

Use of Water for Labour and Birth Guideline

Guideline information

Guideline number: 639

Classification:
Clinical

Supersedes:
Previous Versions

Clinical documents only:
Local Safety Standard for Invasive Procedures (LOCSSIP) reference:
N/A

National Safety Standards for Invasive Procedures (NatSSIPs) standards:
N/A

Version number:
3.0

Date of Equality Impact Assessment:
Detail date of EqIA

Approval information

Approved by:
Obstetric Guideline, Audit and Research Group

Date of approval:
18/03/2022

Date made active:
14/06/2022

Review date:
18/03/2025

Summary of document:

To provide the best possible evidence, to facilitate the safe and effective use of water during labour and birth.

Scope:

Maternity service users suitable to labour and birth in water, to include Midwife-led care (MLC) women in a Midwife-led unit (MLU) or birthing at home, or Obstetric-led women (OLC) suitable for Intermittent Auscultation (IA) or with the use of waterproof telemetry

This guideline is to support midwives when caring for women within the pool.

To be read in conjunction with:

All Wales Clinical Pathway for Normal Labour (AWCPNL)

All Wales Midwife-led unit Guideline (2017)

[641 - Birth After Previous Caesarean Section Guideline](#)

[1056 - Bladder Care Management During Intrapartum and Postnatal Period Guideline](#)

[667 - Induction of Labour for Postmaturity \(low risk pregnancies\) Guideline](#)

[660 - Management of late Intrauterine Fetal Death and Stillbirth Guideline](#)

[668 - Prevention of Early-Onset Neonatal Group Streptococcal Disease Guideline](#)

[622 - Management of Obesity During Pregnancy Guideline](#)

Patient information:

Include links to [Patient Information Library](#)

Owning group:

Obstetric Written Control Document Group

18/03/2022

Executive Director job title:

Mandy Rayani – Director of Nursing, Quality and Patient Experience

Reviews and updates:

1.0 – New Guideline – 14.09.2017

2.0 – Corrected Version Uploaded – 10.10.2017

3.0 – Reviewed – 18.03.2022

Keywords

Water, Labour, Birth

Glossary of terms

AWCPNL – All Wales Clinical Pathway for Normal Labour

VE – Vaginal Examination

MLC – Midwife-Led Care

OLC – Obstetric-Led Care

Hyponatraemia – Lack of potassium

SRC – Sepsis Risk Calculator

IAP – Intrapartum Antibiotic Prophylaxis

Contents

Guideline information.....	1
Approval information.....	1
Scope	4
Aim	4
Objectives.....	4
Introduction.....	4
Demonstrate that the Mother is Involved in the Decision	5
Criteria for Women	5
Criteria for Midwives	5
General Precautions.....	6
Water Immersion Assessment at the Onset of Labour	6
Homebirths.....	7
Early of First Stage of Labour	7
Second Stage of Labour	8
Third Stage of Labour	9
Active Management.....	10
Physiological Management.....	10
Emergencies	10
Managing Shoulder Dystocia	10
Care in Special Circumstances.....	11
Use of Birthing Pool during COVID-19 Pandemic	11
Group B Streptococcal Infection (GBS)	11
Water Birth Following a Caesarean Section.....	11
Spontaneous Rupture of Membranes (SRM)	12
Induction of Labour (IOL).....	12
Meconium Stained Liquor	12
Intrauterine Death (IUD)	12
Raised Body Mass Index (BMI)	12
Auditable Standards	13
References.....	13
Appendix 1 – Birth Pool Risk Assessment Tool	15
Appendix 2 – Emergency Evacuation from Birthing Pool – Safe System of Work	16
Appendix 3 – Birthing Pool/Bath Cleaning Protocol	17
Appendix 4 – Risk Assessment for Use of Water in Labour and Birth at Home.....	19

Scope

Maternity service users suitable to labour and birth in water, to include Midwife-led care (MLC) women in a Midwife-led unit (MLU) or birthing at home, or Obstetric-led women (OLC) suitable for Intermittent Auscultation (IA) or with the use of waterproof telemetry

This guideline is to support midwives when caring for women within the pool.

Aim

The aim of this document is to:

- Present the best available evidence to facilitate safe and effective use of water during labour and birth in all birth settings. It should be noted that there is currently limited evidence available on how to care for women in the pool. Most of the evidence considers outcomes rather than specific aspects of care, therefore some of the recommendations for care in this guideline are based on advice published by midwives who have become experts in the use of water for labour and birth.

