delivery of the baby. The midwife must be vigilant for this potential occurrence, and be prepared for a precipitous delivery during any part of the evacuation procedure.
 - 7.8.2.4. NB: if the woman stands up/lifts the lower part of her body out of the water at any time during birth of the baby's head, the birth MUST then be completed out of the water.
 - 7.8.3. Women feeling faint/weak
 - 7.8.3.1. Seek the assistance of second midwife.

- 7.8.3.2. Stay close to the woman throughout. Do not leave the woman. A midwife and/or partner in assistance should bring a bed/chair close to the pool for the woman to use. Assist the woman to move and then to stand up and leave the pool. The pool may be emptied if necessary, but consider not emptying until after the woman has exited as water increases her buoyancy.
- 7.8.4. Maternal collapse
 - 7.8.4.1. Seek the assistance of the second midwife and summon emergency services, calling 999, informing them that the woman is in a pool.
 - 7.8.4.2. Stay close to the woman throughout. Do not leave the woman.
 - 7.8.4.3. Depending on the type of pool, taps could be turned on to fill the pool in order to help the woman to the surface, always supporting her head/neck to maintain an airway and taking care to ensure no overheating or cooling of the woman whilst endeavouring to safely remove her from the pool. Other pools may need deflating.
 - 7.8.4.4. Refer to HSE Guide to Moving and Handling Practices for Midwives, 2011.
 - 7.8.4.5. Begin resuscitation immediately.
In the event of a cardiac arrest and where a cardiac defibrillator is used, it is necessary to ensure that the woman, staff, equipment and the immediate area are dry because water is a conductor of electricity.
- 7.8.5. Postpartum haemorrhage (PPH)
 - 7.8.5.1. Seek assistance from second midwife and summon emergency services: call 999.
 - 7.8.5.2. Assist the woman out of the pool.
 - 7.8.5.3. Commence care and management as per PPH Guideline.
- 7.8.6. Baby needing resuscitation
 - 7.8.6.1. Seek the assistance of the second midwife and summon emergency services: call 999.
 - 7.8.6.2. Clamp and cut the cord immediately.
 - 7.8.6.3. Transfer the baby to the prepared area for resuscitation.
 - 7.8.6.4. Commence resuscitation as per neonatal resuscitation programme.
- 7.9 As with all births, a record of care and management should be documented to reflect all intrapartum care/management provided to the woman and baby.
- 7.10 Cleaning and emptying the birthing pool at home is usually carried out by the birthing partner/s. The SECM shall ensure adherence to HSE waste management (HSE 2011).

8. Monitoring and Audit

- 8.1. Monitoring of compliance with this guideline shall be undertaken by the DMO.
- 8.2. Audit of compliance with this guideline shall be undertaken by HSE professionals.

9. Training

The SECM shall ensure that she/he has sourced appropriate education and training to support the implementation of this guideline.

10. Implementation Plan

The Clinical Governance Group for the HSE Home Birth Service developed this document, which has been approved for implementation by the National Implementation Steering Group for the HSE Home Birth Service. This document will be piloted for a year from the approval date. It will be disseminated by the Designated Midwifery Officers to relevant healthcare personnel and to all Self-Employed Community Midwives who provide home birth services on behalf of the HSE.

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12. Appendix I: Background/Supporting Evidence

Foetal Protection Against Inhaling Water & Foetal Adaption to Extra Uterine Life:

The 'diving reflex' is thought to prevent a healthy, term baby born in water from water aspiration. According to Johnson (1996), breathing is inhibited through natural physiological processes, including hormones (prostaglandin, progesterone and endorphins) released from the placenta and a low metabolic rate. This process is further supported by large numbers of chemoreceptors found in the larynx of the newborn, which is said to facilitate the baby into recognising which fluids can be swallowed and which inhaled. In other words, the baby recognises that it should not inhale water but that it can be swallowed. The diving reflex is stimulated via facial skin receptors conveying stimuli along the trigeminal nerve, triggered as these receptors make contact with water (Johnson, 1996). The one cautionary tale is in the case of severe intrapartum hypoxia: the foetus may be compromised and this mechanism can be overridden. For this reason, water birth should only be considered for healthy women with uncomplicated pregnancies in labour at term (Garland, 2010).

