Guideline for the use of water during labour and birth

Classification :	Guideline
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Scope: For use with women/birthing people who choose to use water immersion in labour and water birth (where a baby is born fully submerged into water).

To be read in conjunction with the following documents:

MKHFT Fetal Monitoring Guideline
MKHFT Intrapartum Care Guideline
MKHFT Group B Streptococcal (GBS): Prevention and Management Guideline
MKUHFT Complementary Therapies Guideline

Royal College of Midwives (2012) Evidence Based Guidelines for Midwifery-Led Care in Labour. Immersion in Water for Labour and Birth.

National Institute of Clinical Excellence (NICE) (2014) Intrapartum Care: care of healthy women/birthing people and their babies during childbirth. London: NICE

CQC Fundamental standards:
Regulation 11 – Need for consent

Disclaimer

Since every patient's history is different, and even the most exhaustive sources of information cannot cover every possible eventuality, you should be aware that all information is provided in this document on the basis that the healthcare professionals responsible for patient care will retain full and sole responsibility for decisions relating to patient care; the document is intended to supplement, not substitute for, the expertise and judgment of physicians, pharmacists or other healthcare professionals and should not be taken as an indication of suitability of a particular treatment for a particular individual.
The ultimate responsibility for the use of the guideline, dosage of drugs and correct following of instructions as well as the interpretation of the published material **lies solely with you** as the medical practitioner.

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Guideline Statement

All healthy women/birthing people with uncomplicated pregnancies at term should have the option of water for labour available to them and should be able to proceed to a water birth if they wish (RCM, 2012; RCOG, 2006; NICE, 2007).

This guideline outlines the evidence-based practice in respect of water births in Milton Keynes University Hospital NHS Foundation Trust and supports the advice and care to a woman/birthing person who wishes to labour and deliver in the pool.

The aim is to:

- To ensure safe practice for both women/birthing people and midwives.
- To give women/birthing people a range of choices for coping with their labour and birth.
- To provide midwives with evidenced based guidance when caring for women/birthing people in water during labour and birth.
- To promote normality and aim to reduce intervention rates.
- To ensure local infection control guidance and infection risks are adhered to.

Immersion in water during labour can be helpful in empowering women/birthing people, enabling relaxation and easing pain. Evidence suggests that it can shorten the first stage of labour and reduce the need for pharmacological analgesia (Cluett & Burns, 2009). Buoyancy helps women/birthing people to move around easily and change position in labour and the calmer and more in control a woman/birthing person feels during her labour reduces her likelihood of requiring augmentation and operative birth (Burns, 2012).

Women/birthing people's choice during pregnancy and birth must be respected (Maternity Matters, 2007) and midwives should support women/birthing people who choose to labour and birth in water. Midwives should ensure they are competent to provide support to women/birthing people who choose to use water and should keep themselves updated on the research evidence in this area (NMC, 2012).

Research based literature on waterbirth is increasing and there are two systematic reviews exploring the use of water in labour and birth (Cluett & Burns, 2009; Cluett et al, 2018). A major national survey reported no increase in the incidence of adverse outcome for mother and baby following water immersion for women/birthing people in spontaneous labour following an uncomplicated pregnancy (Cluett & Burns, 2009). A Cochrane review in 2018 found that there was no evidence to suggest that it affects perineal tearing (Cluett et al., 2018)

Water has an increasing role as a method of pain relief not only for women/birthing people with no risk factors, but also due to increasing maternal requests for women/birthing people who have known risk factors.

Executive Summary

- Water can be used as pain relief during labour and birth, both at home and in hospital. It is suitable for any pregnant woman/birthing person who is expected to have a vaginal birth. This applies to pregnant women/birthing people booked for either midwife led care or care under an Obstetric Consultant.

- Women/birthing people's experiences of using water for labour and birth are generally positive in terms of feeling relaxed, involved in decision-making, being more in control and able to move around more freely and improved satisfaction of their birth with less anxiety, better fetal positioning in the pelvis and less augmentation of labour (Richmond, 2003; Shaw-Battista, 2017).

- Women/birthing people's choice during pregnancy and birth must be respected (Maternity Matters, 2007; NICE, 2014) and midwives should be able to support women/birthing people who choose to labour and birth in water.

- All women/birthing people at low risk of complications should be offered the use of water for labour and/or birth (NICE, 2007).

- Water immersion during labour is associated with no difference in type of birth, Apgar Scores at five minutes, neonatal infection and admission to neonatal units. There is some evidence to suggest that the length of the first stage of labour may be reduced (Cluett et al, 2018).

- Thorough risk assessment needs to be done antenatally for suitability of waterbirth and revisited at the attendance at the intrapartum period.

1.0 Roles and Responsibilities

For use by midwives, student midwives and obstetricians (including temporary employees and agency staff).