Objectives

The aim of this document will be achieved by the following objectives:

- To provide a guideline that facilitates midwives in supporting women who chose to labour and give birth in water. The guideline clarifies the criteria required to enable the midwife to support women and their families during labour.

Introduction

The use of water for labour and birth is a long-established practice in UK maternity units, with the benefits of intrapartum hydrotherapy for analgesia, relaxation and facilitating uncomplicated vaginal births well evidenced (NICE, 2017). Water can provide a calm and reassuring environment that stimulates normal labour, and once in established labour water can enhance uterine activity, provide effective pain relief reducing the need for an epidural and reduce intervention (Cluett, Burns & Cuthbert, 2018).

When comparing labours in or out of water there is no significant difference in adverse outcomes for women or babies (Peacock, 2018), including reduced 5-minute APGAR scores, increased neonatal infection rates, admissions to neonatal units or extensive perineal trauma. (Peacock et al, 2018). Additionally, there is insufficient evidence on the timing of immersion into water in the first stage of labour (Cluett & Burns, 2009) therefore there should be no restriction on women using the pool at any time in early or first stages of labour. Inductions of labour and previous caesarean section have been managed using water for labour and birth without reported problems (RCOG, 2006). The Pool study is a large multicentre RCT study currently in progress in the UK, its aim is to improve the quality of evidence base around water immersion, and the results of this trial will be considered once available.

The RCOG and RCM (2006) state that the current evidence does not justify discouraging women from using water during labour. NICE (2017) suggest that all healthy women with uncomplicated pregnancies should be offered water immersion during labour. Furthermore, many women with complexities will also be suitable to use water immersion for labour and/or birth.

Demonstrate that the Mother is Involved in the Decision

- The option to labour and give birth in water should be discussed with women, (nulliparous and multiparous) (Peacock, Zengeya, Cochrane, & Sleath, 2018) at their 34-36 week antenatal appointment with a Community Midwife. This is done during the birth plan visit, when discussing analgesia.
- The option of labouring and giving birth in water is also discussed with women when they are admitted to the birthing centre or labour ward by a midwife or obstetrician and this is documented in the woman's intrapartum records notes.

Criteria for Women

All women with uncomplicated pregnancies at term (**37-42wks gestation**), should have the option of labouring in water available to them, and should be able to proceed to a water birth if they wish (RCOG, 2006). This applies to women booked for either Midwife or Obstetric led care. All women wishing to use the pool should be risk assessed for their suitability ([see Appendix 1](#)). Documentation of any discussion is essential within the maternal notes.

Criteria for Midwives

- Midwives should have been involved in at least one water birth before taking responsibility for a pool birth.
- When taking on the responsibility of a pool birth for the first time the midwife should be supported by a second midwife experienced in pool birth.
- Two health professionals (ideally 2 midwives) should be present for the birth if happening in water.
- Midwives should seek the opportunity to complete 1 supported water birth during their induction or preceptorship.
- The midwife should use her minimal handling skills and knowledge to care for and protect own back.
- **The midwife has been trained in pool evacuation in an emergency using the Emergency Evacuation from birthing pool – safe systems of work ([See Appendix 2](#)).**
- Where possible when using water during labour the midwife should work in partnership with the women to reduce the need to submerge their hand under the water.
- **The midwife should be familiar with the infection control measures ([See Appendix 3](#)).**
- Annual emergency evacuation training should be evidenced.
- The midwife should wear appropriate personal protective equipment (PPE), see table below

An individual risk assessment should be carried out before/at the time of providing care to determine which scenario applies and identify when the risk has changed		
Scenario		PPE required
A	Low risk of splashing of secretions including respiratory secretions, blood or bodily fluids. 1 st stage of labour	<ul style="list-style-type: none"> • Fluid resistant surgical mask (When wet facemask integrity can be compromised) • Eye protection • Gloves: Gauntlet gloves should be used if needing to submerge hand past the wrist- consider wearing a long-sleeved plastic apron with gauntlet gloves over the top

		<ul style="list-style-type: none"> • Plastic apron
B	<p>Risk of splashing of secretions including respiratory secretions, blood or bodily fluids.</p> <p>2nd & 3rd stages of labour</p>	<ul style="list-style-type: none"> • Fluid resistant surgical mask (When wet facemask integrity can be compromised) • Eye protection • Long-sleeved fluid repellent disposable gown • Gauntlet gloves

- The midwife wearing PPE is likely to become very warm in a pool room and should have access to fluids to drink and regular breaks (NHS Employers, 2020).

