INTRAUTERINE PRESSURE CATHETER

POLICY

The physician uses the intrauterine pressure catheter (IUPC) for two indications:

1) to accurately measure the strength of contractions when arrest of cervical dilation in first stage of labour requires augmenting labour with oxytocin.

2) for amnioinfusion to increase amniotic fluid volume in the presence of oligohydramnios and repetitive variable decelerations during labour. (See Appendix A)

Applicability: Intrauterine pressure catheter use occurs the the Birthing area of the Acute Perinatal Program.

PROCEDURE

The following conditions should be met for placement of an IUPC:

- Fetal membranes must be ruptured
- The cervix must be sufficiently dilated (at least 2 to 3 cm) to allow passage of the IUPC

Registered Nurse

1.1 Gather Supplies

- Electronic Fetal Monitor
- Intrauterine Pressure Catheter (IUPC)
- Intrauterine Pressure Catheter Reusable Cable – Safelinc™ FCB300 (purple cable located in fetal monitor drawer)

1.2 Preparation

Continue external toco monitoring until internal monitoring is ready to start.

- Ensure that the woman’s bladder is empty prior to the procedure.
- Confirm the woman has ruptured membranes and has an arrested cervical dilation.
- Prior to insertion, prepare the equipment according to the package instructions
- Open the IUPC package for the OB to grasp the sterile IUPC using aseptic technique.

1.3 Insertion

See Intrauterine Pressure Catheter Directions For Use.

Physician

Performs a cervical exam to confirm adequate cervical dilation, ruptured membranes, and presenting part, and to determine optimal position for catheter placement.

Inserts the tip of the introducer (with the catheter inside) just inside the cervical os, avoiding placement between the decidua and membranes.

Advance catheter to the cervical os. Note: Do not advance introducer through the cervix.

1) Feed catheter until the 45 centimetre mark (cm) is at the introitus.
2) Slide the introducer out of the vagina along the catheter. Separate the introducer from the catheter. Anchor the catheter in place and pull the introducer off the catheter.

NOTE: In this position, the tip is usually just beyond the fetal head.

3) The catheter should go in easily and never be forced. If any resistance is met, the obstetrician should change the angle or position of insertion of the catheter.
4) Flow of amniotic fluid through the catheter at this point indicates appropriate placement.
Registered Nurse

5) Remove liner on adhesive pad and adhere pad to thigh.
6) Connect the reusable cable to the catheter and the other end to toco/ uterine activity port on the fetal monitor.
7) Zero the system during uterine relaxation by pressing the re-zero button on the cable, adjust the fetal monitor to zero.
8) Ask the woman to cough and check for spike on the tracing in response. If no peak, gently pull catheter back 1 - 2 centimetres.

ReZeroing

The IUPC may require re-zeroing as a result a maternal change in position, or if her baseline is reading less than zero.
1. Press and hold the re-zero button on the purple cable (green light flashes for five seconds)
2. Adjust the fetal monitor to zero while re-zero button is flashing

Cable Check

If cable performance is in question, follow this procedure:
1. Disconnect catheter from the cable. Insert the cable check plug (found on purple cable) into the catheter end of the cable.
NOTE: The cable remains plugged into the monitor.
2. Verify that the light is continuously lit (no flashing)
3. If the light does not illuminate, replace the cable NOTE: If the light is flashing, verify that the light is inserted completely into the cable.
WARNING: The cable test function is not meant to test the accuracy of the system, only to confirm cable function.

Document

- Time of insertion
- Baseline resting tone pressure
- Maternal position
- When a change in resting tone is observed, record the maternal position and palpate the uterine resting tone

1.5 After IUPC insertion

Ensure the uterine pressure is recording on the fetal heart tracing.
- A spike on the fetal heart tracing in response to the cough indicates proper positioning of the catheter.

If there is need to change the monitor, disconnect the cable from the monitor.
- Plug the cable into the new monitor and rezero the system.
Discontinue the IUPC under the direction of the physician.

1.6 Measuring Contraction Intensity - Montevideo units

Evaluate strength of contractions by the quantitative measurement in Montevideo units(MVU) .
- 180 - 250 MVU are considered to be effective for progress in labour.
• Record the MVU on the labour Partogram.
• The formula used to calculate MVU is:

  \[
  \text{The sum of the intensities (in a 10 minute period) minus the sum of baseline tone (in a 10 minute period)}
  \]
  \[
  = \text{MVU}
  \]

Example: Baseline tone = 20

<table>
<thead>
<tr>
<th>Number of contractions in 10 minutes</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensity of each contraction</td>
<td>70</td>
</tr>
<tr>
<td>(70 x 4) = 280 - (20 x 4) = 80</td>
<td>200</td>
</tr>
</tbody>
</table>

Or 50 X 4 = 200 MVU

**DOCUMENTATION**

- Fetal Monitor Label
- Fetal Monitor Tracing
- Labour and Birth Summary Record
- Labour Partogram
- Physician’s History and Progress Notes
- Physician’s Orders

**REFERENCES**


