

Adult ICU Triage, Admission, and Discharge Criteria

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1. Introduction

Adult ICU is a unit or department staffed and equipped with critical care technologies such as monitors, ventilators, and life support machines to provide appropriate care to critically ill patients. Given the gap between the demand and available resources, the admission to these units should be monitored.

2. Aim & scope:

To optimize resource use and to improve outcomes, we suggest Intensive Critical Care Unit (ICU) admissions and discharge guidelines based on a combination of patient needs and critical care interventions that can only be addressed in the ICU environment.

1. **Targeted population:** Adult patients who are in ICU or might need the ICU services soon.
2. **Targeted end-users:** ICU staff, internal medicine, emergency physicians. and or any physician covering the ICU.
 - **Responsibility for ensuring the policy:** Medical and hospital administration.
 - **Monitoring and compliance:** Clinical audit, Quality management and ICU administration
3. **Targeted setups:** Critical Care Units, ED, General wards.
4. **Conflict of Interest:** None.
5. **Funding:** none.
6. **Methodology:** These recommendations are based on the limited quality of evidence along with expert opinions maintaining the best practices guidelines and taking into consideration the local resources, cultural variation, and the previous local practices and expertise in managing the covered population a consensus of more than 50% of the committee to adopt the recommendation.
7. **Updating:** this guideline is very liable to be updated several times with the emergence of higher quality evidence or in response to a need for improvement.

3. General ICU Rules:

1. Critically ill patients in the emergency department or on the general ward shall be transferred to ICU, in an expeditious manner.
2. Patient care in ICU should be led by intensivist in day-to-day management.
3. In Pandemic, we do not recommend a 24-hr, 7-day a week intensivist model.
4. We suggest optimizing ICU nursing resources with nursing patient ratios 1:1-2 for ventilated or multiple organ failure and 1:2 to 1:3 in severe shortage for other ICU patients.
5. Patients admitted to ICU if the prognosis for recovery and quality of life is acceptable, taken into account factors such as age, comorbidities, prognosis, underlying diagnosis, and treatment modalities that can influence survival.

4. ICU Triage Recommendations:

1. ICU triage decisions are made according to patient conditions and the need for critical care monitoring and or intervention.
2. Patients to be admitted or discharged strictly on their potential to benefit from ICU care.
3. Some over triage is more acceptable and preferable to under triage.
4. Transfer time of critically ill patients from the emergency department or ward bed to the ICU in less than or equal to 1 hour from the time of consultation if a bed is available.
5. If the ICU bed is unavailable, ICU physicians continue to deliver care for critical care patients in the emergency department or the ward with the help of the primary team.
6. The most senior ICU covering physician is responsible for making ICU triage decisions during routine or emergency conditions.
7. Scoring systems should not be used alone to determine the level of care or removal from higher levels of care.
8. Documentation of patients' wishes for the right of decision making and signing consents on their behalves when they are not able to do so should be done before admitting to ICU whenever possible.
9. Do Not Resuscitate (DNR) status should be determined before and during ICU stay to determine the need for critical care.

5. Criteria for ICU Admission:

1. Patient requiring Invasive Mechanical Ventilation.
2. Patients requiring continuous cardiac monitoring and, I.e., severe electrolyte disturbances require IV replacement.
3. Patients requiring close neuro vital signs monitoring, I.e., stroke, head trauma
4. Patient requiring more than 3 hours on Non-Invasive Ventilation (NIV) or High Flow Nasal Cannula (HFNC).
5. Respiratory Distress
 - Need O₂ > 8 LPM to maintain SpO₂ > 90 or PaO₂ > 60.
 - Rapid escalation of oxygen requirement.
 - Significant work of breathing.
6. Patient with hemodynamic instability despite initial fluid resuscitation.
7. Patient require vasopressor support.
8. Patient with a decreased level of consciousness.
9. Acidosis
 - ABG with pH < 7.3 or PCO₂ > 50 or above patient's baseline.
 - Lactate > 2.5.
10. Patient with more than one acute organ failure.
11. Patient requires continuous renal preplacement therapy CRRT and cannot tolerate hemodialysis.
12. Patient with new ECG findings, including ischemia, arrhythmias, heart block (preferred to be in CCU if available).

6. ICU Discharge General /Recommendations:

1. Patient should be discharged from the ICU to a lower acuity area when a patient's physiologic status has stabilized, and they are no longer a need for ICU monitoring and treatment.
2. Discharge parameters are based on ICU admission criteria, the admitting criteria for the next lower level of care, institutional availability of these resources, patient prognosis, physiologic stability, and ongoing active interventions.
3. Discharge from the ICU is appropriate despite a deteriorated patient's physiological status if active interventions are no longer planned.
4. Transferring patients to lower acuity care areas should not be based solely on severity-of-illness scores.
5. Standardized process for discharge from the ICU be followed in written format.

