



## Guideline for the use of Water Immersion for Labour & Birth

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2	March 2024	Bryany Tweedale	Update regarding contamination of the birth pool. Update regarding oral fluid intake and urine output. Updated NICE/All Wales Midwife-led Guidance/AWCPNL
2a	March 2025	Bryany Tweedale	Update to p4 suitability for Midwife led pathway is 40+13

### AUTHORSHIP, RESPONSIBILITY AND REVIEW

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Job Title	Consultant Midwife	Review Date	March 2027

### Disclaimer

**When using this document please ensure that the version is the most up to date by checking the Obstetrics & Gynaecology Guidelines on WISDOM**

**PRINTED DOCUMENTS MUST NOT BE RELIED ON**

**Contents**

- 1) Introduction
- 2) Aim
- 3) Current evidence
- 4) Criteria for women
- 5) Considerations and training for midwives
- 6) Care in labour
- 7) Where women require a cannula
- 8) Emergency care
- 9) Homebirths
- 10) Contamination of the birth pool
- 11) References

Appendix A – Birth pool cleaning protocol

Appendix B – Emergency Evacuation from a birth pool – Safe System of Work

Appendix C – Risk assessment for the use of water during labour and birth at home

## **1. Introduction**

Water can provide a calming environment for women. Once in active labour water can enhance uterine activity, provide effective pain relief (thereby reducing the need for pharmacological analgesia). There is some evidence to suggest that the length of the first stage may be reduced. Water immersion during labour is not associated with reduced five minute APGAR scores, increased neonatal infection rates or admission to neonatal unit.

## **2. Aim**

To provide the best available evidence to facilitate the safe and effective use of water immersion during labour and birth. It must be noted that there is currently limited evidence available relating to the use of water during labour and birth therefore aspects of the guideline have been based on advice published by midwives who have become experts in the use of supporting women using water for labour and birth.

## **3. Current evidence**

Current evidence around the use of water immersion during labour and birth suggests:

Randomised controlled trials

- Reduced need for pharmacological analgesia
- Reduced chance of requiring augmentation during 1st stage of labour

Non-randomised studies

- More intact perineum's in nulliparous women
- Fewer episiotomies
- Overall incidence of less 3rd and 4th degree tears
- Shorter overall labour

#### Qualitative studies

- Women report better birth experiences
- Women report a greater sense of control

A recent Cochrane systematic review reported no significant differences in adverse maternal/neonatal outcomes when comparing labours in and out of water. NICE suggest all healthy women with uncomplicated pregnancies should be offered water immersion for analgesia during labour. Many women with complexities will also be suitable to use water immersion for labour and/or birth

#### **4. Criteria for women**

All women who wish to use the pool for labour and/or birth should be assessed for their suitability. Documentation of all discussion is essential. Midwives should provide instructions to women on the safe entry to and exit from the birth pool in line with manufacturer's recommendations. This is to enable safe, independent access and egress from the birthing pool.

#### Midwife-led pathway

Water birth is suitable for healthy women with uncomplicated pregnancies and labour (as defined by the All Wales Midwifery-Led Care Guidelines and The All Wales Clinical Pathway for Normal Labour (AWCPNL))

- Uncomplicated obstetric history
- No medical history that affects birth
- Current pregnancy uncomplicated
- Cephalic presentation
- 37+0 - 40+13 weeks gestation
- Spontaneous onset of labour
- Pre-labour SROM  $\geq 37/40$  <24 hours prior to onset of active labour
- BMI <35 for nulliparous women
- BMI <40 for multiparous women with previous uncomplicated vaginal birth

All women following the AWCPNL should be supported to labour and give birth in water.

It is recommended that women do not enter the water pool within 2 hours of receiving opioids, or if feeling drowsy or affected by them after this period. There is a need to consider the risk of respiratory and reflex depression in a baby where the mother has received opioids in the last few hours.

