

ADMISSION OF PATIENTS TO CICU

1. Admission from theatres or the cardiac catheter lab

Transfer of responsibility:

Children are transferred from the operating theatres or the cardiac catheter lab under the supervision of an anaesthetist and surgeon/cardiologist. The child is the responsibility of the theatre staff until a full handover has taken place to the CICU medical and nursing team, when care formally transfers to them.

Sequence of events prior to arrival of patient from theatres or the cardiac catheter lab:

1. Theatres/cardiac catheter lab telephone unit and give warning time of arrival to CICU (at least 30 minutes notice required). If there is a problem with the case the anaesthetist or ODP bleeps 0531 to ask nurse in charge to arrange for consultant intensivist to come to theatres.
2. Patient transfer form is collected by CICU nurse from theatres/ cardiac catheter lab with current ventilator settings and inotrope information.
3. Nurse informs theatre staff which bed-space is set up for child on CICU.
4. CICU staff (Dr or advanced respiratory qualified nurse) set up ventilator according to transfer sheet and run a test using a test lung
5. Receiving bedside nurse ensures that the bed space is set up with equipment including an endotracheal tube holder, an air/oxygen blender for patients having a BT shunt or a Sano operation, suction tubing for chest drains, correct syringe pump driver power leads are available
6. The clinicians' assistant or SpR should ensure that basic admission infusions have been prescribed (see Admission prescriptions protocol), blood forms have been completed and a chest x-ray form is complete.

The form is titled 'PATIENT TRANSFER FORM' and includes the following sections:

- PATIENT DETAILS:** Name, Age, Weight, Sex.
- VENTILATOR SETTINGS:**
 - Mode:
 - Pressure control:
 - Volume control:
 - Pressure Mode:
 - Volume Mode:
 - Rate:
 - Flow:
 - Total Volume at PIP:
 - PEEP:
 - F_IO₂:
- MONITORING LINES:**
 - Location of Central Line (sides): Left Right
 - Location of Arterial Line (sides): Left Right
- VASOACTIVE AGENTS:**
 - Epinephrine:
 - Nitro:
 - Dobut:
 - Adrenaline:
- OTHER:** Other: Notes:

Sequence of events on arrival of patient into CICU:

1. Anaesthetist confirms the ventilator settings and attaches the patient to the ventilator
2. The ODP removes the monitoring module from the transport monitor and attaches it to the CICU monitor. Confirm that the monitoring is working
3. CICU nurses transfer the syringe drivers to the bedside stand and ensure the power leads are plugged in to the mains.
4. CICU nurses place chest drains on suction and configure urine bag.
5. The perfusionist and ECMO specialist nurses configure the ECMO circuit

Safety check by anaesthetist following equipment set-up prior to handover:

1. All equipment is appropriately configured and plugged in.
2. The patient is appropriately ventilated.
3. The patient is appropriately monitored.
4. The patient is stable.
5. The receiving Dr and nurse have been identified and have confirmed they are ready to proceed with handover.

Information handover:

1. The anaesthetist speaks alone and uninterrupted, providing the relevant information according to the Information Transfer Aide Memoir sheet. The anaesthetist confirms that the transfer of information is complete.
2. The surgeon/cardiologist speaks alone and uninterrupted, providing further relevant surgical information. The surgeon/cardiologist confirms the transfer of information is complete.
3. The CICU team should ask for any information that is missing, incomplete or requires further clarification. The receiving doctor should use the Information Transfer Aid Memoir to check that all necessary information has been obtained.

INFORMATION TRANSFER AID MEMOIR
Surgery to Cardiac Critical Care Handover

DATE: / / TIME:

PATIENT DETAILS
Name: Age: Weight: kg
Pre-op Diagnosis & JCC Plan
Pre-op Condition
Allergies

OPERATIVE COURSE
Anaesthetic Problems
ETT size Line Locations / Problems
Operation performed
CPB Cross Clamp DHCA
Weaning from CPB & course

PRESENT STATUS
Haemodynamics HR Rhythm BP CVP LA
Response to filling: UOI: Acid Base
Infusions & Doses
Ventilation
TOE/Echo
Bleeding
Blood products given Ordered
Antibiotics

PLAN
Anticipated problems
Wake & wean Review weaning in 2-6 hours Leave ventilated ("stability") High risk ECMO (circuit/perfusion)

NAME: SIGNATURE:

Discussion and plan:

1. The anaesthetist, surgeon/cardiologist and CICU team discuss the case as a group. The CICU doctor should lead the discussion.
2. Any anticipated problems should be identified.
3. Anticipated recovery time should be discussed from the following options and documented in the notes (The Information Transfer Aid Memoir can be used as the CICU admission note).
 - Wake and wean
 - Review in 2-6 hours time
 - Leave ventilated overnight aiming for stability
 - ECMO high risk patient

The theatre team may leave CICU now. The surgeon/cardiologist must ensure that the operation/procedure is documented in detail in the patients notes prior to them leaving the unit.

