WOMEN'S HEALTH AND PAEDIATRICS
MATERNITY SERVICES

WATERBIRTH; THE USE OF THE POOL FOR LABOUR AND BIRTH

Amendments			
Date	Page(s)	Comments	Approved by
26/11/04	3	Addition of criteria re: induction of labour under "the woman" following agreement at discussion with Obstetric Consultants on 04/11/04 at Service Development Group	WHCG committee
October 2007		Reviewed no changes	WHCG Committee
April 2014		Whole document review	Supervisors of Midwives
November 2014	3	Insertion on advice re use of pre filled pools following PSA	WH Guidelines Group
Feb 2018		Remove references to Supervisor of Midwives	Head of Midwifery

Complied by: Alex Bell Midwife Team Leader Birth Centre,
Dianne Casey Supervisor of Midwives

Ratified by: Supervisors of Midwives

Date: November 2014
Review Date: November 2021

Comments on this document to: Supervisors of Midwives

Target Audience: Midwives working within the Maternity Services

Impact Assessment Carried out by: Dianne Casey

WATERBIRTH; THE USE OF THE POOL FOR LABOUR AND BIRTH

See also;

- **Care in Labour guideline**
- **Abbey Birth Centre Operational Policy and Clinical guideline**
- **Fetal Monitoring guideline**
- **Management of Meconium Stained Liquor guideline**
- **Obstetric Haemorrhage guideline**
- **Shoulder Dystocia**
- **Cord Prolapse**

1. Background

The use of water for labour and birth has been available in the UK since the 1980's with many myths developing within midwifery practise both in favour and against the use of water birth. NICE (2008) have reviewed the evidence and suggest that women should be informed that there is insufficient evidence to either support or discourage giving birth in water. However Cochrane review suggests that immersion in water during the first stage of labour significantly reduces women's perception of pain and use of epidural/spinal analgesia in labour (Cluett et al). It also enables a mother to move more easily than on land due to the buoyancy in water. A water pool offers a mother an environment where she can behave instinctively and feel in control (Richmond 2003). Large scale studies have found no difference in the potential negative outcomes duration of labour, instrumental delivery, caesarean section, perineal trauma, Apgars less than 7 at 5 minutes, neonatal infection or admission rates (Cluett et al). Therefore hydrotherapy or water birth should be offered as a maternal choice, which can improve the experience and reduce the need for anaesthetic.

2. Inclusion Criteria

See also Birth Centre admission criteria

- Singleton pregnancy
- Cephalic presentation
- Spontaneous onset of labour
- An uncomplicated pregnancy, medical and obstetric history
- Experiencing regular painful contractions, either in established labour or the latent stage (note potential implications of entering the pool at less than 5cms of cervical dilatation).
- No specific indication for continuous fetal monitoring.
- Full Term >37 completed weeks gestation
- Capable of getting in and out of the pool
- No opiate sedation within 4 hours of entering the pool.

3. User guide for the pool in the Birth Centre

The pool taps are activated by infrared, non-touch technique and can be turned on, off and increase and decrease the water temperature (maximum 44°c) by waving a hand in front of the panel

The default water temperature is set to 39°c for filling
It takes 11 minutes for the pool to fill to the pre-set level after which it stops automatically
If the taps are activated there is a 30 minute timed fill after which it will stop automatically
The panel can be locked out by a magnet, which is locked in a cupboard in the consulting room and must be signed in and out by the attending midwife

4. Water Temperature

The question of whether there is an optimal temperature for the water in birth pools has been one of the key debates in this area, and this has focused on avoiding temperatures which are so hot that the baby may be compromised (e.g. Roseyear et al 1993, Odent 1998) or so cold that respiration may be stimulated underwater (Johnson 1996), **but** not more than 37.5°c (NICE 2008) as the baby's temperature is about 1c higher than the mother's during pregnancy.
It should be noted that much of the work in this area has been theoretical, and many of the current (upper and lower) temperature limits are relatively arbitrary and / or based on small studies (e.g. Deans and Steer 1995).
Current evidence suggests that maternal preference is the best way to determine the optimal temperature during the first stage of labour (Charles 1998, Geissbuehler et al 2002, Anderson 2004). The water should be kept as cool as the woman finds comfortable (Charles 1998) and attendants should remember that this may feel cooler than ideal to them because the woman is likely to feel hot from her exertions in labour, most women are comfortable at around 36°c.
Adequate ventilation should be maintained, to ensure that the room temperature is comfortable and not too hot

Document the water temperature using the thermometer provided, in the woman's notes on:

- entry into the pool,
- hourly during the first stage of labour,
- at the start of the second stage and 15 – 30 minutes throughout the second stage of labour depending on progress of labour

During the second stage of labour, the water temperature should be increased slightly, but should not be above 37.5°c.
The midwife must ensure that the environment is warm enough for the baby once delivered – either by asking the woman to leave to pool or by adding warmer water to the pool.