2.0 Implementation and dissemination of document

This Guideline has followed the Guideline review process and is accessible via the Trust Intranet.

3.0 Processes and Procedures

3.1 Inclusion Criteria (Please see Appendix A: Risk Assessment Matrix (Criteria for use of birth pool)

3.1.1 Woman/birthing person's informed choice.

3.1.2 Low Risk

- 37-42 weeks gestation.
- Uncomplicated pregnancy
- Placenta that is not low lying
- Singleton pregnancy
- Engaged and cephalic presentation
- Normal liquor volume
- Spontaneous onset of labour
- Induction of labour (IOL) with Prostin / Propess / ARM who are labouring without need for further intervention of augmentation with Oxytocin.
- Established labour with regular painful contractions and progressive cervical dilatation.
- Fetal heart rate within normal limits. ***A normal fetal heart rate is interpreted as a baseline between 110 and 160 bpm (NICE 2014).***
- Has not received opiate pain relief within 2 hours preceding entry to the pool or is feeling drowsy (NICE, 2014).
- Normal range of maternal baseline observations and normal observations throughout labour.
- Normal blood picture and no known active blood borne viruses.
- No significant medical conditions requiring intensive maternal monitoring e.g. cardiac disease, diabetes or posing risk of seizure or collapse.
- In situations where artificial rupture of membranes or spontaneous rupture of membranes has occurred in women/birthing people the pool can still be used, but liquor must be clear and membranes ruptured for less than 24 hours.
- No physical impairment which impacts on the ability to enter or leave the pool or stand up unaided.

3.2 Water use in other circumstances

3.2.1 Group B Haemolytic Streptococcus (GBS)

Birth in a pool is not contraindicated if the woman/birthing person is known GBS carrier provided she is offered appropriate intrapartum management. There is no evidence to suggest that low risk women/birthing people identified with GBS should be denied the use of the pool (Smaill, 2005; Zanetti-Dallenbach et al, 2006). Intravenous antibiotics can be given prior to entering or whilst in the water. The hand with the cannula should be covered with a glove and the woman/birthing person/birthing person asked to keep this hand out of the water. Refer to the MKHFT Guideline for the management of those women/birthing people with Group B Streptococcus.

3.2.2 BMI above 35

Women/birthing people with a BMI of more than 35 or a weight of 100kgs or more at booking must be risk assessed for their suitability of a water birth by their Consultant Obstetrician/Consultant Midwife/Professional Midwifery Advocate (PMA) during their pregnancy and on admission to the labour ward to ensure they are able to get into and out of the birthing pool unaided and that the fetal heart can be confidently monitored during labour.

The risk of shoulder dystocia and postpartum haemorrhage must be considered, and the woman/birthing person/birthing person counselled accordingly and documented in the maternal records.

A personalised care plan needs to be documented in antenatal period which covers intrapartum and postpartum care.

3.2.3 Other risk factors

It is not recommended that women/birthing people with multiple risk factors labour or give birth in water.

Women/birthing people may choose to make an informed choice to labour and birth their babies in water with a presence of known risk factors. A referral for a discussion with an obstetric consultant and/or senior midwife (i.e., Consultant Midwife or PMA) should be made as early in pregnancy as possible to ensure a plan is put in place and communicated to the multi-professional team (midwives, obstetricians, and paediatricians where necessary).

Women/birthing people must be given unbiased, accurate information which outlines risks, with which they are enabled to make an informed choice. Where this remains the woman/birthing person's choice after thorough discussion on associated risks this should be clearly documented in the maternity records and a documented risk assessment carried out once labour commences.

A personalised care plan needs to be documented in antenatal period which covers intrapartum and postpartum care.

3.3 Antenatal Care

A discussion regarding the benefits of water should occur with a woman/birthing person to enable an informed choice about care in labour. This can be done at any stage during pregnancy; however, it should be included within parent craft education and at the 36/40 antenatal appointment. This should include the benefits of water at home for the early latent phase.

Comprehensive documentation of all discussions with the woman/birthing person and her partner regarding the use of the pool for pain relief/birth should be recorded in her maternity records.

An information leaflet will be available to all women/birthing person to support the discussion process.

3.4 Care during Labour

All low risk women/birthing people should be offered the pool as a form of pain relief if there is one available. This discussion must be documented in the labour records.

If a woman/birthing person chooses to use the birthing pool, the Labour Ward Coordinator in charge of the shift must be informed.

The use of water can be useful for the management of women/birthing people in the latent phase of labour and baths, or showers can be recommended to aid relaxation.

There is little evidence to recommend the use of arbitrary points during labour to dictate when birth pools should or should not be used and no evidence to suggest that the use of water should be limited to a specific duration. The woman/birthing person should be in established labour prior to using the pool and immersion in water (i.e. experiencing strong regular contractions) (RCM, 2012).

