



# **DEDER GENERAL HOSPITAL INTENSIVE CARE UNIT (ICU) SERVICES PROTOCOL**

***PREPARED BY: HSQU***

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***DEDER, EASTERN ETHIOPIA***

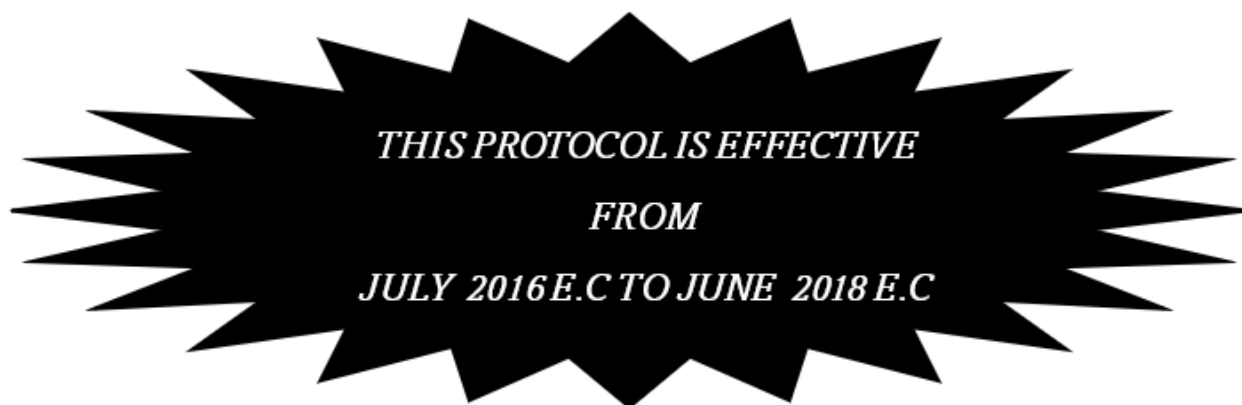


**PROTOCOL APPROVAL SHEET**

**NAME OF PROTOCOL: INTENSIVE CARE UNIT (ICU) SERVICES PROTOCOL**

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## Acronym

- ABG Arterial Blood gas
- ACLS Advanced Cardiac Life Support
- ACCM American Collage of Critical care Medicine
- ACCM Academy of Certified Case Managers
- BLS Basic Life Support
- CVP Central Venous Pressure
- CC Critical Care
- ER Emergency Room
- ECG Electrocardiography
- FMHACA Food, Medicine and Health care Administration and Control Authority
- FMOH Federal Ministry of Health
- GP General practitioner
- HDU High Dependence unit
- ICU Intensive Care Unit
- LOC Loss of Consciousness
- NICU Neonatal intensive care unit
- SOP Standard operating procedure
- TASM Tikur Anbessa Specialized Hospital

**Purpose:**

- To establish guidelines and procedures to improve quality of care provide at Intensive care Unit of (ICU) of **Deder General Hospital**

**Scope:**

- This policy applies to all healthcare professionals involved in the management of critically ill patients admitted at Intensive care Unit of (ICU) of **Deder General Hospital**.

# 1. Background

## Introduction

An intensive care unit (ICU) is a highly specified and sophisticated area of a hospital which is specifically designed, staffed, located, furnished and equipped, dedicated to management of critically sick patients, injuries or complications (1). It is a department with dedicated medical, nursing, pharmacy and other staffs.

It operates with defined policies, protocols and procedures and should have its own quality control, education, and training and research programs. It is a separate specialty and can no longer be regarded purely as part of anesthesia, medicine, surgery or any other specialty. It has to have its own separate team of physicians, nurses, pharmacists and other staff who are tuned to the requirement of the specialty.

The modern concept of intensive care is said to have been pioneered by an anesthesiologist in Denmark over half a century ago during the polio pandemic. Since then, intensive care units (ICUs) have significantly improved the quality of care and outcomes of critically ill and injured patients, predominantly in high resource settings (2).

Providing acute care to critically ill patients is a global enterprise, regardless of health system capacity. However, the high cost of trained healthcare workers, infrastructure, and supplies has limited the development of intensive care units (ICUs) in low-income countries.

The burden of critical illness in low-income countries is large and likely to increase with growing urbanization, emerging epidemics and access to hospitals.