Home Birth Pool Use
Women should be advised to avoid use of pools that contain a pump and heater to be filled in advance and kept at a constant temperature. This advice is following a patient safety alert where a case of Legionella in the neonate was diagnosed following birth in a pre filled pool.

5. Care during the First stage of labour

Essentially the care of a labouring woman in the pool is the same as for any other woman and the Care in Labour guideline should be followed.
For births within the Birth Centre, please also refer to the normal pathway in labour and the Managing in Labour pathway in the Abbey Birth Centre Operational Policy and Clinical Guideline appendices 4&5

The only additional requirement is the need to monitor the mother's temperature more regularly and the temperature of the water as above.

Maternal temperature should be documented on the partogram as follows:

- Hourly in the first stage
- ½ hourly in the 2nd stage
- If the mother becomes pyrexial i.e. Temperature 37.5°c or more she should be asked to leave the pool as the baby's temperature will be in the region of 0.5°c to 1°c higher than the mother's and pyrexia in the mother may lead to tachycardia in the baby. If the mother leaves the pool and her temperature returns to normal, she may re-enter the pool providing there are no concerns about fetal wellbeing.

For Birth in the Birth Centre, please refer to the Abbey Birth Centre Operational and Clinical guideline regarding management of maternal pyrexia, ≥37.5°c, section 12 table 3.

For labour to remain spontaneous and normal, whether in the pool or not, thought should be given to the environment. Evidence supports that a quiet, dark, pleasant environment will help facilitate a physiological labour, with no inhibition of the release of oxytocin.

Evidence also suggests that labour is more likely to be enhanced if women wait until their labour has become established before entering the pool (Odent 1998).
The establishment of labour is usually agreed when a woman achieves 4-5 cm cervical dilatation; however there are other signs and behaviours that would indicate progress has been made. Please refer to the Modified Burville Score.

If a woman feels strongly about entering the water earlier or in her latent phase of labour, this should be facilitated following an informed discussion with the midwife about how the normal process of labour in context to her individual requirements and comfort can be managed. A plan should be made and include encouraging the woman to leave the water should her contractions begin to diminish and the progress of her labour becomes inhibited. The recommendation should also not preclude women taking baths or showers in early labour.

Regardless of whether established labour was determined by vaginal examination or on the basis of the midwife's clinical judgement, the midwife should pay attention to changes in contractions during the first 30 minutes that the woman is in the pool.

- The woman should be supported to ambulate for at least 20-30minutes to help labour to re-establish before re-entering the pool.
- The relaxing effect of water can cause labour to slow if the woman remains in the pool for long periods of time. For this reason, and because of the need to ensure that the woman's bladder does not become too full, advise the woman to leave the pool every 90 minutes to visit the toilet and ambulate for short periods of time e.g.30 minutes before returning to the pool.
- The pool should be filled to the level of the woman's breasts when she is sitting in the pool.
- To ensure the full therapeutic effect of the water her fundus should be submerged.
- The woman should be enabled to move and to explore different positions at any time during the labour and birth.
- The pool should be kept free of faecal contamination as E coli is a potential source of infection.
- Single use sieves are available for this purpose.
- Ensure that the women are well hydrated; water must be available at all times.
- If additional pain relief is required, Entonox can be used.

The midwife does not need to stay in the room all the time if the mother has a birthing partner with her, however someone should remain with her at all times when in the water.

6. Fetal Monitoring

- The frequency of fetal heart monitoring during the first and second stages of labour should be in line with the Fetal Monitoring guideline.
- A waterproof sonicaid should be used to auscultate the fetal heart during labour. It may be easier for the midwife to ask the woman to hold the probe on her abdomen once the heart has been located. This can prevent the midwife from becoming unnecessarily wet, and from having to adopt a position that may be either uncomfortable or carry a risk of injury while monitoring the fetal heart.
- If the midwife finds it difficult to monitor the fetal heart, it may be preferable to ask the woman to change position, stand up during auscultation and/or to lift her abdomen out of the water. However, attempts should be made, as far as possible, to auscultate the fetal heart with minimal interruption to the woman.

7. Second Stage of labour

There are a number of reasons why a woman may choose not to ultimately give birth in the water, such as;

- Immersion in water can slow labour down. It may be necessary for the woman to leave the pool before or around the onset of second stage in order to increase her oxytocin levels
- Although many women find that they can push effectively in water, some women feel they need to leave the pool and push their baby out 'on dry land'.

