SYDNEY CHILDREN'S HOSPITAL

ADMISSION TO CHILDREN'S INTENSIVE CARE UNIT (CICU)

PRACTICE GUIDELINE ©

DOCUMENT SUMMARY/KEY POINTS

- Priority when a patient is admitted to CICU is to ensure the child is stabilised thus optimising patient safety. Many procedures are carried out concurrently on admission and prioritised accordingly. Key factor in efficient admission is anticipation and organisation.
- Admissions to CICU arise from various locations including SCH Emergency Department, SCH wards, Operating Theatre, Recovery. External admissions from other hospitals are often facilitated by skilled clinicians including retrieval services such as NETS.
- Consideration should be given as to whether the patient will require isolation and if so this should be facilitated
- Standard Key Principles for Clinical Handover are to be incorporated into all types of handover to ensure effective, concise and complete communication.
- Both a nursing and medical representative from CICU should receive a hand over BEFORE establishing the patient on CICU equipment including CICU bed. There will be infrequent occasions when the patient's establishment onto the equipment will take precedence over the verbal handover eg resuscitation
- Process of Clinical Handover at the time of admission includes completion of relevant bedside handover checklist(s) eg ED, Operating theatre/Recovery etc. Clarify any questions with team handing over care of patient before they leave CICU.
- It is vital that staff are aware of the contents of Paediatric Intensive Care Patient - Patient Care in CICU - SCH and Ventilated Patient: Patient Care in CICU - SCH prior to undertaking any aspect of care
- Neonatal Admission Clinical Pathway –SCH should be completed for all infants (0-28 days of life) admitted to CICU
- x1 Neonatal and x1 Paediatric set up must continually be ready for emergency use

This document reflects what is currently regarded as safe practice. However, as in any clinical situation, there may be factors which cannot be covered by a single set of guidelines. This document does not replace the need for the application of clinical judgement to each individual presentation.

Approved by:	SCHN Policy, Procedure and Guideline Committee	
Date Effective:	1st August 2019	**Review Period:** 3 years
Team Leader:	Clinical Nurse Consultant	**Area/Dept:** CICU

- **Minimum** safety requirement at each patient bedside must include:
  - Resuscitation equipment - suitably sized Laerdal™ self-inflating bag and mask; PEEP valve
  - Suction equipment
  - Twin-O-Vac system with 15L flow meter and suction tubing (including cradle)
  - Individualised resuscitation chart comprising emergency drugs and infusions with current or estimated weight – noting which weight has been used for calculations on CICU flow chart

CHANGE SUMMARY

- Detailed aspects of Clinical Handover incorporated
- Expansion of requisite aspects of Assessment and Documentation

READ ACKNOWLEDGEMENT

Read Acknowledge Only – CICU staff are required to read and acknowledge the document

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General Information

- Multifaceted preparation is required prior to the admission of a patient to CICU and should begin as soon as possible prior to patient's arrival.
- Obtain information regarding patient's name, age, weight, provisional diagnosis and current condition from Clinical NUM/ Team Leader and medical team. Advise CSA of details so MRN can be in place prior to patient's admission and patient labels sourced - *After hours this can be facilitated by ED CSA.*
- **MINIMUM** equipment at each bed space is to include:
  - A ventilator checked x 2 RNs and appropriate sized circuit must be present as part of the neonatal / paediatric set
  - The correct sized SpO2 probe and non-invasive blood pressure cuff, ECG cables, invasive blood pressure monitoring cable, non-invasive BP cable and ETCO2 adaptor must be available in the setup
  - Work station/Trolley must be fully stocked including a fully charged laptop
  - Documentation to be available at bedside should include:
    - CICU flow chart and an ICU "Admission Pack"
    - Individualised paediatric resuscitation charts comprising emergency drugs and infusions with current or estimated weight
    - MRSA Screening swabs and request form
- Identify senior medical and nursing staff responsible for the patient that are required to be present for clinical handover when patient arrives. The handover should not commence handover until all appropriate staff are present
- Ensure tall appropriate equipment is ready and in working order for allocated bed space
- Wherever possible, parents/caregivers should be recognised and included as handover participants. Admitting staff should introduce themselves and advise parents that as soon as they have settled the patient into CICU a full explanation of ongoing care will be provided.
- ISBAR communication tool should be used for communicating patient information.
- Process of Clinical handover at the time of admission includes completion of relevant bedside handover checklist(s) eg ED, Operating theatre/Recovery etc. Clarify any questions with team handing over care of patient before they leave CICU.
- It is important to get some idea of a child's weight as soon as possible - this information may come from referring ward/ facility, NETS or from parents.
  - If ESTIMATE of weight is being used, the wording ESTIMATE must be documented on the CICU flow chart stating: **weight ESTIMATED** and source
  - If ACTUAL weight is being used, the wording ACTUUAL must be documented on the CICU flow chart stating: **weight ACTUAL** and source