General Precautions

- Always use PPE in line with H&S and COSHH
- If continuous electronic fetal monitoring (CEFM) is required only the telemetry CTG can be used in the water. The midwife must ensure that a good quality recording with minimal loss of contact is achieved. The fetal scalp electrode cannot be used in the water.
- Women who have received opiates can use the pool if two hours have passed since administration, and the woman is not drowsy.
- Hired Pools for Home birth: It is important that women who are planning to labour or give birth in a birthing pool, should be advised not to fill the birthing pool and let it stand ready in anticipation of going into labour, as there is a small risk of Legionella pneumophila (Legionnaire Disease) from filling a birthing pool prior to the onset of labour and where the temperature has been maintained by the use of a pump or heater. Any pumps used should be used solely for pool emptying and NOT for recirculation of water.
- Use single use disposable thermometers to monitor water temperature.
- The water should be kept as clean as possible. Stool and blood clots should be removed from the pool immediately using a single patient use disposable sieve. The pool should be drained, cleaned and refilled if contaminants cannot be removed.
- Ensure electrical devices are kept away from the pool and out of reach of splashing water.
- Clean up any spillages or splashes immediately.

Water Immersion Assessment at the Onset of Labour

All women wishing to use the pool should be assessed for their suitability prior to entering the pool; this is achieved by using the Pool assessment tool. The assessment of risk is an ongoing process which may change as the labour progresses. All assessments are to be documented in the maternal labour notes. The level of risk assigned does not change the lead professional.

Homebirths

- For women planning a homebirth a water birth risk assessment should be completed with the women and her partner at around 36/40 gestation – [See Appendix 4.](#)
- For homebirths women must be advised that the pool should be situated on the ground floor, or on a floor capable of taking the weight (see manufacturers guidance).
- If the pool has been used before then a pool liner will be required.
- A clean hose should be used and the women must be informed 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 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 informed 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 labour is the responsibility of the woman and her birth supporter but will be monitored by the midwife.

Early of First Stage of Labour

Minimum Standards of Care

- Fill the pool so the water completely covers the woman's abdomen and comes up to her nipple level when sitting or kneeling. 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. The midwife must take into consideration the filling limitations of the pool.
- It is suggested that the woman exit the pool and mobilise for approximately 30 minutes, two hours after the first immersion to reactivate the chemical and hormonal processes. Thereafter continue to advise the woman to leave the pool every 1.5 – 2.0 hours for a period of mobilising.
- Monitor water temperature hourly and record on partogram. Temperature should not exceed 37.5°C to avoid maternal hyperthermia. During the first stage of labour the water temperature should be dictated by the mother's comfort so maybe cooler than this.
- Baseline observations must be within the parameters of the All Wales normal labour care pathway (AWNLC), Intrapartum care for healthy women and babies (NICE, 2017) and Intrapartum care for women with existing medical conditions or obstetric complications and their babies (NICE, 2019) with the addition of hourly maternal temperature monitoring.
- Vaginal examinations can be carried out in the pool.
- Entonox may be used if the woman wishes whilst she is in the pool.

- Encourage the woman to drink plenty of fluids. Isotonic drinks maybe beneficial compared to water. Consideration should be given to excessive hydration which may affect oxytocin levels and in rare cases lead to hyponatremia. Literature around this is sparse however it is recommended that total oral fluid volumes in labour do not exceed > 2800mls (Moen et al, 2009)
- Encourage the woman to leave the pool to pass urine at least 4 hourly.(bladder care guideline 1056).
- If maternal temperature, maternal pulse and fetal heart rate rise the woman should leave the pool immediately. If at home or in the MLU transfer to the obstetric led unit.
- If there is a raise in maternal temperature greater than 1 degree or an increase between 37.5 - 37.9 follow these steps
 - Lower room and pool temperature
 - Increase oral fluids
 - Change maternal position
 - Check water depth
 - Ensure maternal pulse and fetal heart rate are not raised
 - Repeat temperature in 30 minutes, if still raised leave the pool
 - Repeat again in 30 minutes, if continues to be raised transfer to obstetric led care
- A maternal temperature of greater than 38 degrees necessitates that the woman exits the pool.
- If contractions become irregular or slow progress of labour is confirmed by vaginal examination, women should be advised to leave the pool to mobilise and adopt an upright position. If contractions increase and labour progresses the woman can return to the pool.
- It is not possible to obtain continuous maternal pulse oximetry for women who require continuous monitoring, therefore maternal pulse should be recorded manually every 15 minutes and noted on the partogram. Where it is not possible to easily distinguish between the maternal and fetal heartrate it may be necessary for the woman to exit the pool to enable continuous monitoring of both the maternal and fetal heartrate.