In certain circumstances the midwife may require the woman to leave the pool before or during second stage, e.g. due to fetal heart rate concerns or the midwife anticipates shoulder dystocia.

If the woman is likely to give birth in the pool, the midwife must check the depth of the water in relation to the woman's abdomen as the baby must be born completely under the water, more water can be added if necessary.

The woman may want to change positions while pushing, and the midwife should remain aware of the fact that, once the baby's head has emerged from the water, the baby's face should not re-enter the water. This is most commonly an issue if women adopt an all-fours position with their bottom in the air. In these circumstances, the midwife should be prepared to ask the woman to either sit back in the water if the head has not been born or to stand up so that the entire birth occurs in air.

For the Birth

- Increase pool temperature to 37°-37.5°c (NICE 2008). Document the water temperature using the single use thermometer, in the notes at the start and every 15-30 minutes throughout the second stage of labour.
- The midwife should again check that there is an adequate supply of towels and other linen in case the woman needs to exit the pool quickly.
- Failure to ensure that the woman is adequately warm can lead to delay during the third stage of labour (Odent 1998).
- Pushing should be physiological (non-directed). The mother should be encouraged to push only as and when she has the urge and should not be hurried (NICE 2008).

- Two midwives should attend the birth, the attending midwife can use the call bell to request assistance from a 2nd midwife.
- A “hands off” approach, supported by verbal guidance from the midwife, should be practised (RCM/RCOG 2008). However many of the women who give birth in water instinctively assist their baby’s birth with their own hands, and many midwives who attend women giving birth in water simply talk the woman through this process and have their own hands poised to help bring the baby to the surface.
- It is not necessary to feel for the presence of the umbilical cord. It can be loosened and disentangled as the baby is born, in the usual manner.
- Await restitution without touching; the mother will push the baby’s body out on her own.
- The baby should be born completely underwater, with no air contact until raised gently to the surface in the first minute or so after birth. Women may require direction to avoid raising themselves out of the pool whilst pushing.

8. Complications in the Pool Environment

In the rare case of an emergency situation, the mother must be advised to stand up and leave the pool immediately.

As when caring for any woman, the midwife is responsible for using her clinical judgement in responding appropriately to problems that may occur, and for documenting all events and her actions in response to those events.
In the following situations the woman must be requested to exit the pool immediately

Bleeding - ante/postpartum -irrespective of cause
- If more than a “show” – ask the mother to stand up and leave the pool.
- Follow the Obstetric Haemorrhage guideline

Shoulder dystocia
- Call for assistance using the emergency bell
- Follow the Shoulder Dystocia guideline
- The mother should be assisted to raise one leg onto the side of the pool, this should release the shoulder. If this does not work immediately the mother must leave the pool supported by 2 people.
- The midwife must be prepared for birth as the action of stepping out of the pool may disimpact the shoulder and the baby may deliver rapidly.

Meconium stained liquor.
- If meconium is seen/ suspected during labour at any point before the delivery of the head, the mother should be asked to leave the pool as a compromised baby is more likely to gasp underwater
- Follow the Management of Meconium Stained Liquor guideline

If any of the above emergencies take place in the Birth Centre, please see the Abbey Birth Centre Operational Policy and Clinical guideline.

9. The Baby

- The midwife should check that the cord is not around the baby’s neck, body or limbs which may impede bringing the baby to the surface.
- As soon as the midwife is certain that she is able to bring the baby to the surface without restriction, the baby should be brought to the surface.

- Ideally the baby's face is the first part of the body to break the surface of the water.
- Following the birth, rest the baby's head above the water, at the level of the fundus with the baby's body underwater to prevent hypothermia
- Very occasionally, midwives have discovered that the cord has snapped during birth, but that they have not noticed this immediately (Gilbert and Tookey 1999, Cro and Preston 2002). Once the baby has been brought to the surface of the water, the midwife must check that the cord is intact. If the cord has snapped she must take appropriate action and monitor the baby's condition.
- The cord is more likely to snap where the level of the water is deep as the cord will be stretched when the baby is brought to the surface. This can be prevented by checking that the water is at an appropriate level at the onset of second stage.
- Unless a serious anomaly which requires immediate intervention is apparent, all babies born in water should stay in their mother's arms for at least one minute with no efforts made to interfere with or cut the cord. This will facilitate the baby's transition to the external environment and enable the normalisation of fetal blood volume.
- After one minute, the first APGAR score should be recorded which will be used to evaluate the need for resuscitation.
- Babies born in water are often more relaxed than babies born in air, which can lead to a slightly lower APGAR scores at 1 and 5 minutes. Babies born in water may have a slower adaptation to the external environment; it may take them up to a minute to initiate respiration, they may not cry vigorously even after respiration is established and they may take longer to achieve the same skin colour as babies born in air. Gentle stimulation should assist breathing.
- Should further evaluation of baby's condition or neonatal resuscitation be required, the woman should be informed and the cord clamped and cut.

