Inodaya Hospitals	**INODAYA Hospitals - Kakinada**		**Documentation code: INH/COP.Doc.No-16**
	Policy on Admission and discharge criteria In ICU		Prepared Date: 05/09/2023
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1. **POLICY:**
   - **1.1.** ICUs admission and / or discharge shall be decided by treating physician and as per documented admission and discharge criteria.
   - **1.2.** ICUs shall try to keep holding beds vacant for emergency cases by discharging stable cases as early as possible.

2.0 PURPOSE: To ensure a smooth process for the admission and discharge of patient's according to their condition**.**

3.0 ABBREVATIONS:

ICU – Intensive Care Unit

HDU – High Dependency Unit

4.0 SCOPE:

- Admission of patients with severe conditions requiring ICU care
- Discharge of stable patients who can be transferred to the wards

5.0 RESPONSIBILITY: ICU In-charges, concerned consultants & ICU - Executive

6.0 DISTRIBUTION: Reception, ICUs, Operations team and Nursing Superintendent

7.0 PROCESS DETAILS:

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1. MICU (Medical Intensive Care Unit) ADMISSION, DISCHARGE AND TRIAGE

ADMISSION CRITERIA

a. Acute respiratory failure Pao2 less than 50 mmHg; PaCo2 > 60 mmHg requiring ventilator support. (Invasive or non invasive support)

b. Patients who are demonstrating respiratory deterioration.

c. Need for nursing respiratory care not available in lesser care areas such as wards or step down.

d. Massive hemoptysis.

e. Pulmonary embolism with hemodynamic instability

f. **Drug Overdose**

- Hemodynamically unstable after drug administration.
- Drug ingestion with significantly altered mental status with inadequate airway protection
- Seizure following drug ingestion

g. **Endocrine System and Metabolism**

- Diabetic Ketoacidosis
- Thyroid storm or myxedema coma
- Hyperosmolar coma and /or hemodynamic instability.

- Adrenal crisis with hemodynamic instability or other endocrinal problems with hemodynamic instability
- Hypo or hypernatremia with seizure, altered mental function.
- Hypo or hyperkalemia with dysarrhythmias or muscular weakness.
- Severe hypocalcaemia with altered mental status or requiring hemodynamic monitoring.
- Hypo or Hypermagnesium with hemodynamic or respiratory compromise or dysarrhythmias.
- Hypophosphatemia with muscular weakness

h. **Renal disorders**

- Acute renal failure
- Acute or chronic renal failure
- Patients requiring dialysis support like CRRT, Hemodialysis.

i. **Gastro intestinal and Liver disorders**

- Life threatening gastrointestinal bleeding
- Fulminant hepatic failure
- Severe acute pancreatitis
- Esophageal perforations, intestinal perforation.

j. **Miscellaneous Condition**

- Septic shock

- Requiring Hemodynamic monitoring
- Clinical condition requiring CCU level nursing care.
- Environmental injuries (lightening, drowning, hypo-hyperthermia)
- Scorpion, snake bite with hemodynamic and respiratory dysfunction, for administration of anti-venoms.

k. **Patients in MODS**

- Infected patients requiring isolations (MDR pathogens)
- Sick oncology patients

- In case of bed shortage, other specialty patient may also be admitted.

DISCHARGE CRITERIA

Patients are fit to be discharged from MICU when they no longer require the specialist skills and monitoring.

The following considerations are important for discharging the patient from MICU.

a. Restored / Resolving primary problem
b. Adequate airway and cough to clear secretions
c. Some patients on tracheostomy with minimal oxygen requirements
d. No respiratory distress
e. No Inotropes/ vasopressors
f. Adequate conscious level

g. Renal functions stable or improving

h. Not requiring continuous renal replacement therapy.

