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Royal Cornwall Hospitals NHS Trust

Amniotic Fluid Volume Abnormality: Diagnosis and Management Clinical Guideline

V3.0

October 2022

1. Aim/Purpose of this Guideline

1.1. To identify and optimally manage pregnancies affected by abnormalities of amniotic fluid (AF) volume.

1.2. This version supersedes any previous versions of this document.

1.3. This guideline makes recommendations for women and people who are pregnant. For simplicity of language the guideline uses the term women throughout, but this should be taken to also include people who do not identify as women but who are pregnant, in labour and in the postnatal period. When discussing with a person who does not identify as a woman, please ask them their preferred pronouns and then ensure this is clearly documented in their notes to inform all health care professionals

Data Protection Act 2018 (General Data Protection Regulation – GDPR) Legislation

The Trust has a duty under the Data Protection Act 2018 and General Data Protection Regulations 2016/679 to ensure that there is a valid legal basis to process personal and sensitive data. The legal basis for processing must be identified and documented before the processing begins. In many cases we may need consent; this must be explicit, informed, and documented. We cannot rely on opt out, it must be opt in.

Data Protection Act 2018 and General Data Protection Regulations 2016/679 is applicable to all staff; this includes those working as contractors and providers of services.

For more information about your obligations under the Data Protection Act 2018 and General Data Protection Regulations 2016/679 please see the Information Use Framework Policy or contact the Information Governance Team

Royal Cornwall Hospital Trust rch-tr.infogov@nhs.net

2. The Guidance

Abnormalities of AF volume are associated with adverse maternal and fetal outcome. Detection by ultrasound and appropriate management is an important part of pregnancy care.

2.1. Referral for AF Assessment

Referral to the scan department specifically for AF quantification should only be made if there is clinical suspicion of polyhydramnios. Rupture of the membranes is a clinical rather than scan diagnosis. Once abnormality of AF volume is identified on scan, the necessity and timing of on-going scans will be individualised by a senior Obstetrician or Fetal Medicine Specialist (see below)

2.2. Measurement of amniotic fluid by ultrasound

AF volume should be assessed at all pregnancy scans.

2.2.1. **Subjective assessment:** Prior to the 18-20 week anomaly scan amniotic fluid should be assessed subjectively

2.2.2. **Single Deepest Pool (SDP):** In the second half of pregnancy, routine assessment of AF volume should be by measuring the SDP. The transducer is kept parallel to the patient's longitudinal axis and perpendicular to the floor. The deepest vertical pocket of fluid is measured in centimetres without an aggregate of cord or fetal small parts. To be a measurable pocket, the pocket must be at least 1 cm in the horizontal measurement throughout the pocket

2.2.3. **Amniotic Fluid Index (AFI)**: The Amniotic Fluid Index (AFI) should not be used as the primary screen because it increases the number of cases of oligo- and polyhydramnios detected and increases intervention without improving outcomes. The AFI should only be measured if abnormal AF volume is identified by the SDP. The AFI in cm is calculated by summation of the SDP measured in each of four uterine quadrants.

2.3. Definitions of Abnormal Amniotic Fluid Volume

AF volume is considered normal if the SDP is between 2 cm and 8 cm. Do not use the Viewpoint database gestational age dependent charts. If SDP is <2 cm or >8 cm, the AFI should then be measured to clarify the diagnosis. The following thresholds should be used:

- **Polyhydramnios: SDP >8 cm and AFI >25 cm**
    - **Mild:** AFI 25-30 cm (if <25 cm, do not diagnose polyhydramnios)
    - **Moderate / Severe:** AFI >30 cm
- **Oligohydramnios: SDP <2 cm and AFI <5 cm** (if AFI is >5 cm, do not diagnose oligohydramnios)

2.4. Management of Polyhydramnios

Do not perform infection screens unless indicated by history or by identification of ultrasound markers of infection other than polyhydramnios

2.4.1 Mild polyhydramnios

2.4.1.1. Midwife to arrange a Glucose Tolerance Test (GTT)

2.4.1.2. If GTT is abnormal, refer to the Diabetes Specialist Midwife

2.4.1.3. If GTT is normal, repeat scans 4 weekly in the Main Ultrasound Department (to be booked by the midwife on Maxims). The sonographer should stop scan surveillance if mild polyhydramnios resolves

2.4.1.4. If polyhydramnios progresses to moderate / severe, the sonographer should refer for next available FMU appointment

2.4.1.5. If mild polyhydramnios persists, the midwife should refer to the Obstetric Clinic after 34 weeks

2.4.1.6. The Obstetric team should individualise care but may consider delivery at term in view of the possible increase in risk of late fetal demise

2.4.1.7. Community delivery should not be recommended, and an NG tube should be passed at delivery prior to first feed to exclude oesophageal anomaly

2.4.2 **Moderate / severe polyhydramnios**

2.4.2.1. The Main Ultrasound sonographer should refer for next available FMU appointment for detailed ultrasound assessment