Second Stage of Labour

Midwives experienced in using the pool for labour and birth recommend that women remain open to the question of whether they should give birth in water. This is because some women may need to get out and mobilise to increase their contractions, some may find it difficult to push in water, and some women may have pre-disposing risk factors that necessitate leaving the pool during the second stage.

Midwives should be aware that maternal behaviour suggestive of second stage can be less obvious when labouring in water.

- Record maternal and fetal observation as per AWWLCP or NICE Guidance Care of Women and their Babies during labour and Birth (2017), Intrapartum care for healthy women and babies (NICE, 2017) and Intrapartum care for women with existing medical conditions or obstetric complications and their babies (NICE, 2019)

- Check and record water temperature every 30 minutes. Water temperature should be 37-37.5°C
- It is not possible to obtain continuous maternal pulse oximetry for women who require continuous monitoring, therefore maternal pulse should be recorded manually every 15 minutes and noted on the partogram. Where it is not possible to easily distinguish between the maternal and fetal heart rate it may be necessary for the woman to exit the pool to enable continuous monitoring of both the maternal and fetal heart rate.
- Hands off technique is recommended for delivery to avoid fetal stimulation (The women may want to guide or cradle the baby's head; this should be permitted).
- A mirror maybe used to enhance visibility of the advancing head for mother and midwife.
- If the mother raises herself out of the water and exposes the fetal head the delivery should continue out of water.
- Allow spontaneous delivery of the shoulders. If delay is suspected prompt action should be taken. See below for managing shoulder dystocia in the pool.
- Do not feel for the cord.
- Never clamp and cut the cord under water.
- Midwife or mother should bring the baby to the surface taking care to avoid tearing the cord, if cord has snapped or torn it must be clamped immediately.
- Ensure the baby's body remains immersed in the water during 'skin to skin' to maintain baby's temperature, being mindful of neonatal thermoregulation – dry the baby's head and apply a hat.
- The cord should not be clamped earlier than 1 minute after the birth unless there is concern regarding the integrity of the cord or the baby's wellbeing.
- Babies born underwater often do not cry immediately and may remain blue-tinged in colour for longer compared to those babies born out of the water. Heart rate and respiratory effort must be observed. If any fetal well-being problems are identified, the cord should be clamped and cut, and baby taken to the resuscitator for close examination. Paediatric support should be considered and summoned as needed.

Third Stage of Labour

More research is needed on the third stage management in the pool, there is no evidence regarding the benefits and risk of carrying out the third stage under water (NICE, 2017). An 'absence of evidence' requires caution when making any professional recommendations to women. In some areas it is common practice to complete the 3rd stage under water and there have been no known occurrence of water embolism. But it is important to recognise that there have been no studies comparing the management if the 3rd stage in or out of the pool.

Active Management

Active management of the 3rd stage can take place under the water, out of the pool or in an emptied pool depending on maternal request, however, you should ensure that the mother's leg is lifted out of the water prior to administering the intramuscular injection. Oxytocic's may also be given in the deltoid muscle (upper arm) if preferred and this may be less disruptive.

Physiological Management

Physiological third stage can occur in or out of the pool. Where the cord has stopped pulsating after 5 minutes leave the cord intact with the baby skin to skin. If the cord is pulsing for greater than 5 minutes cut and clamp the cord as the warm water may cause vasoconstriction. Then unclamp the placental end to allow the blood to flow into the pool. Where cord blood is needed cut and clamp the cord after 1 minute, take the blood then unclamp the placental end and allow the blood to drain into the pool.

Women should exit the pool if delay, excessive bleeding or the woman's response indicates potential compromise. Unless perineal trauma is assessed as severe any suturing required should be delayed for 1 hour following birth as perineal tissue may be water-logged and friable.

Emergencies

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

Unexpected Maternal Collapse - maternal collapse in a birthing pool is a very rare event.