The use of hydrotherapy in the maternity setting is not a new concept. Research has been ongoing since the 1960s. In Russia, Tjarkovsky and Charkovsky undertook considerable research into its safety and possible benefits. They postulated that water reduced the gravitational pull at delivery and assisted in reducing oxygen requirement in the newborn. Since then, other countries in Europe have begun using hydrotherapy as an alternative to pharmacological pain relief as a means to assist women through labour and birth. In 1983, Dr. M. Odent published a widely-cited article in *The Lancet* describing 100 waterbirths in France. In the 1990s in the UK and Northern Ireland, the DoH, as part of the Changing Childbirth Policy (1993) recommended that all maternity units have at least one birthing pool. Essentially, birthing pools are now integrated into mainstream practice, a well-established care option for labouring women in the UK.

In Ireland presently, a pool is available at the Coombe Women & Infants University Hospital. There are also pools in Cavan and Drogheda Midwifery-Led Units (plus one in the Consultant-Led Unit in Drogheda) and in Cork University Maternity Hospital. The National Maternity Hospital plans to have four plumbed birthing pools installed into its new maternity hospital. In 2009, the Health Service Executive published a letter re Water Birth Ban (**Appendix 2**). In summary, the letter removed the ban on water birth and recommended that any maternity facility offering the use of water for labour and birth should develop, implement, monitor and assure robust risk controls; in particular, protocols and best practice guidelines should be applied to control risks reflecting matters such as staff training, inclusion/exclusion criteria and infection control. A robust programme of clinical audit and risk management should be in place. The letter also recommended that all women wishing to use water for labour and/or birth need to be made fully aware of the potential risk of water intoxication, which would not occur in 'land births'. It highlighted that informed consent should be obtained from a woman wishing to use hydrotherapy such as a birthing pool and a record of same should be documented in the woman's maternity notes.

Both the Royal College of Obstetricians and Gynaecologists and the Royal College of Midwives support labouring in water for healthy women with uncomplicated pregnancies. They acknowledge that birth benefits in water may be less clear but complications are seemingly rare and that if good practice guidelines are followed and there is strict adherence to eligibility criteria, these complications should be further reduced. In essence, they recommend that women with uncomplicated pregnancies at term should have the option of hydrotherapy available to them for labour and should be able to proceed to a water birth if they wish. However, informed verbal consent must be gained and a record of same documented in the woman's maternity notes.

Garland (2000, 2010) states that the effectiveness of hydrotherapy is due to two factors. Heat relieves muscle spasm and therefore pain and 'hydro kinesis' reduces the effects of gravity and discomfort and strain on the pelvis. The buoyancy of water enables a woman to move more easily. This alleviates pain and optimises the progress of her labour (Enkin et al. 2000; Garland and Jones, 2000; Cluett et al, 2005; Cluett and Burns, 2009; Burns et al, 2012).

Beneficial effects of water include; maternal relaxation, less painful contractions, shorter labours, less need for augmentation (Burns et al, 2012) and less need for pharmacological analgesics (Cluett and Burns, 2009). Additionally, some studies identified more intact perineae and fewer episiotomies (Garland, 2010). Water offers a labouring woman an environment where she can behave instinctively and feel in control. When a woman feels in control during childbirth, she experiences a higher degree of emotional wellbeing postnatally (National Collaborating Centre for Women's and Children's Health 2007).

Cluett and Burns (2009) in their Cochrane Review titled 'Immersion in Water in Labour and Birth' showed that there was a significant reduction in the epidural/spinal analgesia rate. There was no difference in caesarean section or instrumental birth rate, perineal trauma or maternal infection. There was no difference in infant Apgar scores, neonatal admissions or neonatal infection rates. The latest study of Burns et al (2012) of almost 9,000 women concluded that the use of the pool was associated with a higher frequency of spontaneous birth, particularly amongst nulliparous women. Some 20 babies had an umbilical cord snap, of which 18 occurred during water birth; hence Burns et al (2012) stressed the importance of preventing undue traction on the cord as the baby is guided to the surface.

Some studies show that early immersion has been associated with prolonged labour and increased the need for oxytocin (Eriksson et al, 1997). For this reason, early labour should be managed by mobilisation and other activities to support and assist the woman to cope with labour pain rather than water immersion. The RCOG/RCM (2006) suggest that the evidence on timing of immersion into water during the first stage of labour is not robust enough to set criteria (RCOG/RCM, 2006) and for this reason each woman should be assessed individually, considering parity and uterine activity. Findings from the Burns et al (2012) study support this. Burns et al (2012) contend that midwives should focus more on maternal behaviour and uterine contractions rather than focusing entirely on cervical dilation alone.

Nutter et al (2014) undertook an analysis of 38 studies in 11 countries and included more than 31,000 water births. Their results showed:

- ✓ A high level of maternal satisfaction
- ✓ That it may increase the likelihood of an intact perineum

- ✓ A decrease in episiotomy and obstetric anal sphincter injuries (OASIS)
- ✓ That it may reduce PPH rate
- ✓ No difference in maternal/neonatal infection rates, or admissions to NICU.