7. Criteria for ICU Discharge

1. Stable vital signs and other hemodynamic parameters without intravenous inotropic/vasopressor support.
 - Patients on low dose inotropic support (less than 5 mcg/kg/minute of Dopamine) may be discharged earlier if ICU bed is required.
2. Normal or baseline level of consciousness.
3. Stable respiratory status, normal airway patency, and normal work of breathing.
4. At least 24 hours post-extubation if the patient was on mechanical ventilation.
5. No or controlled cardiac dysrhythmias.
6. No frequent suctioning requirement for a patient on chronic mechanical ventilation.
7. No frequent suctioning requirement for a patient with tracheostomy.
8. Patients with no escalation decision and (DNR).

8. Outreach ICU general recommendations:

1. Outreach ICU, Rapid response team to be utilized for early review of acutely ill non-ICU patients, this will aid in early identification of ICU eligible patients and prevent unnecessary ICU admission; also, it promotes early intervention that prevents patient health deterioration.
2. ICU consultant on-call teams facilitate transfer to ICU and reduce rates of readmission to critical care
3. No ICU Admission for a patient with a low probability of recovery who choose not to receive cardiopulmonary resuscitation.
4. ICU Outreach can initiate and encourage DNR policy in the ward.
5. Follow up discharged patients from ICU for 24-48 hours to reduce the rate of readmission.

9. Checklist of ICU Admission Criteria

City:

Hospital:

Date:

| | | | | |
|---------------------|-----------------------------|--------------------------------------|-----------------------------------|---|
| Source of admission | <input type="checkbox"/> ED | <input type="checkbox"/> In hospital | <input type="checkbox"/> Referral | <input type="checkbox"/> Admitting Consultant |
|---------------------|-----------------------------|--------------------------------------|-----------------------------------|---|

| | | |
|---------------|---|------------------------------------|
| Patient Name: | Date of birth: | Code Status |
| MRN: | <input type="checkbox"/> Male <input type="checkbox"/> Female | <input type="checkbox"/> Full Code |
| Diagnosis: | Expected length of ICU Stay | <input type="checkbox"/> DNR |

Check the indication/s for ICU admission:

- ☐ Requires invasive mechanical ventilation.
- ☐ Requires cardiac monitoring, specify: -----
- ☐ Requires close neuro/vital signs monitoring specify: -----
- ☐ Requires more than 3 hours on Non-invasive ventilation.
- ☐ Requires more than 3 hours on High Flow Nasal Cannula.
- ☐ Oxygen saturation <90% on \geq 50% oxygen or more than 8L of oxygen.
- ☐ Labored breathing i.e.Tachypnea.
- ☐ Hemodynamic instability despite initial fluid resuscitation.
- ☐ Requires vasopressor support.
- ☐ Patient with new decreased level of consciousness or decreases from baseline
- ☐ ABG with pH < 7.3 or PCO₂ > 50 mmHg. or above patient's baseline.
- ☐ Lactate > 2.5 mmol/L not improving with fluid resuscitation
- ☐ Patient with more than one acute organ failure.
- ☐ Requires continuous renal replacement therapy and cannot tolerate hemodialysis
- ☐ Patient with new ECG findings, including ischemia, arrhythmias, heart block.
- ☐ Other, please specify:-----

Admitting Physician:

Signature:

Date:

10. References

1. Nates, Joseph L. MD, MBA, FCCM (Chair)¹; Nunnally, Mark MD, FCCM²; Kleinpell, Ruth Ph.D., RN, FAAN, FCCM³; Blosser, Sandralee MD, FCCP, FCCM⁴; Goldner, Jonathan DO, FCCP, FCCM⁵; Birriel, Barbara MSN, CRNP, ACNP-BC, FCCM⁶; Fowler, Clara S. MS⁷; Byrum, Diane RN, MSN, CCRN, CCNS, FCCM⁸; Miles, William Scherer MD, FACS, FCCM⁹; Bailey, Heatherlee MD, FAAEM, FCCM¹⁰; Sprung, Charles L. MD, JD, MCCM¹¹ ICU Admission, Discharge, and Triage Guidelines: A Framework to Enhance Clinical Operations, Development of Institutional Policies, and Further Research, Critical Care Medicine: August 2016 - Volume 44 - Issue 8 - p1553-1602 DOI: 10.1097/CCM.0000000000001856
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