In the event of maternal collapse in the pool or if the woman is unable to vacate the pool herself, the agreed Safe System of Work for Evacuation from birthing pool ([See Appendix 2](#)), must be promptly adhered to.

Managing Shoulder Dystocia

- Call for HELP 2222
- Encourage the woman to change position in the water – all fours, deep squat or left lateral
- If birth not achieved and manoeuvres are required, the woman should exit the pool immediately.
- When the woman lifts one leg to exit the pool, the baby may suddenly birth.
- The woman should be supported to leave the pool by someone other than the midwife delivering care. The midwife responsible for birth care should support the baby's head and be ready for a sudden birth.
- Once back on the bed follow PROMPT for Management of a Shoulder Dystocia.
- Document in the notes using the PROMPT proforma and datix.

Care in Special Circumstances

Use of Birthing Pool during COVID-19 Pandemic

- The use of the birth pool for labour and birth is not contraindicated for women who are asymptomatic or confirmed negative for COVID-19, providing adequate PPE can be worn by those providing care (RCOG, 2020).
- Use of the birthing pool is not recommended for women who are suspected or confirmed positive for COVID-19 (RCOG, 2020).
- Women should be made aware that there is a lack of evidence for or against the use of water for labour or birth. There is evidence that COVID-19 may be present in faeces and other secretions, this suggests a small theoretical risk of transmission of the virus to the baby in contaminated water (RCOG, 2020).

Group B Streptococcal Infection (GBS)

Women who are GBS positive, or have had previous GBS and wish to accept intravenous antibiotic prophylaxis without other risk factors should be supported in their choice to use water. No significant differences in neonatal infections after water birth have been reported.

Where Women need a Cannula

Where cannulation is needed this should be completed out of the pool

All intrapartum antibiotic prophylaxis should be undertaken out of the pool.

Women who choose to use the pool with a cannula in situ should have a glove applied and taped at the wrist and advised to keep the cannula free of the water. It is helpful if the cannula is sited on the dominant hand as this will be hand used to administer entonox and less likely to be submerged.

Should the hand be submerged and the integrity of the dressing is compromised, the cannula site should be cleaned and redressed.

Water Birth Following a Caesarean Section

[The guideline on Birth After Previous Caesarean Section should be referred to \(641\).](#)

Maternal pulse should be monitored every 15 minutes to assist with detecting sudden increases in heart rate. Early detections of deviations from the normal rate is essential when caring for high risk women in the pool. Sudden tachycardia can be a result of dehiscence or over-stretching of the scar, causing a serous fluid leak into the peritoneum initiating a shock response.

The woman should be assessed for the need for a cannula, this should not be done as routine ([BAPCS guideline 641](#)), (NICE,2019). A group & save and a full blood count should be obtained and sent prior to entering the pool.

Continuous Electronic Fetal Monitoring (CEFM) in labour.

Spontaneous Rupture of Membranes (SRM)

Ruptured membranes up to 24 hours, in an otherwise uncomplicated pregnancy at 37- 42 weeks, and if there are no signs of infection, pyrexia, tachycardia, offensive loss or other known risk factors.

Following the birth if SRM >24hours then the Sepsis Risk Calculator (SRC) should be utilised and the new-born should be observed closely for a period of 24 hours.

Induction of Labour (IOL)

Women who labour without syntocinon infusion following induction of labour can be offered the use of the pool providing there is no evidence of hyper-stimulation and an assessment has been carried out.

If contractions become irregular, infrequent, short lasting or weak, the woman should be encouraged to leave the pool and mobilise. It is essential that the effectiveness of the contractions is closely monitored in order to ensure that the labour continues to progress. The woman may return to the pool if progress is within unit guidelines.

Maternal and fetal wellbeing should continue to be monitored as per Health board guideline [see IOL guideline \(667\)](#).

Meconium Stained Liquor

Despite an ongoing debate regarding meconium stained liquor, most experts would view this as a sign of fetal compromise, even if described as non-significant (NICE, 2017). As a result, most practitioners would ask that the mother leave the water or not enter if identified before getting into the pool.

However, a woman may be supported to use the pool for labour and birth if good quality Continuous Electronic Fetal monitoring (CEFM) is maintained throughout her labour and no other risk factors exist.

If difficult to obtain a clear reflection of fetal wellbeing by CEFM, then the women should exit the pool and continue her care on dry land.

