OBSTETRICS AND GYNAECOLOGY
CLINICAL PRACTICE GUIDELINE

Intrauterine Pressure Catheter

Scope (Staff):	WNHS Obstetrics and Gynaecology Directorate staff
Scope (Area):	Obstetrics and Gynaecology Directorate clinical areas at KEMH, OPH and home visiting (e.g. Visiting Midwifery Services, Community Midwifery Program and Midwifery Group Practice)

This document should be read in conjunction with this Disclaimer

Aims

- To measure the frequency, duration and pressure of uterine contractions in cases where uterine activity is not readily palpable e.g. maternal obesity.[2]
- To collect an amniotic fluid sample for laboratory analysis.
- To perform amnioinfusion

Key points

1. Intrauterine pressure catheters are not recommended in routine intrapartum fetal surveillance.[2]
2. Insertion of intrauterine pressure catheter (IUPC) is to be done by Obstetric Registrar, Senior Registrar or Consultant.
3. The IUPC should not be left in situ for longer than 24 hours.
4. A pressure sensor in the tip of the IUPC measures changes in the amniotic fluid pressure in response to contractions.[1]

Risk factors / complications

- Increased risk of postpartum haemorrhage and need for blood transfusion[3]
- Uterine perforation[5]

- Extramembranous placement occurs 14-38% of the time, with adverse events occurring in 1/1400 placements.[4]

Contraindications

Do not insert if there is bleeding of unknown origin, placenta previa or non-ruptured amniotic membranes (as per manufacture).

Equipment

- Sterile catheter pack
- Sterile gloves
- IUPC cable for CTG
- Lubricating gel
- Cardiotocograph (CTG) monitor
- Adhesive tape, optional

Procedure

Prior to the procedure

1. The obstetric Consultant or Senior Registrar should assess the suitability for insertion of an IUPC.
    - Including confirmation of placental location
2. Obtain verbal consent from woman.
3. Ensure the catheter, cable and CTG monitor are compatible **before** insertion.
    - Plug the IUPC **cable** into the CTG monitor.
4. Read the manufacturers instruction in or on the packaging of the IUPC regarding insertion.
5. Place woman in dorsal position with wedge below right buttock.

Procedure

1. Remove catheter from package using aseptic technique.
2. Zero the system.
3. Perform vaginal examination to;
    - Confirm cervical dilatation
    - Confirm or perform rupture of membranes
4. Insert the introducer and catheter into the vagina and to the cervical os. Do not advance the introducer through the cervix.
5. Attempt to insert the catheter opposite to the placental site.

6. Gently advance the catheter into the uterus. 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
    - Determine an alternative position for placement
    - If resistance continues cease insertion of transducer
7. Remove the introducer by gently sliding back out of the vagina.
8. 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.
9. Zero the CTG monitor as required.
10. Connect the catheter to the cable.
11. Instruct the woman to cough.
12. A spike on the CTG tracing in response to a cough indicates correct positioning.

After the procedure

1. Document the time of insertion in the medical record or Phillips Intellispace Perinatal (PIPS).
2. If an amniotic fluid sample is required remove the cap from the amnio port and collect the sample.

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 10mL of sterile 0.9 % sodium chloride through the amnioport. Reconnect the cap and cable.
- Liaise with the Medical Officer who may decide to disconnect the catheter from the cable, rotate, retract or advance the catheter. Wait 15 seconds before reconnection.

Removal of IUPC

- The IUPC can be removed by midwifery or medical staff.
- Grasp the catheter and gently pull until fully withdrawn.
- Disconnect the catheter from the cable.

References

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2. Royal Australian and New Zealand College of Obstetricians and Gynaecologists. Intrapartum Fetal Surveillance Clinical Guideline. Fourth Edition. 2019.
3. Haizler-Cohen L, Baxter D, Sanghavi K, Fahimuddin F, Chornock R, Saeed H, Iqbal S, Mokhtari N. Intrauterine pressure catheter use and risk of placental abruption and postpartum hemorrhage. **American Journal of Obstetrics and Gynaecology.** 2023. Available from: https://doi.org/10.1016/j.ajog.2022.11.902
4. Bakker J, Janssen P, van Halem K, van der Goes B, Papatsonis D, van der Post J, Mol B. Internal versus external tocodynamometry during induced or augmented labour. **Cochrane Database of Systematic Reviews**. 2013 (3). Available from: Internal versus external tocodynamometry during induced or augmented labour - Bakker, JJH - 2013 | Cochrane Library
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Related WNHS policies, guidelines and procedures

WNHS Obstetrics and Gynaecology Clinical Guideline: Amnioinfusion

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Version History

Version Number	Date	Summary
1.0 – 5.0	July 2003; April 2008; February 2011; July 2014 Issue date unknown; regular review as above	
6.0	10 May 2018	Added clinical circumstances that intrauterine pressure transducer is required; updated procedure
7.0	14 October 2024	Updated to new template; added contraindications; revised risk factors/complications; reviewed references and updated guideline accordingly; minimal changes to procedure itself; expanded removal of IUPC section.

The health impact upon Aboriginal people has been considered, and where relevant incorporated and appropriately addressed in the development of this policy.

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