In sub-Saharan Africa, ICUs have varying qualities and quantities of infrastructure necessary for the provision of proper critical cares services (3, 4). The reported disease characteristics and mortality rates of patients admitted to ICUs in sub-Saharan Africa vary widely from one population to another (5). In addition, intensive care medicine of critical service in sub-Saharan Africa are poorly developed or almost still in infancy. Specialty intensive care units (ICUs), like neurological and coronary ICU are still a novel concept.

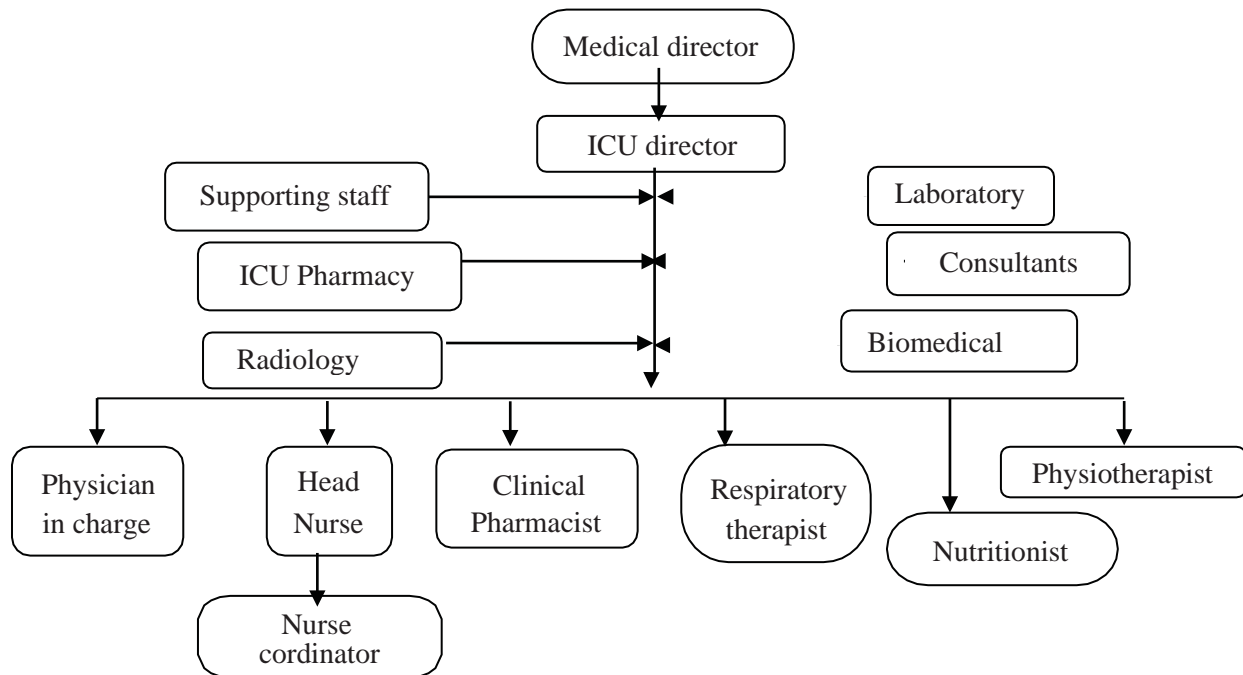
Historically the concept of ICU in Ethiopia was started at Lelit Tsehay hospital (Army hospital) in 1956 and followed by Tikur Anbesa Specialized Hospital in 1993 by treating septic abortion and malaria cases then with myocardial infarction patients in a medical ICU. Currently different hospitals have expanded with additional ICUs nationally.

In Ethiopia even if the challenges during the development of critical care service are enormous, ICU development is catching up. After initiation of promotion, education and training programs, there has been significant growth in this area. Still much needs to be done in further infrastructure, human resource development, guidelines formation and research that are relevant to Ethiopian circumstances

## 4 ORGANOGRAM

### General ICU

#### The Organizational Chart



#### 4 Staffing Profile

The service is delivered by a team comprising of :

- Intensive Care Consultants: (intensivist, anesthesiologist, and critical care specialist, pulmonary and critical care specialist, emergency and critical care specialist, pediatric emergency and critical care specialist) ,
- ICU trained Physician, nurse and Health Officer,
- Emergency and critical care nurses,
- Emergency and critical care nurse practitioners,
- ICU trained pharmacists/clinical pharmacists,
- Respiratory therapist,
- Physiotherapist,
- Biomedical technicians,
- Data clerk,
- Nutritionist(dieticians),
- House keeper,
- Security guards,
- ICU Secretary,
- Social workers and
- Patient assistants.