2.4.2.2. FMU will arrange a GTT and, if abnormal, refer to the Diabetes Specialist Midwife

2.4.2.3. If an abnormality is detected, FMU should provide individualised on-going care

2.4.2.4. If no abnormality is detected and the polyhydramnios is thought to be idiopathic, FMU should scan 2-4 weekly

2.4.2.5. FMU will discuss mode and timing of delivery. There are no quality data to guide management of idiopathic polyhydramnios and care should be individualised. Some observational data suggest an increase in late fetal demise and delivery at term may be considered. Factors to consider include severity of the polyhydramnios, maternal symptoms, fetal size, lie and stability and previous obstetric history

2.4.3 Labour and delivery requires extra vigilance for complications including malpresentation, cord prolapse, abruption and atony

2.4.4 A nasogastric tube should be passed at delivery, prior to first, feed to exclude oesophageal anomaly

2.5. Management of Oligohydramnios

2.5.1 The sonographer should ascertain whether possible passage of vaginal fluid suggests membrane rupture and, if so, refer to DAU

2.5.2 If DAU confirms preterm prelabour rupture of the membranes (PPROM):

2.5.2.1 After 24 weeks: follow the PPROM guideline

2.5.2.2 Before 24 weeks: arrange next available FMU appointment. At diagnosis, a preliminary documented discussion should take place regarding viability issues and risk of preterm labour and possible pulmonary morbidity

2.5.3 In the absence of membrane rupture, cases should be referred to the FMU for assessment

2.5.4 On-going management will depend upon identification of any underlying pathology and should be individualised by the FMU

2.5.5 Data are inadequate to guide management of idiopathic oligohydramnios at term but some data suggests an increase in adverse outcome. Delivery at term should be considered.

2.5.6 Delivery should take place at the Consultant Unit. CTG monitoring should be used with any uterine activity associated with induction of labour and throughout labour

3. Monitoring compliance and effectiveness

Information Category	Detail of process and methodology for monitoring compliance
Element to be monitored	Amniotic Fluid Abnormality: Diagnosis and Management
Lead	Audit Midwives
Tool	See Appendix 3
Frequency	See Appendix 3
Reporting arrangements	• A formal report of the results will be received at the Maternity Forum, as per the audit plan • During the process of the audit, if compliance is below 75% or other deficiencies identified, this will be highlighted at the next maternity forum and an action plan agreed
Acting on recommendations and Lead(s)	• Any deficiencies identified on the annual report will be discussed at the maternity forum and an action plan developed • Action leads will be identified and a time frame for the action to be completed by • The action plan will be monitored by the maternity forum until all actions complete
Change in practice and lessons to be shared	• Required changes to practice will be identified and actioned within a time frame agreed on the action plan • A lead member of the forum will be identified to take each change forward where appropriate • The results of the audits will be distributed to all staff through the Patient Safety newsletter/audit forum as per the action plan

4. Equality and Diversity

4.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the 'Equality, Inclusion and Human Rights Policy' or the Equality and Diversity website.

4.2. Equality Impact Assessment

The Initial Equality Impact Assessment Screening Form is at Appendix 2.

Appendix 1. Governance Information

Information Category	Detailed Information
Document Title:	Amniotic Fluid Volume Abnormality Diagnosis and Management Clinical Guideline V3.0
This document replaces (exact title of previous version):	Amniotic Fluid Volume Abnormality Diagnosis and Management Clinical Guideline V2.0
Date Issued/Approved:	July 2022
Date Valid From:	October 2022
Date Valid To:	October 2025
Directorate / Department responsible (author/owner):	Rob Holmes Consultant Obstetrician
Contact details:	01872 252730
Brief summary of contents:	To identify and optimally manage pregnancies affected by abnormalities of amniotic fluid (AF) volume
Suggested Keywords:	Amniotic fluid
Target Audience:	RCHT: Yes CFT: No CIOS ICB: No
Executive Director responsible for Policy:	Chief Medical Officer
Approval route for consultation and ratification:	Maternity Guidelines Group
General Manager confirming approval processes:	Caroline Chappell
Name of Governance Lead confirming approval by specialty and care group management meetings:	Caroline Amukusana
Links to key external standards:	None
Related Documents:	Rutherford SE, Phelan JP, Smith CV, Jacobs N. The four quadrant assessment of amniotic fluid volume: an adjunct to antepartum fetal heart rate testing. Obstet Gynecol. 1987;70:353-6

Information Category	Detailed Information
Training Need Identified?	No
Publication Location (refer to Policy on Policies – Approvals and Ratification):	Internet and Intranet
Document Library Folder/Sub Folder:	Clinical/Midwifery and Obstetrics

Version Control Table

Date	Version Number	Summary of Changes	Changes Made by
4th August 2016	V1.0	Initial issue	Rob Holmes Consultant Obstetrician
4th July 2019	V2.0	Full review with minor changes made	Rob Holmes Consultant Obstetrician
July 2022	V3.0	Full review with minor changes made	Rob Holmes Consultant Obstetrician

All or part of this document can be released under the Freedom of Information Act 2000

This document is to be retained for 10 years from the date of expiry.
This document is only valid on the day of printing

Controlled Document

This document has been created following the Royal Cornwall Hospitals NHS Trust Policy for the Development and Management of Knowledge, Procedural and Web Documents (The Policy on Policies). It should not be altered in any way without the express permission of the author or their Line Manager.

