# ULTRASOUND ASSESSMENT OF FETAL VIABILITY IN THE FIRST TRIMESTER

## Developed in response to:
RCOG GTG 25

## Contributes to CQC Regulation:
11

### Consulted With

<table>
<thead>
<tr>
<th>Individual/Body</th>
<th>Date</th>
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<tbody>
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<td>June 2015</td>
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### Professionally Approved By

| Dr. Rao, Clinical Director, Obstetrics and Gynaecology | June 2015 |

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2.0

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Radiology

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August 2015

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3rd August 2015

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July 2018

### Author/Contact for Information
Emma Buchanan-Parker

### Policy to be followed by (target staff)
Ultrasound staff

### Distribution Method
Intranet and website

### Related Trust Policies (to be read in conjunction with)
10122 Management of Miscarriage associated with early pregnancy unit.
05118 Chaperone Policy

### Document Review History

<table>
<thead>
<tr>
<th>Version No</th>
<th>Authored/Reviewed by</th>
<th>Active Date</th>
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<tbody>
<tr>
<td>1.0</td>
<td>Tina Sheriff</td>
<td>3rd July 2012</td>
</tr>
<tr>
<td>2.0</td>
<td>E Buchanan-Parker</td>
<td>3rd August 2015</td>
</tr>
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1.0 Purpose

1.1 To ensure that staff know the procedures to follow when assessing fetal viability in the first trimester.

1.2 The purpose of the guideline is to assist with the diagnosis of:
   - A viable pregnancy
   - Missed miscarriage or anembryonic pregnancy
   - Diagnose a multiple pregnancy
   - Assessment of adnexa to assist in the diagnosis of ectopic pregnancy.

2.0 Scope

2.1 This document encompasses all women who consent for an ultrasound scan in first trimester of pregnancy

3.0 Examination preparation

3.1 Any patient booked for a first trimester ultrasound scan should receive a letter with instructions to drink a pint and a half of water an hour prior to their appointment. This is in order for them to have a full bladder.

4.0 Consent

4.1 It is the responsibility of the sonographer to ensure that the patient understands the scope of the ultrasound examination prior to giving her consent.

4.2 Verbal consent must be obtained for all examinations. Additional verbal consent should be obtained where a student sonographer undertakes part or all of the ultrasound examination under supervision.

4.3 All patients must give informed consent prior to having a trans-vaginal scan, please see impact equality assessment form appendix B

5.0 Performing the scan

The examination should include:

- Uterus, ovaries, adnexa
- Assess and measure the mean sac diameter where there is no fetal pole
- Assess and measure the CRL (crown rump length) of the fetal pole
- Assess the presence of a yolk sac
- Assess the presence or absence of a fetal heart beat

5.1 A trans-vaginal ultrasound scan should be performed where on trans abdominal views the fetal pole cannot be clearly visualised or the gestation sac has a mean sac diameter of 25mm or less and appears empty.
5.2 If a trans-vaginal ultrasound scan is performed a chaperone must be present regardless of the gender of the person performing the examination as per the hospital chaperone policy (05118).

5.3 One accompanying adult will be invited into the scan room during the anatomical checks. Children will not be admitted into the scan room until all of the checks have been completed. Any other people accompanying the patient, including children will be allowed to view the scan once the Sonographer is happy the scan is complete.

6.0 Diagnosis of miscarriage

6.1 Missed miscarriage: If the gestation sac has a mean diameter greater than or equal to 25mm, with no evidence of an embryo or yolk sac, this is highly suggestive of a missed miscarriage.

6.2 If the embryo has a crown rump length greater than or equal to 7mm, with no evidence of heart pulsations, this is highly suggestive of a missed miscarriage.

6.3 When the mean gestation sac is less than 25mm or the crown rump length is less than 7mm a repeat examination should be performed after a minimum of 7 days both to assess the growth of the gestation sac and embryo and to establish whether heart activity exists.

6.4 If the gestation sac is smaller than expected for gestational age the possibility of incorrect dates should always be considered, especially in the absence of clinical features suggestive of a threatened miscarriage.

6.5 A trans-vaginal ultrasound scan should be performed in all cases.

6.6 Where there is any doubt about the diagnosis and/or a woman requests a repeat scan, this should be performed at an interval of at least one week from the initial scan before medical or surgical measures are undertaken for uterine evacuation. No growth in gestation sac size or CRL is strongly suggestive of a non-viable pregnancy in the absence of embryonic structures.

7.0 Images to be recorded

7.1 A series of static images should be recorded on the Radiology patient archive and communication system (PACS). This should include:

- A mid-line section demonstrating a sagittal view of the uterus with the gestation sac or endometrial cavity and cervix on the same image.
- Where no fetal pole is seen, measure and image the mean sac diameter.
- A magnified view of the fetal pole demonstrating a measurement of CRL.
- Views and measurements of both ovaries where possible.
- Measure and image any pathology of the uterus, ovaries or adnexae.