2. ADMISSION & DISCHARGE CRITERIA FOR NICU (NEURO INTESENSIVE CARE UNIT)

ADMISSION CRITERIA

a. Neurology disorders

- Coma, metabolic, toxic or anoxic encephalopathy.

a. Intracranial hemorrhage with potential for herniation, Acute subarachnoid hemorrhage.

b. Meningitis with altered mental status or respiratory compromise

c. Central nervous system or neuromuscular disorder with deteriorating neurological or pulmonary functions

d. Status epilepsy

e. Severe head injured patients.

f. Acute stroke with altered mental status.

b. Acute respiratory failure Pao2 less than 50 mmHg; PaCo2 > 60 mmHg requiring ventilator support. (Invasive or non invasive support)

c. Patients who are demonstrating respiratory deterioration.

d. Need for nursing respiratory care not available in lesser care areas such as wards or step down.

e. Massive hemoptysis.

f. Pulmonary embolism with hemodynamic instability

g. Drug Overdose

- Hemodynamically unstable after drug administration.
- Drug ingestion with significantly altered mental status with inadequate airway protection
- Seizure following drug ingestion

h. Endocrine System and Metabolism

- Diabetic Ketoacidosis
- Thyroid storm or myxedema coma
- Hyperosmolar coma and /or hemodynamic instability.
- Adrenal crisis with hemodynamic instability or other endocrinal problems with hemodynamic instability
- Hypo or hypernatremia with seizure, altered mental function.
- Hypo or hyperkalemia with dysarrhythmias or muscular weakness.
- Severe hypocalcaemia with altered mental status or requiring hemodynamic monitoring.

- Hypo or Hypermagnesium with hemodynamic or respiratory compromise or dysarrhythmias.
- Hypophosphatemia with muscular weakness

i. Renal disorders

- Acute renal failure
- Acute or chronic renal failure
- Patients requiring dialysis support like CRRT, Hemodialysis.

In case of bed shortage, other specialty patient may also be admitted.

DISCHARGE CRITERIA

Patients are fit to be discharged from NICU when they no longer require the specialist skills and monitoring.

The following considerations are important for discharging the patient from ANCU. Resolving primary problem

a. Patients GCS <8 then patient should be on tracheostomy with minimal oxygen requirement on T piece
b. Adequate airway and cough to clear secretions
c. Patients on tracheostomy with minimal oxygen requirements
d. No respiratory distress
e. No Inotropes/ vasopressors
f. Adequate conscious level

g. Renal functions stable or improving

h. Not requiring continuous renal replacement therapy

i. Patients requiring surgical intervention will be shifted to operation theatre and postoperatively will be managed in the SICU.

j. Patients are fit to be discharged from ANCU when they no longer require the specialist skills and monitoring. .

k. Restored / Resolving primary problem

l. Adequate airway and cough to clear secretions

m. Some patients on tracheostomy with minimal oxygen requirements

n. No respiratory distress

o. No Inotropes/ vasopressors

p. Adequate conscious level

q. Renal functions stable or improving

r. Not requiring continuous renal replacement therapy.

3. SICU: (Surgical Intensive care Unit)

ADMISSION CRITERIA

1. Polytrauma
2. Blunt injury chest & Abdomen

3. All surgeries with comorbid illness of cardiac, renal, respiratory and renal disorders.
4. General Surgical patients requiring ICU care.
5. Pre & Post Op Gastroenterological problem (Intestinal obstruction, peritonitis, Perforation)
6. OBSTETRIC & Gynic – Pre & Post operative Monitoring of obstetric patient, eclampsia, DIC.
7. ORTHOPAEDIC – Post OP ORIF, Post OP fixation of pelvis.
8. UROLOGICAL

   Nephrectomy, urological procedures.

9. PLASTIC & VASCULAR

Flap cover – grafts, Revascularization

SPECIFIC PARAMETERS – SICU ADMISSION

- The postoperative patient who, following major surgery, is hemodynamically stable but may require fluid resuscitation and transfusion due to major fluid shifts.
- The postoperative patient who requires close nurse monitoring during the first 24 hrs. Examples include but are not limited to carotid endarterectomy; peripheral vascular reconstruction; the neurosurgical patient requiring frequent neurological exams; V – P shunt revision, renal transplant, etc..
- In case of bed shortage, other specialty patient may also be admitted.