- **The nurse: patient ratio varies depending on the level of the patient.**
  - ✓ One to one nursing is required in Level 3 patients. And,
  - ✓ for level 2 patients a ratio of 1:2 is also acceptable.
- The hospital should implement a minimum of 2 times per day multidisciplinary team patient round.

## 5. Structure of an ICU

➤ **Can be divided in to four major parts.**

1. **Patient care area:** patient rooms
2. **Clinical support zone:** pharmacy, lab, store room, procedure area, radiology lobby
3. **Unit support zone: nursing office, medical office, utility, lockers** etc
4. **Family support zones:** relative areas, family lounge, counseling room (14).

## 6. Category of ICU Care

### Level of Care II (LOC-II)

- Level II critical care centers have the capability to provide comprehensive critical care but may not have resources to care for specific patient populations (e.g., cardiothoracic surgery, neuro- surgery and trauma).
- Although these centers may be able to deliver a high quality of care to most critically ill patients transfer agreements must be established in advance for patients with specific problems. The ICUs in level II centers may or may not have an academic mission.
- Level II centers are unable to provide critical care for specific areas of expertise for example; level II centers may lack neurosurgical expertise, a cardiac surgical program, or a trauma program. Nevertheless, these centers provide comprehensive critical care for their unique patient population. Therefore, with the exception of services and personnel in the areas of expertise that they lack, these centers have the same organizational structures as outlined for level III centers. These centers require policies and procedures that address transport to a level III center when appropriate. Criteria for transfer should be specific and readily available to hospital personnel so that delays in definitive care are avoided.
- All ages of patients including pediatric patients (1 month to 18 years) should be included. Patients with less than 1 month will be handled in a separate NICU mechanical ventilation is required and unavailable in the NICU. Pediatric patients will receive care in a separate room from adults at this level. There could be a consideration of mother's room for the children.

- **Minimum requirement:**
- **Human resources:**
  - Physicians: anesthesiologist (pediatric or adult) or intensivist or pulmonary & critical care Subspecialist or emergency medicine specialist or appropriately trained physician
    - Respiratory therapist
    - Nutritionist
    - Physiotherapist
    - Anesthetists should be present for 24-hour service
    - Physician-patient **ratio no more than 1:4**
    - Nurses: emergency and critical care trained nurses or the clinical nurses who are appropriately trained in an ICU course
    - Nurse to patient ratio should be 1:1
    - Clinical pharmacists (adequate number to provide drug and fluid preparation services in the ICU pharmacy, provide pharmaceutical care and drug information services in the bedside for the ICU team).
    - Other supportive staff

- **Medical equipment and level of care:**

- ✓ All of the LOC 1 equipment and ventilators,
- ✓ portable X-ray,
- ✓ telemetry,
- ✓ central monitors,
- ✓ ultrasound with phased array and linear probes,
- ✓ capnometer,
- ✓ ABG analyzer,
- ✓ ICU beds,
- ✓ Glide Scope,
- ✓ pericardiocentesis set,
- ✓ other consumables

## ICU Equipment (1 and 10)

<ul style="list-style-type: none"> <li>• Electrocardiogram</li> <li>• Continuous arterial pressure monitoring (invasive and noninvasive)</li> <li>• Central venous catheters, arterial catheters, temporary hemodialysis catheters, intraosseous needles and insertion devices</li> <li>• Central venous pressure monitoring</li> <li>• Transcutaneous oxygen monitoring or pulse oximetry for all patients receiving supplemental oxygen</li> <li>• Equipment to maintain the airway, including laryngoscopes and endotracheal tubes</li> <li>• Temporary pacemakers (transvenous and transcutaneous)</li> <li>• Temperature monitoring device</li> <li>• Pulmonary artery pressure monitoring.</li> <li>• Cardiac output monitoring.</li> <li>• Continuous and intermittent dialysis and ultrafiltration.</li> <li>• Peritoneal dialysis.</li> <li>• Fiberoptic bronchoscopy.</li> </ul>	<ul style="list-style-type: none"> <li>• Beds with removable headboard and adjustable position, specialty beds</li> <li>• Adequate lighting for bedside procedures</li> <li>• Suction</li> <li>• Emergency resuscitative equipment</li> <li>• Equipment to support hemodynamically unstable patients, including infusion pumps, blood warmer, pressure bags, and blood filters</li> <li>• Hypo/hyperthermia blankets</li> <li>• Scales</li> <li>• Continuous electroencephalogram monitoring capability</li> <li>• Positive and negative pressure isolation rooms</li> <li>• Immediate access to information</li> <li>• Equipment to ventilate, including Ambu bags, ventilators, oxygen, and compressed air</li> <li>• Continuous waveform capnography</li> </ul>
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- Intracranial pressure monitoring
- Ultrasound with Doppler and cardiac probes