8.0 Documentation

8.1 There should also be a permanent electronic record of all the imaging studies. The report should include:
• The reason for the ultrasound scan.
• How the scan was performed ie trans-abdominal or trans-vaginal. If a trans-vaginal scan is performed the chaperone must be documented.
• If a fetal pole is seen, document the presence or absence of a fetal heartbeat.
• The CRL of the fetal pole if seen.
• Comment on the assessment of adnexae and ovaries.
• If the patient has consented to a trans-vaginal scan.

9.0 Pathway of care following ‘Bad News’ or in cases of uncertain viability

9.1 Breaking bad news or discussing the possibility of uncertain viability should be handled carefully and sensitively by sonographers. The sonographer should give an explanation of the ultrasound findings, taking into account the needs of the patient and taking time to answer any questions the patient may have.

9.2 The patient will be referred to the early pregnancy unit, where she will be able to discuss different treatment and follow up options with specialist nurses if required, as well as being offered counselling and support if needed.

9.3 Following the breaking of ‘Bad News’ or cases of uncertain viability, the quiet room is available for the patient and anyone accompanying her to use for as long as is needed.

9.4 The Sonographer is to refer the patient to the Early Pregnancy Unit (EPU) ext. 3037, who will usually see the patient on the same day as the referral.

9.5 If at St. Peter’s Hospital, the Sonographer must contact the EPAU on 01245 513037. EPU may be able to see the patient on that day or the following day, work load allowing.

10.0 Communication -patients

10.1 Following the scan, patients should be given a verbal and written report of the results of the examination.

11.0 Staff and Training

11.1 The procedures should be carried out by suitably qualified sonographers possessing the Diploma in Medical Ultrasound (DMU), a Postgraduate Diploma in Medical Ultrasound (PG Dip) or equivalent. Ultrasound students may carry out ultrasound scans under the supervision of a qualified sonographer.

12.0 Infection Prevention

12.1 All staff should follow the Trust’s guideline on infection prevention whilst performing the scan, paying particular attention to the specific ultrasound protocols relating to the cleaning of ultrasound equipment which can be found in Appendix A and is also posted in ultrasound rooms and on the S drive.
13.0 Audit and Monitoring

13.1 Compliance with the guideline is monitored as part of an ongoing audit of imaging, completed by the ultrasound department.

13.2 Feedback to all staff is given on a regular basis and presented at staff meetings.

13.3 Poor compliance may lead to an unnecessary change in the patient’s clinical pathway. In this instance, further training will be provided for staff if needed.

14.0 Equality and Diversity

14.1 The Trust is committed to the provision of a service that is fair, accessible and meets the needs of all individuals.

15.0 Communication

15.1 Approved guidelines are published monthly in the Trust’s Staff Focus that is sent via email to all staff.

15.2 Approved guidelines will be disseminated to appropriate staff via email.

15.3 The latest revised guidelines can be accessed via the intranet and clinical guideline folders in each ultrasound room.

16.0 Risk events / error reporting

16.1 All untoward events involving patient safety are reported to the risk management department and head of ultrasound by way of an electronic risk event form (Datixweb). This should be completed by the staff member(s) involved.

16.2 All errors are reported to the Radiology Clinical Director for discussion at a monthly radiology meeting.

17.0 References


Addendum to GTG No 25 (Oct 2006): The Management of Early Pregnancy Loss
http://www.rcog.org.uk/files/rcog-corp/Addendum%20to%20GTG%20No%2025.pdf
Appendix A

Ultrasound Department – Mid Essex Hospital Services NHS Trust

**Infection Prevention procedure for the decontamination of ultrasound transducers used for intracavity and non-intracavity procedures.**

**Equipment**
- The equipment must be thoroughly cleaned prior to use and decontaminated after use in accordance with Trust infection prevention policy.
- The operator’s hands must be washed or decontaminated with alcohol gel hand rub both before and after the scan.

**Procedure – Intracavity ultrasound**
- Examination gloves must be worn when carrying out the procedure.
- Apply a small amount of gel in the teat of the condom.
- Cover the intracavity transducer with a new intact ultrasound probe cover. Use a non-spermicidal condom for infertility patients. Use a latex-free condom for patients with a latex allergy.
- Undertake the procedure.

**Procedure – Non-Intracavity ultrasound**
- Apply a small amount of gel to the surface of the transducer.
- Undertake procedure

**Decontamination of equipment after each procedure**

<table>
<thead>
<tr>
<th>Intracavity transducers</th>
<th>Non-intracavity transducers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Remove excess gel with a paper tissue</td>
<td>1. Remove excess gel with a paper tissue.</td>
</tr>
<tr>
<td>2. Clean and decontaminate the intravatity transducer and cable with a detergent wipe, by: (i) Covering the surface and sides of the transducer with the detergent wipe (ii) Rotate and progress the wipe along the length of the cable. (iii) This step should be repeated with a fresh wipe until the transducer and cable are visibly clean.</td>
<td>2. Clean all surfaces of the transducer with a detergent wipe.</td>
</tr>
<tr>
<td>3. Next decontaminate the transducer using Tristel Duo by: (i) Depress the pump once to dispense one 0.8ml aliquot of Duo Foam onto the surface. (ii) Use a paper towel and spread evenly. (iii) Ensure all areas of the surface come into contact with foam. (iv) Leave to dry, allow 30 seconds before contact.</td>
<td>3. Dry the transducer with a paper tissue.</td>
</tr>
<tr>
<td>4. Dispose of gloves.</td>
<td>4. The non-intracavity transducer is now ready for the next patient.</td>
</tr>
</tbody>
</table>
### Equality Impact Assessment (EIA)