Intrauterine Death (IUD)

The guideline [Management of late Intrauterine Fetal Death and Stillbirth \(660\) should be referred to](#). Recommendations about labour and birth should consider the mother's preferences as well as her medical condition and previous intrapartum history. Vaginal birth is the recommended mode of birth for most women (RCOG, 2010).

If a woman was planning or wishes to use water for labour and birth and labour is not being augmented with syntocinon, then this should be facilitated where available and maternal wellbeing monitored [as per guideline 660](#).

Raised Body Mass Index (BMI)

The [Management of Obesity During Pregnancy Guideline \(622\) should be referred to](#).

However, if the woman has no other risk factors and can confidently move in and out of the pool then this should be an option for her for labour and birth. Consideration should be given of assessing this in late pregnancy, rather than once to woman is in labour.

Obesity is associated with increased risks to the mother and baby during labour and birth, however these risks were not the same for all obese women and that the increased risk was fairly modest for obese women who did not have additional medical or obstetric risk factors. Results from **UKMidSS (2018)** showed that obese women who have previously had a baby and who do not have additional risk factors such as diabetes or a previous caesarean section, may have lower obstetric risks than previously appreciated. In particular, the absolute risks that the mother or baby will require obstetric or neonatal care was lower in this group than for low-risk women of normal weight having a first baby. “These findings suggest that it may be reasonable to allow some multiparous obese women, who are otherwise healthy, a choice of birth setting.”(Hollowell et al 2013).

Auditable Standards

The auditable standards against which the guideline could be measured by the criteria set by NICE (2017) Intrapartum guidelines which are:

Annual audit of 20 sets of notes.

These should include:

- Documentation of water immersion holistic assessment
- Observations in the first stage of labour during water immersion
- Observations in the second stage of labour during water immersion
- Appropriate fetal heart monitoring in line with the water immersion assessment tool
- Observations during the 3rd stage of labour

References

- All Wales Clinical Pathway for normal Labour. (2013). *All Wales Clinical Pathway for Normal Labour*.
- Anderson, T. (2004). Time to throw the water birth thermometer away? *MIDIRS Midwifery Digest*, 370-4.
- Burns, E., & Kitzinger, S. (2005). *Midifery Guidelines for the use of Water in Labour*. Oxford: Brookes University.
- Cluett, E., & Burns, E. (2009). Immersion in water in labour and birth. *The Cochrane Collaboration*. Retrieved from <http://www.thecochranelibrary.com>
- Cluett, E., Burns, E., & Cuthbert, A. (2018). Immersion in water in labour and birth. *The Cochrane database of Systematic reviews*(5). Retrieved from <http://www.cochrane.org/CD000111/PREG>
- Garland, D. (2017). *Revisiting Waterbirth: An attitude to care* (2nd ed ed.). London: Red Globe. REF TO MATERNAGE NOW REMOVED
- Hollowell, J., Pillas, D., Rowe, R., Linsell, L., Knight, M., Brocklehurst, P. The impact of maternal obesity on intrapartum outcomes in otherwise low risk women: secondary analysis of the Birthplace national prospective cohort study. *BJOG* 2013;

- Moen, V., Brudin, L., Rundgren, M., & Irestedt, L. (2009). Hyponatramia complicating labour - rare or unrecognised? A prospective observational study. *BJOG*, 552-56.
- National Institute for Health research. (2015). *NIHR*. <http://www.journalslibrary.nihr.ac.uk/programmes/hta/1614901>. Retrieved from The POOL study. Establishing the safety of waterbirth for mothers and babies: A cohort study nested qualitative component.
- NICE. (2017). *Intrapartum Care for healthy women and babies*. London: NICE.
- NICE. (2019). *Intrapartum Care for women with existing medical conditions or obstetric complications and their babies*. London: NICE.
- Peacock, P., Zengeya, S., Cochrane, S., & Sleath, M. (2018). Neonatal Outcomes following delivery in water: Evaluation of safety in a District general hospital. *Cureus*, 10(2). doi:10.7759/cureus.2208
- Plumb, J., Holwell, D., Burton, R., & Steer, P. (2007). Water birth for women with GBS: a pipe dream? *Practising Midwife*, 25-28.
- Public Health England. (2017). *Pre-heated birthing pools and risk of Legionnaires' Disease*. London: Public Health England.
- RCOG. (2012). *Green-top Guideline No 36: The prevention of early onset neonatal Group B Streptococcal disease*. London: RCOG.
- RCOG, & RCM. (2006). *Joint Statement 1 - Use of water for labour and birth*. RCOG, RCM.
- RCOG, & RCM. (2020). *RCOG and RCM Joint guidance on Water birth - Covid-19*. London: RCOG/RCM.
- Ridout, D. (2015, Nov 12). Avoidance of Ketonuria with Waterbirth Labourers-important advice. UKMidSS
- Zanetti-Dallenbach, R., Lapaire, O., Maertens, A., Frei, R., Holzgreve, W., & Hosli. (2006). Waterbirth: Is the water an additional reservoir for Group B streptococcus. *Gynaecology and Obstetrics*, 236-238.