## 7. Training and Education

- ✓ All staff within the ICU will have some level of ICU training.
- ✓ ICU staff will be able to demonstrate Continuing Professional Development as required by FMHACA.
- ✓ The unit is fully compliant with all training and educational requirements for its staff.
- ✓ The unit runs a minimum of one day orientation for all new staff.
- ✓ The unit provides a teaching room for staff to utilize educational resources
- ✓ Weekly teaching is provided for all medical staff and any nursing staff who are able to attend.
- ✓ Morning session/round/ will be undertaken everyday by nurses, physicians and clinical pharma- cists

## 8. Admissions process

- ✓ All patients that fulfill admission criteria for ICU intervention will be admitted.
- ✓ Admission of a patient to the ICU must be decided by **ICU Director**/Consultant or **Physician in charge on duty**.
- ✓ If the case is difficult to make a decision by Physician in Charge, the **ICU director** will decide the admission. If a decision is made to admit a patient to the ICU, the nurses must be informed beforehand to get prepared.
- ✓ Before accepting referral for admission to the ICU from other hospital, there should be early communication and once a decision is made, the **liaison office** should be informed for facilitation of transfer.
- ✓ If many patients are competing for admission to the ICU, the following **five questions** must always be addressed so that one may make an appropriate decision.
  - **Factors that must be considered in the assessment of a possible admission to the ICU:**
    1. Primary diagnosis & the other active medical problems
    2. Prognosis of the underlying condition/ is recovery still possible?
    3. Age, life expectancy & expected quality of life post discharge
    4. Wishes of the patient &/ or relatives
    5. Availability of the required treatment, technology & professional

## 9. ICU rounds and medical cover

- The ICU is a consultant or ICU trained professionals led service. There is a dedicated consultant or ICU trained professionals at all times in charge of the ICU. They must always be immediately contactable and available.
- Consultant led multidisciplinary ward rounds take place twice a day (morning and afternoon).
- A robust written handover system is mandatory to ensure continuity of care for this complex patient group.
- Nursing handover is led by the nurse in charge at every shift and a one-to-one handover at the bedside for the nurse responsible for the patient's care
- A consultant-to-consultant handover is routine when there is a change in the consultant in charge. This may be done in person or verbally.
- 7.6 This ward round are also attended by the nurse and clinical pharmacist in charge and patient assistants so any patients requiring transfer to other areas such as CT scan that day can be coordinated.
- Each ward round must be documented with a clear plan and objectives for the patient's care.
- Resuscitation crash carts are equipped and refilled by the designated staff according to the check list. See appendix I.

## 10. Discharge Process

- Patients in the ICU will be evaluated and considered for discharge based on the reversal of the indication for admission disease or resolution of the unstable physiologic condition that prompted admission to the unit, and it is determined that the need for complex intervention exceeding general patient care unit capabilities is no longer needed.
- The ICU consultant will decide which patients no longer require critical care. They are then responsible for liaising with the nurse in charge such that a bed can be secured. This process will usually occur at ward round times.
- Patients should be discharged from the ICU to other wards at any time of day to ensure availability of ICU beds for incoming patients.
- To ensure timely discharge, the unit relies upon good communication with the liaison office facilitated by the Lead Nurse. The nurse in charge will attend bed meetings to facilitate this and to give a situation update.