The CICU team now have responsibility for patient care:

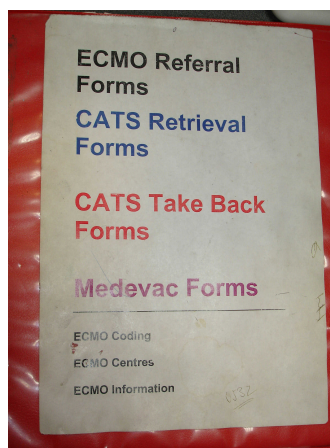
The CICU team now reassess the patient's clinical status:

1. Check that support and monitoring are appropriate.
2. Reconfirm the patient's plan.
3. Order blood tests and chest x-ray.
4. Request ECHO if not done in theatres or if patients condition has changed. Results of the ECHO must be documented in the notes by the cardiologist. If insufficient detail is documented then a repeat ECHO is justified.
5. The CICU SpR ensures that the admission note is completed including a thorough clinical examination of the patient. This may all be done on the Information Transfer Aid Memoir.

6. The CICU SpR ensures that all appropriate prescriptions are written up accurately (see Admission prescriptions protocol).
7. The family should be updated on their child's condition by the CICU consultant or SpR, +/- nurse, +/- surgeon, +/- cardiologist.
8. The patient care pathway should be reviewed at the evening ward round and a plan made for the night team.

2. External admissions to the unit

All admissions must be approved or rejected by the on-call consultant. Some referrals go via CATS and some come directly to the unit. A detailed history should be sought by anyone to whom a referral comes. The referring doctor's name and phone number should be taken and they should be told that the case will be discussed with the consultant and they will be contacted with an answer as soon as possible. There is a referral folder where all the details should be kept. Please record any advice given to the referring



team.

Via CATS:

Similar procedure to the admission procedure from theatres. The CATS consultant will usually directly contact the CICU on-call consultant to discuss the case.

The CATS team will telephone the unit when leaving the referring hospital with an approximate estimated time of arrival and clinical update of what support is to be required. The responsibility for patient care transfers to the CICU team once the full handover has taken place. The patient will be transferred onto a GOSH CICU bed, connected to the ventilator and monitoring equipment and be stable prior to handover of information. If the patient is very unstable on arrival handover of the patient may need to happen simultaneously with resuscitation in order to allow the CICU staff to assist the CATS team in stabilising the patient. In this case the handover from the CATS team will consist of essential information only to facilitate on-going care.

If it is an urgent ECMO admission the CICU staff should ensure that all relevant personnel are informed of the impending admission (see ECMO folder) and standing by as appropriate.

External admissions via non-CATS transfer teams:

The GOSH Dr taking the referral must ensure that the CICU consultant has authorised the admission. They must also ask the referring team to ring when they set off with the patient. Please also get a list of inotropic support and ventilation parameters at this time.

The formal responsibility for patient care transfers to the CICU team once the full handover has taken place, however, if there are serious concerns about the condition of the child on arrival, that are life threatening and not being adequately addressed by the transfer team then the GOSH team must intervene to do what is in the best interests of the child. This should be done in a supportive and non-critical manner where possible to facilitate good relations and learning experiences for the transfer team.

The patient will be stable and left on the transfer trolley with full monitoring prior to handover. This is to avoid problems for the transfer staff who may be unfamiliar with our equipment. If there is a problem with the transfer equipment then GOSH monitoring or equipment may be used prior to handover. If the patient is very unstable on arrival, handover of the patient may need to happen simultaneously with resuscitation in order to allow the CICU staff to assist the transfer team in stabilising the patient. In this case the handover from the transfer team should consist of essential information only to facilitate on-going care with more detailed handover following later once the patient is stable.

If it is an urgent ECMO admission the CICU staff should ensure that all relevant personnel are informed of the impending admission (see ECMO folder) and standing by as appropriate.

3. Internal admissions

Admissions from the ward or outpatients unit are usually the result of acute decompensation prior to cardiac arrest or an actual cardiac arrest.

The CICU SpR or consultant will be asked to assess the patient by the ward staff or in response to a fast bleep or crash bleep. Attendance to the patient must be prompt and a full assessment of the child should be made. Ensure that the Thomas bag is taken as this bag contains all items required for resuscitation and intubation. If the child is arrested or peri-arrest then resuscitation of the child is paramount. The SpR should ask for a consultant to be informed.

The SpR must discuss all cases, whether or not they feel the child needs admission, with the on-call consultant who will ultimately decide if the child requires admission. If the child does require admission please ensure the sister in charge of CICU is informed as soon as possible to allow enough time to prepare a bed space and appropriate equipment. If the child requires intubation immediately then this should be done on the ward, however, if the patient will tolerate a short journey to CICU for intubation this is the preferred place to do this as there is more specialist equipment and experienced personnel available to help (this can often be done with the child breathing on face mask CPAP via a t-piece). If the SpR is not sure then they must ask for the fellow or consultant to help them. The SpR must ensure, prior to leaving the unit with the child, that full portable monitoring is attached, resus equipment and portable suction are available. The SpR must also ensure that the bed is ready on ICU before setting off. Once on CICU, the child should be stabilised appropriately and reviewed by a consultant. A full admission note should be documented and the parents should be updated on their child's condition as soon as possible.