Appendix 1 – Birth Pool Risk Assessment Tool

BIRTH POOL RISK ASSESSMENT TOOL

Undertake a risk assessment using this tool prior to the woman entering the pool. Remember this is an ongoing assessment which may change as labour progresses. The initial assessment and any changes should be documented in the maternal notes. The risk level with this tool does not change the lead professional.

Risk Level 3: Not Suitable to use the pool

<37 weeks/ >42 weeks
 <37-week Rupture of membranes
 Unable to enter and/or exit pool unaided
 Maternal weight exceeds limit of hoist or evacuation net
 Abnormal fetal heart rate
 FSE indicated
 Requiring oxytocin
 Malpresentation
 Received opiates <2hours ago
 Epidural
 APH/Placenta praevia
 Abnormal growth/ known congenital abnormality
 Oligohydramnios/ Polyhydramnios
 Active measles, chicken pox, Parvovirus, rubella
 Hep A, B, or C, HIV, Herpes
 Epileptic, diabetic requiring sliding scale
 Un-booked
 Present history of substance misuse
 Suspected COVID-19
 Confirmed Positive COVID-19

Risk Level 2:

Suitable to use the pool on Labour ward. Some risk factors require additional input as determined in brackets

Maternal age <16/ >40
 Meconium stained liquor (will require CEFM with telemetry)
 Spontaneous onset of labour following Propess IOL (may require CEFM, see guideline)
 SROM 24-48 hours
 Raised BMI (able to enter and /or exit the pool unaided, see guideline)
 Hb <85g/dl, Platelets <100, Previous PPH (see guideline, send FBC & G&S)
 VBAC (FBC & G&S, CEFM)
 Previous shoulder dystocia, LGA, previous 3rd & 4th degree tears
 Group Strep B Positive (IV antibiotics required)
 Grand multiparity
 Women who decline blood products
 Current significant mental health issues on medication
 Gestational diabetic
 Obstetric Cholestasis

Risk Level 1:

Midwife led care in labour with Intermittent Auscultation (IA)

37-42 weeks gestation
 Maternal age >16 / <40
 Spontaneous onset of labour
 Normal MEOWS
 Normal fetal heart rate
 Cephalic presentation
 Hb >105g/dl
 Uncomplicated pregnancy
 Nulliparous/Multiparous women
 Pre-labour SROM at term <48 hours
 BMI 30 or less
 Asymptomatic of COVID-19
 Confirmed negative for COVID-19

Appendix 2 – Emergency Evacuation from Birthing Pool – Safe System of Work

Emergency Evacuation from Birthing Pool – Safe Systems of Work	
	<p>Action needed: SUMMON HELP The midwife will take responsibility for maintaining the woman’s airway and ensure her face is held clear of the water</p>
<p><u>Equipment to be used:</u></p> <p>Trolley/bed Evacuation Net Slide sheets</p> <p><u>Number of people required:</u></p> <p>Minimum of 4 people</p>	<p>DO NOT DRAIN THE POOL</p> <p>The buoyancy offered by the water will assist staff to position the net and to support and turn the woman</p> <p>Staff members 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)</p> <p>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</p> <p>Two members of staff should position the evacuation net under the woman</p> <p>The lead midwife must move to one side of the woman but remain in charge of the airway</p> <p>Using clear commands e.g. “Ready, Steady, Slide” slide the woman clear of the pool and on to the trolley/bed</p> <p>Remove the net and the slide sheets from under the woman once she is safely located on the trolley/bed</p> <p>Keep the woman warm with towels and blankets and assess</p>

Appendix 3 – Birthing Pool/Bath Cleaning Protocol

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, eye protection.
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 / bath.
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 / bath

- a. Start at the tap outlet - do not put the cloth/mop into the nozzle, and finish at the base of the tap and then clean the tap handles
- b. Clean around the top rim of the pool initially
- c. 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

