

Title of Guideline (must include the word "Guideline" (not protocol, policy, procedure etc)	Guideline for the use of water immersion for labour and/or birth
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Directorate & Speciality	Family Health Obstetrics
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Explicit definition of patient group to which it applies (e.g. inclusion and exclusion criteria, diagnosis)	Women wishing to use the birthing pool for labour and/or birth
Version	7
If this version supersedes another clinical guideline please be explicit about which guideline it replaces including version number.	6
Statement of the evidence base of the guideline – has the guideline been peer reviewed by colleagues?	3/4/5
Evidence base: (1-6)	
1	NICE Guidance, Royal College Guideline, SIGN (please state which source).
2a	meta analysis of randomised controlled trials
2b	at least one randomised controlled trial
3a	at least one well-designed controlled study without randomisation
3b	at least one other type of well-designed quasi-experimental study
4	well –designed non-experimental descriptive studies (ie comparative / correlation and case studies)
5	expert committee reports or opinions and / or clinical experiences of respected authorities
6	recommended best practise based on the clinical experience of the guideline developer
Consultation Process	Midwives, Senior midwives, obstetricians, supervisors of midwives, midwife water birth expert.
Ratified by:	
Date:	
Target audience	Midwives caring for women using water immersion
Review Date: (to be applied by the Integrated Governance Team)	
A review date of 5 years will be applied by the Trust. Directorates can choose to apply a shorter review date, however this must be managed through Directorate Governance processes.	

This guideline has been registered with the trust. However, clinical guidelines are guidelines only. The interpretation and application of clinical guidelines will remain the responsibility of the individual clinician. If in doubt contact a senior colleague or expert. Caution is advised when using guidelines after the review date.

Aim

The aim of this guideline is to provide information on the use of water immersion for labour and/or birth.

Rationale

The opportunity to labour in water is recommended for pain relief (NICE 2007, RCOG & RCM 2006, DoH 2004). Women should be informed that there is limited quantitative research evidence to either support or discourage giving birth in water, however, qualitative research is supportive of waterbirth. Both the Royal College of Obstetricians and Gynaecologists and the Royal College of Midwives support labouring in water for healthy women with uncomplicated pregnancies. All midwives should ensure that they are competent to care for a woman who wishes to labour and/or give birth in water and have a good understanding of the principles of this. They should make themselves aware of local guidelines, including cleaning of equipment.

Evidence

Maternal and neonatal outcomes following water immersion for labour and birth have been assessed in many studies. Bodner (2003) found there were no adverse neonatal outcomes identified in the neonate between women who birthed in water compared to women who birthed conventionally. A Cochrane review undertaken by Cluett and Burns (2009) of 12 trials (3243 women) found that for the first stage of labour there was a significant reduction in the epidural/spinal analgesia/anaesthesia rate amongst women allocated to water immersion compared to birth on dry land. There was also a reduction in duration of the first stage of labour. There was no difference in assisted vaginal deliveries, caesarean sections, use of oxytocin infusions, perineal trauma or maternal infection. There were no differences for Apgar scores of less than seven at five minutes, neonatal unit admissions, or neonatal infection rates.

Criteria for Inclusion in low risk pregnancies

Women who have had an uncomplicated singleton, pregnancy and are between 37 and 42 weeks gestation, with a cephalic presentation, and who have spontaneous onset of labour.

Women, who have Group B Streptococcus, should be allowed to use the pool, with a cannula insitu and antibiotics should be administered as per guideline. The woman should be encouraged to keep her cannulated hand out of the water; a glove may be used to aid this.

Women should be physically able to get in and out of the pool. Therefore, body mass index should be considered ($\neq < 35$) in case emergency assisted evacuation of the woman from the pool is needed.

Criteria for inclusion in high risk pregnancies

Any woman that does not meet the 'low risk' criteria and wishes to use the pool for labour and/or birth should be counselled by a midwife or obstetrician with knowledge of pool use. The salient points of the discussion should include risks and benefits along with a birth plan that should be recorded in the woman's hospital and handheld notes as well as on the Medway. This plan may include the use of telemetry monitoring.

Where a woman is under consultant led care and remains high risk in labour, but is able to use the pool, it should be clear that she remains under consultant care and at QMC campus should use the pool on the consultant led side of Labour Suite.

Water is a natural hypotensive, and therefore can be beneficial to women with essential hypertension. Maternal blood pressure should be monitored every 15mins for the first hour of water immersion, and thereafter should be monitored hourly (Garland 2011).

Women with mild pre-eclampsia may still use the pool in labour, but should be reviewed by the Obstetric registrar prior to immersion. Fetal monitoring should be carried out according to the usual guidance.

Women who have been induced, and who go into labour following administration of propess/prostin, and who fit the inclusion criteria may use water immersion, providing fetal and maternal monitoring are continued according to the NUH guidelines for Induction of Labour.