1. **Vital Signs**

a. Pulse < 40 or > 120 beats / minute

b. Systolic Blood Pressure <80 mm Hg or 20 mm Hg below the patient's. Baseline blood pressure.

c. Mean arterial pressure < 60 mm Hg

d. Diastolic arterial pressure > 120 mm Hg

e. Respiratory rate > 35 breaths / minute

f. SpO2 < 94 % at Room air

2. **Laboratory Findings Requiring Follow-up**

a. Serum Sodium <110 m Eq / L or > 170 m Eq / L

b. Serum Potassium <3 m Eq / L or > 6.5 m Eq / L

c. PaO2 < 50 mm Hg without oxygen support

d. pH <7.2 or >7.5

e. Blood Glucose > 400 mg / dl

3. **Radiology / Ultrasound**

a. Polytrauma patients with ruptured viscera, bladder or organ damage with or without hemodynamic instability.

b. Arterial occlusion requiring Thrombolytics and hemodynamic monitoring.

4. **ECG**

Post op cases with cardiac complications such as Myocardial Infarction (MI), complex arrhythmias, hemodynamic instability, Congestive Heart failure,ventricular tachycardia, complete Heart block.

5. **Physical Findings**
   a. Maxilllofacial surgeries requiring airway maintenance and monitoring.
6. **Mental Status Changes**
7. **Hypothermia core body temperature < 35°C**
8. **Post OP planned SICU**
   - Chronic PCO_2 retention
   - Major Surgical procedure

DISCHARGE CRITERIA

Patients are fit to be discharged from SICU when they no longer require the specialist skills and monitoring.

The following considerations are important for discharging the patient from SICU.

a. Resolving primary problem
b. Bleeding from the operation site less than 200ml/day
c. Adequate airway and cough to clear secretions

d. Patients on tracheostomy with minimal oxygen requirements will be shifted to HDU / Stepdown.

e. No respiratory distress

f. No Inotropes/ vasopressors

g. Adequate conscious level

h. Renal functions stable or improving

i. Stable hemodynamic parameters.

j. Stable respiratory status (patient extubated with stable arterial blood gases) and airway patency.

k. Intravenous inotropic support, vasodilators, and antiarrhythmic drugs are no longer required.

l. Cardiac dysrhythmias are controlled.

m. Patients with mature artificial airways (tracheostomies) who no longer require excessive suctioning.

Post OP - Un eventful with recovery from anaesthesia can be shifted to ward/HDU accordingly.

LSCS (lower (uterine) segment Caesarean section) – 6-8 hours

TLH (Total Laparoscopic Hysterectomy) – 6-8 hours

TAH (Total Abdominal Hysterectomy) – 6-8 hours

Laparoscopic ovarian cystectomy– 6-8 Hours

Laparoscopic cholecystectomy– 4- 6 hours

Laparoscopic Appendix removal (appendectomy) – 4-6 hours

ORIF (Open reduction internal fixation) / Implant removal – 2-4 hours

Short urology procedures – 2-4 hours

TURP (Transurethral resection of the prostate) – 12 Hours

PCNL (Percutaneous nephrolithotomy. Percutaneous nephrolithotomy) – 12 hours

4. CT POST ICU (Cardio Thoracic Intensive Care Unit)

ADMISSION CRITERIA

1. Adult post operative patients after cardio-thoracic and vascular surgery.

2. Patients after cardiac / cardio-thoracic surgery having:

   i. Acute hypotension.

   ii. Life threatening arrhythmias.

   iii. Acute respiratory failure with cardiovascular instability.

iv. Hemodynamic instability requiring continuous monitoring and/ or constant infusion of vasoactive drugs.

v. Endotracheal intubation and mechanical ventilation.