- During the night shift, the consultant on call is responsible for liaising with the nurse in charge to enable them to identify patients that are likely fit for discharge the following morning assuming set parameters are met. This allows the liaison office to be informed at the earliest opportunity and ensures the flow of elective surgical patients requiring a bed the following day.

## **11. Medical discharge process**

- A detailed comprehensive medical discharge summary form must accompany the patient to the ward. The ICU consultant is responsible for reviewing the content of the summary.
- A new drug chart and if appropriate a “Do Not Resuscitation (DNR)” form must also be completed to transfer with the patient.
- A verbal handover is also required to the receiving team. In the case of a non-elective admission, the ICU consultant where possible should aim to verbally discuss the patient with the consultant or senior team member who will be taking on further care of the patient. This should include any discussions regarding ceiling of care or possible need for readmission.
- If the patient subsequently moves to the ward out of regular hours, then the on call team should be contacted for a verbal handover.
- Documentation of who the patient has been handed over to must occur. A discharge medication list should be documented and discharge medication counseling should be given.

## **12. Nursing discharge process**

- The nurse caring for the patient in the ICU is responsible for completing the nursing discharge documentation.
- The patient’s next of kin must be notified that the patient is moving to another ward and identify the ward they are moving to.

## **13. Counseling Service**

- Patients and relatives may find their stay on the ICU to be difficult to cope with. This may be due to receiving bad news or a drastic change in a person’s lifestyle. Religious or professional counselors can be contacted at all times to provide psychological and spiritual care to our patients and their relatives
- Alternatively, a referral may be appropriate to the psychotherapy and counseling service. The nurse looking after the patient can make the referral to the service without delay.

## 14. Relatives and visitors

- Visiting hours are limited to twice a day and to 1-2 visitors/ patient. In the Pediatric ICU and especially in NICU, mothers are encouraged to stay for bonding and breastfeeding.
- Visitors are not allowed to see patients during medical procedures
- Relatives can be allowed to see critically ill patients at any time with the consent of the doctor/ Nurse in-charge.
- It is important that relatives of our patients are regularly updated and informed of their relatives' progress at least once per day. It is encouraged to speak to relatives in the quiet room and not at the bedside in order to maintain privacy and dignity.
- Relatives should only be spoken to by senior medical and nursing staff to ensure accurate information is relayed. Conversations must always be documented and if possible, the nurse caring for the patient should also be present.
- Visiting times for patients are depending on the institutions time frame. A maximum of 2 relatives at a time are allowed to visit. These rules may be relaxed if a patient is very unwell and at the end of their life, in which case there is open visiting and no more than 2 visitors allowed at a time. This should be the discretion of the nurse or physician in charge.
- Children are allowed to visit relatives in the ICU if deemed appropriate by the nurse or physician in charge. This is supported by the nurses and the psychotherapy team may be involved if required.
- There should be visitors/families waiting room/area close to the ICU with comfortable environment.



## 15. Ethical Issues

- **End of life care**

- ✚ End of life care Policy should be considered in accordance with the national guidelines that will be implemented in the near future. Also the guideline should include do not resuscitate protocol.
- ✚ Patients' relatives should be given the opportunity to view their loved one with tubes removed such as breathing tubes once they have passed away. This may not be possible if the patient needs to be referred to the coroner.
- ✚ If a patient dies in the ICU, proper death summary should always be written and the original document should be kept in the ICU.

### **Equality and Diversity**

- The Trust is committed to the provision of a service that is fair, accessible and meets the needs of all individuals.
- Every patient will be treated with dignity and privacy. Curtains will be secured around a bedside with a 'no entry' sign clip to ensure privacy is maintained.
- The unit runs the trust equality and diversity training as part of its in-house mandatory update for all staff. Appendix 2, Equality Impact assessment Form (EIA)

### **Consent**

- Formal written and/or verbal consent should be considered as per the consent policy of the country for all procedures done in the ICU.

### **Code of Dress**

- ✚ All staff working in ICU should wear standard ICU attire at all time.
- ✚ Visitors should wear disposable gowns and slippers when entering ICU and to wear cap and masks if the patient is in the isolation cubicle.

## 16. Clinical Governance

- All care is delivered in accordance with current best practice and data relating to performance is submitted for external audit by FMHACA allowing comparison of our performance against national figures.
- Departmental audit meetings are held every 3 months. Every junior doctor is expected to carry out an audit during their ICU placement.
- Regular Morbidity and mortality meetings are held every week.

