

CLINICAL PRACTICE GUIDELINE FOR ADMISSION TO THE PAEDIATRIC INTENSIVE CARE UNIT

1.0 Introduction

The goal of the Pediatric Intensive Care Unit is to provide optimum care for critically ill or injured children and their families. Patients admitted are those who are unstable or potentially unstable and need the specialized personnel and equipment available in the PICU.

2.0 Aim

These clinical guidelines are meant to help determine which patients should be considered for admission to PICU. Patients who meet these criteria must be discussed with the PICU Registrar or Consultant. These guidelines should be modified by respective divisional hospitals depending on availability of resources, personnel and equipment.

3.0 Parameters of the Guideline:

Target Population: PICU will care for all patients from 0 to 15th birthday old who require intensive care. (Divisions can modify accordingly)

4.0 Definition of Terms:

4.1 CPAP – Continuous Positive Airway Pressure

4.2 DIC – Disseminating Intravascular Coagulopathy

4.3 FiO₂ – Fractional Inspired Oxygen

4.4 GCS – Glasgow Coma Scale

4.5 PICU – Paediatric Intensive Care Unit

5.0 Admission Criteria:

Patients in the following categories will be admitted to PICU:

Respiratory System

Patients with severe or potentially life-threatening pulmonary or airway disease. Conditions include but are not limited to:

Ventilated child or potential need for mechanical ventilation, regardless of etiology:

Rapidly progressive pulmonary upper or lower airway disease with risk of progression to respiratory failure and/or total obstruction:

Bubble CPAP or high supplemental oxygen requirement ($FiO_2 \geq 0.5$ or an equivalent of $> 5l/min$ oxygen via Hudson mask), regardless of etiology Frequent (half hourly) or continuous inhaled or nebulized medications.

Cardiovascular System

Patients with severe, life-threatening or unstable cardiovascular disease. Conditions include but are not limited to:

Shock due to any cause; hypovolaemia, sepsis, cardiogenic

Post cardiopulmonary resuscitation, Life threatening dysrhythmias, unstable congestive heart failure,

Congenital heart disease with unstable cardiorespiratory status Post high-risk cardiovascular and intrathoracic procedures malignant hypertension

Neurological

– Patients with actual or potential life-threatening or unstable neurologic disease. Conditions include but are not limited to:

Seizures, unresponsive to therapy or requiring continuous infusion of anticonvulsants

Acute and severely altered sensorium ($GCS < 8$ or < 10 and rapidly deteriorating), neurologic deterioration, coma with potential for airway compromise

Acute inflammation or infections of the spinal cord, meninges or brain with neurologic depression, metabolic and hormonal abnormalities and respiratory or hemodynamic compromise or the possibility of increased intracranial pressure Head trauma with increased intracranial pressure

Progressive neuromuscular dysfunction requiring cardiovascular monitoring and/or respiratory support

Spinal cord compression or impending compression

Placement of external ventricular drainage device

Hematology/Oncology

Patients with life-threatening or unstable hematologic or oncology disease or active life-threatening bleeding. Conditions include but are not limited to:

- Exchange transfusions
- DIC
- Severe anaemia resulting in hemodynamic and/or respiratory compromise
- Initiation of chemotherapy with anticipated tumor lysis syndrome
- Tumors or masses compressing or threatening to compress vital vessels, organs or airway

Endocrine/Metabolic

Patients with life-threatening or unstable endocrine or metabolic disease. Conditions include, but are not limited to:

Severe diabetic ketoacidosis

Severe electrolyte abnormalities such as

1. Severe metabolic acidosis $\text{pH} < 7.1$
2. Severe hyponatraemia ($\text{Na} < 125 \text{ mmol/l}$)- or hypernatremia ($\text{Na} > 160 \text{ mmol/l}$)
3. Hyperkalaemia ($\text{K} > 6 \text{ mmol/l}$), requiring cardiac monitoring
4. Symptomatic Hypocalcaemia
5. Complex intervention required to maintain fluid balance