Clinical care should be provided according to MKUHFT Guideline for Intrapartum Care guideline as per Appendix 2 (Observations in labour).

If a woman/birthing person'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. Women/birthing people with a delay in labour should be referred to the on call obstetric team for review and a CTG commenced.

A full risk assessment must be conducted prior to water immersion including:

- Review of pregnancy, obstetric and medical history – confirm low risk status
- Temperature, blood pressure, pulse and urinalysis – All should be within normal limits.
- Abdominal examination to determine cephalic presentation
- Fetal heart auscultated and is within normal parameters
- Offer a vaginal examination to confirm established labour, cephalic presentation, position of presenting part, presence/absence of membranes (and colour of liquor if membranes absent) and confirm absence of abnormal features.

3.4.1 Depth and Temperature of Water

The pool should be filled to the level of the woman/birthing person's breasts so that the abdomen is completely immersed. The depth of water and increased buoyancy promotes unrestricted movement in the pool, which facilitates the progress of labour and enhances maternal control. It is important not to immerse above breast level as she may get too hot and is more likely to feel out of control.

The temperature of the water must be measured after the pool water has been agitated to ensure it is sufficiently mixed and taken in the center of the pool using the thermometer before the woman/birthing person gets into the pool.

Recommended water temperature range for the first stage of labour is comfortable for the mother, not exceeding 37.5 degrees (NICE, 2014).

The water temperature should be checked and recorded on the partogram at hourly intervals. In addition, each time the water level is topped up the temperature must be rechecked after agitating the water.

Recommended water temperature range for the second and third stage of labour 37.0°-37.5°

3.4.2 First stage of labour

Refer to Appendix 3 (Complications) for actions expected if labour deviates from expected norm.

- Clinical intervention should not be offered or advised where labour is progressing normally, and the woman/birthing person and baby are well (NICE, 2007).
- Check and record water temperature before woman/birthing person enters the pool.
- Clinical care and observations should be provided for maternal and fetal wellbeing according to MKUHFT Intrapartum Care guideline for the first stage of labour.
- The woman/birthing person should be able to move and explore different positions in the pool any time during labour and birth. She may choose to squat, kneel or be on all fours, rather than sit. The use of towels for comfort over the edge of the pool can be helpful.
- Current recommendations for labour and birth in hospital at MKHFT are for fetal heart monitoring in water to be undertaken with either intermittent fetal monitoring using a waterproof electronic Doppler (Sonicaid) or Continuous Electronic Fetal Monitoring (CEFM) via telemetry (please refer to the Fetal Monitoring guideline). The first auscultation should be first undertaken with a pinard stethoscope for a minute and should be immediately followed by auscultation with either an electronic Doppler or CEFM. Where any deviations occur the woman/birthing person must be asked to leave the pool.
- A "fresh care" or "fresh eyes" review should be undertaken at hourly intervals by a second midwife. A record of this should be made in the birth records. The fresh care review should also enable a holistic review of the care pathway and the plan of care.
- Maternal observations of pulse and blood pressure should be recorded (as per MKHFT Intrapartum Care guideline), ensuring that the mother is disturbed as little as possible. Maternal observations should remain within normal limits.
- Record maternal temperature hourly in 1st stage.
- Progress in labour should be assessed 4 hourly. Women/birthing people should be asked to leave the pool for vaginal examination.
- In the first stage maintain water temperature at a level which is comfortable for the mother. Measure and record water temperature hourly in the first stage.
- The woman/birthing person may use other methods of analgesia whilst in the water, such as Entonox and oral analgesia. Opiates must not be given if the woman/birthing person remains in the water, and she must leave the pool if these are requested.
- Aromatherapy can be used in conjunction with the use of water (please refer to the MKUHFT Complementary Therapies guideline).
- Women/birthing people should be encouraged to drink plenty of cool fluids whilst in the pool to maintain hydration. Light diet can be offered to avoid ketoacidosis. Glucose sweets can be given if a woman/birthing person prefers not to eat, and isotonic drinks can be encouraged.

- Women/birthing people in labour should be encouraged to pass urine approximately 2hrly. This should be documented in the labour records even if the woman/birthing person declines.

- Keep the water as clear as possible using a sieve.

- There should be good ventilation in the room

- Any water on the floor must be wiped away

3.4.3 Second stage of labour

- Two midwives should attend pool births for the health and safety of the mother and baby. Two midwives should be present for the birth, one of whom must be competent in caring for women/birthing people labouring and delivering in water. As a minimum one midwife should be a band 6/7 with competent skills in waterbirth

- Clinical care and observations should be provided for maternal and fetal wellbeing according to MKUHFT Intrapartum Care guideline for the second stage of labour

- In second stage, the temperature should be checked and recorded in the labour records at 15-minute intervals. For delivery the water temperature must be 37-37.5 degrees Celsius.