Water may be used whenever desired for pain relief. There is insufficient evidence on timing of immersion into water in the first stage of labour and therefore there should be no restriction on when women enter the pool. Due to the availability of birthing pools in MLUs, women should be encouraged to use water in the shower/bath in the latent phase of labour and enter the birthing pool once in established labour.

The woman may choose to leave the pool at any time.

The woman should understand that she will be requested to leave the pool should any complication or concern arise.

The woman should be asked to leave the pool if appropriate fetal monitoring cannot be undertaken.

Document the time of entry and exit of the pool in the maternal labour records.

### Consultant-led pathway

Increasingly, women who are following a Consultant-led pathway and who are recommended to birth on a labour ward wish to use the water pool. There is the availability of a birthing pool facility on both Obstetric Unit sites (Prince Charles Hospital, Merthyr and Princess of Wales Hospital, Bridgend). Prior to the woman being offered the use of the birthing pool on labour ward, consideration should

be given to the plan of care and requirements of the individual woman and/or baby having reviewed the full antenatal history and clinical assessment on admission to labour ward.

The following would be suggested as suitable for use of water pool-

- Gestation between 37-42 weeks
- Cephalic presentation
- Normal growth range/trajectory (>10<sup>th</sup> centile) on customised growth chart
- Normal amniotic fluid volume

The following would be suggested as suitable for use of water pool on labour ward with IIA -

- Group B Strep positive (IV antibiotics can be given whilst the woman in the pool)
- Nulliparous women with BMI 35-39.9 (with otherwise uncomplicated pregnancy).

The following would be suggested as suitable to use the water pool on labour ward with CFM via telemetry.

- Gestation  $\geq$  42 weeks
- IOL following prostaglandins/dilapan and/or ARM
- Diet controlled GDM
- Obstetric cholestasis
- VBAC (see BAC guideline)
- EFW <10<sup>th</sup> centile with normal CTG
- SROM >24 hours <48 hours to onset of active labour

The following would be suggested as suitable to use the water pool on labour ward and exit the pool for the 2nd stage

- Previous shoulder dystocia
- EFW > 97<sup>th</sup> centile by USS
- EFW <10<sup>th</sup> centile

The following would be suggested as suitable to use the water pool on labour ward and exit the pool for the 3rd stage

- Hb <85g/l, Platelets < 100
- Previous PPH ( $\geq 1000$ mls due to uterine atony)
- Grand multi-parity (Para  $\geq 5$ )
- Women taking antenatal thrombo-prophylaxis

The woman may choose to leave the pool at any time.

The woman should understand that she will be requested to leave the pool should any complication or concern arise.

The woman should be asked to leave the pool if appropriate fetal monitoring cannot be undertaken (whether IA or CFM).

Document the time of entry and exit of the pool in the maternal labour records.

## **5. Considerations and training for midwives**

The first time a midwife has the responsibility of a pool birth, the midwife should be supported by a second midwife experienced in pool birth.

Two maternity health professionals (ideally 2 midwives) should be present at a pool birth.

The midwife's general health, ability and any personal or human factors should be taken into consideration when involved in tasks such as filling, emptying, cleaning and maintaining the pool and during emergency evacuation.

Staff should have instruction, information and training to enable them to safely carry out the tasks they undertake and use the equipment provided. This training

should include musculoskeletal risks including sustained postures; postures to be adopted and avoided.

Staff need to be properly trained in emergency evacuation procedures to be competent and confident in the use of emergency handling equipment.

## **6. Care in labour**

### First Stage of Labour

Run the water (for several minutes) before filling the pool.

The water should be deep enough to cover the woman's abdomen and to nipple level when sitting. Insufficient water levels will not create buoyancy which is thought necessary to trigger the release of endorphins and oxytocin and reduce the production of stress hormones. Deep water also provides support for the body and aids mobility.

Water immersion triggers chemical and hormonal changes which take effect after 20 minutes and peak at about 90 minutes. It is suggested that women leave the pool after 2 hours for a period of about 30 minutes for mobilisation and micturition. Getting back in the pool after 30 minutes should re-activate the chemical and hormonal processes. It is then advised to continue encouraging the women to mobilise out of the water every 1.5-2 hours.

