Summary Pathway for Neonatal Patients in Simpsons having Emergency Surgical Procedures in RHCYP

See explanatory notes accompanying this flowchart

Planning

- Surgical team to book operation on RHCYP Emergency Theatre List & liaise with RHCYP Theatre Co-ordinator and CEPOD anaesthetist (consultant) [1]
- Ensure surgical consent is completed and is taken with the baby on transfer
- Ensure baby has a valid group and save as a minimum requirement, and has also had a full set of blood tests within the last 12 hours if systemically unwell [2]
- Consider whether the following are needed:
  - Intravascular access [3 *]
  - New BTS sample or blood products [4]
  - Recent cranial ultrasound [5]
- Due to the unpredictable nature of RHCYP emergency theatre work, a **specific theatre time cannot be given**
- Prior to transfer from NICU to RHCYP theatres CEPOD anaesthetist should come to NICU:
  - to receive a pre-operative handover [6]
  - to assess the baby & discuss the anaesthetic management plan with the family
  - to agree plans for transfer to theatre and postoperative location with NICU consultant

Pre-op & Transfer

- RHCYP theatre team will aim to call the neonatal team at least **one hour before** arrival in theatre is expected [7]
- If unanticipated delays at either NICU or theatre, this must be communicated to the respective consultant at the earliest opportunity [8]
- All emergency transfers to be undertaken with baby in an **incubator using the transport shuttle** [9]
- Neonatal transfer staff [10]:
  - Default transfer staff is a 3 person team comprising a senior neonatal clinician and at least one neonatal nurse (QIS)
  - Exceptions to this can be discussed at the planning stage between CEPOD consultant and NICU consultant
- In non-ventilated stable patients, the default is to intubate in theatre [11]
- Consider / discuss choice of ETT (uncuffed vs cuffed) [12]
- Ensure consent form, prescription kardex and fluid chart accompany the baby to RHCYP theatre

Post-op & Return to NICU

- Contact NICU **at least 30 minutes** before transfer back is likely [13]
- Most babies return from emergency surgery ventilated, especially if unwell or a complex surgical procedure [14]
- Anaesthetist can extubate at their discretion and this plan should be communicated to NICU consultant [15]
  - If extubated, recovery period will be managed by RHCYP theatre/ recovery team
  - Once recovered, call 22324 to arrange return transfer
- Return transfer will be managed by a senior neonatal clinician [16]

Useful phone numbers:

NICU attending consultant 22324
NICU Extension 22601 / 22602
RHCYP Theatre co-ordinator 50176
Theatre recovery 50981
CEPOD Consultant Anaesthetist 50177

Explanatory Notes for the Pathway for Neonatal Patients in Simpsons Having Emergency Surgical Procedures in RHCYP

The need for emergency surgical procedures can be unpredictable and therefore can occur out of hours. Good planning and communication between teams is imperative to reduce peri-transfer risks and minimise time delays to theatre.

For the purposes of this pathway, 'the NICU team' refers to the attending **NICU Consultant** (**22324** from 8am-10pm) and the 'anaesthetic team' refers to the **CEPOD Consultant Anaesthetist** (**50177** during working hours).
Out of hours please contact these teams via switchboard

Planning:

1. Once need established, and surgical team agree for surgery, the baby should be listed on the RHCYP CEPOD list by the surgical team

2. Ensure G+S and recent bloods, within the last 12 hours. If not, or unsure, clarify the need for blood tests with BOTH surgical and anaesthetic teams. If required, send urgently (this may require hand-delivering the samples to the lab)

3. An unwell baby should have **at least 2 working forms of venous access**, ideally at least one venous cannula that can be used for anaesthetic and blood products. An arterial line is desirable.

   *Some babies will be having emergency surgery for central line insertion due to challenging venous access. In these patients there may only be one peripheral IV cannula. This should be highlighted at the neonatal handover to anaesthetist (see point 6)

4. Liaise with surgical and anaesthetic teams regarding blood products required pre-op or intra-op. Note neonatal platelets can take several hours to be available on site, so early ordering of these is imperative.

5. A recent cranial ultrasound may provide important information that might influence decision making in the peri-operative period. It is recommended in the BAPM perioperative framework for extremely preterm infants (1)

6. Wherever possible the consultant anaesthestist will come to the NICU to discuss with the NICU consultant, receive handover, and review the baby *in situ* prior to any move to theatres. This allows opportunity to clarify approximate timings, discuss vascular access, post-op location, ventilation/extubation plans, and to update the family. Ideally this update would be done as a joint update but sometimes NICU acuity will preclude this.

Pre-op and Transfer:

7. Pre-operatively, call the 'neonatal team' on 22324 **at least 1 hour before the** baby is expected to be in theatre; it takes at least this amount of time to mobilise with an acutely unwell ventilated baby.

8. If unanticipated delays occur at either NICU or theatres, it is important this is communicated to the respective consultant at the earliest opportunity. To contact NICU consultant 22324, and CEPOD anaesthetist 50177

9. Transfer all infants in an incubator, irrespective of ventilatory support

10. The default staffing for transfer for emergency surgery is a **3 person team (**at least one QIS neonatal nurse and a senior neonatal clinician, usually a consultant) because most babies who require emergency surgery are ventilated and some are very unwell/potentially unstable. Exceptions include a stable baby who needs emergency vascular access or a well baby with a congenital abnormality. These should be discussed on an individual case basis at the planning stage (see above)

11. In a baby who is well and not ventilated the **default** is to **transfer unventilated and intubate in theatre,** as this optimises safety

12. Most babies having emergency surgery will return to the NICU intubated. Consider an uncuffed ETT intraoperatively, as this is the standard of care in NICU. If a microcuff ETT optimises intraoperative anaesthetic management, baby can return to NICU with a microcuff ETT in situ, with the cuff deflated.

Post-op and return to NICU:

13. Contact the 'neonatal team' on 22324 with as much notice as possible towards the end of the procedure, ideally at least 30 minutes before expecting the baby to be transferred back, especially if out of hours as the senior neonatal clinician may not be immediately able to attend due to other clinical responsibilities.

14. Usually, a baby would return to the NICU still ventilated after an emergency surgical procedure, however this depends on the nature of the operation and the underlying clinical condition of the baby.

15. If the baby is deemed fit for extubation by the anaesthetist this will be done according to usual procedures and a typical period of RHCYP-led recovery should occur before transfer back to NICU.

16. Return transfer from RHCYP theatres to NICU (RIE) should be by a senior clinician with expertise in Neonatal Transport, optimising safety and accuracy of handover. This includes babies extubated at the end of their procedure.