## **17. Meetings**

- Weekly ICU team meetings occur to discuss the progress and plans for patients with extended length of staying including ceiling of care and no return to ICU post discharge if appropriate.
- Monthly senior leadership team meetings are held to discuss operational processes, as well as regular updates on mandatory training, budgets and patient safety issues.

## **18. Facilities and equipment requirement**

### **• Key Operational Requirements**

- Staff refreshments
- Fully equipped ICU area
- Access to Clinical Operations Team to facilitate patient transfers from ICU.
- Dedicated office space
- Access to ICT
- Emergency Bed Service
- Hard and Soft FM services.
- Knowledgeable and skilled nursing staff
- Administrative support
- ICU specialist Consultants leading the Unit medical team.
- Hygiene facilities for HDU patients
- Staff rest and handover area
- Relative consultation area /Seminar room for unit teaching
- Kitchen facilities

### **• Equipment Requirements**

- ❖ For the ICU to work efficiently and effectively and maintain high standards of patient care, modern electrically powered patient beds with pressure relieving mattresses are provided
- ❖ Well maintained and serviced monitoring equipment and ventilators are coordinated by the biomedical technicians.

The unit also requires transfer equipment, i.e. monitors and ventilators and a supply of portable O2 cylinders.

#### **❖ Each of the 15 bed areas are equipped with:**

- ☞ Dragger beam for electrical, air and oxygen supplies, and suction vacuum.
- ☞ Cardiac monitor with allied Slave monitor
- ☞ Ventilator
- ☞ Infusion pumps and syringe drivers
- ☞ Digital thermometer
- ☞ Bedside trolley to store all essential items for patient care and requirements
- ☞ Electrical bed with pressure relieving mattress
- ☞ Computer and trolley
- ☞ Power Outlets
- ☞ Portable oxygen cylinder and emergency Ambu bag

## 19. Infection Prevention

- The service will be delivered in accordance with and compliance to the Infection Prevention Policies.
- The unit has regular updates from the Microbiology consultant and infection control team regarding any positive microbiology results and changes in therapy required as a result. The unit has a minimum of one side room should a patient require barrier nursing measures.
- Monthly infection control and environmental audits are carried out to comply with Trust policy.

## 20. Key Relationships

### Key Relationships with Other Departments

- As a secondary support service, good working relationships with all medical teams referring patients are essential. This is best achieved by early discussion of problems at consultant level to determine appropriate and timely admissions.



#### Other Key Relationships as listed below.

- Liaison officer
- Social workers
- Pathology
- Neurophysiology
- Pharmacy
- Patient Assistant
- Medical Records
- Imaging, MRI/CT/X-ray- Radiology services
- Medical Emergency Ward
- Accident and Emergency
- Pain Clinic Service
- Occupational Therapy
- Physiotherapy
- Microbiology
- Psychotherapy
- Department of Clinical Technology
- Transplant Coordinator
- Specialist Referral Hospitals
- Counseling Service
- Facilities Management
- Police
- University and allied training facilities
- Library

## 21. Key Requirements for Facilities Management (FM)

- The unit has a dedicated cleaning service for ongoing cleaning and rapid but effective bed space decontamination for the efficient use of beds. There is a service level agreement in place.
- For HDU patients there is an appropriate catering service.
- Our complex equipment is maintained by a team of dedicated biomedical technicians; they also act to maintain specialist stock levels and assist with introduction of new equipment and facilitate staff training and competency documentation. The technicians are also available in assistance with the transfer of critically ill patients
- The patient assistants provide an essential service to the unit. There is also a pod system for transfer of items around the hospital.
- The unit has a dedicated ICU pharmacist who helps maintain drug stock levels and facilitates access to non-stock items.
- Bathroom and toilet facilities to meet the hygiene needs for HDU patients.
- A daily stock system is required to maintain safe and effective levels of stock to accommodate the needs of all patients. And allow for immediate response to major incidents

## 22. Environmental requirements

- The patients within the ICU require very close observation and examination at all times and so good natural lighting is the ideal. We have windows, but additional adjustable lighting is required for the unit and each bed space.
- Natural lighting is very important to maintain patient's normal diurnal rhythms to reduce undue stress.
- The unit cannot have open windows and to maintain safe heating levels is air conditioned throughout.
- Walls are neutral in color and allow a wipe down surface.