- As the birth approaches, the woman/birthing person will instinctively know whether she wishes to remain in the pool. Some women/birthing people prefer to be on dry land. It is the woman/birthing person's decision whether to remain in the pool for birth.

- The woman/birthing person should not be encouraged to push before she has the natural urge; Pushing should be physiological (non-directed where the mother should be encouraged to push only as and when she has the urge to do so). Sustained and directed pushing is associated with lower Apgar scores and umbilical artery pH (Enkin et al., 2000).

- A 'hands off' birth, supported by quiet verbal guidance by the midwife, should be practiced, minimising stimulation of the baby underwater. Ensure the baby is delivered totally submerged, as exposure to air will initiate respiration. The woman/birthing person can be encouraged to reach down and support her baby as it emerges. The baby should be brought immediately (face first) to the surface in a gentle way.

- It is not necessary to feel for the presence of the cord following birth of head (Garland, 2011). The cord can be loosened and disentangled as the baby is born, in the usual manner. **Under no circumstances should the cord be clamped and cut under water.** Clamping or cutting of the umbilical cord stimulates the baby to breathe and **breathing must not occur under water** (Burns & Kitzinger, 2001).

- Restitution still occurs under water and **at no point should the midwife expedite the birth of the body unless suspected shoulder dystocia is observed.** All manoeuvres for shoulder dystocia should be performed clear of the water.

- Control of the perineum is unnecessary; immersion in water changes the skin elasticity thereby aiding stretching of the perineum.

- Should any complications arise at any time, assist from pool and follow appropriate emergency guideline. Refer to Appendix 4 (Water birth - Pool Evacuation).

- Maintain warmth of baby by skin-to-skin contact with its mother. Dry baby's exposed head and skin to reduce heat loss and dress baby in a hat.

- If respiration is not established **within one minute of birth, the cord should be clamped and cut,** and the baby removed from the pool for resuscitation. **Commence neonatal resuscitation immediately.**

- Intramuscular injections or episiotomies should not be conducted under water. If these are required, the woman/birthing person should be asked to leave the pool.

3.4.5 Third stage of labour

- Information about the risk/benefits of management of the third stage should be given to ALL women/birthing people and consent obtained for whichever mode of management for the third stage.

- The RCOG & RCM joint guidance recommends for third stage management women/birthing people should be informed about the risks and benefits normally associated with low risk women/birthing people and the third stage of labour so they can choose their preferred method (RCOG & RCM 2006-2009). Midwives should be vigilant during labour so that women/birthing people are appropriately advised and therefore deviations from the norm acted upon.

- Clinical care and observations should be provided for maternal and fetal wellbeing according to MKUHFT Intrapartum Care guideline for the third stage of labour.

- **Physiological Management** - If expectant third stage; wait for cord to stop pulsating. It may then be clamped, allowing maternal end to drain free. Await signs of separation (trickle of blood, lengthening of cord). Maternal effort is used to expel the placenta. An upright position in the water will assist this or alternatively the woman/birthing person can stand up or leave the pool for the placenta to be delivered by maternal effort. There is no evidence to support removing the woman/birthing person from the pool for a physiological third stage no evidence of water embolism when the third stage is conducted in water.

- **Active Management –** If active management of the third stage; allow time for delayed cord clamping. Clamp and cut the cord, ask the woman/birthing person to leave the pool and give appropriate oxytocic. The placenta should be delivered using controlled cord traction on dry land.

- It is difficult to accurately estimate blood loss in water and therefore blood loss should be recorded as < (less than) or > (greater than) 500 mls.

- After the 3rd stage is complete, the woman/birthing person should be asked to leave the pool and examination for trauma to the perineum should be undertaken with informed consent.

3.5 Record Keeping

Maintain accurate and detailed records throughout all stages of labour. Times of entering and leaving the pool should be clearly documented. Complete audit form.

3.6 Emergency situations

All staff must be familiar with the procedure for emergency evacuation of the birthing pool, receiving a training update every 2 years minimum.

If the woman/birthing person is able they should be helped to stand and get out of the pool. They should be supported to get into standing position if required

3.6.1 Emergency evacuation (See flow chart Appendix 4)

For emergency evacuation from the pool the midwife must summon help and ask for urgent assistance.

Appendix 4 will be available as a laminate in birthing rooms with a pool for an aid to staff during emergencies.