They concluded: "potential risks associated with water birth for women and neonates appear minimal, and the outcomes are comparable to those expected in any healthy childbearing population"

NICE (2014), in their Intrapartum Care of Healthy Women and Their Babies During Childbirth Guideline, recommend the use of water for pain relief to women in labour. With regard to water birth, they state that *"women should be informed that there is insufficient high-quality evidence to either support or discourage giving birth in water"*.

A recent systematic review and meta-analysis by Taylor et al (BMJ 2016), 'Neonatal outcomes of water birth: a systematic review and meta-analysis', should be available to all women contemplating a home birth.

Letter from the HSE re: Water Birth



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Health Service Executive

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18th May 2009

Our ref: AD/PK/MACC

**Network Manager
National Hospitals Office**

Dear Colleagues

Re:- Water Birthing Ban

Dear Colleagues

As you may be aware, there was an extreme and tragic event in an Irish hospital following a birthing pool delivery wherein a child died due to water intoxication with clinical and pathological evidence consistent with a near drowning event in the birthing pool. This has been the subject of an independent external review and a coronial inquest.

The National Hospitals Office is committed to providing patients with easy access to services which are safe, centred on their needs and secures the best possible outcomes. The views of people who use services, professional experts who provide services and internal evidence on optimum care are all taken into account.

In response to this incident, a situational analysis was undertaken late last year at which stage it was indicated to the National Hospitals Office that while three hospitals use birthing pools for labouring, the practice of birthing in water has been on hold.

The risks and benefits of immersion in water during labour and birth have been examined in a number of international studies. It must be noted that labouring in water is distinct from actual birthing in water. Overall, currently available international evidence does not support a significant and substantial benefit from labouring in water in terms of measurable and clinically important outcomes, though some favourable evidence can be found for uncomplicated term pregnancies. With regard to birth in water, while there is a paucity of good quality safety data, there is now an accumulation of case reports of complications and deaths attributable to water births including drowning, respiratory problems, cord avulsion and waterborne infections.

The National Hospitals Office has sought the expert opinion of the Institute of Obstetricians and Gynaecologists in Ireland on this issue. The Institute supports patient choice and while it finds there is little controversy surrounding the use of birthing pools in the early stages of labour, it notes there is some concern regarding birthing in water. As a result, it recommends that written best practice guidelines should be in place in hospitals which offer this service and that informed consent should be obtained from the mother. This opinion is consistent with the position of other

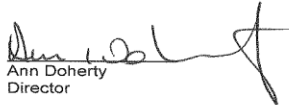
professional bodies internationally, notably the Royal College of Obstetricians and Gynaecologists and Royal College of Midwives in the UK.

The National Hospitals Office also supports maternal choice which is informed in terms of potential risks and benefits, and it is aware that some mothers wish to pursue a birth in water. It recognises that some individual practitioners and maternity units in hospitals which it operates or funds are keen to proceed with birthing in water.

In view of the available evidence and expert advice which has been received, hospitals operated or funded should now review the hold previously placed on birthing in water with a view to removal. However, it is evident that birthing in water is a procedure which is associated with risk and it should only be provided when it can be supported by rigorous and assured best practice within the context of a clinical governance framework. Any individual practitioner or maternity unit offering this service should develop, implement, monitor and assure robust risk controls; in particular protocols and best practice guidelines should be applied to control risks reflecting matters such as, but not limited to, staff training, inclusion/exclusion criteria and infection control. A robust programme of clinical audit and risk management should be in place. Any clinical incident (near miss or adverse event) should be recorded and managed in a proportionate manner in line with HSE incident and serious incident policies and procedures; this may include the suspension of the service in response to a clinical incident pending validation of the adequacy of risk controls. Consent fully informed including reference to the benefits of the procedure as well as case reports of complications and deaths attributable to water births occurring nationally and internationally; consent should be supported by written documentation managed with the healthcare record in line with National Hospitals Office code of practice.

I suggest that you discuss this matter with hospitals in your group which provide maternity services. Given the relative paucity of evidence on the clinical effectiveness of immersion in water and the occurrence of an extreme and tragic incident in a health system in relation to the service, it would be imprudent for any hospital to provide this service unless there is assurance that best practice is continually achieved.

Yours sincerely



Ann Doherty
Director

cc Dr Paul Kavanagh, Specialist in Public Medicine, Dr Steeven's Hospital
Ms Anne Carrigy, National Director, SIMT, Dr Steeven's Hospital