- Weight and height measurements should be performed wherever practical and appropriate.
  - Ideally, every CICU patient will be weighed within 48hours of admission and subsequent frequency will be decided after discussion with the team.
  - If not attended within 48hrs of admission, notation is to occur on CICU flow chart and in eMR and weight must be undertaken as soon as practical.
- Complete physical assessment of all patients is to be performed by CICU admitting RN & Medical officer.
- In all patients **except neonates**, comprehensive pressure injury risk assessment involving use of Braden Q risk assessment tool, skin assessment and clinical judgement should be undertaken within FOUR hours of admission and documented within eMR.
  - Patients whose Braden Q scoring indicates **Moderate Risk** *(Score 13-15)* should have pressure relieving devices and mattresses utilised and skin assessment undertaken every 4 hours. Patient should be repositioned every 2-3 hours.
  - If Braden Q scoring indicates **High Risk** *(Score 10 -12)* specialty beds or mattresses and pressure relieving devices must be facilitated. Patient should be repositioned and skin inspected every 2 hours.
  - If Braden Q scoring indicates **Very High Risk** *(Score 7-9)* specialty beds or mattresses and pressure relieving devices must be facilitated. Patient should be repositioned skin inspected at least hourly.
- In **NEONATES** *(0-28 days of life),* comprehensive risk assessment involving use of the Neonatal Skin Risk Assessment Scale (NSRAS), skin assessment and clinical judgement should be undertaken on admission and documented within eMR.
  - Patients whose NSRAS scoring indicates **Moderate Risk** *(Score 9-16) should have* pressure relieving strategies implemented. Patients should be repositioned every 6 hours and skin assessment undertaken at this time.
  - Patients whose NSRAS scoring indicates **High Risk** *(Score 17-24)* should have pressure relieving strategies implemented. Patients should be repositioned every 4 hours and skin assessment undertaken at this time.
  - Patients whose NSRAS scoring indicates **Extreme Risk** *(Score 25-32)* should have pressure relieving strategies implemented and skin assessment undertaken every 2-4 hours, ensuring equipment/objects are not applying pressure. Patients should be repositioned every 6 hours and skin assessment undertaken at this time.
  - Detailed Guidelines and Preventative Measures are contained on NSRAS
- If the patient is haemodynamically unstable with repositioning, pressure area care frequency should be negotiated with the medical officer and documented.
- All patients assessed as **Moderate Risk or above**, or have an existing pressure injury, need to have a Pressure Injury Prevention and Management Plan completed
- All Pressure injuries, including any identified on admission, MUST be documented in IIMS and a wound assessment chart completed

- MRSA screening swabs are to be collected on admission from the following:
    - Throat swab – if patient intubated or tracheostomy insitu, ETT aspirate sent
    - Anterior nares of nose
    - If present on admission:
        - Device exit sites including CVAD, colostomy, PEG, tracheostomy sites –*NB: x1swab from EACH site is required*
        - Urine if IDC insitu
        - Any skin lesions or wounds

Equipment

- The decision to remove any of these items following the patient's admission is dictated by the patient's clinical condition
- The minimum contents of each bed space set up must include that listed below:
    - Monitor system that enables the reading of ECG, Blood Pressure (*invasive and/or non-invasive*) SpO2 and ETCO2. Further accessories should be added depending on the monitoring required.
    - Appropriately sized Laerdal™ bag with oxygen tubing and masks (2 sizes) of appropriate size, PEEP valve
    - Additional components should be provided depending on which form of monitoring is required eg: pressure cables, ECG leads and appropriate electrodes, appropriate sized BP cuff, SPO2 probe / ETCO2 adaptor.
    - Suction catheters appropriate to ETT size. *NB: If patient's ETT size is not known at time of bedspace set-up, paediatric drug calculator information will guide sizing. If weight is unknown, use APLS formula noted earlier to aid in determining ETT size.*
    - Oral suction catheters
    - Stethoscope of appropriate size
    - Oxygen flow meter **ie 15L** connected to Laerdal™ self-inflating bag via tubing and 100% oxygen *ie not blended*
        - **SAFETY ALERT: ensure flow meter is not < 15L or > 60L**
    - Oxygen blender
    - Twin-O-Vac- with full oxygen cylinder and working suction
    - Syringe infusion pump - x 2 Critical Care *(ie CC)* pumps and x 1 General Hospital *(ie GH)* pump if using Alaris Asena pumps
    - Volumetric infusion pump
    - Bed / cot / open care system (depending on the clinical condition of the patient).