Women who have had ruptured membranes for more than 24 hours may use water immersion, alongside hourly maternal temperature monitoring

Infection Control

During home births, it is important that women do not labour and birth their babies in pools which have been pre-filled and kept warm. Pools with pumps to keep the water heated provide ideal growth conditions for legionella, and should therefore not be used. Women should fill their pools at the onset of their labour, using a domestic hot water system.

Hired pools should only use the pump provided for emptying the water and not for recirculation (NHS England, 2014).

For cleaning of the birth pools, please refer to Appendix 1.

When to Get In to the Pool

Women may use the pool during any phase of their labour. It is thought however, that water immersion may slow the frequency of contractions before labour is established. Therefore, if a woman's contractions diminish and labour progress is not evident, it may be helpful for her to exit the pool and walk around, eat and drink and stimulate effective contractions before re-entering the pool (Eriksson et al 1997). Consideration should be given to the birthing environment; ensuring the woman's labour is undisturbed, calm and ambient. If a woman intends to only use water for labour she may be encouraged to use an alternative coping strategy until labour is established. There no evidence to suggest that the use of water should be limited to a specific duration (Eriksson et al, 1997).

The chemical and hormonal effects of water immersion take effect after no less than twenty minutes of submersion and peak around ninety minutes. It is therefore suggested that a change of environment, such as getting out and walking be recommended after about two hours of initial immersion. This time can be used as an opportunity to encourage women to pass urine and evaluate uterine activity on dry land. Getting back in the water after thirty minutes will reactivate the chemical and hormonal process, including a sudden and often marked increase in natural oxytocin production (Harper, 2006).

Temperature of Pool, Room and Mother

The water temperature should be comfortable for the mother and at a temperature to avoid hyper/hypothermia. In the first stage of labour, the recommended range of temperature is between 34 - 37°C. During the first stage of labour, the water temperature should be checked and recorded every hour in the intrapartum records and on the partogram.

In the second stage of labour, the water temperature should be 37 - 37.5 °C, the temperature should be checked every 15 minutes and recorded in the intrapartum records.

The room temperature should ideally be between 22-24°C.

Maternal temperature should be checked on entry to the pool to provide a baseline and then hourly during time spent in the water. This should also be recorded in the intrapartum records. A maternal temperature greater than 37.5°C that cannot be resolved with simple cooling measures should result in advice to discontinue use of the pool. Exposing a women's upper torso to the air, position change, drinks, and ventilating the room is the simplest and most effective way of adequately cooling.

Eating and drinking in labour when using the pool

Women should be encouraged to drink 500mls of isotonic cool fluids per hour whilst in the pool, light diet may be taken. Please refer to the Guidelines for Eating and Drinking in labour, before elective Caesarean section, and in the early postpartum period.

Additional Coping Strategies

Aromatherapy, hypnobirth techniques, entonox and other strategies may be used whilst in the pool. NICE states that women should not enter the pool within two hours of opioid administration. Women using inhalation or other forms of analgesia that make them drowsy and should never be left alone in the pool. The midwife should only leave the woman alone in these circumstances if it is absolutely necessary.

Observations in the first and second stage of labour

The depth of the water should be up to the mothers' breasts when she is in a sitting position. Intermittent auscultation should be undertaken by either a waterproof Doppler or Pinard stethoscope in line with the current intrapartum fetal monitoring guideline.

Observations by a midwife during the first and second stage of labour when a woman is in the birthing pool include all of those cited in the Guideline for the Management of the First Stage of Labour (including suspected delay),

In normally progressing labour, amniotomy should not be performed routinely (NICE, 2007), but if required may be performed under water.

Accurate records should be kept. In addition, times of entering and leaving the pool should be clearly documented, including the reason for leaving the pool, if appropriate. Please record clearly whether the baby was born under water.

Changing from intermittent auscultation to continuous electronic fetal monitoring in low-risk women should be advised in accordance with the current intrapartum fetal monitoring guideline:

During the 2nd stage, the midwife should practice 'hands off' and use verbal coaching to encourage calm fetal head descent. If the woman raises herself out of the water and exposes the fetal head to air, she should remain out of the water. This is to ensure that the newborn's breathing physiology is not stimulated prematurely causing the baby to gasp under water (Johnson, 1996)

Observations in the third stage include:

- The woman's general physical condition, as shown by her colour, respiration and her own report of how she feels
- Vaginal blood loss

As vaginal blood loss is difficult to estimate accurately in water it is acceptable to quantify it as <500mls or >500mls

If physiological management of the third stage is requested this can be performed either in or out of the pool, depending upon maternal preference, and the clinical situation.

If active management is requested this must be performed as on dry land. The woman should be asked to leave the pool, or the pool should be emptied of water prior to commencing controlled cord traction. The oxytocic should preferably be administered within 10mins of birth. See Guideline For management Of Third Stage, Retained Placenta, and Acute Uterine Inversion.

Emergency situations

In emergency situations the woman is helped out of the pool to a suitably prepared area of the room. If an evacuation net is required, the water level should be raised if possible to allow for easier evacuation. The net should be kept in the same room as the pool at all times.