**Title of document being impact-assessed:**

<table>
<thead>
<tr>
<th>Equality or human rights concern. (see guidance notes below)</th>
<th>Does this item have any differential impact on the equality groups listed? Brief description of impact.</th>
<th>How is this impact being addressed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Ultrasound scans to assess fetal viability are only possible for female patients as the uterus, adnexae and fetus are examined.</td>
<td>n/a</td>
</tr>
<tr>
<td>Race and ethnicity</td>
<td>Ladies of certain races or ethnicities may not choose to have an internal scan which may be offered if the trans abdominal examination is difficult. Patients may want to have a partner, friend or relative present for the scan.</td>
<td>Patients have the right to refuse an internal scan and this is documented on the report. Patients may have one companion during the scan at the scan. This must not affect the concentration of the Sonographer. If the couple bring a child to the examination, then the partner is required to look after the child and not be present during the scan until the examination is completed. Once completed, family members/children are allowed to see the baby once the examination has been completed. A privacy curtain is provided for patients to undress behind. Covers are provided for the</td>
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*Appendix B*
<table>
<thead>
<tr>
<th><strong>Disability</strong></th>
<th><strong>Religion, faith and belief</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients may have differing levels of ability or understanding.</td>
<td>Patients of some religious groups or beliefs may refuse intimate examinations or may request a certain gender of Sonographer.</td>
</tr>
<tr>
<td>The use of a hoist is available for those with physical disabilities as well as other manual handling tools such as sliding sheets. The procedures are explained to the patient by the Sonographer. The patient has the right to refuse any part of the examination and this should be documented in the report. The Sonographer should decide whether the patient is suitable for the examination if the patient is unable to understand what is involved. This would mean that the patient was not able to fully consent to the scan.</td>
<td>Patients have the right to refuse any part of the examination and this should be documented on the report. Patients also have a right to refuse examination by</td>
</tr>
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Patients may refuse their scan with a certain gender sonographer. Language may be difficult if the patient’s English is limited.

Patients also have a right to refuse examination by Sonographers of either gender. Patients will be rebooked to another list in the first available appointment slot if a suitable Sonographer is not available at the time.

Every effort should be made to facilitate the patient’s understanding of the examination. Family members or friends may be used to translate where available. Translators are available to the Trust and should be used where possible. The Sonographer should decide whether the patient is suitable for the examination if the patient is unable to understand what is involved. This would mean that the patient was not able to fully consent to the scan.

Disability

Patients may have differing levels of ability or understanding.

The use of a hoist is available for those with physical disabilities as well as other manual handling tools such as sliding sheets. The procedures are explained to the patient by the Sonographer. The patient has the right to refuse any part of the examination and this should be documented in the report. The Sonographer should decide whether the patient is suitable for the examination if the patient is unable to understand what is involved. This would mean that the patient was not able to fully consent to the scan.

Religion, faith and belief

Patients of some religious groups or beliefs may refuse intimate examinations or may request a certain gender of Sonographer.

Patients have the right to refuse any part of the examination and this should be documented on the report. Patients also have a right to refuse examination by
| Sexual orientation | Patients of differing sexual orientations may refuse intimate examinations or may request a certain gender of Sonographer. | Patients have the right to refuse any part of the examination and this should be documented on the report. Patients also have a right to refuse examination by Sonographers of either gender. Patients will be rebooked to another list in the first available appointment slot if a suitable Sonographer is not available at the time. |
| Age | Patients of any age may refuse intimate examinations or may request a certain gender of Sonographer. | Patients have the right to refuse any part of the examination and this should be documented on the report. Patients also have a right to refuse examination by Sonographers of either gender. Patients will be rebooked to another list in the first available appointment slot if a suitable Sonographer is not available at the time. |
| Transgender people | Transgender patients may refuse intimate examinations or may request a certain gender of Sonographer. | Patients have the right to refuse any part of the examination and this should be documented on the report. Patients also have a right to refuse examination by Sonographers of either gender. Patients will be rebooked to another list in the first available appointment slot if a suitable Sonographer is not available at the time. |
| Social class | Assumptions may be made as to the level of understanding of written guidance. | The procedures are explained verbally to the patient by the Sonographer. The patient has the right to refuse any part of the examination and this should be documented in the report. The Sonographer should decide whether the patient is suitable for the examination if the patient is |
unable to understand what is involved. This would mean that the patient was not able to fully consent to the scan.

**Carers**

Carers may want to be involved as much as possible in the examination, for example in the moving and handling of the patient.

Help from carers should be encouraged by the Sonographer if the carer wants to participate and the patient gives their consent.

Date of assessment: 15th March 2012

Names of Assessor…Tina Sheriff, Advanced Practitioner Sonographer.