Suspected inborn errors of metabolism with acute deterioration

Gastrointestinal

Patients with life-threatening or unstable gastrointestinal disease. Conditions include but are not limited to:

- Severe acute gastrointestinal bleeding leading to hemodynamic or respiratory instability
- Emergency endoscopy for removal of foreign bodies
- Acute hepatic failure leading to coma, hemodynamic or respiratory instability

Surgical

Postoperative patients requiring hemodynamic monitoring/ventilatory support or extensive nursing care. Conditions include but are not limited to:

- General surgery with hemodynamic or respiratory instability
- Cardio Thoracic surgery
- Neurosurgical procedures
- Otolaryngologic surgery
- Orthopaedic and spine surgery
- Multiple trauma with or without cardiovascular instability
- Major blood loss during surgery or postoperatively
- (Post-op patients on Morphine infusion)
- Post-op patients that could potentially develop life threatening cardio-respiratory problems (consultants surgeons to discuss with the paediatricians)
- Unexpected Intra-operative complications requiring close observation
- Severe Sepsis for immediate/early post-op care. Patients who might require multiple surgeries over a short period of time (surgeons to discuss with paediatricians) Any child who had an unexpected anaesthetic event during or immediately after an operation

Renal System

Patients with life-threatening or unstable renal disease. Conditions include but are not limited to:

- Acute Renal failure
- Acute haemodialysis or peritoneal dialysis in the unstable patient
-

Multisystem and Other

Patients with life-threatening or unstable multisystem disease. Conditions include but are not limited to:

- Toxic ingestions and drug overdose with potential decompensation of major organ systems
- Environmental injuries (lightning, near drowning, hypo/hyperthermia) Burns with impending airway compromise (facial and neck burns)

6.0 Discharge/Transfer Criteria:

Patients should be evaluated continuously and considered for discharge based on the reversal of the disease process or resolution of the unstable physiologic condition that prompted admission to the unit.

Transfer/discharge will be based on the following criteria:

1. Stable hemodynamic parameters
2. Stable respiratory status (patient extubated with consistently stable arterial blood gases) and airway patency. Post extubated patients should be observed in PICU for 24hrs prior to transfer
3. Intravenous inotropic support, vasodilators and antiarrhythmic drugs are no longer required
4. Neurologically stable
5. After careful assessment by the health care team, discussion and collaboration with the family, it is determined that medical treatment is of no further benefit and therefore only palliative care is to be provided.

Evidence Summary:

These guidelines were modified from the Guidelines developed by the American Academy of Pediatrics, Committee on Hospital Care and Section on Critical Care and Society of Critical Care Medicine, Pediatric Section Admission Criteria Task Force. A statement of reaffirmation for this policy was published on August 1, 2008.

References

1. AAP Policy Statement: Guidelines for Developing Admission and Discharge Policies for the Pediatric Intensive Care Unit. Pediatrics 1999 Apr;103 (4):840-842.
2. Society of Critical Care Medicine: Guidelines for ICU Admission, Discharge, and Triage. 1999 Mar; 27 (3): 633-638.

Author: Dr Amelita Lourdes P. Mejia, M.D,

Date: 04/02/10

Updated 17/2 after CPG teleconference CWMH & Lautoka Hospital

Scope and Application	This CPG is intended for use by all health care workers in their daily care of paediatric patients
Effective Date	2010
Supersedes Policy Number	Not applicable
Review Responsibilities	The Chairperson of the Paediatric CSN will initiate the review of this guidelines every 3 years from the date of issue or as required.
Further Information	Paediatric CSN Chairperson
RESPONSIBILITY:	
CPG Owner: National Paediatric CSN	
CPG Writer: Ministry of Health Date: 2010	
Endorsed:	
National Medicines & Therapeutic Committee, MOH	
Date: 23 November 2010	
Endorsed:	
National Health Executive Committee, MOH	
Date: 25 November 2010	