Appendix 2. Equality Impact Assessment

Section 1: Equality Impact Assessment (EIA) Form

The EIA process allows the Trust to identify where a policy or service may have a negative impact on an individual or particular group of people.

For guidance please refer to the Equality Impact Assessment Policy (available from the document library) or contact the Equality, Diversity and Inclusion Team rcht.inclusion@nhs.net

Information Category	Detailed Information
Name of the strategy / policy / proposal / service function to be assessed:	Amniotic Fluid Volume Abnormality Diagnosis and Management Clinical Guideline V3.0
Directorate and service area:	Obstetrics and Gynaecology
Is this a new or existing Policy?	Existing
Name of individual completing EIA (Should be completed by an individual with a good understanding of the Service/Policy):	Rob Holmes Consultant Obstetrician
Contact details:	01872 252730

Information Category	Detailed Information
1. Policy Aim - Who is the Policy aimed at? (The Policy is the Strategy, Policy, Proposal or Service Change to be assessed)	To identify and optimally manage pregnancies affected by abnormalities of amniotic fluid (AF) volume
2. Policy Objectives	To identify and optimally manage pregnancies affected by abnormalities of amniotic fluid (AF) volume
3. Policy Intended Outcomes	To identify and optimally manage pregnancies affected by abnormalities of amniotic fluid (AF) volume
4. How will you measure each outcome?	Compliance monitoring
5. Who is intended to benefit from the policy?	Obstetric patients

Information Category	Detailed Information
6a. Who did you consult with? (Please select Yes or No for each category)	• Workforce: Yes • Patients/ visitors: No • Local groups/ system partners: No • External organisations: No • Other: No
6b. Please list the individuals/groups who have been consulted about this policy.	**Please record specific names of individuals/ groups:** Maternity Guidelines Group
6c. What was the outcome of the consultation?	Agreed
6d. Have you used any of the following to assist your assessment?	**National or local statistics, audits, activity reports, process maps, complaints, staff or patient surveys: No**

7. The Impact

Following consultation with key groups, has a negative impact been identified for any protected characteristic? Please note that a rationale is required for each one.

Where a negative impact is identified without rationale, the key groups will need to be consulted again.

Protected Characteristic	(Yes or No)	Rationale
Age	No	All pregnant women
Sex (male or female)	No	All pregnant women
Gender reassignment (Transgender, non-binary, gender fluid etc.)	No	All pregnant women
Race	No	All pregnant women
Disability (e.g. physical or cognitive impairment, mental health, long term conditions etc.)	No	All pregnant women
Religion or belief	No	All pregnant women
Marriage and civil partnership	No	All pregnant women

Protected Characteristic	(Yes or No)	Rationale
Pregnancy and maternity	No	All pregnant women
Sexual orientation (e.g. gay, straight, bisexual, lesbian etc.)	No	All pregnant women

A robust rationale must be in place for all protected characteristics. If a negative impact has been identified, please complete section 2. If no negative impact has been identified and if this is not a major service change, you can end the assessment here.

I am confident that section 2 of this EIA does not need completing as there are no highlighted risks of negative impact occurring because of this policy.

Name of person confirming result of initial impact assessment: Leann Morris, Practice Development Midwife

If a negative impact has been identified above OR this is a major service change, you will need to complete section 2 of the EIA form available here:
Section 2. Full Equality Analysis

Appendix 3

Monitoring Compliance and Effectiveness

Guideline Audit Tool

Applicable Guideline	***Amniotic Fluid Volume Abnormality: Diagnosis and Management Clinical Guideline V3.0 October 2022***
Audit Register Number	*(For audit use)*
Process	*Retrospective*
Audit Date	*(For audit use)*
Auditor	*(For audit use)*

	Audit Questions
1	*Has Amniotic Fluid (AF) volume been assessed at all pregnancy scans from 18 weeks?*
2	*In the second half of pregnancy has AF volume been measured by the Single Deepest Pool (SDP)?*
3	*Has the Amniotic Fluid Index (AFI) only been measured when abnormal AF volume is identified?*
4	*Has mild polyhydramnios been managed in accordance with the guideline?*
5	*Has moderate/severe polyhydramnios ben managed in accordance with the guideline?*
6	*Has Oligohydramnios been managed in accordance with the guideline?*