

### Appendix 3

#### **Fetal Surveillance – Fetal Scalp Electrode Application (FSE)**

That fetal heart rate monitoring be achieved in circumstances where Intermittent auscultation via Doppler ultrasound or Continuous fetal monitoring via external Cardiotocograph (CTG) has proved to be unsuitable/inadequate.

*All staff that perform or participate in fetal surveillance must understand the relevant maternal and fetal pathophysiology and demonstrate competence in the interpretation of fetal surveillance. Annual competency requirements must be met by all staff who participate in fetal surveillance.*

#### **Indications for FSE application include**

- External monitoring is unable to be used (e.g. in the instance of maternal obesity)
- The inability to obtain a continuous trace externally
- The signal quality of external monitoring is poor, and Indications for continuous Electronic Fetal Monitoring exist (refer CPP0487 - Fetal Surveillance)

#### **Use of FSE for fetal heart rate monitoring requires that**

- The cervix should be a minimum of 2-3cm dilated, and
- The membranes are ruptured.

*Routine application of an FSE should be avoided.*

#### **Contraindications to the use of FSE include:**

- Maternal blood borne diseases (eg Hep.C.).
- Maternal blood clotting risk factors.
- Known neonatal clotting disorders.
- Infants < 34 weeks gestation.

#### **Perinatal morbidity associated with the use of FSE includes**

- Eyelid laceration
- Scalp abscess and ulceration.
- Neonatal osteomyelitis.
- Sub-arachnoid penetration.
- Acute meningoencephalitis.

#### **Risks for potential infection include**

- Prolonged monitoring
- Vacuum extraction.
- Maternal infection.

### **Equipment Required**

- Cardiotocographic (CTG) monitor.
- Sterile fetal scalp electrode.
- Fetal scalp electrode connection.
- Sterile gloves.
- Sterile water-based lubricant.

### **Preparation**

Explain the indication for FSE use to the woman.

1. Obtain consent for FSE use from the woman and document that verbal consent has been obtained.
2. Ensure the woman's bladder is empty.
3. Establish the membranes are ruptured prior to application of the FSE.
4. Establish there are no risk factors prior to application.

### **Applying the FSE**

Perform a vaginal examination to confirm that:

- The membranes are ruptured. If membranes are intact, ARM (Artificial Rupture of Membranes) will need to be performed (See CPP 0384: Pregnancy Care Procedures- Artificial Rupture of Membranes).
  - The presenting part is identified and there is no cord presentation.
  - The position for application is not over the fontanelles, face or genitalia.
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- Using aseptic technique, remove the FSE from its package leaving the wires locked in the retention notch at the top of the FSE.
  - Insert the FSE until the presenting part is contacted and ensure the guide tube end is held flat against the presenting part.
  - Pull the grip out from the outer guide tube enough to release the protection tap from the guide tube and then push the grip back in until the spiral tip contacts the presenting part.
  - Rotate the handle grip clockwise (approximately 1 full turn) until milk resistance indicates full attachment (DO NOT over rotate).
  - Release the wires from the retention notch and grasp the guide tube and slide both the guide and drive tubes off the wires.
  - Connect the FSE to the leg adaptor, monitor cable and CTG inlet.
  - DO NOT unscrub until the electrode is attached to the CTG, is working correctly and recording.

### **Removing the FSE**

- Pull the FSE connector out of the leg adapter. Grasp the electric wires as close as possible to the fetal presenting part, turning them counter clockwise until the spiral tip is free from the fetal skin. DO NOT pull the spiral tip from the fetal skin. DO NOT pull the FSE wires apart.
- Inspect the spiral tip to ensure that it is still attached to the FSE hub. If the tip has separated from the hub and remains embedded in the presenting part remove it using an aseptic technique.
- REMINDER the FSE must be removed prior to performing a caesarean section.

### **Post Procedure**

- Document the indication and use of the FSE in the maternal progress notes.
  - Notify the Paediatric team if there are any abnormalities of the insertion site on the baby after delivery (e.g. lacerations or infections)
  - Advise the mother to examine the scalp or buttocks of her baby frequently until healed and to report any abnormalities.
- Dispose of single use items and clean monitor cable.