- Pressure relieving devices including mattresses and calf compressors / thromboembolic stockings as appropriate to the individual patient.
  - Mattresses on standard CICU beds are suitable for patients with pressure injuries ≤ Stage 2. For patients with pressure injuries > Stage 2 a Cirrus® Mattress is recommended. *Pressure re-distribution mattresses can be hired specifically for individual patients – folder is located in fishbowl of CICU*
- Fully stocked bedside trolley as per content list.
- Minimum standard of Personal Protective Equipment (PPE) - impervious gown / apron, face shield and gloves must be available at the bedspace at all times.
- Pre-admission notification of patient's clinical condition may necessitate the inclusion of specific equipment required for that patient's individual needs and should be obtained as necessary.

Assessment and Documentation

- Refer to Paediatric Intensive Care Patient - Patient Care in CICU – SCH and Ventilated Patient: Patient Care in CICU – SCH Clinical Practice Guidelines to ascertain detailed aspects of ongoing patient care requirements.
- Standard Key Principles for Clinical Handover are to be incorporated into all types of handover to ensure effective, concise and complete communication *ie ISBAR etc.*
- Dependent on basis for CICU admission, additional observation documentation may be appropriate – eg neurological, vascular etc. If required, these charts should be initiated.
- Neonatal Admission Clinical Pathway –SCH should be completed for all infants (0-28 days of life) admitted to CICU.

Airway and Ventilation

- Confirm required ventilation settings and check these are being delivered
- For non-ventilated patients, commence or continue respiratory support as indicated
- Assess air entry, chest movement, respiratory rate and effort and if intubated, security of ETT and measurements

Circulation

- Assess heart rate, rhythm, pulse oximetry and blood pressure.
- Assess pulses, rate and strength via physical palpation
- Initiate other forms of monitoring when required eg: invasive pressure monitoring and ETCO2.

Neurological Status

- Perform a baseline neurological observation including pupillary reaction and limb movement.
- Identify the requirements for pain relief and sedation and initiate therapy as soon as practicable.

Vascular Access

- Ensure there is adequate secure and patent intravenous (IV) access.
- Assess entry site and dressing integrity ensuring insertion site can be visualised at all times.
- Ensure elasticized tape utilised to secure limb to arm board to prevent risk of restriction of circulation. If necessary, taping may need to be changed – this should be discussed with medical staff prior to undertaking same as risk of dislodgement may outweigh benefit.
- Use the patient record to cross-check intravenous fluid orders, trace infusion lines between the patient and the solution container and cross-check infusion pump settings.

Skin

- Undertake Braden Q assessment and / or if patient is a neonate, a NSRAS and document within eMR
- Ascertain appropriate frequency of pressure area care based on Braden Q or NSRAS risk assessment and document on nursing care plan

Treatment Orders

- Medications, infusions and fluid prescriptions should be ordered and prepared pre admission where possible.
- Standard Key Principles for Clinical Handover are to be incorporated into all types of handover to ensure effective, concise and complete communication.
- Clinical Handover includes cross-checking infusions in progress and written orders, checking post-op orders etc

Investigations

- Clarify if a chest X-ray is required if so this is to be organised by the medical team
- Establish if formal pathology is required.
- MRSA screening swabs for all patients on admission

Detailed History

- Following initial stabilisation a more detailed admission is required including a thorough history of events.
- Additional information regarding the activities of daily living of the individual patient should be obtained from the parents or caregivers at an appropriate time and documented

Other

- All patients are to have a latex allergy history taken and documented by the admitting clinician / nurse at the point of entry. If a patient is known to be latex-allergic an alert notification must be documented.
- Apply at least one white identification band securely fixed to the wrist or ankle:
    - If patient has a documented allergy and/or adverse reaction to a medicine the white/clear patient ID band should be replaced with a **RED** ID band with a white panel
    - Patients undergoing procedure in operating room **must have** TWO ID bands in place
    - **All patients are to wear ID bands during their ICU admission**
- Perform a urinalysis
- As soon as practicable, parents should be orientated to CICU including physical layout, accommodation options and parents/ caregivers provided with information leaflet and CICU telephone number
- Arrange social work referral based on individual circumstances

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