Once help has been requested the midwife will initiate emergency evacuation procedure as follows:

- Ensure head is supported throughout and maintain airway as required.
- Add more water to the pool to raise mother onto the edge of the pool - ensure pool is full and allows buoyancy
- Use the Slide Sheet with a net to place woman/birthing person gently onto the bed where emergency care measures can be undertaken as indicated.
- A minimum of 4 members of staff are required for the lift. More staff should be considered if the birthing person had a raised BMI
- Immediate resuscitation or emergency procedures should follow.
- Remove the slide sheet once the woman/birthing person is on the bed.
- Ensure the woman/birthing person is dried and covered to keep her warm using a reflective blanket and preserve her dignity with sheets.

3.7 Infection Control / Health & Safety Issues

Women/birthing people using the pool should have intact skin and be free from skin conditions, such as eczema or psoriasis, or blood borne viruses,to protect against infection. Gauntlets are available for staff who wish to wear when assisting at a waterbirth. In addition, staff must ensure that all cuts and abrasions are covered with a waterproof dressing.

Universal precautions must be used at all times.
Birth partners may choose to enter the pool, but this is at their own risk. They should be appropriately attired.

The Midwife should not enter the pool at any time.

During care of the woman/birthing person in labour ensure that water is not splashed onto the floor and the surrounding area is kept dry.

The pool should be always kept free of faecal matter and large particles should be removed. Equipment such as jugs, sieves and brushes should be single use.

If there is heavy contamination the woman/birthing person should be advised to leave the pool, the pool must be emptied, cleaned in accordance with current infection control recommendations and thoroughly dried before refilling.

Maintenance
The bath surface must be free of chips and cracks.
The shower head must be free of rust

Daily cleaning and Legionella precautions
The taps and shower heads should be run on full bore daily (every 24 hours) for 2 minutes and documented on the Water Flushing Reports

Clean the whole surface of the bath including shower attachment using disposable paper and a non-abrasive detergent.

Prior to each use:
Run tap(s) at full bore to drain for 3 minutes.
Run shower at full bore to drain for 3 minutes.
This procedure must be documented so that an audit trail is provided.
Pool decontamination – after each use
Empty pool.
The cleaning procedure is a clinical responsibility and must be carried out by either a maternity support worker/maternity care assistant or a midwife.
When cleaning the pool standard personal protective equipment (plastic apron and disposable gloves should be used.
Clean the whole surface of the bath including shower attachment using disposable paper and a non-abrasive detergent.
Rinse well with clean water
Mix up a 1 litre solution of hypochlorite bleach to 1000 ppm – which is: - 1 Chlor-Clean tablet dissolved in 1 litre of water
Clean the pool tap first prior to cleaning the pool with the hypochlorite solution
Put plug in, empty the solution into the bath and coat all surfaces of bath with it using a clean disposable cloth (used for cleaning and rinsing stages)
Drain residual solution and rinse all surfaces of the bath with fresh water, using either disposable cloth or showerhead spray
Dry the entire surface of the pool using a fresh disposable cloth as far as possible and leave to fully air dry before next use.
Discard cloths in a yellow clinical waste bag

Pool equipment
The pool thermometer and mirror should be cleaned after each use using hypochlorite bleach to 1000 ppm
Throw the sieve away. These are one use only.

Shower head decontamination
To prevent contamination, service users must be advised not to let the showerhead enter the pool water. However, the following applies if this has occurred:
1. Remove shower head from hose.
2. Immerse for 10 minutes in a solution of hypochlorite at 1000 ppm, so that all internal and external surfaces are in contact with the solution.
3. Remove showerhead and rinse in fresh water.

3.7.1 Water births at Home

It is the responsibility of the woman/birthing person and her birthing partner to arrange private hire of a birthing pool and its assembly and maintenance.

In addition, the filling and the emptying of the pool is also the responsibility of the woman/birthing person and her partner.

Care should be taken to ensure that the pool is not near any electrical equipment.

Prior to using a pool at home, a risk assessment should be carried out by the midwife to ensure that should an emergency occur the woman/birthing person can be removed from the pool.

If the temperature of the pool cannot be maintained within the correct range or there are concerns about the accuracy of the temperature recordings, women/birthing people must be advised to get out of the pool. If a woman/birthing person refuses to do so, this must be clearly documented and escalated to the labour ward coordinator for support and advice.

NB monitoring and recording of the temperature of the pool follows the same guidance as that in point 3.4.1 above.

3.8 Training and Awareness

All midwives must be competent to assist women/birthing people with a water birth.

Water birth workshops will be facilitated by the practice development team.

Clinical competency is supported by the labour ward coordinator.

Those midwives who feel they need to update water birth skills should access support from their line manager or named PMA and a plan made to update competency.

3.9 Monitoring

Maternity Governance will ensure that processes and systems exist for monitoring all audit and policy/guideline development and implementation, feedback to staff and minute meetings.

All clinical data / maternity health care records will be inputted to Maternity IT system.

Problematic cases will have an incident form completed and managed as per the risk management process.