10. Third stage of labour

Ask the woman to leave the pool for the delivery of the placenta

The method chosen to deliver the placenta and membranes must be based on the woman's wishes and the midwife's clinical judgement.
However active management of the third stage **MUST NOT** be undertaken in the pool.

An intramuscular injection requires a dry area of skin, thus should be administered after exit from the pool.

It is not possible to accurately measure blood loss; it is up to the midwife to make a clinical decision by looking at the water. Blood loss in the pool can be expressed as > or < 800mls.

11. Emergency evacuation of a woman from the pool

In the event of an emergency where a midwife needs to evacuate a woman from the pool the following procedure will apply:

- Call for assistance via the emergency bell
- Maintain the woman's airway/clamp and cut the cord and remove the baby if postnatal
- A total number of 5 people are need to evacuate the woman from the pool
- The lead will be the attending midwife who will be maintaining the airway until help arrives
- The level of the water in the pool will be raised and;
- 2 floatation devices will be inserted under the woman, one under the knees and one just under the shoulder blades.

- The rescue net will be inserted long ways underneath the woman and the flotation devices.
- A bed or trolley will be placed in position (raised to the level of the pool) at the side of the pool to slide the woman on to using two large slide sheets
- Two people stand either side of the pool ready to slide
- The lead midwife will instruct the team, in two or three stages depending on the woman's height, to 'ready steady slide' until the woman is safely on the bed or trolley

If in the Birth Centre follow the Abbey Birth Centre Operational Policy and Clinical guideline

12. Cleaning the pool

- Before filling the pool, rinse it out with cold water and run the taps for 2 minutes
- Apply Personal Protective Equipment (PPE)
- After use clear all debris from the pool prior to cleaning
- The pool must then be cleaned with warm water and a non-abrasive detergent e.g. Hospecl
- Ensure adequate ventilation
- Fill the pool with 25 litres of cold water using a bucket, dissolve 10 x 4.5g Haz tabs* and leave the solution for 10 minutes
- Wipe around all areas of the pool with the solution using a disposable cloth and wearing PPE
- The pool should then be rinsed with cold water using the shower
- Pay particular attention to the drainage outlet, it must be cleaned and dried with a disposable cloth
- The drainage system should be kept closed when not in use.
- Remove PPE and wash and dry hands

13. Monitoring

Compliance with this guideline will be monitored as detailed in the table below. Where deficiencies are identified action plans will be developed and changes implemented and disseminated as required.

Element to be monitored	Lead	Tool	Frequency	Reporting arrangement	Acting on recommendations and Lead(s)	Change in practice and lessons to be shared
Women in established labour at term, on LW or in Birth Centre which as a minimum must include: a. Risk assessment to use pool for labour and/or birth b. Stage of labour on entry to the pool c. Maternal & Fetal observations carried out prior to using the pool d. Maternal and Fetal observations carried out during first and second stage of labour e. Hourly water temperature f. Documentation of all of the above g. Pool used for analgesia and/or birth h. Appropriate reason for exit from the pool if appropriate	Alex Bell Birth Centre lead Midwife Louise Emmett LW Manager	Review all health records of women using the Birth Centre 1% of all notes of women using pool on LW	Monthly yearly	Reported to Perinatal Morbidity Group LW forum	Louise Emmett LW Manager Alex Bell Lead Midwife Birth Centre	• Feedback bulletin • Bonus days • Quality and Safety Half days • staff meetings • any other meeting as appropriate • Individual feedback as appropriate One or all of the above

4. References

Blackburn ST (2003) Maternal, Fetal & Neonatal Physiology. New York: Saunders

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Burns E (2004) personal communication

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Cluett E R, Nikodem VC, McCandlish RE, Burns EE Immersion in water in pregnancy, labour and birth (Cochrane Review). In: The Cochrane Library, Issue 3, 2004. Chichester, UK: John Wiley & Sons, Ltd.