## 23. Security Requirements

### Data Security

- The service will be delivered in accordance with and compliance to the national and ethical guidelines
- Data sharing agreements will be drawn up to cover all data sharing in accordance with national

and regional guidelines.

- Patient identifiable information will only be sent out of the hospital accordance with national and regional guidelines

### **Security for Patients**

- The service will be delivered in accordance with and compliance to the upcoming national patients' right and safety policy.
- The unit has security preventing unwanted access. Each patient is cared for by a nominated nurse for each shift who will maintain a safe environment.
- The ICU is only accessible by swipe card or manned TV entry system or with available restrictive mechanism.

### **Security for Staff**

- The service will be delivered in accordance with and compliance to the upcoming national staff safety and insurance policy.
- **Medical Records Security**
  - All patients' medical records will be managed confidentially at all times and stored securely in locked office or outpatient facility whilst not in use.
  - All movement of patient records will be accurately tracked in accordance with the national and regional guideline.
  - All new documentation will be secured into the folder prior to it leaving the department.

## 26. References

1. College of Intensive Care Medicine of Australia and New Zealand ABN Minimum standards for intensive care units: 16 134 292 103
2. Grenvik A, Pinsky MR: Evolution of the intensive care unit as a clinical center and critical care medicine as a discipline. *Crit Care Clin* 2009, 25(1):239–250.
3. Baelani I, Jochberger S, Laimer T, Otieno D, Kabutu J, Wilson I, Baker T, Dünser MW: Availability of critical care resources to treat patients with severe sepsis or septic shock in Africa: a self-reported, continent-wide survey of anaesthesia providers. *Crit Care* 2011, 15(1):R10.
4. Dünser MW, Baelani I, Ganbold L: A review and analysis of intensive care medicine in the least developed countries. *Crit Care Med* 2006, 34(4):1234–1242.
5. Merah NA, Okeke CI, Olatosi JO: An audit of surgical admissions to the intensive care unit of the Lagos University Teaching Hospital (1997–2002). *Niger Postgrad Med J* 2006, 13(2):153–156.
6. Federal Democratic Republic of Ethiopia Ministry Of Health (2006). Annual reports 2006. Addis Ababa, Ethiopia: MOH
7. Guideline on management of intensive care unit (ICU) - April 1992
8. Guidelines Committee of the American College of Critical Care Medicine; Society of Critical Care Medicine and American Association of Critical-Care Nurses Transfer Guidelines Task Force: Guidelines for the transfer of critically ill patients. *Crit Care Med* 1993; 21:931–937
9. Guideline on management of intensive care unit (ICU) - April 1992
10. Standard for intensive care units, The Intensive Care Society May 1997.
11. Hall JB: Advertisements for ourselves— Let's be cautious interpreting outcomes studies of critical care services. *Crit Care Med* 1999; 27:229–230
12. Cheng DCH, Byrick RJ, Knobel E: Structural models for intermediate care areas. *Crit Care Med* 1999; 27:2266
13. Federal Ministry of Health ICU Admission And Discharge Criteria Protocol, 2016
14. Guidelines for intensive care unit design *Crit Care Med* 2012 Vol. 40, No. 5
15. Ethiopian Food, Medicine and Health care Administration and Control Authority ICU implementation guideline, 2005
16. Guidelines/Practice Parameters Committee of the American College of Critical Care Medicine Society of Critical Care Medicine *Critical Care Medicine -Crit Care Med* 1995 Mar;



## 27. Appendix 1

### EMERGENCY CRASH CART CHECK LIST

#### **Crash Cart Top**

Defibrillator with leads  
Disposable gloves  
Sharps container  
(1) package of defibrillator pads

#### **Side**

02 tank  
Backboard

#### **Drawer 1 – Medication Drawer**

(2) Amiodarone  
(2) Atropine 0.5 mg and 1 mg  
(2) Vasopressin  
(2) Calcium gluconate  
(1) Dextrose 50% 5ml  
(2) Isoproterenol  
(4) Epinephrine 1 mg  
(3) Lidocaine 100mg  
(2) Sodium Bicarbonate 50 mEq  
(3) Dopamine  
(2) Lasix(furosemide)  
(2) Dobutamine  
(2) Tridil (nitroglycerin)  
(2) Pronestyl  
(2) Nitroprusside  
(2) Verapamil  
(1) Magnesium sulfate