4.0 Statement of evidence/references

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5.0 Governance

5.1 Document review history

Version number	Review date	Reviewed by	Changes made
7.2	12/2022	M Plummer	Reviewed and updated for cleaning process

5.2 Consultation History

Stakeholders Name/Board	Area of Expertise	Date Sent	Date Received	Comments	Endorsed Yes/No
Women's digital review group	maternity	11/2021			
Guideline group	Maternity	26/01/2022			Yes
MVP	Maternity	26/01/2022		Change to sentence on 3.7	Yes
R.Juffs	Maternity	09/11/2022		Change to section 3.6 and 3.6.1. Appendix 4 changed for new flow chart	Yes
M Plummer	Maternity	29/12/22		Amendments to cleaning process	Yes

5.3 Audit and monitoring

Audit/Monitoring Criteria	Tool	Audit Lead	Frequency of Audit	Responsible Committee/Board
To monitor the clinical practice, breach in policy	Incident forms via Datix/Statement of Concern	Labour Ward Manager	Annually	Labour Ward Forum, Divisional Governance Committee
To monitor frequency of use of the birthing pools for labour	Birth Register	Band 7 MLU	Monthly	Labour Ward Forum, Divisional Governance Committee
To monitor number of women/birthing people who birth in the pool	Birth Register	Band 7 MLU	Monthly	Labour Ward Forum, Divisional Governance Committee
To monitor number of babies born in the pool who are admitted to the neonatal unit	Incident forms via Datix/Statement of Concern	Band 7 MLU	Monthly	Labour Ward Forum, Divisional Governance Committee

5.4 Equality Impact Assessment

As part of its development, this guideline and its impact on equality has been reviewed. The purpose of the assessment is to minimise and if possible remove any disproportionate impact on the grounds of race, gender, disability, age, sexual orientation, religion or belief, pregnancy and maternity, gender reassignment or marriage and civil partnership. No detriment was identified.

Equality Impact Assessment			
Division	**Women and Children**	**Department**	**Maternity**
Person completing the EqIA	**Erica Puri**	**Contact No.**	
Others involved:	**Yes**	**Date of assessment:**	**26/012021**
Existing guideline/service	Yes	**New guideline/service**	**No**

Will patients, carers, the public or staff be affected by the guideline/service?	Staff
If staff, how many/which groups will be effected?	All staff

Protected characteristic	**Any impact?**	**Comments**
Age	NO	
Disability	NO	
Gender reassignment	NO	
Marriage and civil partnership	NO	
Pregnancy and maternity	NO	
Race	NO	
Religion or belief	NO	
Sex	NO	
Sexual orientation	NO	

What consultation method(s) have you carried out?	**emails**
How are the changes/amendments to the guidelines/services communicated?	**Emails and meetings**

Appendix 1: Risk Assessment Matrix (Criteria for use of birth pool)

Prerequisites for pool in any location	Can use pool on labour ward	May use pool for labour on labour ward but not to birth	May use pool after individualised risk assessment and plan	Should not use pool in any location
Green	**Amber**	**Amber**	**Amber**	**Red**
• Healthy woman/birthing person, without medical problems which may negatively impact on her labour or baby's wellbeing. • Good mobility enabling entry to and exit from the pool with minimal assistance. • BMI less than 35 at booking. • Uncomplicated pregnancy. • Maternal observations within normal limits. • Fetal heart rate normal on auscultation or CEFM. • Gestation 37 – 42+0 weeks. • Cephalic presentation with normal fetal growth • Singleton pregnancy • Engaged head i.e. less than 4/5 palpable per abdomen • If ruptured membranes, liquor should be clear • Active labour with regular contractions and progressive cervical dilation • < 24 hours since SROM	• Women/birthing people who are or have increased risk of VTE. • Women/birthing people who have low platelets (minimum 50). • In labour after prostaglandin or ARM induction • Women/birthing people identified with strep B (With IV antibiotic management).	• Risk of postpartum haemorrhage (PPH) • Previous history of shoulder dystocia	• Any other condition which would not normally be considered suitable for the pool **(other than those risk assessed red)** Previous 3rd degree tear • BMI 35 or greater after consultation with their Consultant Obstetrician/Consultant Midwife or PMA	• Major medical disease requiring intensive maternal monitoring e.g. cardiac disease, diabetes or posing risk of seizure or collapse. • Blood borne viral disease. • Pregnancy complications posing risk of seizure or collapse e.g. current APH, PET • Significantly compromised mobility • Maternal pyrexia (37.5 on two occasions or 38 once) and/or evidence of active infection • Active herpes • Gestation less than 37 weeks or over 42 weeks • Less than 3 hrs have elapsed since administration of an opiate such as Pethidine, or if the woman/birthing person is still drowsy • Meconium-stained liquor • Placenta Praevia • Breech presentation • Significant polyhydramnios (AFI 25 or more). • Oligohydramnios • Non-engaged head • Multiple Pregnancy

