Appendix 4

Fetal Surveillance – Intrauterine Pressure Catheter Insertion

External Cardiotogography (CTG) provides an objective record of the frequency and duration of contractions however the tracing can be interrupted by maternal movement or difficult to capture due to maternal habitus. An intrauterine pressure catheter (IUPC) provides a quantifiable measure of uterine activity where clinically indicated.

Indications for use

For direct measurement of uterine contractions including:

- inability to monitor contractions well enough to assess timing of decelerations
- inability to monitor frequency of contractions as in the obese patient
- evaluation of contraction strength if patient's labor process fails to progress.

Contraindications for Use

- diagnosed or suspected placenta praevia
- undiagnosed vaginal bleeding
- non-rupture of amniotic membranes
- maternal infection (chorioamnionitis, active genital herpes, HIV)
- non-vertex fetal presentation
- any condition that precludes vaginal delivery

Equipment Required

- Sterile pelvic pack
- Intrauterine pressure catheter pack and 1 ml syringe
- Lubricating gel (sterile)
- CTG monitor

Preparation

Senior registrar in consultation with consultant on call reviews the woman and assesses suitability for IUPC including checking/confirming:

- the position of the placenta
- rupture of membranes (spontaneous or artificial)
- engaged vertex presenting part
- cervical dilatation of at least 1-2cm
- explanation of procedure risks and indications to use
- obtain verbal consent

Procedure

Before commencing the procedure:

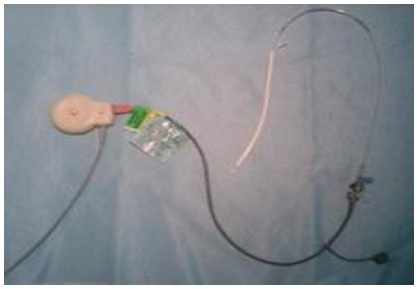
- Review the manufacturer's instructions regarding the IUPC insertion.
- Position the woman in the lithotomy position with a wedge under the buttock or lower back
- Plug the reusable interconnect cable into the pressure monitoring connector on the CTG monitor.
- Ensure the amnioport caps are firmly in place on the IUPC.

Using an aseptic technique, remove the catheter from the package.
The optimal position for IUPC placement can be determined by using the index finger to palpate the presenting part.
Insert the introducer and catheter into the vagina and to the cervical os. **Do not** advance the introducer through the cervix. Gently advance the catheter into the uterus.

Attempt to insert the catheter opposite to the placental site.
Placement of the catheter in the amniotic space can be determined by visualising amniotic fluid in the opaque tubing of the catheter. Evidence of blood indicates extra-ovular placement of the catheter. Forced insertion may result in fetal or maternal injury, maternal discomfort, or malfunction.
If resistance is met at any time during insertion pull the catheter tip back to the introducer and alter the direction of the catheter by changing direction of the introducer and then determine an alternative position for placement and proceed.
Remove the introducer by gently sliding back out of the vagina according to the manufacturer's instructions.
Secure the catheter to the woman's leg. The catheter should be secured as close as possible to the introitus to prevent the catheter from working its way out of the uterus when it is flexed.
Zero the CTG monitor according to instructions and connect the catheter to the cable according to instructions. For true zero, ensure the catheter is disconnected from cable/connector and zero the CTG monitor.
Instruct the woman to cough. A spike on the CTG tracing in response to a cough indicates correct positioning
Document in the medical records noting time of insertion, baseline resting tone pressures in the semi-fowlers position and left and right lateral positions. When a change in resting tone is observed, the maternal position and manual palpation of the uterine tone should be documented.

Troubleshooting
If the IUPC is not recording:

- ensure the catheter, cable and CTG monitor are compatible before insertion.
- check the cables are plugged in and all connections are correct.
- disconnect the catheter from the cable and inject 10cc of sterile normal saline through the amnioport. Reconnect the cap and cable.
- liaise with the doctor who may decide to disconnect the catheter from the cable, rotate, retract or advance
- the catheter.
- wait 15 seconds before reconnection.
- Measurements are in Montevideo units, measure from the base to the peak of the contraction, total of at least 200 over a 10-minute cycle is deemed enough for labour to progress.



Make sure the Toco lead for external monitoring is used as pictured

Removal of IUPC

- Grasp the catheter and gently pull until fully withdrawn.
- Disconnect the catheter from the cable (**Note the cable is not disposable**).

Amniotic sampling

- Remove the cap from the amnio port and collect the sample.