DISCHARGE CRITERIA from CT Post ICU.

1. Correction of hypotension.

2. Control/correction of life-threatening arrhythmia.

3. Correction of respiratory failure.

4. Hemodynamic stability.

5. Not dependent on mechanical ventilator.

Transfer/discharge will be based on the following criteria:

1. Stable haemodynamic parameters.

2. Stable respiratory status (patient extubated with stable arterial blood gases) and airway patency.

3. Minimal oxygen requirements that do not exceed patient care unit guidelines.

4. Intravenous inotropic support, vasodilators, and antiarrhythmic drugs are no longer required.

5. Cardiac dysrhythmias are controlled.

6. Removal of all hemodynamic monitoring catheters.

7. Discontinuation of peritoneal or hemodialysis with resolution of critical illness.

8. Patients with mature artificial airways (tracheostomies) who no longer require excessive suctioning.

5. CICU (Cardiac Intensive Care Unit)

Patients from Cardiology services are provided admission to this unit. In case of bed shortage, other specialty patient may also be admitted.

ADMISSION CRITERIA

Cardiovascular system

a. Acute myocardial infarction with complications.
b. Cardiogenic shock
c. Primary PTCA, Elective Angiogram and stenting
d. Complex arrhythmias requiring close monitoring and intervention
e. Acute congestive heart failure with respiratory failure and/orequiring hemodynamic support
f. Hypertensive emergencies
g. Unstable angina, particularly with dysarrhythmias, hemodynamic instability, or persistent chest pain
h. Cardiac arrest due to cardiac cause
i. Cardiac Tamponade or constriction with hemodynamic instability
j. Dissecting aortic aneurysms

k. Complete heart block

l. Severe Bradycardia or tachycardia with haemodynamic compromise.

m. Continuous infusion of vasoactive drugs.

n. Continuous infusion of antiarrhythmic drugs.

o. Pericardial effusion with tamponade.

p. Post angiography / angioplasty patients needing continuous monitoring.

DISCHARGE CRITERIA

Cardiovascular system

- Correction of hypotension / hypertension.
- Correction of Bradycardia / Tachycardia.
- Absence of life-threatening arrhythmia after observation.
- Not requiring continuous infusions of vasoactive drugs or antiarrhythmic agents.
- Pericardial tamponade resolved > 24 hrs.
- Haemodynamic stability.
- Resolving primary problem
- Adequate airway and cough to clear secretions
- Patients on tracheostomy with minimal oxygen requirements on T piece
- No respiratory distress
- No Inotropes/ vasopressors
- Adequate conscious level
- Renal functions stable or improving

6. HDU (High Dependency Unit)

ADMISSION CRITERIA

1. Day 1 – Post angioplasty – if patient is hemodynamically stable (No angio / SOB / Sweating / Palpitation / no hematoma).
2. Heart failure patient – Post decongestive therapy – Hemodynamically patient. patients with need of BI-PAP.
3. Patient requiring minimal oxygen support : +/- single inotropic support.
4. Patients diagnosed as acute coronary syndrome = Unstable angina / Stable angina / Non-ST-Elevation MI with hemodynamically stable vitals without anginel symptoms.
5. Day 1 – Post pacemaker/CRT/PPI/AICD patients with hemodynamically stable.
6. Patients requiring close monitoring of vitals such as : BP, Respiratory rate, Pulse, saturation etc.
7. Patients requiring oxygen therapy by nasal prongs *I* mask.
8. Patient on minimal Inotropic support
9. Patients from ICU with resolving primary problem, but not to, fit to discharged to ward. E.g: patients requiring oxygen or dialysis etc.
10. **DISCHARGE CRITERIA**

DISCHARGE CRITERIA

1. Patient fit for shifting to ward (OR) discharge to ward when no further specialist monitoring is required.

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a. ABC without any respiratory distress
b. No further requirement of Non-invasive ventilation.
c. No inotropic requirements
d. Adequate conscious level
e. Renal functions stable