Appendix 2: Monitoring of maternal & fetal observations in labour

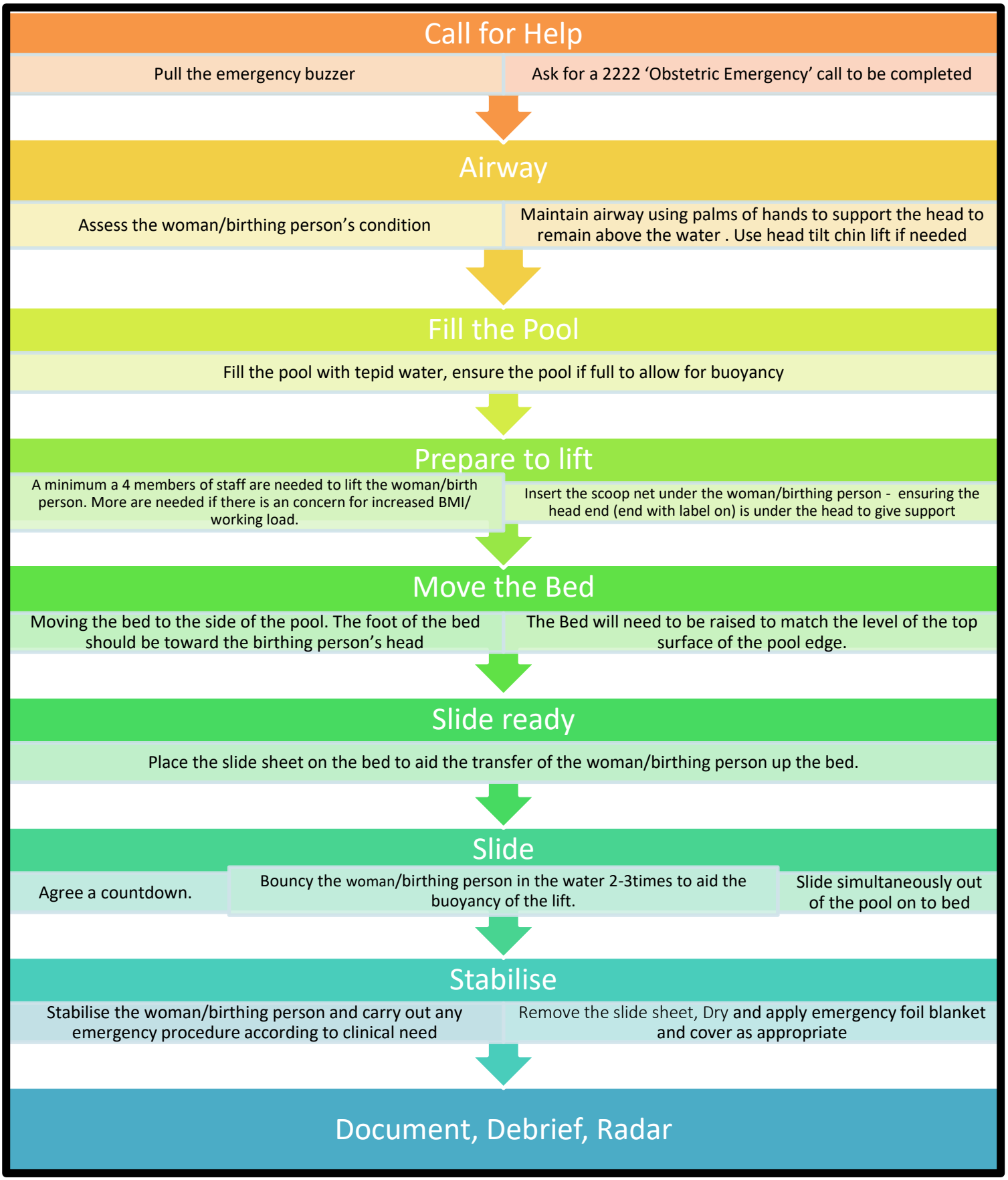
Observation	Rationale	Abnormality	Action
Hourly temperature	Detect pyrexia and underlying infection	>37.5	Out of pool. Repeat temperature 15 minutes after exit from pool. If >37.5 on 2 occasions Discuss with labour ward coordinator
4 hourly BP	Detect hypertension and PET	140/90 on 2 occasions 30 minutes apart 150/110 on one occasion	Out of pool Discuss with labour ward coordinator Refer to Obstetric Registrar
Hourly Pulse	Detect acidosis, infection or haemorrhage	>100	Repeat pulse within 5 minutes. If pulse rate remains elevated. Out of pool Discuss with labour ward coordinator
Bladder and micturition – offer 2-4hourly	Detect dehydration and or infection	3+ Protein – signs of PET or infection	Check other signs for PET / infection
		2+ Ketones - Suspected dehydration or/and acidosis	Ensure fluids & high energy drink/food – discuss with labour ward coordinator if persists Pass urine outside the pool
Abdominal Examination	Determine presentation, progress and detect abnormal labour and descent	Irregular contractions, weak in strength & regularity	Out of pool - if no improvement discuss with labour ward coordinator
Increased Frequency of contractions		Hyperstimulation	Out of pool - discuss with labour ward coordinator
Vaginal Examination – offer 4 hourly	To determine cervical progress, assess rotation and descent May be performed in water but if unsure out of pool	Failure to progress in labour	Out of pool – try alternative positions, ARM – if no change discuss with labour ward co-ordinator.
		Cord presentation/prolapse	Keep fingers against presenting part, ask for urgent assistance. Management as per cord prolapse guideline.
		Significant caput and/or moulding	Evidence of malposition – out of pool, change position. discuss with labour ward coordinator if persists
Fetal Heart – either intermittent auscultation or CEFM as per fetal monitoring guideline	To monitor fetal wellbeing	The presence of any abnormal feature detected during monitoring may indicate fetal compromise.	• If deceleration of fetal heart or other abnormal feature, ask the woman/birthing person to leave the pool and commence electronic fetal monitoring if intermittent auscultation. Inform labour ward coordinator. Please refer to Fetal Monitoring guideline for further management of abnormal fetal heart rate. • If persistent abnormality refer to Obstetric Registrar. • If the birth is imminent, prepare for neonatal resuscitation and request paediatrician