Shoulder Dystocia:

- Time should be allowed for restitution, and gentle checking of the newborn chin exiting the perineum is acceptable.
- The woman should be encouraged to abduct her legs to widen the pelvic outlet.

- If there is any doubt, assist the woman to exit the pool immediately, encouraging her to step out herself, therefore encouraging restitution.

If in attendance of a home birth and an emergency situation arises, phone for an ambulance as soon as a deviation from normal has been identified. Enlist the help of the woman's birth partners if you are unable to do this yourself. There should be 2 midwives in attendance for a birth, ensure your 2nd midwife is on route if they have not yet arrived. Inform the labour suite co-ordinator of your need to transfer in to hospital and why.

Suturing

In the absence of heavy vaginal bleeding, good practice would be to encourage skin to skin and breastfeeding prior to suturing. It is preferable to leave suturing until 1 hour post water immersion (Garland, 2011).

Appendix 1

Cleaning of the Labour Suite Birth Pools

Equipment

- Sanitizer or Chlor-Clean
- Appropriate colour coded cloths
- Bucket
- Gloves
- Disposable paper roll

Process

- Collect equipment.
- Put on rubber gloves.
- Prepare a solution of Chlor-Clean and cold water in a bucket, adhering to the following points:
 - Use cold water.
 - Always use the dilution bottle to ensure correct dilution rate.
 - The solution must be changed after every use.
- Place caution signs in clearly visible places.
- Remove any debris from the plughole.
- Using a wrung out cloth in the Sanitizer or Chlor-Clean solution and rinsing the cloth in the solution frequently, wipe all surfaces including, splash backs, pipes and underneath of the outer surfaces of the pool.
- Pay particular attention to the base of the taps.
- Report any scale issues to a Cleaning Services Team Leader.
- Rinse the cloth in the Sanitizer or Chlor-Clean solution and thoroughly clean the interior of the pool.
- Thoroughly wash the interior of the pool with hot running water. Ensure all traces of the solution are removed.
- Using disposable paper rolls dry all surfaces of the pool and tap fittings. Wipe all spillages of water from the floor with disposable paper rolls.
- Return all equipment to cleaning cupboard for safe storage.

Health and Safety Points

- All accidents must be reported to the Labour Suite Coordinator at the earliest opportunity.
- An incident report should be completed for all accidents however slight.

References

1. Al-Hadi M, Geary M, Byrne P, McKenna P (2001) Shoulder dystocia: risk factors and maternal and perinatal outcome. *J Obstet Gynaecol* **21**(4): 352–4
2. Alderdice, R; Renfrew, M; & Marchant, S (1995) Labour and birth in water in England and Wales: Survey report.
3. Andreasen KR, Andersen ML, Schantz AL (2004) Obesity and pregnancy. *Acta Obstet Gynecol Scand* **83**(11): 1022–9
4. Balaskas J (2004) *The Water Birth Book*. Thorsons, London
5. Benko A (2009) Waterbirth: Is it a real choice? *Midwifery Matters*. Autumn Issue **122**: 9–12
6. Bodner, K (2003) Effects of water birth on maternal and neonatal outcomes Departments of Gynaecology and Obstetrics, Hospital Rudolfstiftung, Vienna, Austria. *Wiener klinische Wochenschrift* (Impact Factor: 0.81). 06/2002; 114(10-11):391-5. Source: PubMed
7. Burns & Kitzinger (2005) *Midwifery Guidelines for the use of water in labour*. Oxford Brookes University, Oxford
8. Campbell G (2004) Critical incident analysis of water immersion. *BJM* **12**(1): 7–11
9. Cluett ER, Nikodem VC, McCandlish RE, Burns EE. Immersion in water in pregnancy, labour and birth. *Cochrane Database Systematic Review*. 2004;(2):CD000111.
10. Eriksson M, Mattson L-A, Ladfors L (1997) Early or late bath during the first stage of labour: a randomised study of 200 women. *Midwifery* **13**(3): 146-8
11. Garland D (2000) *Waterbirth an attitude to care. Books for Midwives, delivery of the placenta in the water*
12. Gilbert RE & Tookey PA (1999) Perinatal mortality and morbidity among babies delivered in water: Surveillance study and postal survey. *British Medical Journal*, 319(7208) p483-487.

13. Barbara Harper (2006) *Guideline for a Safe Water Birth*-Waterbirth International
14. Johnson, P (1996) Birth Underwater – to breathe or not to breathe. *British Journal of Obstetrics and Gynaecology*. March Vol 103 pp 202-208
15. NICE Intrapartum care: management and delivery of care to women in labour Clinical guidelines CG55 September 2007
16. NHS England Patient Safety Alert
<http://www.england.nhs.uk/2014/06/17/psa-legionella/>
17. Nottingham University Hospitals, NHS Trust, Estates and Facilities, Cleaning Services, Standard Operating Procedure No 2, Cleaning wash hand basins/sinks/cast iron/enamel baths in sanitary, clinical or general area.
18. Simkin P, Ancheta R (2011) *The Labor Progress Handbook*. 3rd edition. Wiley Blackwell, Oxford