House of Commons Health Select Committee (2003) Choice in Maternity Services. Vol1 9th Report of sessions 2002-2003. Available from: http://www.publications.parliament.uk/pa/cm200203/cmselect/cmhealth/796/796.pdf

MIDIRS (2004) The use of water during childbirth; Informed choice leaflet no 11 (for professionals) available from www.nelh.nhs.uk/maternity

Personal Communication (2004) Sue Southey, Acting Minimal Handling Co-coordinator, ASPH NHS Trust.

RCM (2000) The Use of Water in Labour and Birth (Position Paper No 1a) London: Royal College of Midwives.

Garland D (2011) Revisiting Waterbirth An Attitude to Care: Palgrave Macmillan

EQUALITY IMPACT ASSESSMENT TOOL

Name : WATERBIRTH; THE USE OF THE POOL FOR LABOUR AND BIRTH
Policy/Service: Women's Health Directorate

Background • Description of the aims of the policy • Context in which the policy operates • Who was involved in the Equality Impact Assessment
• To ensure consistent high standard of evidence base care in labour provided. • Women's Health Guideline Group
Methodology • A brief account of how the likely effects of the policy was assessed (to include race and ethnic origin, disability, gender, culture, religion or belief, sexual orientation, age) • The data sources and any other information used • The consultation that was carried out (who, why and how?)
Policy widely circulated for comments within the Multidisciplinary Maternity Team.
Key Findings • Describe the results of the assessment • Identify if there is adverse or a potentially adverse impacts for any equalities groups
Accepted and understand the relevance of high standards of evidence based practice.
Conclusion • Provide a summary of the overall conclusions
Principles of equality have been adhered to.
Recommendations • State recommended changes to the proposed policy as a result of the impact assessment • Where it has not been possible to amend the policy, provide the detail of any actions that have been identified • Describe the plans for reviewing the assessment
Improvement and consistency of care provision.

Guidance on Equalities Groups

Race and Ethnic origin (includes gypsies and travellers) (consider communication, access to information on services and employment, and ease of access to services and employment)	**Religion or belief** (include dress, individual care needs, family relationships, dietary requirements and spiritual needs for consideration)
Disability (consider communication issues, access to employment and services, whether individual care needs are being met and whether the policy promotes the involvement of disabled people)	**Sexual orientation including lesbian, gay and bisexual people** (consider whether the policy/service promotes a culture of openness and takes account of individual needs
Gender (consider care needs and employment issues, identify and remove or justify terms which are gender specific)	**Age** (consider any barriers to accessing services or employment, identify and remove or justify terms which could be ageist, for example, using titles of senior or junior)
Culture (consider dietary requirements, family relationships and individual care needs)	**Social class** (consider ability to access services and information, for example, is information provided in plain English?)

If further assessment is required please see the Integrated Single Equality Scheme.

For advice in respect of answering the above questions, please contact, HR Manager, on extension 2552.

PROFORMA FOR RATIFICATION OF POLICIES AND GUIDELINES BY RATIFYING COMMITTEE

Policy/Guidelines Name: **WATERBIRTH; THE USE OF THE POOL FOR LABOUR AND BIRTH**

Name of Person completing form: Dianne Casey

Date: 28/04/14

Author(s)	Alex Bell and Dianne Casey
Name of author or sponsor to attend ratifying committee when policy/guideline is discussed	Dianne Casey
Date of final draft	28/04/14
Has this policy/guideline been thoroughly proof-read to chck for errors in spelling, typing, grammar and consistency?	Yes
By whom:	Women's Health Guidelines Group
Is this a new or revised policy/guideline?	revised

Describe the development process used to generate this policy/guideline.
Women's Health Guidelines Group, Obsterics Consultants, Supervisors of Midwives
Who is the policy/guideline primarily for?
Health Professionals working within the maternity service
Is this policy/guideline relevant across the Trust or in limited areas?
Maternity Services
How will the information be disseminated and how will you ensure that relevant staff are aware of this policy/guideline?
Intranet, newsletters, educational half day, training sessions
Describe the process by which adherence to this policy/guideline will be monitored.
See *monitoring section of policy*
Is there a NICE or other national guideline relevant to this topic? If so, which one and how does it relate to this policy/guideline?
See *reference section of policy*
What (other) information sources have been used to produce this policy/guideline?
See *reference section of policy*
Has the policy/guideline been impact assessed with regard to disability, race, gender, age, religion, sexual orientation?
No impact
Other than the authors, which other groups or individuals have been given a draft for comment
Obstetric Consultants, Women's Health Guidelines Group, Paediatricians, Supervisors of Midwives
Which groups or individuals submitted written or verbal comments on earlier drafts?
Any comments received considered by Women's Health Guidelines Group
Who considered those comments and to what extent have they been incorporated into the final draft?
All comments considered
Have financial implications been considered? Yes