Baseline observations must be within normal the parameters before entering the pool. Maternal and fetal well-being must be monitored as outlined in the All Wales Clinical Pathway for Normal Labour, and documented on the partogram, with additional hourly maternal temperature monitoring.

Water temperature is to be recorded hourly and should be adjusted to the woman's comfort, however it must not exceed 37.5°C to avoid maternal hyperthermia.

Women should be encouraged to drink clear fluids/still isotonic drinks to thirst, but not exceeding 2500mls within a 24 hour period, as there are cases reported cases of women developing dilutional hyponatraemia because of drinking excessive water during labour.

Light diet can be offered to avoid ketoacidosis. Glucose sweets can be given if a woman prefers not to eat.

Women/birthing people in labour should be encouraged to pass urine approximately 2 hourly during active labour. This should be documented in the AWCPNL even if the woman declines. The woman should be advised to exit the birth pool to pass urine, and measured voids should be documented on the AWCPNL.

Entonox may be used if the woman wishes whilst she is in the pool.

A woman should not be left alone in the pool.

Partners can be in the pool with the woman so long as trunks/costume is worn and they are willing to leave the pool if asked/necessary.

If there is a rise in maternal temperature greater than 1°C or an increase to between 37.5°C – 37.9°C:

- The pool temperature must be lowered and the room cooled
- Consider administering paracetamol
- Ensure that the maternal pulse and fetal heart rate is not raised
- Repeat maternal temperature in 30 minutes and if still raised leave the pool
- Repeat again in 30 minutes and if continues to be raised for transfer to labour ward/obstetric unit.

If maternal temperature, maternal pulse and fetal heart rate rise the woman should leave the pool immediately and follow AWCPNL and transfer to a labour ward/obstetric unit.

A temperature of greater than 38°C, the woman should be advised to exit the pool and be transferred for obstetric review/care.

If contractions become irregular or slow progress in labour is confirmed on vaginal examination, the woman should be advised to leave the pool to mobilise and adapt a more upright position. If contractions increase and labour progresses the woman can return to the pool.

Women should be advised to leave the pool in the presence of any maternal or fetal concerns.

### Second Stage of Labour

During the second stage of labour the pool temperature should be between 37-37.5°C

To avoid fetal stimulation a 'hands off' technique must be used. The baby should be born spontaneously with little intervention (avoiding directed pushing, control of the head or "guarding the perineum"). A mirror can be used to enhance visibility of advancing fetal head for the mother.

There is no need to feel for an umbilical cord. The baby should be born entirely under the water and brought gently and slowly, face uppermost, to the surface.

If the woman raises herself out of the water and the fetal head is exposed the birth should continue out of the water.

Ensure the baby's body is immersed and 'skin to skin' commenced to maintain baby's temperature.

Check that the umbilical cord is intact. Midwives should be aware of hidden cord rupture, and have appropriate equipment (cord clamp) easily accessible. If it has snapped or torn it must be clamped immediately, otherwise, the cord should not be clamped earlier than 1 minute after the birth unless there is concern about the integrity of the cord or the baby's well-being.

Babies born underwater often do not cry immediately, and may remain blue-tinged for a longer period compared to those born out of water. The heart rate must be checked and spontaneous respiratory effort observed.

### Third Stage of Labour

More research is needed regarding management of the third stage in the pool, although there is no evidence regarding benefits or risk associated with experiencing third stage of labour under water. There have been no studies comparing management of third stage in or out of water. In some areas it is common practice to complete third stage under water, and there have been no known occurrence of water embolism from managing the third stage in a water pool.

Physiological third stage can occur in or out of the pool.

Active management can be conducted in the pool, out of the pool, or with the pool emptied according to maternal request. However, the mother's leg should be out of the water during administration of intramuscular oxytocic injection.

It is difficult to accurately estimate blood loss in water and therefore blood loss should be recorded as <(less than) or >(greater than) 500mls. Where excessive bleeding is suspected, the woman should be asked to exit the pool and commence measurement of blood loss.