- d. Rinse the pool/bath with warm water
 - e. Dispose of the cleaning cloth/mop in orange waste bag
 - f. Dry all surfaces with a disposable cloth or towel
 - g. Dispose of gloves and apron in orange waste bag and decontaminate hands
6. Mix the chlor-clean solution Actichlor 1.7g - 1 tablet / 1litre water = 1000ppm in a clean bucket
 7. Clean the pool using the process described in point 5. a – d Using the Actichlor solution Rinse the pool with the Actichlor solution and leave in place for 10 minutes
 8. Rinse the pool thoroughly using cold water starting at the tap and work down towards the waste outlet
 9. Dry the entire pool with a clean mop head or towel
 10. Empty and dry the bucket - store the bucket inverted Inflatable pools should be emptied and liners disposed of. If the liner has leaked then the pool should be cleaned as the above Disposable, thermometers, mirrors, sieves, liners and hoses should be used.
 11. The pool should have a daily dust with a clean cloth to remove any general dust.
 12. If the pool has been unused for five days (see Legionella prevention sheet within the Health Board), then pool must be cleaned with the general detergent – for Legionella compliance.

Cleaning inflatable birth pools (Birth pool in a box)

1. Ensure compliance with Standard Infection Control Procedures - Plastic apron, gloves, eye protection.
2. Before emptying the pool remove any debris using a disposable sieve to prevent debris blocking the pump, pipe and the pool waste outlet
3. Place the water pump in bottom of pool.
4. Attach piping to the waste outlet point – DO NOT ATTACH TO ELECTRICITY SUPPLY UNTIL THIS IS DONE
5. Place electricity plug into plug unit on the wall
6. Empty all water out of liner.
7. Once empty the liner can be wrapped up to avoid spillages and placed into an orange clinical waste bag.
8. The inflatable pool exterior and interior and taps should be then cleaned with Clinell and left to air dry, making sure that underneath the pool is clean and able to dry completely.
9. To clean the water pump and coiled hose, fully immerse the pump into a solution of haztabs and water as per manufacture instruction, leave for 10-15 minutes to soak. Place the pipe from the drain outlet and place in the tub with the pump.
10. Turn the pump on, holding the pipe securely and flush through for 1 minute.
11. Reconnect the pipe to the drain outlet and empty tub contents. Rinse tub out, dry and place pump to air dry in a well-ventilated area.

Place all contaminated single use items into the clinical waste bin.

Appendix 4 – Risk Assessment for Use of Water in Labour and Birth at Home

RISK ASSESSMENT FOR USE OF WATER IN LABOUR AND BIRTH AT HOME

ADDRESSOGRAPH

DATE OF ASSESSMENT:

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

Can the woman safely enter and exit the pool unaided or with minimal support

Date of assessment prior to labour: _____

Date & time of assessment in labour _____

2. Criteria for use of water

All women suitable for homebirth as per All Wales Midwifery-Led Care Guideline and the All Wales Clinical Pathway for Normal Labour are suitable to labour and birth in water at home or women with an individualised care plan.

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 hosepipe?	Yes	No
Adequate clearance around the pool?	Yes	No
Are the walls of the pool firm enough for the woman or midwife to lean on.	Yes	No

If No to any of the above escalate to team leader and band 8

4. Advise to the woman

- Birth partner to be responsible for filling, maintain and emptying the pool and ensuring temperature is maintained as per guideline.
- Do not pre-fill the pool and maintain with a heater prior to labour due to a risk of Legionnaire Disease. Fill at time of labour.
- Ensure new liner and hosepipe used and disposed of afterwards.
- Pool bottom should be non-slip.
- To supply a new sieve, thermometer and mirror.
- The woman should be advised to leave the pool if a deviation from the Normal Care Pathway occurs and/or in the event of an emergency.

In the Event of maternal collapse in the pool she 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 to an obstetric unit is indicated and in the event of an emergency.

5. Equipment needed

- Birthing pool
- Single use disposable liner
- Single use disposable hosepipe
- Plentiful supply of hot water
- Stool/step for pool access if needed
- An area close to the pool suitable for vaginal examinations, perineal examination or any other examinations or possible events i.e. sofa or bed appropriately prepared
- Sieve
- Thermometer
- Mirror
- Towels

Signature of Woman

Print Name

Date

Signature of Midwife

Print Name

Date