Appendix 3: Actions required in event of Complications

Complication		Action
Delay in progress	Progress in labour should be based upon: 2cm in 4 hours. Progress should be assessed using the partogram documentation.	Women/birthing people who do not make expected progress should be asked to get out of pool and: • Adopt alternative positions • Empty bladder • Ensure fluid and calorie intake is maintained • Monitor regularity and strength of contractions • Discuss artificial rupture of membranes – perform with consent • If progress still failing discuss with labour ward coordinator and refer to Obstetric Registrar.
Haemorrhage (antepartum or postpartum)	If any signs of bleeding or evidence of clots in the water call for assistance and commence emergency management as required.	• The labour ward coordinator should be informed and the woman/birthing person must be removed from the water immediately. • Refer to the Obstetric registrar if needed. • Observations of pulse, respirations and blood pressure should be taken & recorded. • If labouring auscultation of the fetal heart (check maternal pulse before and after auscultation). • Commence electronic fetal monitoring if appropriate. • If actively bleeding or concerns about maternal or fetal wellbeing commence emergence management procedures. • Document all findings with description of estimated blood loss.
Meconium	The presence of meconium in the water may indicate fetal compromise.	• The woman/birthing person should be asked to leave the water, basic observations conducted and fetal heart auscultated. • Significant meconium-stained liquor which is defined as either dark green or black amniotic fluid that is thick or tenacious or any meconium-stained amniotic fluid containing lumps of meconium is treated with caution and referral to the Obstetric registrar is indicated. • Commence CEFM if not already in place • If during 2nd stage of labour request neonatal team assistance and inform labour ward co-ordinator and obstetric registrar if suspected maternal problem.
Fetal Heart Abnormality	The presence of any abnormal feature detected during monitoring may indicate fetal compromise.	• If deceleration of fetal heart or other abnormal feature, ask the woman/birthing person to leave the pool and commence electronic fetal monitoring. Inform labour ward coordinator. Please refer to Fetal Monitoring guideline for further management of abnormal fetal heart rate. • If persistent abnormality refer to Obstetric Registrar. • If the birth is imminent, prepare for neonatal resuscitation and request paediatrician
Cord rupture and cord snap post birth	**T**he occurrence of both cord rupture and snap is rare but may lead to haemorrhage.	• The cord should be clamped immediately. • The midwife must be vigilant for signs of immediate neonatal respiratory distress. • Neonatal assistance should be requested
Neonatal Respiratory Distress	If the woman/birthing person remains submerged during the second stage of labour premature gasp is avoided.	• Handling the cord under the water at any time during second stage or restitution will cause physiological fetal changes and must be avoided. • If there is evidence of fetal distress/meconium detected during auscultation in the second stage of labour ask the woman/birthing person to stand clear of water and leave the pool. • Request neonatal assistance • Clamp and cut cord out of water if baby is born. • Otherwise conduct the birth **out of the water**.

Milton Keynes University Hospital NHS Foundation Trust

Appendix 4: Emergency pool evacuation



Drills for dealing with emergency situations should be practiced as part of the routine Skills Drills sessions and attendance will be recorded