In the event of a delay in third stage, excessive bleeding or concerns around the wellbeing of the woman indicating potential compromise; the woman should be encouraged to leave the pool urgently.

Examination of the perineum should be conducted out of the pool and unless perineal trauma is assessed as severe, or bleeding profusely, any suturing required should be delayed for 1 hour following birth as perineal tissue may be water-logged and friable.

## **7. Where women require a cannula**

Where cannulation is required, this should be completed out of the pool. Women should be advised to keep the cannula free of water. Should the hand be submerged and the integrity of the dressing compromised, the cannula site should be cleaned and redressed.

## **8. Emergency Care**

In the event of an emergency, immediate assistance should be requested, and the woman must promptly be assisted to vacate the pool and the appropriate emergency procedure followed.

In the event of suspected shoulder dystocia, immediate assistance should be requested, and the woman should be encouraged to change position in the water (to all fours or deep squat). If birth is not achieved with the next contraction and manoeuvres are required, the woman should exit the pool immediately.

The woman should be supported by a midwife/staff member when leaving the pool, and another midwife should be prepared to support the fetal head.

In the event of maternal collapse in the pool or if the woman is unable to vacate the pool herself, immediate assistance should be requested, and the agreed

Safe System of Work for Evacuation from birthing pool must be promptly adhered to (see Appendix B)

## **9. Homebirths**

For women planning homebirth, it should be advised that the pool should be situated on the ground floor, or on a floor capable of taking the weight of a full pool (see manufacturers guidance).

If the pool has been used before then a new pool liner will be required. A new/clean hose should be used.

The women should be advised not to fill the pool and let it stand in preparation for going into labour even when the temperature is being maintained by the use of a pump or heater as there is a small risk of Legionnaire's Disease. Any pumps used should be used solely for pool emptying and not for the recirculation of water.

The woman should be asked to supply a new sieve, thermometer and mirror to support the midwife to provide care for her during the water birth.

The maintenance of the pool and the regulation of water temperature during the labour is the responsibility of the woman and her birth support but will be monitored by the midwife.

Documented evidence of discussion and risk assessment in the woman's handheld notes (Appendix C).

## **10. Contamination of the birth pool**

The birth pool should be kept as clear as possible at all times. Debris and contamination of any kind should be removed using a sieve. Equipment such as jugs, sieves and brushes should be single use.

If there is heavy contamination with vomit or faecal matter, the woman should be advised to leave the pool, where the pool must be emptied, cleaned in accordance with current infection control recommendations and thoroughly dried before refilling.

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## Appendix A Birthing Pool Cleaning Protocol

When emptying the pool:

1. Ensure the room is well ventilated, remove and dispose of the thermometer to avoid blocking the pool waste outlet
2. Ensure compliance with Standard Infection Control Procedures - Plastic apron, gloves
3. Before emptying the pool remove any debris using a disposable sieve to prevent debris from blocking the pool waste outlet
4. Empty the pool
5. Use a general detergent and new disposable cloth or mop head, clean the pool/bath of any blood and small bits of debris.

When cleaning the pool:

1. Start at the tap outlet - do not put the cloth/mop in to the nozzle, and finish at the base of the tap and then clean the tap handles
2. Clean around the top rim of the pool initially
3. Move inwards cleaning around the inside of the top rim over the overflow - work downwards towards the waste outlet.  
DO NOT TAKE A DIRTY CLOTH BACK OVER AREAS ALREADY CLEANED
4. Rinse the pool with warm water
5. Dispose of the cleaning cloth/mop in orange waste bag
6. Dry all surfaces with a disposable cloth or towel
7. Dispose of gloves and apron in orange waste bag and decontaminate hands/
8. Ensure compliance with Standard Infection Control Procedures and use a plastic apron and gloves
9. Mix the chlor-clean solution Actichlor 1.7g - 1 tablet / 1litre water = 1000ppm in a clean bucket.
10. Clean the pool using the process described in points above using the Actichlor solution
11. Rinse the pool with the Actichlor solution and leave in place for 10 minutes  
DO NOT DRY THE POOL
12. Rinse the pool thoroughly using cold water starting at the tap and work down towards the waste outlet.
13. Dry the entire pool with a clean mop head or towel.
14. Empty and dry the bucket - store the bucket inverted

