DIRECTORATE OF CRITICAL CARE (RIE)

CAESAREAN SECTION IN RIE CRITICAL CARE ACTION CARD

NHS Lothian

OBSTETRIC ANAESTHETIST AND INTENSIVIST

1. Discuss with the neonatal team all critically-ill women at ≥ 22 weeks' gestation if delivery expected.
2. **Ensure blood is available** via electronic-release (2x samples to BTS). If peri-operative major obstetric haemorrhage is very likely, ensure two units of cross-matched blood are immediately available.
3. Patients require **large-bore intra-venous access** (typically 2 x peripheral cannulae ≥16G). Flow-rate through a standard CVC is insufficient for rapid infusion of fluids.
4. **Bring uterotonics from SCRH** if these are not available in ICU. Discuss their use with the ICU team: some may be contra-indicated (e.g. carboprost in asthma or severe pulmonary oedema) or need modification to their usual mode of administration (e.g. slow infusion rather than bolus of Syntocinon).
5. It may be surgically impossible to deliver the baby unless the patient is supine, although patients with severe respiratory failure sometimes tolerate this very poorly. **Discuss optimal positioning early** and certainly before knife-to-skin.
6. The risk of major obstetric haemorrhage is high. **Consider use of intra-operative cell salvage and the Belmont Rapid Infusor.**
7. Communicate with the neonatal team regarding drugs which will affect the fetus e.g. propofol and alfentanil infusions.

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OBSTETRICIAN, OBSTETRIC ANAESTHETIST, MIDWIFE AND SCRUB TEAM

1. **Hold an early team brief** (including neonatology) in SCRH as soon as operative delivery in ICU becomes likely. This should cover roles and responsibilities, equipment that will be needed (including to deal with complications e.g. hysterectomy), and management of contingencies such as major haemorrhage. Update the ICU consultant on any important decisions.
2. **There is no operating light available in ICU.** This should be brought to ICU by the scrub team. Operating stools are also not routinely available.
3. This is a high-risk clinical scenario from a human factors perspective. **Complete the WHO Surgical Safety Checklist** before knife-to-skin to ensure aspects of routine intra-operative care are not omitted. The consultant intensivist and bedside nurse should be present at this point.
4. Surgical access when the patient is on an ICU bed is very challenging. These patients are unlikely to be stable enough to transfer to a portable operating table in ICU, although this should be considered as an option. **A classical incision may be required to access the uterus**.

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NHS Lothian

ICU NURSE-IN-CHARGE AND INTENSIVIST

1. Space will be at a premium. When bed occupancy allows**, consider moving neighbouring ICU patients to other bedspaces** to maximise workspace.
2. Multiple trolleys are required to provide a flat surface for the anaesthetic and neonatal teams' drugs and equipment. **Source additional trolleys from HDU.**
3. If the caesarean section corresponds with visiting time, plan to relocate visitors for the duration of the operation and subsequent neonatal resuscitation.
4. Close the bedspace curtains of nearby, unsedated ICU patients, in order to ensure privacy.
5. **Ensure the Nurse-in-Charge has a portable phone**. Rapid liaison with other specialties may be required in the event of emergency (e.g. paediatric ENT).
6. The nurse in charge, bedside nurse and a runner should all be present throughout the duration of the caesarean section and neonatal resuscitation.

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CAESAREAN SECTION IN RIE CRITICAL CARE ACTION CARD

NHS Lothian

NEONATAL TEAM

1. ICU staff may be unfamiliar with needs and priorities of the neonatal team. **Communicate early** with ICU medical or nursing staff if there is anything they can assist with.
2. The mother will probably be receiving multiple drugs which affect the fetus. These include alfentanil and propofol infusions.
3. Flat surfaces are at a premium; **consider bringing trolleys from the neonatal unit** to provide additional flat work-space.
4. The presence of the neonatal transport team can provide additional clinical support in the event of a complex neonatal resuscitation.
5. A cold light (to exclude neonatal pneumothorax) and neonatal difficult intubation equipment should be brought to ICU.

DIRECTORATE OF CRITICAL CARE (RIE)

CAESAREAN SECTION IN RIE CRITICAL CARE ACTION CARD

NHS Lothian

FOLLOWING CAESAREAN SECTION

1. Discuss any **positive maternal microbiology** results or other concern about maternal infection (e.g. presence of herpetic lesions) with the neonatal team. Updates between teams should be considered weekly or following major events.
2. **Follow standard Critical Care Thromboprophylaxis guidelines** unless an absolute contra-indication exists. Consider additional mechanical thromboprophylaxis.
3. All staff should consider writing **contemporaneous statements** of their involvement in the event of future investigation by the Procurator Fiscal or other bodies.
4. **Complete a Datix incident report**.
5. A multi-specialty, multi-professional, after-action review of events can capture valuable learning points from this rare clinical scenario.