FETAL SCALP ELECTRODE APPLICATION

Keywords: FSE, fetal scalp electrode, fetal heart rate monitor, FHR, intrapartum fetal heart rate, fetal spiral electrode, Copeland, internal monitoring of fetal heart, poor external fetal heart rate monitoring, corometric

AIM

- Fetal scalp electrode (FSE) placement is used to assess the fetal heart rate (FHR) pattern when external monitoring is unable to be used, or when the signal quality is poor.

KEY POINTS

1. Routine application of the FSE should be avoided.
2. Application of the FSE should be used when clearly identified ‘risk factors’ are present, and signal quality from external monitoring is poor.
3. Repeated application of the FSE should be avoided.
4. Avoid applying the FSE when contra-indications to use are present.
5. Maternal consent should be given and documented.
6. Avoid use of the FSE on pre-term fetuses less than 34 weeks gestation.

CONTRAINDICATIONS TO THE USE OF F.S.E.

The FSE in not recommended to be used in the following circumstances:

- Fetus less than 34 weeks gestation
- Placenta praevia¹
- In the presence of active herpes lesions¹
- Hepatitis C¹,²
- Hepatitis B³
- HIV¹
- Maternal carrier of haemophilia with affected fetus or with unknown status¹
- Maternal clotting disorders or thrombocytopenia
- Fetal bleeding disorders
- If the fetal presenting part is unable to be identified¹
- The FSE should not be placed over fontanelles or on genitalia.¹
- Face presentation¹

Note: In event of any maternal infections the FSE should not be applied without Consultant approval. This may include discussion with the Microbiology Consultant.

EQUIPMENT

- Sterile fetal scalp electrode
- Sterile gloves
- Sterile water based lubricant
- Cardiotocograph monitor
- Fetal scalp electrode monitor lead and leg adaptor specific to the selected fetal scalp electrode
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| **1** Preparation | Document verbal consent has been obtained.  
Obtain verbal consent from the woman.  
Ensure the woman’s bladder is empty prior to examination.  
Establish the membranes are ruptured prior to application of the FSE.  
Establish there are no risk factors prior to application.  |
| **2** Perform a vaginal examination | The membranes should be ruptured and ideally the cervix dilated 2-3cm prior to application.  
Perinatal morbidity associated with FSE use includes eyelid laceration, scalp abscess and ulceration, neonatal osteomyelitis, subarachnoid penetration, and acute meningitis.  |
| • establish that the membranes are ruptured  
• the presenting part is identified  
• there is no cord presentation  
• the placement of the FSE is not over the fontanelles, face or genitalia. | FSE should be avoided if a woman has blood-borne disease, or blood clotting risk factor.  
Avoid using a FSE on preterm fetuses less than 34 weeks gestation.  |
| **3** Application of a ‘Fetal Spiral Electrode’ |  
See product information sheet.  |
|  
**4** Application of a ‘Copeland’ FSE  
**4.1** Introduce the FSE into the vagina with the needle closed. Place the needle firmly against the fetal presenting part by applying light finger pressure.  
Rotate the handle with your other hand 180 degrees anticlockwise.  
Then rotate the handle 180 degrees clockwise.  
Give a gentle tug to ensure the clip is attached.  
Connect the FSE to the leg attachment pad and monitor lead.  
To remove the electrode – rotate the handle in an anti-clockwise direction. | Retracts the needle.  
Inserts the needle into the fetal scalp or presenting part.  
Do not remove sterile gloves until the electrode is attached to the woman, and it is confirmed that it is correctly working and recording.  |
| **5** Post procedure | FSE provides a potential site for infection.  
The risk increases with prolonged monitoring.  
Vacuum extraction, prolonged durations of monitoring and maternal infection increase the risk of scalp infections.  
Vaginal birth exposes infants to potential bacterial pathogens. FSE placement, scalp laceration/s and cephalhæmatoma pose a risk factor for the neonate.  |
| **5.1** Document commencement of the FSE use. |  
**5.2** Inform the paediatric staff of any abnormalities of the insertion site e.g. lacerations or infections.  
Vacuum extraction, prolonged durations of monitoring and maternal infection increase the risk of scalp infections.  |
| **5.3** Advise the mother to examine the scalp or buttocks of her neonate frequently until healed, and report any abnormalities to the midwife or doctor. |  
Vaginal birth exposes infants to potential bacterial pathogens. FSE placement, scalp laceration/s and cephalhæmatoma pose a risk factor for the neonate.  |
REFERENCES (STANDARDS)


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National Standards – Care Provided is Guided By Current Best Practice
Legislation - Nil
Related Policies - Nil
Other related documents – Nil