#### **Drawer 2 – Airway Management Drawer**

Airways, oral, assorted sizes  
Airways, nasal trumpet, assorted sizes  
Intubation tray – laryngoscopes, non-disposable and disposable with blades K-Y jelly (2), viscous lidocaine (1)  
(2) 10 cc syringes  
Stylet  
Tape  
(2) batteries  
ET tubes – sizes 3.0, 6.5, 7.0,  
7.5 Yankauer suction  
Suction tubing  
Suction catheter  
tray 02 mask with tubing  
Nasal cannula  
(2) ABG kits



### **Drawer 3 Venipuncture tubes and equipment**

(1) 20 ml syringe  
(4) 3 ml syringes  
kit  
(1) TB syringe  
IV start equipment: (4) 18 gauge angiocatheters  
                                  (4) 20 gauge angiocatheters  
                                  (1) 22 gauge  
                                  angiocatheters  
                                  Tourniquet  
  
Assorted  
butterflies 3 way  
stopcock Assorted  
needles Band aids  
Betadine  
swabs Alcohol  
swabs Saline  
locks  
(1) Lidocaine topical solution  
(2) Radial artery catheterization  
set Tape

### **Drawer 4**

Electrodes  
B/P cuff with stethoscope  
Assorted sterile gloves  
(2) Packages of defibrillator  
pads NG tube  
(1) 60 ml  
syringe Locks

### **Drawer 5**

IV solutions: 1000 ml each of D5W, RL, NS  
                  500 ml each D5W, NS  
                                  (2) 100 ml NS  
                                  (2) 500 ml Lidocaine 2 grams  
                                  (1) Dobutamine  
                                  (1) Dopamine  
                                  (1) Amiodarone IVPB  
Tubing                  (2) microdrips (60 drops/ml)  
                                  (2) macrodrips (15 drops/ml)  
                                  (2) Extension sets

### **Drawer 6 (Bottom)**

Tracheostomy tray  
Transvenous Packing Electrode  
  
Ambu bags, Adult & Pedi  
Suction set up (portable cart)

## Appendix 2

### Equality Impact Assessment Form (EIA)

#### Clinical Operational Policy for Inpatient and Outpatient Procedures

<b>Equality or human rights concern /see</b>	<b>Does this item have any differential impact on the equality groups listed? Brief description of impact.</b>	<b>How is this impact being addressed?</b>
<b>Gender</b>	The ICU does not have single sex areas. Consideration is given to try to nurse patients of the same sex in the same area if possible.  The ICU is exempt from single sex ward policy.	
<b>Language</b>	Language may be seen as a barrier for some patients	Interpreters are made available when required either face to face or via language line.  All staff attend in-house
<b>Disability</b>	There may be patients, carers or staff who have a disability who use, visit or work within the service area.	The clinical areas are easily accessible by wheelchair and lifts. The nurse stations are accessible on the ward. There is a type talk available.  Sign language interpreters can be booked if required.  Staff carry out moving and handling for all in-patients and day cases and perform

<b>Religion, Faith and Belief.</b>	Unique to each individual and dependent on patient, carer or staff needs and/or requirements.	It is possible to access multi-faith leaders when required.
<b>Sexual Orientation</b>	All people who use, visit or work within the service area treated the same regardless of their sexual orientation.	All staff attends in-house training courses on equality and diversity. Any issues or complaints are fully investigated and responded to within 30 days where appropriate.
<b>Age (Safeguarding Children)</b>	Adult ICU does not admit patients under the age of 14 routinely. All staff on the ICU have received Safeguarding children training.	Any children visiting a relative on the ICU will be accompanied by an adult, a member of staff and a member of the psychotherapy team if necessary.

<b>Social Class</b>	A number of patients may have difficulty accessing the service due to financial or transport problems.	It can be addressed by social workers
<b>Care providers</b>	A number of patients may have difficulty in visiting the hospital.	Encourage staff to be flexible with visiting hours for these members of the public. Encourage staff to talk to their care providers on the telephone if the care provider or relative is unable to visit. Ensure relatives and care providers are involved in the discharge planning process alongside the patient and working in partnership discuss expected discharge dates and care package.