Please note:

- Inflatable pools should be emptied and liners disposed of.
- If the liner has leaked then the pool should be cleaned as the above
- Disposable single-use thermometers, mirrors, sieves, liners and hoses should be used and discarded after use.
- The pool should have a daily dust with a clean cloth to remove any general dust.
- If the pool has been unused for five days (see Legionella prevention sheet within the Health Board), then the pool must be cleaned with the general detergent for Legionella compliance.

## Appendix B

### Emergency Evacuation from Birthing Pool - Safe System of Work

Action needed: **SUMMON HELP** (consider emergency arrest call for collapsed woman)

The midwife will take responsibility for maintaining the woman's airway and ensure her face is held clear of the water

Equipment to be used:

- Trolley/bed
- Evacuation Net
- Buoyancy aids (noodles)
- Slide Sheets

Number of people required: Minimum of 4

**DO NOT DRAIN THE POOL** the buoyancy offered by the water will assist staff to position the net and support and turn the woman

Staff member to assist the midwife to turn the woman so that she is floating on her back (if the woman is sitting on the step then leave her in this position)

Staff member to prepare the trolley/bed in suitable position to receive the woman.

Slide sheets should be placed on the trolley/bed to assist with sliding woman onto the trolley/bed

Two members of staff will position the evacuation net under the woman

The midwife must move to one side of the woman but remain in charge of the airway

Using clear commands e.g. "Ready, Steady, Slide" slide the woman clear of the pool and onto the trolley/bed

Remove the net and the slide sheets from under the woman once she is safely located on the trolley/bed

Keep the woman warm with towels/blankets and assess

### Appendix 3

#### Risk assessment for the use of water in labour and birth at home

ADDRESSOGRAPH

Date of Assessment: \_\_\_\_\_

1. Carry out manual handling risk assessment prior to and during labour:

Date of assessment prior to labour: \_\_\_\_\_

Date and time of assessment in labour: \_\_\_\_\_

2. Criteria for use of water:

All women recommended for homebirth as per the All Wales Midwifery-led Care Guidelines (2022) and the All Wales Clinical Pathway for Normal Labour (2024) are suitable for labour and birth at home.

Any planned homebirth for a woman planning homebirth outside of recommendations as per above guidance, would be expected to have an individualised 'out of guidance' birth plan discussion with her named midwife and support from the consultant midwife.

3. Pool check:

- Is the pool situated on the ground floor? YES / NO
- Is there a new/disposable liner? YES / NO
- Is there a new/disposable hose? YES / NO
- Adequate clearance around the pool? YES / NO
- Are the walls of the pool sturdy enough for the woman or midwife to lean on? YES / NO

4. Advice to the woman:

- Birth partner to be responsible for the filling, maintaining, and emptying of the pool and ensuring temperature is maintained

- Do not pre-fill the pool and maintain with a heater prior to labour (due to Legionnaire's disease) – Fill at the time of labour
- Ensure new liner and hose are used, and disposed of afterwards
- Pool bottom should be non-slip
- To supply a new thermometer, sieve and mirror.
- The woman may be advised to leave the pool if a deviation (from AWCPNL) and/or in the event of an emergency
- In the event of an unexpected maternal collapse in the water, the woman should be slid over the top of the pool onto a dry area with the assistance of the birth partner
- Paramedics will be called if transfer into an obstetric unit is indicated and in the event of an emergency

5. Equipment required:

- Birthing pool
- Single use disposable liner
- Single use disposable hose
- Plentiful supply of hot water
- Stool/step for pool access if needed
- Sieve
- Thermometer
- Mirror
- Towels

Signature of woman:

Print name:

Date:

Signature of midwife:

Print name:

Date: