

# **Standard Operating Procedures**

**For Health Professionals and Teaching Hospitals**

**Muhammad Umar  
Hamama-tul-Bushra**

# Standard Operating Procedures

## For Health Professionals & Teaching Hospitals

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## Foreword

These SOP's are aimed to provide an objective format for working of professional staff, administrators, paramedics, nurses, junior doctors, patient care as well as working of different departments and sections of hospital. This document will be first of its kind in the public institutions of Punjab, which provides clear guidelines for working of different components of hospital as well as health professionals. It will advocate the performance based working and evaluation of health institutions. SOP designing is a dynamic process which keeps on changing. This booklet is first step toward this process which will be refined by future authors.

The SOP's for Surgical ICU patient care and equipment maintenance are exclusively written by Dr. Jawad Zaheer, Assistant Professor Anesthesia Department, Holy Family Hospital. This section which provide base line parameters for an important section of this hospital.

I really appreciate Prof. Mussadiq Khan Chief of Rawalpindi Medical College and Allied Hospitals, who stressed the need to formulate these SOP's. I also want to extend my gratitude to Dr. Athar Tehseen Additional Medical Superintendent Holy Family Hospital, who did tremendous efforts to develop these SOP's. I am also thankful to Medical Superintendent Holy family Hospital, Dr. Abid Hussain Shah for finalizing these SOP's. I think it will be unfair not to mention the efforts of Dr. Shahzad Ahmad staff officer of principal, Rawalpindi Medical College to coordinate all activities in developing these SOP's.

Finally I am grateful to my team including Prof. Hamama-tul-Bushra Khaar, Dr. Masood Ahmad, Dr. Saima Ambreen, Dr. Zahid Mahmood Minhas, Dr. Adnan Arif, Dr. Abdul Naeem, Dr. Marina Khan and Jahanzeb Khan for their cooperation to formulate these SOP's.

**Prof. Muhammad Umar**

December - 2009



## About the Authors

### Muhammad Umar

MBBS, MCPS, FCPS, FRCP (L), FRCP (Glasg), FACC, AGAF



Graduated in 1981 from Rawalpindi Medical College with distinction and Presidential Gold Medal by President of Pakistan. Started his professional career as Assistant Professor of Medicine after obtaining membership (MCPS) and then fellowship (FCPS) from College of Physicians & Surgeons Pakistan in 1985. He was awarded fellowship from American College of Gastroenterology (FACC) in 2002, Royal College of Physicians London (FRCP), Royal College of Physicians Glasgow (FRCP) in 2006, and American Gastroenterological Association (AGAF) in 2007. First Governor of American College of Gastroenterology (ACG) for Pakistan. He was appointed Assistant Professor, Associate Professor and currently the Professor & Chair of Medicine and Chief of Gastroenterology & Hepatology Division in RMC. He had keen zest for gastroenterology and specifically hepatology, so he started pursuing his career in this field. He established GI & Liver Clinic, GI & Liver Learning Resource Centre, and Liver Research data base at Holy Family Hospital Rawalpindi in 1998.

He had contributed to gastroenterology by publishing more than 70 review and original research papers in various national and international journals, two books on hepatology; Evidenced Based Approach to Hepatitis C Management and Hepatitis C in Pakistan. Moreover, he published National Hepatitis Practice Guidelines. He was awarded SJZ Research Award by Pakistan Society of Gastroenterology & GI Endoscopy in 2004. He was the Past President of Pakistan Society of Gastroenterology & GI Endoscopy, President Elect Pakistan Society of Hepatology, and President of Rawalians' Research Forum on GI & Liver Diseases. Medical Director of Holy Family Hospital Rawalpindi (2009), Member of Board of Management of Rawalpindi Medical College and Allied Hospitals He is on Editorial Board of Journal of Rawalpindi Medical College, Associate Editor of Journal of Pakistan Society of Gastroenterology. Editorial Board of Bangladesh Journal of Hepatology, Editorial Board of Libyan Journal of Gastroenterology, and Member of International Cor-Curriculum Committee on GI Endoscopy of OMED, Member Global Guideline Committee of World Gastroenterology Organization (WGO), Clinical Coordinator of National Prevention and Control Program of Hepatitis. He is Chairman ASIAHEP Pakistan. He is author of "Standards in Gastrointestinal Endoscopy Training" "MD Training Program for Gastroenterology" and "Basic Skills in Gastrointestinal Endoscopy Training Manual" and Medical Emergencies Management Guidelines. He is a member of foreign graduate evaluation committee of PMDC.

### Hamama-tul-Bushra Khaar

BSc, MBBS, FCPS, FRCP (Glasg), FACC



She graduated from Rawalpindi Medical College Pakistan being Best Graduate in 1981. She obtained fellowship from College of Physicians & Surgeons Pakistan (FCPS) in 1985 and started her career in medicine. She was honored with fellowships from Royal College of Physicians Glasgow (FRCP) and American College of Gastroenterology (FACC) in 2007. She was appointed Assistant Professor, Associate Professor and currently the Professor of Medicine at Rawalpindi Medical College and consultant gastroenterologist at Holy Family Hospital Rawalpindi Pakistan. She had strong interest in gastroenterology and hepatology, so she started pursuing her career in it. She started practicing gastroenterology and developed and Endoscopy Suit at District Headquarters Hospital Rawalpindi in 1995.

She has a long list of publications including original and review papers, books, guidelines, and manuals. She has published about 80 research papers, two books on hepatology; Evidenced Based Approach to Hepatitis C Management and Hepatitis C in Pakistan. Moreover, she published National Hepatitis Practice Guidelines and "Basic Skills in Gastrointestinal Endoscopy Training Manual", MD Training Program, Standards in Gastrointestinal Endoscopy,. She is Editorial Board of Pakistan Journal of Gastroenterology and Research Director of Rawalians Research Forum since 1998.

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## SECTION -1

### SOP'S FOR PATIENT CARE



## SOP'S FOR EMERGENCY DEPARTMENT

**All shifts should follow strict timings.**

### Notes and Evaluation

- > House officers and residents are primarily responsible for managing patients in Emergency during their call day.
- > Referred patients should be seen within 10 minutes of referral by CMO. Immediately receive patient, check vitals before digging through old record, lab results, old discharge summary and old charts.
- > SOAP format should be used for patient notes. Proper documentation of symptoms, management and diagnosis will be done for every patient. Serious patients should be immediately seen and resuscitated. Procedure of referral & consultation will proceed side by side. Monitoring notes should be properly maintained including fluids given and output of patient.

### Admissions

- > Duty registrar should decide all admission through ER.
- > After assessment and patient's examinations complete admission orders including drug prescription should be written clearly and immediately.
- > For stat labs inform nursing staff immediately or carry out by your self.
- > Notes on history and examination file should be completed before shifting to In-Patient.
- > Complete shifting notes before shifting to the ward.
- > Para-med staff should accompany every admitted patient during shifting to the ward In case of serious patient, house officer should accompany.
- > Before shifting, inform the ward staff on call.
- > If beds are not available in wards, retain patients in ER till arrangement are made; If required discuss with consultant on call or DMS ER.

### Procedure Notes

- > Write notes for every procedure, which should include Name, Site, Indication, Consent, Sterile prep and anesthesia of procedure. Description of specimen of Fluid and what and where they are sent for with brief clinical notes.
- > Inform patient regarding indications, complications and post-procedure precautions.
- > Get signatures on informed consent.
- > Never forget pending follow up studies like Post-Procedure X-ray.

### Discharges

- > No patient should be discharged without being evaluated by the duty registrar.
- > Keep in mind pending issued and studies.
- > Communicate with all involved parties for smooth discharge.
- > Give clear instructions regarding medicines schedule/side effects/precautions and restrictions on activities/travel/diet in Urdu/local language Make sure by repetition that patient can repeat/recall your instructions.
- > Write **discharge diagnosis** clearly.
- > Notes should include Chief complaints and H/O Present illness, hospital stay course, Your Name, Hospital No/principal and secondary diagnosis and Procedures.
- > Mention Follow-up plan/condition on discharge/attach Diet chart if required.

## **Signouts**

- > For on-call batch, out going House officer will give written information about their patient's Active issues and it should include Name of patient, ward/bed no. diagnosis, active issue or pending critical labs., consultations and procedures. Also, include certain criteria to act on e.g. Transfuse one unit packed cell if Hct is less than 28.
- > CODE Status must be specified.
- > Highlight worrisome patients, issue of concern and suggestions to deal with them.

## **Death / Expirations**

- > On being called to pronounce death you must perform certain steps.
- > On arrival to bed site observe for respirations, auscultate for heart sound palpate for carotid pulse, check pupil and corneal reflex.
- > Complete death notes on progress sheet and fill death certificate as early as possible.

## **Urgent Thrombolysis**

- > In patients with indications for Thrombolysis, every possible effort should be made to achieve urgent Thrombolysis to decrease "door-to-needle-time" in order to save precious myocardium.

## **Occupational Risks**

- > Standard barrier nursing and isolation techniques should be employed in cases of patients with infectious communicable diseases.
- > These measures include:
  - Gloves
  - Masks
  - Careful needle/sharp object handling
  - Prophylaxis in cases of exposure if indicated (e.g. meningococemia).

In case of mishap/exposure, event should be reported to consultant on call, immediately.

## **Accountability**

- > In case of an incident, a committee of ward consultant will review the entire case in detail and will decide about warning/penalty.

## **Ethical Issues**

- > Best interest of the patient should be watched, in case of conflict or confusion, issues should be discussed with consultant on call.

## **Confidentiality of Patient's Data**

- > Patient's record and data should be kept confidential to watch his/her interests and diagnosis/prognosis should not be discussed with attendants without permission of patient/close attendant.

## **Senior Consultation**

- > On call consultant/senior registrar should be contacted on phone if required by the registrar

on call. If he/she may request to see the patient then on call consultant should try to attend the patient personally within 1 hour of the request.

### **Consultations from Other Departments / Urgent Scans**

- > Consultants and scans should be decided by the duty registrar and call to the respective department should be written with clear indications exact questions to be observed and urgency of the consultation.

### **Patient Transfer to Other Facilities**

- > Once decision is made to transfer the patient to the other hospital for management, contact the concerned doctor/ staff there first on telephone and discuss the case in detail and request them to make sure the bed is available for the patient.
- > Note down the contact person's name and designation.
- > Provide detailed notes on the referral slip.
- > Provide ambulance preferably by the hospital through coordination with DMS/CMO, and if patient is serious, a doctor should accompany while transportation.
- > Ambulance should be equipped with resuscitation equipment.

### **Record Keeping**

- > ER register shall be filled properly with composite diagnosis or relevant differential for every patient.
- > Duty registrar will sign register at the end of duty, and counter-signed by covering consultant for that day before morning meeting.
- > Record of consultations provided to other department should be kept in the registrar.
- > Death notes for patients who expired in ER should be written in the ER register immediately after the event.

### **Drugs & Investigations**

- > List of drugs and lab profile available in hospital for ER patients should be available to each shift of ER staff.

### **Duty Timings**

- > House officer = 8 am to 8 pm- second shift 8pm to 8am (nm)
- > Registrar = 8am to 8 am (nm) (batch on call should adjust the timing with mutual understanding)

### **BLS/ACLS Training**

- > House officers and registrar should be trained in BLS/ACLS before performing duties in E.R.

### **Dress Code**

- > Dress should be conservative & modest. No informal clothing (jeans & T-shirts for males),

- party wears or excessive jewelry (for females) is allowed, during duty hours.
- > Every doctor should wear neat & clean overall, with properly displayed ID card or name plate.

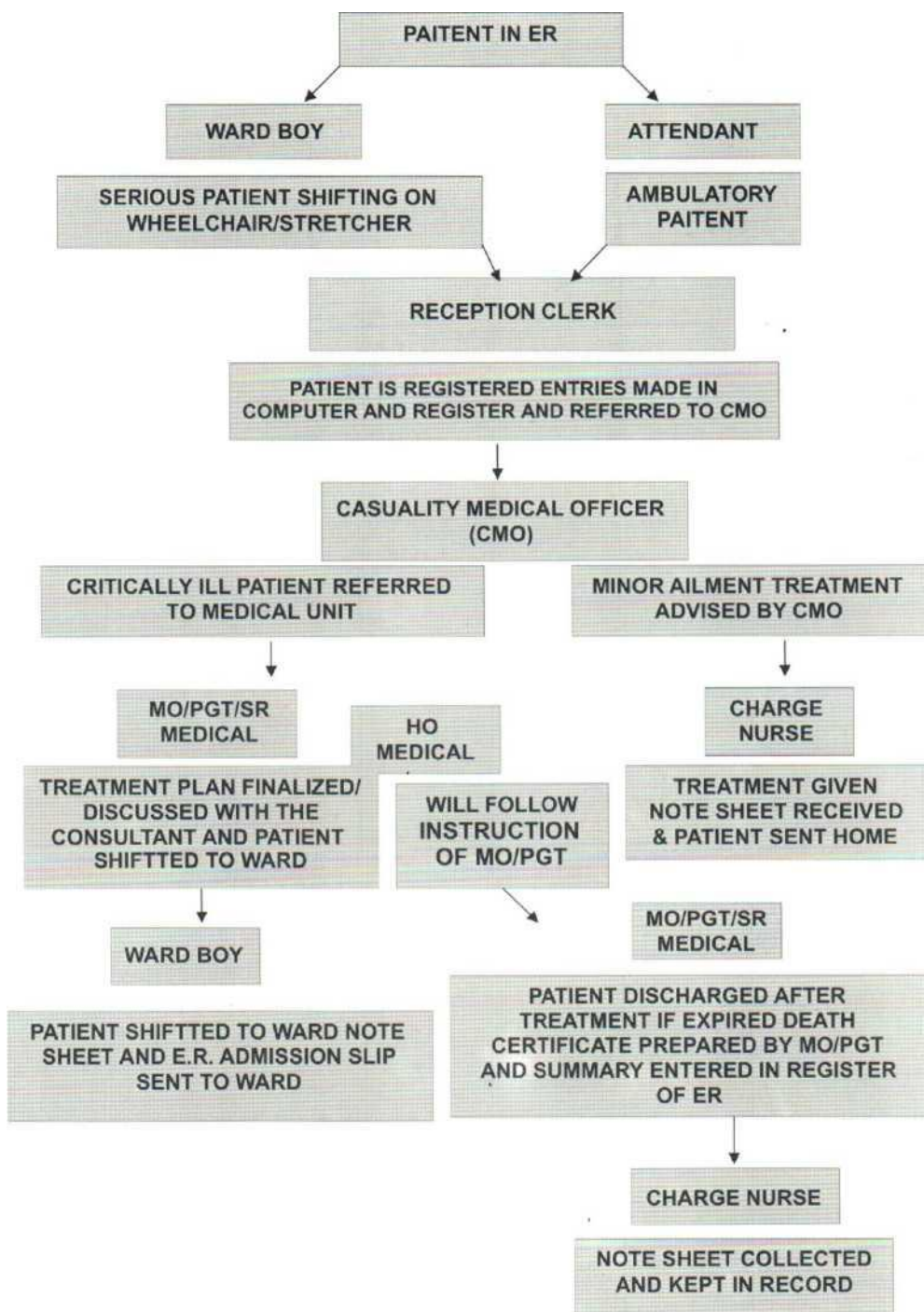
## **SOP'S FOR RECEPTION AND TREATMENT OF PATIENTS IN ER**

1. Patient comes to the ER Department.
2. If patient is critically ill. He/she is shifted on trolley or wheelchair, by the Ward Boy deputed for this purpose, to reception.
3. At the reception, the patient will be registered and ER slip will be issued along with a **clinical notes sheet/ER admission slip**. The reception clerk will make entries of the patients in the computer as well as the register and send the patient to the Causality Medical Officer (CMO).
4. The CMO will examine the patient and if the patient is suffering from minor ailment then CMO will advise treatment on clinical note sheet as well as ER admission slip and send the patient to Charge Nurse for injection (if needed), after which patient is sent home and the clinical note sheet will be taken by the Charge Nurse.
5. If the patient is critically ill the patient will be referred to the concerned Medical/Surgical unit by the CMO.
6. The referred patient will be attended by the MO/PGT of the concerned specialty (Medical/Surgical). The House Officer of the concerned unit will follow the instructions The MO/PGT/SR of the concerned unit will write down the treatment plan on the **clinical note sheet** and sign it.
7. No treatment plan will be written on the E.R. slip which is to be kept with the patient for final disposal.
8. The investigations will be ordered by the MO/PGT/SR and House Officer is responsible to send these investigations to the E.R. Lab/Radiology department.
9. If the patient is admitted in the ward, both E.R. slip and clinical note sheet will be attached with the admission documents.
10. In case of serious patients the treatment plan should be discussed with the consultant on call.
11. If the patient is discharged/expired after treatment the clinical note sheet will be kept as record in the E.R. and Head Nurse/Charge Nurse of E.R. is responsible to keep this record.
12. In case of expiry of the patient MO/PGT will prepare the death certificate and sign it. He will also write down the death summary in the death register of ER.
13. The treatment of discharged patients should be written on the E.R. slip and handed over to the patient for follow up. It should be duly signed by the SR/PGT of the concerned unit.
14. No House Officer is allowed to discharge the patient without the knowledge of SR/PGT

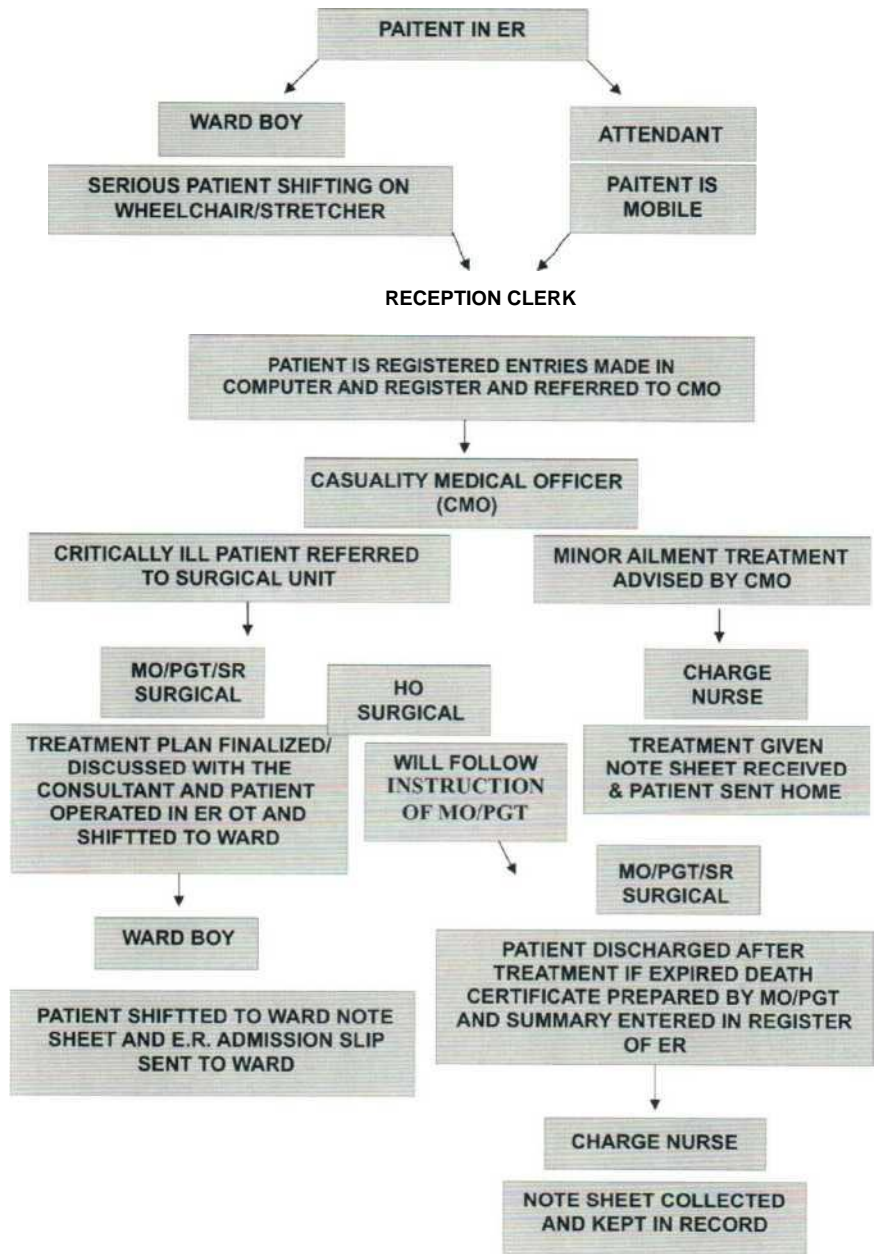
15. Dispenser on duty in E.R. is responsible for the entry of these patients in the Master Register.



## PROCESS FLOW FOR MEDICAL PATIENTS IN E.R.



PROCESS FLOW FOR SURGICAL PATIENTS IN E.R.



## SOP'S FOR INTENSIVE CARE UNIT

1. All shifts should follow strict timings:

|            |    |             |
|------------|----|-------------|
| a. Morning | b. | 07:30 14:00 |
| Evening    | c. | 13:30 20:00 |
| Night      |    | 19:30 08:00 |
2. All fixed ITC staff, if possible, should wear OT dress and doctors will wear gowns.
3. Strict aseptic measures should be taken in ITC i.e. Masks, Gloves, Caps, Shoes etc.
4. No attendant, who so ever he/she is, NOT ALLOWED TO ENTER ITC except during following hours:

|            |       |       |
|------------|-------|-------|
| a. Morning | 07:00 | 07:30 |
| b. Evening | 13:00 | 14:00 |
| c. Night   | 17:30 | 20:30 |
5. No staff member except doctor will ask attendants to buy medicines from medical store. The concerned doctor will duly sign the prescription slip.
  - a. All lab/radiological tests will be requested on presented request forms signed by MO/PGT of ICU.
6. The decision about the shifting of the patients to ITC must be made by registrars with full clinical notes and indications and House Officer of the concerned department should be there to receive the patient. **No VIPs/protocols or non bed availabilities in other wards should be considered.**
7. Patients admitted/shifted in ITC by any Department, the House Officers of concerned Department must stay round the clock with their patients, abiding by all the rules and regulations of ITC. **No chit system** will be entertained; the house officer of concerned department on call will be present at all times.
8. House Officers/Medical Officers/Registrars rosters of all departments should be displayed on ITC notice board.
9. All non-concerned doctors/staff will enter inside ITC after changing shoes.
10. Staff/Doctors on duty in ITC will not leave their place of duty in any case.
11. A complaint box will be placed in ITC for complaints of patients/attendants of ITC.
12. Any complaints/problems/suggestion by any doctors/staffs or any hospital employee concerning ITC should be submitted with In Charge ITC.
13. No visitor of any duty staff/ doctors of ITC should be entertained during duty hours.
14. There will be **three shifts in-charge nurses** and they will have their own medicine cupboards and maintain their record.
15. Morning In-charge staff will also keep stock of linen (All shifts).

### RESIDENTS /HOUSE OFFICERS

Residents/House officers will perform shift duties (8 hourly)

#### **All shifts should follow strict timings.**

House officers and residents are primarily responsible for writing daily notes on each of their patients.

**S.O.A.P. format** should be used for daily notes.

Drug dosage, side effects and interactions should be checked daily and major points should be noted down in patients file.

## **Daily Reviews**

Do IV Lines need to be changed?  
Can IV Meds be changed 100 Oral?  
Can you discontinue Foley, NG and IV Cannula?  
Can you advance diet and increase patient's activities?  
Is patient moving his/her Bowels?  
Are all meds are adjusted for Renal and Hepatic Function?  
Every lab test or study needs to be followed up  
When in doubt ask and ask again.

## **Equipment, Resuscitation Drugs and Crash Cart Check.**

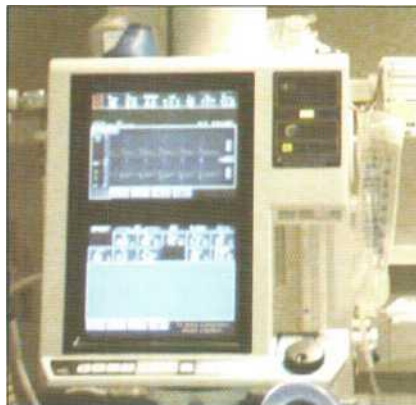
With the help of duty staff nurse, house officer will daily check for working of equipment, drug availability.

Resident will counter sign daily check list for drugs and equipments.

Any discrepancy should be reported to concerned DMS/AMS in writing and record should be kept for every application.

## **FOR DISINFECTION FOLOW DISINFECTION PROTOCOL.**

## **FOR ALL ADMISSIONS & DEATHS FOLLOW SOP FOR WARD PATIENT CARE.**



## **SOP'S FOR INDOOR PATIENTS**

Inpatient: (Male/Female/Officers/ICU Wards)

All shifts should follow strict timings

### **Daily Notes and Evaluation**

> House officers and residents are primarily responsible for writing daily notes on each of their patients.

### **SOAP Format should be used for daily notes**

- > Subjective: What patient says and what nursing staff reports in past 24 hours
- > Objective Factual Information/Vitals/Physical Exam/Lab Results/Lines and tubes include X-rays and other studies, intake and output, side effects of drugs
- > Assessment and Plan: Usually categorized by problem or organ system in order of importance. Always include Fluids/Electrolytes/Nutrition as well as code status in every note. Also include Discharge planning/status and Goals etc.
- > Active Medicines are often listed in side column. Review medications daily. Include day no for Antibiotics and other loading dose medications.
- > Every lab result/investigation report should be analyzed carefully and countersigned by House officer/Resident Abnormal investigations is be highlighted.
- > Formulate Active Problem list.
- > Draw algorithm of patient's symptoms, where applicable.
- > House officers, should write in blue and registrars in red ink.

### **Drug Reviews**

- > Drug dosage, side effects and interactions should be checked daily and major points should be noted down in patients file.

### **Daily Reviews**

- > Do IV lines need to be changed?
- > Can IV medicines be changed to Oral?
- > Can you discontinue Foley, NG and IV Cannula?
- > Can you advance diet and increase patient's activities?
- > Is patient moving his/her Bowels?
- > Are all medicines adjusted for Renal and Hepatic Function?
- > Every lab test or study needs to be followed up.
- > When in doubt ask and ask again.

### **Admissions**

- > For new admissions immediately receive patient, check vitals before digging through old records, lab results, old discharge summary and old charts.
- > After assessment and patient's physical exam, complete admission orders including drug

prescription immediately.

- > For stat orders inform nursing staff immediately or carry out by yourself.
- > House officer on call should complete notes on History & physical Examination for all admissions
- > House officer incharge for bed will write his/her initial summary within 24 hours of admissions and will complete notes in detail.
- > In case of transfer of patient from one bed/ward to other concerned HO/registrar will write his/her own summary.

### **Procedure Notes**

- > Procedures should be done with a proper written consent.
- > Should include name, site, indications, consent, sterile prep and anesthesia of procedure, description of specimen, or fluid, what and where they are sent for, with brief clinical notes.
- > Inform patient regarding indication, complication and past procedure precautions.
- > Never forget pending follow up studies like post procedure X-ray.
- > If certified in a certain procedure only then trainee will be allowed to perform independently other wise procedure should be done under supervision of a senior/certified person.

### **Discharges**

- > Keep in mind pending issues and studies.
- > Communicate with all involved parties for smooth discharge.
- > Start discharge planning on admission.
- > Make sure patient and family are aware of possible discharge dates so they can arrange / schedule transportation.
- > Preferably change IV antibiotics to oral one day before discharge, avoid orders on morning of discharge unless absolutely necessary.
- > Give clear instructions regarding meds schedule/side effects/precautions and Restrictions on activities/travel/diet in Urdu/local language. Make sure by repetition that patient can repeat/recall your instructions.
- > Write discharge diagnosis clearly.
- > D/C summary should include chief complaints and H/O present illness, hospital course, your name/ward name/Hospital name/DOA & DOD/Principal and secondary diagnosis and procedures.
- > Mention follow-up/condition on discharge/attach diet chart if required.

### **Sign Outs**

- > For on-call batch, out going House officer will give written information about their patient's active issues and it should include Name of patient, ward/bed no., diagnosis, active issue or pending critical labs., consultations and procedures. Also, include certain criteria to act on e.g. Transfuse one unit packed cell if Hct is less than 28.
- > CODE Status must be specified.
- > Highlight worrisome patient's issue of concern and suggestions to deal with them.

## **Death/ Expirations**

- > DNAR (Do not attempt resuscitation) status should be decided after discussion with consultant on call.
- > On being called to pronounce death, you must perform certain steps.
  - o On arrival to bed side observe for respirations, auscultate for heart sound palpate for pulse, check pupils and corneal reflex.
  - o Complete death notes on progress sheet and fill death certificate as early as possible.

## **Pre Rounds**

- > For pre-rounds allow 30 min to one hour before consultant rounds but it depends on no of patients under your care.
- > Get your sign out from Night flat or cross cover team. You must know any major event that happened over night and this will dictate how you spend your time pre-round.
- > Try to read relevant text for your patient from pocket handbook or guide before attending rounds.

## **Occupational Risks**

- > Standard barrier nursing and isolation techniques should be employed in cases of patients with infectious communicable disease.
- > These measures include:
  - o Gloves
  - o Masks
  - o Careful needles/sharp objects handling.
- > Prophylaxis in cases of exposure if indicated (e.g. meningococemia)
- > In case of mishap/exposure, event should be reported to consultant on call, immediately.

## **Accountability**

- > In case of an incident, a committee of ward consultant will review the entire case in detail and will decide about warning/penalty.

## **Ethical Issues**

- > Best interest of the patient should be watched, in case of conflict or confusion issue should be discussed with consultant on call.

## **Confidentiality Of Patient's Data**

- > Patient's record and data should be kept confidential to watch his/her interests and diagnosis prognosis should not be discussed with attendants without permission of patient/close attendant.

## **Patient Education**

- > During in patient stay, every opportunity should be availed to educate patients and their

family regarding their illness and management.

### **Ward In-Charge Resident Duties**

- > Maintenance and cleanliness of all ward facilities (Electricity ports / fans / tubes etc).
- > Maintenance of Admission and discharge register by HO / Nurses and Registrar concerned.
- > Updating of information board.
- > Facilities regarding patient's attendants.
- > Check crash trolley / Emergency cart and maintenance daily.
- > Record and maintenance of all ward items (Stretcher / Wheel chair / Drip set stands / bed with railing / Bed pans / Bath room maintenance and cleanliness check). In female ward class room maintenance.

### **Dress Code**

- > Dressing should be decent. No informal clothing (jeans & T. shirts for males), party wears or excessive jewelry (for females) is allowed, during duty hours.
- > Every doctor should wear neat & clean overall, with properly displayed ID card or Nameplate.



## SOP'S FOR OUT PATIENT DEPARTMENT

- > The batch of House Officers on duty will reach the OPD at 8 'O' in the morning on OPD days.
- > The registrar has to reach the OPD up to 9:00 am after giving the ward report.
- > The consultant will reach the OPD up to 9:30 am after attending the morning session.

### Administration

The administration of the OPD Department is headed by an Additional Medical Superintendent who is responsible for the overall functioning of the department.

### Staff

The department has a staff of 39 persons headed by a supervisor deputed by the Medical Superintendent. The staff is appointed in different branches of the department by the supervisor with the approval of the AMS.

### Service Counter

It is located at the main entrance and is provided with a staff member who provides information, assistance and guidance to the patient. The staff member is also responsible for arranging wheel chairs and stretchers for shifting of the very sick patients.

### Departments

The OPD comprises of the following departments.

- Medicine
- Gynecology & Obstetrics
- Pediatrics
- ENT
- Eye
- Dental Department
- Surgery
- Orthopedic
- Neurosurgery
- Nephrology
- Psychiatry
- Physiotherapy

Each department is provided with a separate registration counter located at the space specified for that department. It is manned by a staff member. The patient is issued an OPD slip after charging Rs. 10.00 as OPD registration fee. The patient is registered in the OPD register and entry is made in the register against name, age, sex, address and an OPD registration number is allotted.

## **Department of Medicine**

The Department of Medicine comprises of two portions. One part has Medical Officers appointed in the OPD who cater for the new patients and provide follow up care to the patients who do not require further referral and admission to the hospital.

The other part consists of doctor working in the two medical units who attend the OPD on alternate days. They provide follow up to patients who had previously been admitted in the wards and provide consultation to patients referred to them by the OPD doctors and other departments.

The Department of Medicine OPD also has the facility of ECG and pulmonary function tests. For both these services the patients pay Rs. 30.00 each.

## **Department of Gynecology**

The Department of Gynecology and obstetrics also comprises of two portions.

Medical Officers appointed in the OPD who cater for the new patients and provide follow up care to antenatal & Gynecological patients who do not require further referral and admission to the hospital, 37 weeks and Problem cases are referred to Unit on call..

The other part consists of doctor working in the two Gyne. units which attend the OPD on alternate days. They provide follow up to patients who had previously been admitted in the wards and provide consultation to patients referred to them by the OPD doctors and other departments.

The department also offer the facility of Ultrasonography for which the patient is charged Rs. 100.00 (antenatal patients). Cases for anomaly scans are referred to the Radiology department.

## **Department of Pediatrics**

The Department of Pediatrics has also two portions. One part comprising of the OPD Medical Officers and the other part by the Pediatric department. They work in line with the department of medicine.

## **Department of ENT / Eye**

The units of Eye and feNT also cater for the OPD department. Minor procedures for ENT performed in OPD. Eye Department has hi-tech & latest equipment which is being used for diagnosis & treatment of patients. All necessary treatment is given to the patient.

## **Dental OPD**

This department comprises of 4 doctors working daily.

## **Department of Surgery**

Department of Surgery is seen by the surgical units on alternative days. In minor operation theater patients are operated by MO/ PGT's under supervision of consultant surgeons.

### **Nephrology Department**

Nephrology OPD is run by the Nephrologist who is working under Medical Unit II.

### **Psychiatry Department**

Psychiatry department of Rawalpindi General Hospital give consultation to the Psychiatry patients on every Friday from 9.00 am to 12.00 PM.

### **Orthopedic Department**

In Orthopedic department patient are seen by Orthopedic Surgeon who works in collaboration with Surgical Department.

### **Neurosurgery**

Neurosurgical department is working as independent unit and has two days working in the OPD i.e. on Tuesday and Friday. The patients are seen by the Assistant Professor along with the Registrar and House Officers.

### **Pharmacy**

The out patient pharmacy is located within the premises of the department providing medicines to the OPD patients. The OPD pharmacy received the medicines from the medical store and issue these to the patients as prescribed on the OPD ticket free of cost.

### **Physiotherapy**

Patient should be referred to physiotherapy department for rehabilitation where required.

## SOP'S FOR OUT PATIENT DEPARTMENT

The Department of Medicine comprises of two portions. One part has Medical Officers appointed in the OPD who cater for the new patients and provide follow up care to the patients who do not require further referral and admission to the hospital. The other part consists of doctor working in the two medical units who attend the OPD on alternate days. They provide follow up to patients who had previously been admitted in the wards and provide consultation to patients referred to them by the OPD doctors and other departments. The Department of Medicine OPD also has the facility of ECG and pulmonary function tests for both these services the patients pay Rs. 30.00 each.

- > The Batch of House Officers on duty will reach the OPD at 8'Clock in the morning on OPD days.
- > The registrar has to reach the OPD up to 9:00am after giving the ward report.
- > The consultant will reach the OPD up to 9:30am after attending the morning session.

### HOUSE OFFICERS

- > The house officer will take the history of the patient and write the summary in SOAP format.
- > He will discuss the case with registrar and will act accordingly.
- > No house officer is allowed to send any patient without consulting the registrar.
- > House Officer can also consult the consultant as per requirement.
- > He will write everything clear, medicines in capital letter and prescription and will sign the chit and also will write his / her name clearly.

### REGISTRARS

- > Registrar will see all the patients seen by the house officer and will give proper and clear advice regarding diagnosis,
- > Management and education of the patient.
- > He will also consult all new patients with consultant and follow up cases if necessary. He will admit the patients if required and can send patient to ER for ER management.
- > He will be responsible for the proper supervision and guidance of the house officers.
- > He will immediately inform the consultant on call for any mishap and try to resolve the issue.

### CONSULTANTS

- > All patients requested by the house officer or registrar will be seen by the consultant.
- > He will make a diagnosis of the disease, will teach and train the registrars and house officers and implement the training program for patient care.
- > He will keep the discipline and supervise every house officer and registrar.

## **SOP'S FOR PROCEDURE ROOM**

### **Procedures to Be Done**

1. Lumbar Puncture
2. Pleurocentesis
3. Abdominal Paracentesis
4. Pericardiocentesis
5. Liver Biopsies
6. Pleural Biopsies

### **Format**

- > One registrar and one house officer will be appointed on one month rotation as incharge of procedure room under supervision of consultant incharge.
- > The incharge will be responsible for maintenance and audit of
  - Essential drugs
  - Stock
  - Cleanliness
- > Incharge will keep one set of keys with them and one set of keys will be with the staff of the west wing.

### **Procedure Protocols**

1. All elective procedures should be done before 2:00 pm.
2. Emergency procedures can be done at any time.
3. Entry of attendants is not allowed in procedure room.
4. All the doctors and paramedics and patients are supposed to wear shoe covers or change their shoes on entering the room.
5. All procedures performed should be entered in the procedure room register.

## **SOP'S FOR ENDOSCOPY/ECHOCARDIOGRAPHY**

1. One day prior to endoscopy, the registrar on call will depute a house officer to make the list of the patients.
2. They will prepare the patients as per requirement.
3. For upper GI endoscopy, the patient will be kept NPO after 12 AM.
4. For colonoscopy, the patient has to be put on liquid diet for 03 days, daily intestinal laxatives, kleen enema one night before sending the patient to colonoscopy suite.
5. The patients with upper GI bleed have to be properly washed before sending to endoscopy room.
6. The registrar on duty will make a list of all patients who have reached in procedure room.
7. The registrar will nominate one house officer for BP, pulse, cannula, IV solution and other mandatory requirements before shifting the patients.
8. One house officer will write report while one other house officer will explain the proper indication and diagnosis along the test reports to the consultant doing the procedure.
9. All other house officers will assist the procedure.
10. All house officers are required to properly observe the procedure protocol, and will also come with learning outcome at the end of their duties.
11. Registrars will assist the consultants and learn the sterilization, procedure under supervision.
12. The echo list will be made and assisted accordingly.

## SOP'S FOR PATHOLOGY RECEPTION

The reception of Pathology Department is located in front of main lab and it comprises of two parts.

1. Outdoor Reception.
2. Indoor patient reception staff includes the following:-

### **Outdoor Reception**

All patients referred to Lab from different OPDS are received here. All Lab investigations will be done on payment except for those signed "free "by AMS (OPD) or Head of Departments.

The out door reception has been divided into cubicles/sections for patients convenience are labeled from 1-4.

### **Counter no. 1**

1. Mr. Abdul Sattar is incharge of the counter.
2. All patients will first come to this counter.
3. Paid tests advised will be registered, cash will be received and its receipt given to the patient.
4. Miss Tasleem will record their entry in the cash register and allocate OPD number to the patient.
5. This patient will then be directed to Counter No. 2 for samples collection.
6. Any patient requiring any information or gaudiness will also be attended at this counter.
7. All patients will be dealt with kindness and patience.
8. Patient will make a que and will be entertained only on this counter.
9. All reports will be given 02 days after sample collection except bone marrow FNAC, Histopathology and viral serology.

### **Counter no. 2**

Mrs. Zahida Kashif and Mr. Naeem are the phlebotomists of the lab. They will collect the sample according to the test requested.

Sample collection will be by aseptic standardized method.

All samples will be numbered immediately, ensuring it to be the right patient and slips.

For urine sample, patient will be provided container and guided towards the toilet.

Samples will be transported to the respective section by the lab attendant and Ward Boys.

Care will be taken to avoid wrong numbering, labeling of samples.

### **Counter no. 3**

1. This is report delivery counter of out door patients.
2. Person on duty will collect the report from the various section of the lab, arrange them and then distribute them to the concerned patient.
3. Report delivery will start at 10:00 am.

### **Counter no. 4**

1. This counter deals with patients of Prime Minister Program for control and prevention of Hepatitis
2. All these cases are free.
3. Duty staff will receive the patient directly to indoor reception and deal with them.
4. Paid indoor test will be referred to counter No. 1 for registration.

- Depending of the test the patient will be directed to either counter No. 2 are to the procedure room.
- Reports of these patients will be delivered at the same counter.

### **Indoor Reception**

- This is located next to counter No. 4
- All indoor samples will be collected by 03 Ward Boys from wards according to their duties as blow.
- Mr.Adeel MUI, ENT, EYE, NERO SURGERY.  
Mr. Noshad SUI, SU2, CCU, ICUAND PACU.  
Mr. Shoukat GYNE I, GYNE 2, PEADS

The samples along with test request slips will be deposited at indoor reception. All those will be registered and numbered by Miss Naheed. She will be assisted by ward boys.

### **Indoor Sample Collection, Delivery and Report Delivery**

- Ward boy will collect samples from respective wards and they will check the sample error in collection, Incase the sample error is there they will be rejected.
- He will receive the sample and request slips and sign on ward register.
- They will collect the sample between 9:00 to 10:00am
- List of test and patient from the ward will be registered at this counter on indoor register and sample will be sent to respective section for processing.
- Respective reports will be collected by the Ward Boys and entered regarding to the test by the said Ward Boy.
- Reports of all routine tests will be delivered next morning.
- C/S Report after 03 days.
- Certain parameter of chemistry may require delivery of report on second day.
- Histopathology report after 12 days.
- FNA & Cytology reports after 03 days.
- Bone Marrow reports after 03 days.
- Trephine biopsy after 08 days.
- BM & Hp reports will be collected directly from respective section of the ward.
- All the concerned staff is directed to behave properly with the patient and guide each patient to the proper counter and also help them in their problem regarding Lab.
- No patient will be allowed to come in the lab directly.
- Chowkidar on duty will be held responsible if there is any problem regarding the report person sitting on counter No. 3 and Ward Boy will solve their problem without any delay.
- The said SOP's are placed on each notice board and all the reception staff is directed to follow these directions and they will be held responsible for any misappropriation or mishandling and strict disciplinary action will be taken against the defaulter.

## **SOP'S FOR RADIOLOGY DEPARTMENT**

### **SOP's for X-Ray Examination**

#### **Referral of Patients**

Patients are referred from OPD and wards on prescribed X-Ray request form with purposeful



clinical notes. These forms should be available in wards and OPD. Provision of forms is the responsibility of Heads of Departments and the Medical Superintendent.

### **Reception**

Patients come to reception with prescribed X-Ray request form and get registration number from the registration clerk.

Prescribed fee per film is charged from patient by the registration clerk.

### **Token no.**

It is the number for turn of the patient on that day.

Token No. is given by reception clerk.

### **Checking of Prescribed Forms**

The patients come to House Officer / Post Graduate Trainees for checking the prescribed X-Ray forms. HO will complete the minor deficiency in clinical notes.

### **Waiting Area**

- After checking the prescribed forms patients are sent to waiting area and they are called for examination on turn by the Radiographer.
- After complete processing Dark room assistant will get these X-Rays checked by MO / Radiologist for quality of X-Ray.
- If the study / Procedure is satisfactory, patient is asked to leave the waiting area and collect the report on next day.
- The X-Rays are sent at the reception for labeling and audit of films to be supervised by Radiologist / MO.

### **Reporting of X-Rays**

Reporting of X-Rays is done on next day by HO & PGT under supervision of Radiologist / MO and interesting and difficult cases are discussed with Professor / Head of Radiology Department.

## **SOP'S FOR ULTRASOUND AND DOPPLER EXAMINATION**

### **Referral of Patients**

Patients are referred from OPD, Ward and ER on prescribed request forms and purposeful clinical notes.

### **Fee**

OPD patients are charged prescribed fee at reception. While admitted and ER patients' Ultrasound is done free of cost. Prescribed fee is also charged for the Doppler study.

### **Token no.**

After registration patients are provided with token no and sent to waiting area to wait for their turn.

### **Checking of Prescribed Form**

Patients are called for Ultrasound examination according to token nos. HO and PG trainees check the prescribed form and complete the minor deficiency in clinical notes.

### **Ultrasound Examination**

Ultrasound is performed by MO / Radiologist whereas; PG trainees and HO observe the examination and write the report.

The report is checked and signed by MO / Radiologist and handed over to patient. In difficult cases expert opinion is obtained from consultant / Professor.

### **Doppler Ultrasound**

Doppler study is performed by MO / Radiologist by appointment on nearest possible date.

## **SOP'S FOR CLEANING AND WASHING**

### **Morning Shift**

1. Attendance of Sanitary Workers at 6:45am. Responsibility is with the shift supervisor.
2. Daily brushing and mopping of the wards before 8:30am and emptying of buckets and disposal of waste to RMC container, responsibility is with the sanitary worker.
3. Weekly washing with surf, vim and phenyl of each ward in turn, responsibility is with the sanitary worker.
4. Twice daily washing of general bathrooms after 8:15am and 11:00am and once in week with acid, responsibility is with the sanitary worker.
5. Daily cleaning in the morning and whenever required of surgical ICU, responsibility is with the sanitary worker.
6. Thrice a week washing with detergents of Surgical ICU, responsibility is with the sanitary worker.
7. Daily cleaning and twice washing in a week of CCU, responsibility is with the sanitary worker.
8. Weekly washing of corridors of Deluxe / Gynae wards and kitchen, responsibility is with the sanitary worker.
9. Sanitary Inspector is responsible for overall supervision of sanitary workers.
10. Sanitary Inspector will hand over the charge to evening supervisor.
11. Above steps will be checked duly by relevant DMS/ AMS
12. Register will be maintained and checked regularly

### **Evening Shift**

1. Attendance of Sanitary Workers at 1:45pm.
2. Daily cleaning of wards and washing of bathrooms.
3. Emptying of buckets twice at 3.30 pm and 7.00 pm and disposal of waste to RMC container.
4. Washing of corridors in turn.
5. Sanitary Supervisor is responsible for overall supervision of sanitary workers.
6. Handing over of charge to night supervisor.
7. Evening DMS will do the random checking and sign the register.

### **Night Shift**

1. Attendance of Sanitary Workers at 8:45pm.
2. Daily cleaning of wards and washing of bathrooms at 10.00 pm and 6.00 am.
3. Washing of Reception and rest of the corridors.
4. Handing over of charge to morning supervisor.
5. Night DMS / AMS will do the random checking and sign the register.

### **Areas Outside Hospital Building**

1. Cleaning starts at 6:00am and is completed up to 8:30am.
2. This includes roads, footpaths and sitting areas etc and then at 10:30am.
3. In the evening from 2:00 to 4:00pm.

### **Supervision of Sanitary Plan**

1. All the staff works under the supervision of DMS (Admn), who prepares the duty roster and monitors the implementation of the sanitary plan.
2. He makes a visit plan to check the standard of sanitation.
3. He checks the condition of wards and wash rooms twice weekly according to schedule.
4. Any complaint regarding cleanliness should be reported to him by the liaison officers of the concerned wards.

All entries will be maintained in monitoring register daily countersigned by DMS (admn) and duty DMS.

## **SECTION - II**

### **SOP'S FOR HEALTH PROFESSIONALS**



## **JOB DESCRIPTION OF EMERGENCY STAFF AND DOCTORS**

### **DIRECTOR EMERGENCY:**

- To be responsible for overseeing the activities of ER.
- To ensure the availability of proper equipment and drug in ER.
- To develop standard operating protocols for care in the casualty department.
- To train the Additional Director Emergency (SR Emergency) ER Physician (CMO), Nursing and paramedical staff of all the units in emergency management.
- To liaison with different department about the emergency care of their respective patient. For this purpose he should head a committee of SR's from each unit, hold regular meetings with them and the administration (ER Policy committee).
- He will be assisted by 3 Additional Director ER Surgery (SR Surgery), 3 Additional Director ER Medicine (SR Medicine) 3 SR Gynae 3 SR Anesthesia in addition to 9 Emergency Physician, so that proper coverage can be provided in the evening and nights to the ER Department.
- He should develop disaster plans and run regular drills for it.
- He should hold monthly meeting with Director ER of sister hospitals to improve functioning of ER.
- He should liaison with Edhi Foundation and other services responsible for pre-hospitals care in emergency situations.
- He should oversee medico legal activities and liaison with concerned departments for proper autopsy services.
- He should train casualty staff in
  - a. Basic life support
  - b. Advanced cardiac life support
  - c. Advance trauma life support
- Submit his report to on monthly basis to Medical Superintendent.

### **DEPUTY MEDICAL SUPERINTENDENT (DMS):**

- Ensure presence, dress code, I/D cards of all staff working in Emergency.
- Ensure regular and sufficient supplies of all medicines/ accessories in Emergency.
- Ensure prompt repair and maintenance of all electro medical Equipments.
- Ensure proper documentation and maintenance of patients and other records.
- Ensure proper documentation of medico legal cases.
- Ensure Smooth working of Lab and Radiology Department of Emergency.
- Responsible for cleanliness of emergency.
- Ensure proper segregation, collection and disposal of hospital waste.
- Up lift of emergency in disaster situations like availability of sufficient beds, medicines and manpower.

### **CASUALTY MEDICAL OFFICER (CMO):**

- He will check the patient, give them initial treatment and advise for minor ailments. Other cases will be referred to concern department on call in Emergency.
- He will register and record all medico legal cases along with follow up in courts where needed.
- Coordinate with Police for completion of medico legal formalities.
- He will also work as Emergency administration during evening and night duties in addition

to his own duties.

**DOCTORS:**

**I. H/O:**

- Documentation of history and examination of referred cases by House Officer verified by Registrar followed by investigations and treatments which is recorded.
- For minor ailments patient is discharged after diagnosis and treatment.

**II. S/R:**

- Seriously ill patients are retained in ER and periodically seen by AD ER (Senior Registrar)
- For all patients clinical notes and treatment is carried out by Registrar of at least level II under supervision of AD ER (SR), assisted by House Officer and Nursing Staff.

**HEAD NURSE:**

- Ensure presence and dress code of nursing staff
- Supervise patient's record maintenance.
- Supervise on job training of staff Nurses.
- Ensure maintenance of Emergency tray and equipments.
- Maintain cleanliness and discipline among staff.
- Ensure Segregation, collection and disposable of hospital waste.
- Ensure proper management of all patients and shifting to wards in case of admission.

**CHARGE NURSE:**

- Provide bed to the patient.
- Assist Doctor in medical examination of patient.
- Carry out treatment order/investigation of patient.
- Transportation of admitted patient to wards/OT.
- Maintain Emergency tray and equipment.
- Maintain cleanliness and discipline amongst staff.
- Ensure proper disposal of hospital waste.
- Ensure provision of bed in case of disaster.
- Prepare daily reports and follow up of complaints.
- Ensure Monthly/daily duty Roster/Notices on display boards.

**REGISTRAR ON CALL:**

- To start treatment and management of all patients referred by CMO.
- To advise H/O for implementations of orders.
- Seriously ill patients will be managed by registrar personally.
- All investigations will be advised by Registrar only.
- All admission cases will be decided by the Registrar.
- Registrar will ensure presence of House Officer Name plates / dress code.
- He will help CMO in medico legal cases regarding final advice.
- In case of disaster he will assist CMO.

**SUPERVISOR:**

- To prepare monthly duty roster of all paramedical staff.
- To ensure punctuality amongst paramedics.

- To collect and display duty Roster of ward doctors on call in ER.
- To keep and maintain record of attendance of paramedics.
- To keep records of all correspondence of ER with other departments.

**RECIPTIONIST:**

- Issuance of ER slip and recording of full data of patient both manually and on computer.
- Guide and give information to visitors of hospital.
- To direct serious patients to the resuscitation room urgently and complete documentation later.

**DISPENSERS:**

- To keep sufficient amount of all medicines approved in SEMS during all shifts and maintain expense of all medicines.
- To maintain cupboard.
- To do ECG of male patient.
- To maintain Minor OT.

**DRIVERS:**

- To keep all ambulances in working/ready condition.
- To remain available /alert at places of duty.
- To inform DMS/CMO before moving for any duty.
- To inform about any defect/non working of ambulance immediately.

**SANITARY WORKER:**

- To maintain cleanliness by regularly taking round of ER both from inside and outside.
- To wash floors on weekly basis.
- To segregate hospital waste and dispose off properly.

**WARD BOY:**

- To help nursing staff in maintaining ER cleanliness.
- To shift patient to wards/OT, ambulance etc.
- To do day to day work like shifting of medicines, store items, other things from store to ER.

**CHOWKIDAR:**

- To maintain minimum presence of patients attendants in ER.
- To observe and be vigilant about any unusual activity in and around ER.



## **DISASTER MANAGEMENT PLAN**

- ◆ As soon as information of any disaster or patients/victim reaches the hospital, the implementation of disaster plan starts according to the organogram of Disaster Management.
- ◆ CMO informs the hospital telephone operator (who has a list of all important Telephone No.) or acts himself to inform/notify all the concerned authorities both at administrative and clinical levels which in turn start their respective activities immediately.
- ◆ Availability of all Doctors/Nurses and other paramedical staff working in three shifts in ER is also ensured according to the plan in case of Major Disaster.
- ◆ All types of Emergency medicines/disposables in bulk quantity are freely available. It's also in case of ensured that disaster medical and General stores remains open to cater any additional requirement.
  - > A cupboard having medicine/disposable to manage 50 patients is also maintained as standby arrangements.
  - > Two fully equipped Major OT's with facilities to perform any type of surgery like Gen/ Neuro/ Orthopedic are available round the clock.
  - > One minor OT is also running side by side to treat minor injuries.
    - There is also provision to increase the facility to treat minor injuries by expanding the existing set up.
  - > Two X-Ray machines one fixed & one mobile along with automatic processor and technical staff is available round the clock to perform all basic X-Rays.
  - > Fully equipped lab to perform all basic emergency tests along with technical staff is also available round the clock.
  - > Three fully equipped ambulances along with Drivers are standby/ available round the clock in emergency Department.
  - > The detail of equipment available in emergency Department is also attached.
  - > The detail of all important Phone No. is also attached.
  - > Name & No. of all focal persons is also attached.

### **Important Contact No. of Administration:**

#### **Designation**

Principal  
Medical Superintendent  
AMS Admin

#### **Contact Numbers**

9290321-29 Ext. 2020  
9290321-29 Ext. 2001  
9290321-29 Ext. 2005

### **Important No. of Focal Person:**

#### **Designation**

Director ER  
AMS/DMS (Morning)  
AMS/DMS (Evening)  
AMS/DMS (Night)

#### **Contact Numbers**

9290321-29 Ext. 2100  
9290321-29 Ext. 2101  
9290321-29 Ext. 2101  
9290321-29 Ext. 2101

## **JOB DESCRIPTION OF ACADEMIC STAFF**

### **SOP'S FOR OPD CONSULTANTS**

All patients requested by the house officer or registrar will be seen by the consultant. During morning round, he will make a diagnosis of the disease, will teach & train the registrar and house officers and implement the training program for patient care. He will keep the discipline and supervise every house officer and registrar.

### **SOP'S FOR PROFESSOR**

1. Incharge of administrative affairs for Ward. He may assign his staff assist members to him to carry out such affairs effectively.
2. Overall supervision of patient care, Academic activities and Services delivered through medical unit in ER/OPD and In-Patient
3. Selection and Recruitment of Postgraduate Trainee, House Officers according to rules devised by Academic council and Recruitment Committee.
4. Overall monitoring of record keeping by medical staff.
5. Research publication: Annually one paper publication in PMDCR Recognized Medical Journal and active participation in process of research project selection, planning supervision and paper writing.
6. Supervision of Clinical Rounds.
7. Participation and Representation in Academic meetings, National and International medical Conferences.
8. Participation in Academic Council Meeting and Meetings called by Hospital administrators.
9. Third on call for Emergency room cover and inpatient management. Second on call consultant may call head of unit II, If he wants his assistance or thinks that matter is serious enough and should be brought in notice of Professor incharge.
10. Incharge of teaching program for medical students. He may assign duties to Associate and Assistant Professor/SR for teaching and training of medical students.
11. He will make sure that training program is full compliant with recommendations of PMDC (Pakistan Medical and Research Council) and CPSP (College of Physicians and Surgeons Pakistan).

### **ASSOCIATE PROFESSOR/ASSISTANT PROFESSOR/SENIOR REGISTRAR**

1. Administrative affairs for Ward and Hospital as assigned by Head of Department.
2. Supervision of patient care and services deliver through medical unit in ER / OPD and ward.
3. During OPD duty OPD patient care, support & supervision of Medical Residents and House Officers.
4. Monitoring of record keeping by medical staff.
5. Research Publication: Annual one paper publication in PMDC recognized Medical Journal and active participation in process of research project selection, planning supervision and paper writing.
6. Clinical Rounds.

7. Active participation and supervision of training program for resident staff. Participation and representation in Academic meetings. National and International Medical Conference. Second on call for Emergency room cover and ward cover after 2pm on their respective call days.
8. Teaching and training of medical students as assigned by Head of Department.

### **SOP's FOR MEDICAL OFFICERS/REGISTRARS**

1. All admission / shifts to ward should be made by registrars of respective departments with full clinical notes and indications.
2. Duty Registrars / MOs of concerned departments must visit their patients in ITC at least have 6 hourly progress notes at 0800,1400,1800 and 2200 hours and additional notes in case of some inter-current problem or when called.
3. All concerned MOs / Registrars of different departments must keep strict check on their House Officers.
4. Registrar / MO of Medical Department is additionally responsible for maintenance of admission / discharge register, Ventilator support register, Handing taking over register of staff nurses, and sign it daily and report any mismanagement of patients.
5. Registrar in OPD will see all the patients seen by the house officer & will give proper and clear advice, regarding diagnosis, management and education of the patient.
6. He will also consult all new patients with consultant on call and follow up cases if necessary.
7. Registrar / MOs will be responsible for the proper supervision & guidance of the house officers in management of patients.
8. All duty MOs / Registrars must kept strict check on working of staff concerning the management / progress / intake / output / medication and general care of their patients, and point out any irregularities and management to ward in-charge.
9. Registrar / MOs must also help house officers in general problems regarding patient's management i.e. arranging of medicines and their dietary advices etc.
10. Registrar / MOs will immediately inform the consultant on call for any mishap and try to resolve the issue.
11. Registrars / MOs must report any type of irregularity / mismanagement in working to in-charge in written, so that necessary action can be taken.
12. No false entries on patients file are allowed.

### **SOP'S FOR HOUSE OFFICERS**

1. Duty timing should be strictly followed.
2. House officers will take the history of the patient and write the summary in SOAP format.
3. During OPD duty, no House officer is allowed to send any patient without consulting the registrar.
4. House officer can also consult the consultant as per requirement.
5. House officer will write everything clear, medicines in capital letter and prescription and will sign the chit & also will write his/her name clearly.
6. Duty house officers from must stay in ward with their patients, all the time and must not leave their post in any case.

7. No relieve / replacement without prior permission from concerned registrars and this permission will be submitted to ward in-charge.
8. All house officers must follow strict aseptic techniques and clothing in ITC.
9. All house officers on call must keep check on the working of para-medical staff and report any irregularity to in-charge concern.
10. All house officers should check patient's management, feeding, bed care, mouth care, availability of medicines, intake / output charts, and other progress charts.
11. Patient's documents should be efficiently maintained.
12. House officers are responsible for proper dispatch of investigations and their collection.
13. House officers are responsible for proper shifting and discharge of patients.
14. A report register will be maintained in which all concerned House Officers will write any irregularity / mismanagement / problems at the end of their duties and get it duly signed by the ward in-charge and any representative of administration.
15. House officers are responsible for maintenance of admission / discharge / ventilator support register.
16. All House officers should clearly write order on progress sheets, including doses, route of administration of different drugs.
17. No false entries on patient file are allowed.
18. No House officer is allowed to discharge/shift patients in and out of department without prior permission of concerned Registrar.
19. All House officers are directed to write progressive 4 hourly during duty hourly i.e. 0800, 1200, 1600, 2000, 0000 and 0400 hours.

## **SOP'S FOR CHARGE NURSES**

### **Experience and Training**

- Competent in planning and delivering care to patient with a variety of complete care needs
- Able to teach and supervise new nurses and professionals
- Able to take charge of the unit in the absence of head nurse, when necessary.

### **Knowledge, Skills, Abilities and Traits**

- Expressed commitment of nursing and to excellence in patient
- Readiness of new learning and challenges
- Readiness to accept guidance and constructive criticism
- Ability to work as a member of team, and to contribute to ongoing team building
- Good basic clinical knowledge and level of technical skills commensurate with experience

### **Duties and Responsibilities**

- Report punctually on duty
- Observes the uniform code at all time
- Has extensive theoretical knowledge of her area applies her knowledge
- Throughout nursing process, and acts as a resource person to other staff members
- Exercises a democratic approach to leadership in managing the unit when assigned
- Organizes workload well and completes assignment even under difficult and stressful circumstances
- Evaluate results of interventions and modifies nursing care plans
- Incorporates patient's teaching needs into nursing care plan and utilize other resources if necessary
- Implements an individualized programme of teaching with patient and family
- Teaches the patient about effects of medications and their safe administration
- Charting reflects a comprehensive understanding of the patient's status, efforts are made to improve the quality of charting and to help others to do the same
- It is good delegator in emergencies, evaluates the outcome of the emergencies and shares knowledge with other colleagues
- Has excellent awareness of hospital policies and reinforces same in practice
- Makes every effort to expand her clinical and skills, seeking out available resources
- Based on knowledge of team members, skill and experience allocates assignment so as to provide for their professional growth
- Is supportive and considerate to less experienced nurse when offering criticism, offer positive suggestions for correction and improvement
- Plans assignments and experiences for new nurse which involve application of new protocols and procedures
- Helps and direct new staff member with personal integration as well as with professional responsibilities
- Anticipate student's learning needs, offers suggestions and material for student's experience
- Seeks and welcomes criticism in order to improve performance, uses resources personnel to evaluate results
- Takes a leading role in the development of unit standards. Actively participates in follow up of audit recommendations.
- Demonstrates enthusiasm in updating self by reading new nursing literature and compiling

same for the use of the unit

- Attends conferences and workshops even in her own time
- Shares new ideas and information with the rest of the staff or nurse
- Reinforces the unit philosophy and goals when replacing the head nurse
- Identifies resource person or persons
- Demonstrates a positive attitudes towards authority
- Integrates criticism to improve practice
- Interacts well with peers, senior nurse and subordinates
- identifies learning needs and seeks assistance
- Demonstrates familiarity with the concepts of
  - Nursing quality assurance
  - Infection control
  - Nursing policies and procedures
  - Patient confidentiality and privacy
- Demonstrate as "caring" attitude towards patient and family
- Makes efforts to establish positive nurse / patient / family relationship
- Administers medication safely
- Demonstrates beginning skills in nursing process and care planning i.e. attempts to make or to design and update plans of assigned
- Document and signs off all nursing entries
- Performs all unit procedures independently
- Is skilled in given basic nursing care
- Is aware of the components of safe nursing care and exercise due care in delivery of same.
- Demonstrate basic skills in the use of:
  - Nurses notes
  - Flow chart
  - Incident reports
- Demonstrates commitment to nursing
- Seeks out opportunities for improving clinical knowledge and skills
- Expense of medication carefully

## **SOP'S FOR STAFF NURSES**

1. All staff nurses must have key of store and bed sheets.
2. Must wear OT dress (for ITC).
3. Must not leave respective ward and so should not sit at nursing station.
4. Report any non-availability of drugs to concern house officer and not just write N/A on treatment sheet.
5. Must maintain proper intake / output, treatment and other charts.
6. Report register of staff nurses will also be maintained in which they will write about the problems regarding working of students, nurses, ward servants, ward cleaners, availability of medicines and working equipments.
7. Should take over charge at the start of their duty bed to bed and strictly maintain handling / taking.
8. Staff nurses are responsible of feeding, mouth care and general care of patients.
9. Vital sign charts should be maintained on hourly basis.
10. Intake / output chart should be maintained properly and output should be entered twice daily i.e. 6:00 AM and 6:00 PM.
11. Should check the proper working of ward servants, ward cleaners, and report any irregularity on report register.
12. In case of any problem regarding patients should immediately inform doctors on duty.
13. Will draw the samples using full aseptic measure and dispatch on register.
14. Check list provided by doctors should be checked and sign by staff nurses.
15. If anything lost or damaged during duty any staff, she should be responsible for it.
16. Over should be given by students.
17. All staff should know how to operate and interpret cardiac monitor.
18. Should have knowledge about defibrillator.
19. They are also responsible for maintenance and working of all equipments and cleanliness if the ward in their duty hours.
20. Responsible for proper bedding etc.
21. Dispose used syringes / cannulas / IV sets properly.
22. Patient's register will be maintained and should contain all information regarding admission and progress of patient in each shift.

## **SOP'S FOR WARD SERVANTS**

1. Must follow proper timing.
2. Must wear OT dress (for ITC).
3. Must stay in ward.
4. Should not follow any personal orders i.e. to bring tea for staff on duty.
5. Evening and night duty ward servants should clean the ward.
6. They are also responsible for the entrance of attendants at times other than visiting hours.
7. They should help in shifting the patients and preparing the dead bodies.
8. Responsible for non-medical articles i.e. beds, wheel chairs, side tables, stands etc.
9. Report any irregularity to staff nurse.
10. They are not allowed to interfere or help staff nurses in preparation and administration of medicines.
11. They are also responsible for oxygen supply and cleanliness and working of compressor.



## **SOP'S FOR WARD CLEANERS**

1. Must follow strict timings.
2. Wear OT dress (for ITC).
3. Should not leave during their duty hours, in the absence of ward servant must stay at entrance to check entrance of attendants.
4. Responsible for emptying of urine bags after informing staff on duty.
5. Care of bowl i.e. to provide urinals / pans to patients.
6. Clean the ward at least once during their duty hours.
7. Emptying of buckets and dustbins properly before duty finishes.

## *SECTION - III*

### **SOP'S FOR ADMINISTRATIVE DEPARTMENTS**



## **SOP'S FOR ADMINISTRATION OFFICE**

The existing SOP's of Administration Branch, Holy Family Hospital, Rawalpindi are as under:-

- All the Dak / Mail is received in the office of the Medical Superintendent / Additional Medical Superintendent (Training) where from the letters concerning to the Admin. Branch are received under proper signatures in the branch by a clerk designated for the job.
- The receipt clerk in the branch makes diary all the Dak and places it before the officers concerned for orders.
- There are two AMSs out of whom AMS (Admn.) deals with non-gazetted staff while the other AMS (training) deals with gazetted staff, house officers and post graduate trainees.
- Similarly distribution of work has been made amongst the branch clerks, who are working under Admn. Officer.
- The subjects like matter pertaining to gazetted staff (BPS-16 & above), House Officers and Post-graduate trainees, Government correspondence, ACRs and Non-gazetted staff (BPS 1-15), disciplinary cases, appointment/recruitment cases etc. have further been distributed amongst the clerks who receive the fresh letters and put up the cases to the Admin. Officer for further disposal.
- The Admin, Officer accordingly prepares replies of the letters through concerned clerks and the ready dak is submitted to the concerned authority [MS/ AMS (Admin)/ AMS (training) for signatures.
- After signatures of the authorities, the dak is dispatched to its destination.

## **SOP'S FOR PURCHASES**

### **SOP's FOR PURCHASES ABOVE RS. 1.5 MILLIONS.**

In order to streamline the purchase process and avoid complication following SOP for purchases is observed by all the components of RMC & Allied Hospitals, Rawalpindi for purchases above Rs. 150,000.

1. When demand arises by the end user/Competent Authority, the same shall be sent by the concerned quarter to the Purchase Section of the institution.
2. The requisition/demand of items required shall be signed by the Head of Department/ Liaison Officer.
3. The requisition/ demand of items required shall be critically examined regarding genuineness of the requirement/demand by the purchase officer and the component head.
4. The Purchase Section shall consult the indenting Department on one hand while apprise the competent authority and definite decision shall be taken. After that approximate cost of stores demanded and budget availability from Accounts Section under relevant Head shall be sought. Only the competent authority will approve the case of purchase.
5. Purchase once approved, purchase section shall get the administrative approval for the store items from competent authority before initiating the purchase, purchase proposals shall include specifications by Technical Advisory Committee constituted for the purpose wherever.
6. All the purchases shall be processed by the Central Purchase Office.
7. Advertisement will be made in three national/local dailies giving suitable time for receipt of tender forms/quotation etc; through Director General Public Relations as per Rules 7 (1) & 85 of the Purchase Manual.
8. A proper tender register shall be maintained showing the name of firm issuing of tender documents, their costs, total bidders, total tenders sold etc.
9. The quotation/tender should be opened on the prescribed date of tenders by the Tender Committee.
10. For all items single bid two envelop system will be used in one envelop technical bid will be received while financial bid will be in separate envelop.
11. Only Technical bid will be opened and signed by the tender committee.
12. After opening, the technical bids will be sent to the Senior Technical Officer for technical scrutiny. Recommendations of the Technical Advisory Committee (TAC)/Technical Scrutiny shall be completed in two weeks.
13. Financial bids of the firms whose technical bids have been accepted will be opened by the Tender committee.
14. After opening the tender, comparative statement shall be prepared clearly mentioning the date of opening of tender and total number of tender documents received.
15. Names of all the bidders quoted their rates shall be reflected on the comparative statement.
16. All decision of Tender Committee, Technical Advisory Committee giving any remarks about the bidders should be announced clearly and loudly in the proceeding of negotiation and view point of the concerned firm/bidder shall also be heard before making any decision.
17. Tender/Purchase Committee shall finalize its recommendations in line with the rules prescribed in Schedule-IV of the Punjab Health and Medical Autonomous institutions Act, 2003.

18. The purchase secretary would record all the proceeding separately on the noting and after preparation of the minutes get signature of all concerned accordingly.
19. After the award the Letter of Intent will be issued by the competent authority to the firm for the acceptance of the offer.
20. After acceptance of the offer the firm will submit the Performance Bond to the central purchase office after which the component heads can issue the supply orders.

## **SOP'S FOR PURCHASES BELOW 1.5 MILLION.**

1. When demand arises by the end user/Competent Authority the same shall be sent by the concerned quarter to the Purchase Section of Holy Family Hospital.
2. The requisition/demand of items required shall be signed by the Head of Department/ Liaison Officer.
3. The requisition/demand of items required shall be critically examined regarding genuineness of the requirement/demand by the purchase officer and the component head.
4. The Purchase Section shall consult the indenting Department on one hand while apprise the competent authority and definite decision shall be taken. After that approximate cost of stores demanded and budget availability from Accounts Section under relevant Head shall be sought. Medical Superintendent of HFH will approve the case of purchase.
5. Purchase Officer will prepare the purchase proposals which shall include specifications of the item/items to be purchased.
6. The purchase office will call quotations from three supplying firms for the supply of the item /items to be purchased.
7. Quotations received will be opened and signed by the hospital purchase committee which shall include the followings.

|                          |            |
|--------------------------|------------|
| • Medical Superintendent | (Chairman) |
| • AMS (Finance)          | (Member)   |
| • Purchase Officer       | (Member)   |
| • Account Officer        | (Member)   |
8. Purchase office will prepare the comparative statement and get it signed by the hospital purchase committee.
9. The item will be awarded to the lowest bidder and supply orders issued by the Medical Superintendent.

## SOP'S FOR PROCUREMENT OF STORES (MEDICAL/GENERAL)

Request received from concerned department

OR

1. Demand is initiated by the concerned store keeper keeping in view the minimum balance available in the stores.
2. Assessment of store stocks by the store In-charge / Storekeeper of existing stocks verses average consumption / week / month.
3. Initiation of demand for purchase by the storekeeper is checked and verified by store in-charge / DMS / AMS.
4. Demand is then forwarded to the Medical Superintendent/ any other authority for sanction of the purchase.
5. The sanctioned proposal is forwarded to the accounts officer for allocation/availability of the budget.
6. Supply order is prepared by the concerned cell.
7. Signature of supply order by Medical Superintendent with initials of concerned cell and DMS/AMS.
8. Delivery of supply order to contractor by post or by hand with a maximum of 15 days delivery period for supply of stores.
9. After receiving the supplies, the stores are inspected as per inspection Performa and signed by the inspection committee comprising of the followings
  - AMS (Admn.) Chairman
  - Senior Pharmacist Member
  - End User (Not below BPS-17) Member
  - Co-opted member (if required) Member
10. After the inspection entry is made in the stock register and bill is forwarded to the accounts department within three days of inspection.

## **SOP'S FOR ISSUANCE OF STORES (MEDICAL/GENERAL)**

1. Request is received from concerned department on indent book duly signed by the nurse in-charge and Senior Registrar of the ward.
2. The indent books are received in the office of the AMS/DMS store, on the specified days of the concerned departments however these can be received on the emergency basis on any day, who examines and verifies the genuineness of the demand by signing the indent.
3. Indent book is then sent to the concerned store where the storekeeper issues the indented items and entry is made in the stock register. Items which are not available are marked NA on the indent book.
4. At the end of the day store keeper also make entries in the Bin cards.
5. AMS/DMS stores periodically visit the store and checks the entries of the stock register and physically verifies the stores.
6. AMS/DMS stores issues a comprehensive list of medicines available in the stores to all the departments on fortnightly basis.
7. Any complaint regarding availability of medicines should be sent to the AMS/DMS stores by the liaison officer of the concerned unit.



## **SOP'S FOR REPAIR OF ELECTRO MEDICAL EQUIPMENT**

- Request for repair is sent by concerned department/ end users to the office of the Medical Superintendent on prescribed repair proforma.
- Request sent on paper other than prescribed proforma is not accommodated.
- It is certified by Head of Department / Liaison Officer that the stated fault is not due to human error.
- The application for repair is sent to DMS Repair by the office of Medical Superintendent.
- Status of equipment (Whether under warranty, out of warranty or under maintenance contract) is identified and entered in Proforma by Store Keeper.
- Bio Medical Engineer enters his comments on same proforma after inspection of the faulty part.
- If in warranty supplier is informed to repair the faulty part / equipment.
- If equipment is out of warranty, our Bio Medical Engineer after inspection decides that
  - i. Faulty part is repairable or replaceable.
  - ii. Repair can be carried out by our own workshop through available in stores/ minor purchases.
  - iii. Services of out side firms are required.
  - iv. Services of supplying firms is required (monopoly items)
  - v. Service of department (Electro Medical Repair Workshop) are required.

Roughly estimated cost of repair is stated by the Bio Medical Engineer and forwarded by DMS Repair to Medical Superintendent for approval.

After approval of estimates, following procedures is adopted:-

- i. Usually repair on single quotation is carried out for estimates up to Rs.5000/- and in selective cases for estimates up to Rs.20000/-
- ii. At least three quotation are obtained from relevant firms for estimated costs up to Rs.150000/-
- iii. In case of monopoly items above mentioned repairs can be processed on basis of single quotation.
- iv. For estimated costs above Rs.150000/- tender is floated in at least three to six news papers as per requirements of purchase manual through at least Four News Papers.

Once the offers of competing firms are received, comparative statement is prepared and signed by committee.

Availability of budget is ensured from Accounts Office.

Finally work order issued to successful bidders.

After the firm has completed the repair work the equipment is kept under observation of end users/Bio Medical Engineer after completion of observation period successfully.

Payment of bill is made by Account Office after fulfillments of all the requirements as per prevailing rules and regulations.

## **SOP'S FOR WORKS (DEVELOPMENT/MAINTENANCE) DEPARTMENT**

### **Administration**

The administration of works department is headed by an Additional Medical Superintendent (Works) who is responsible for the overall functioning of the department. Two officers, one DMS

(M&R) and the other Coordinator new works, are working under the supervision of AMS ((M&R). These officers are responsible for the implementation of the jobs of M&R and new works (Development).

The M&R department consists of two wings:

- Buildings wing
- Electromechanical wing

In the morning shift there will be separate supervisors for each wing while in the evening and night shifts there will be a single supervisor in-charge of both wings.

### **Complaint Cell**

- Complaint cell is working 24 hours, 7 days a week. Phone number of the cell is 2114.
- Complaints can be registered on emergency basis on this number.
- If more than one complaint is registered at a time priority will be decided by the AMS/DMS concerned.

### *SOP's for Complaints and Response to These Complaints*

#### **Complaint from Concerned Department**

- Registration of the complaint is the responsibility of the Charge Nurse concerned if the complaint is from a ward and Sanitary Inspector/Shift Supervisor if the complaint is from corridors or streets.
- Concerned department convey their complaint in writing through a complaint book e.g. if tube light is not working in ENT Ward the concerned Charge Nurse will convey it in writing " to check the tube light". However in case of emergency the complaint may be conveyed telephonically on 2114 whereas it may be given in writing afterwards.

#### **Response from M&R Department**

Officer in-charge (AMS/DMS) countersigns the complaint and instructs the concerned staff to a. check and repair in case of minor work b. check and report to him in case of major work

- In case of minor work the concerned M&R staff visit the site and write the required stuff on indent book of concerned department e.g. in case of non functioning of tube light in ENT Ward the electrician after checking the fault write down the required stuff which may be a chock, a starter or a tube rod on indent book of ENT department.
- Charge Nurse will receive the required stuff from general store through ward boy.
- She will call the electrician telephonically who will accomplish the required job.
- However in case of major work for e.g. water leakage from concealed pipe or breakage of electric supply, concerned staff check the fault and prepare a report.
- Technical opinion from engineer/technician is taken and a plan is prepared for repair work.
- Required store is bifurcated into tender items.
- Tender items are obtained from store.
- For non tender items estimated cost is obtained and approval / sanction are taken from competent authority for local purchase.
- Once the required store is available the repair work is completed by M & R staff or by a private contractor if required after the approval of the competent authority
- According to the nature of the work DMS (M&R)/ Coordinator(M&R) will brief the AMS(works) for the M&R work of long duration on daily, weekly or monthly basis.

### **Procedure-II**

- This procedure is recently adopted as a routine, M&R sewer men (Morning duty) visit the basement on daily basis and roofs of hospital on fortnightly basis. Similarly evening and night duty sewer men take round of hospital wards, whereas night duty electrician take a round of all the street and verandas.
- They note the complaint and inform the shift supervisor and take the remedial measures where required
- The shift supervisor will submit the report to AMS/ DMS in written form and in evening and night shift this report will be submitted to the AMS (Works)/DMS(M&R)/ C.O.( works) who will track down the remedial measures.

### **Procedure-III**

- Electrical and water installments (Transformer, Trolley, Generator, Tube wells, Sludge pumps etc.) are inspected by the concerned staff of M&R in routine according to the following schedule.

| S. No. | Installation | Responsibility     | Maintenance/ Checking Schedule |
|--------|--------------|--------------------|--------------------------------|
| 1.     | Transformer  | Line man           | Monthly                        |
| 2.     | Trolley      | Line man           | Monthly                        |
| 3.     | Generator    | Electrician        | Daily                          |
| 4.     | Tube wells   | Tube-well operator | Daily                          |
| 5.     | Sludge Pumps | Supervisor M&R     | Daily                          |

Note:-Tube well operator will maintain a log book which will be signed by the AMS (Works) / DMS (M&R).

- Any minor defect is reported to AMS/DMS in-charge and repaired at spot.
- In case of major defect report is prepared by concerned engineer/technician. along with estimates.
- Approval is taken from the competent authority.
- After sanction from competent authority work is completed either by M & R staff or by private contractor if required.

### **Major Works**

All major works which involve proper estimates are done through contractors after getting vetting and technical sanction of provincial building department. Works of less than Rs. 50,000 are awarded through quotations and works of more than Rs. 50,000 are awarded through tender notice.

SECTION - IV

SOP'S FOR PREVENTION AND CONTROL OF INFECTION



Medical Director Office, Holy Family Hospital Rawalpindi, March 2009  
•" Department of Medicine, Gastroenterology & Hepatology Division

## OCCUPATIONAL HEALTH RISK

### General Measures

- Initial and regular health screening and record of immunity.
- Incidence like needle sticks or cuts should be reported to supervisor.
- All skin lesions on hands should be covered with water proof dressing.

### *Minimal Requirement for Personal Protection*

- For feco-oral route: decontamination of hands.
- For air borne route: if possible restrict non-immune staff from patient care, common surgical mask don't provide adequate protection.
- For blood borne infections: care to avoid needle stick and sharp injury, avoid recapping of needles and after use, transfer to a puncture proof container.
- To handle blood contamination material, use no touch techniques and gloves.
- Wash hands after blood contact even if gloves are worn.
- Wash hands promptly after touching infective material (blood, body fluids, excretions, secretions, infected patients or their immediate environment and articles)
- Wear gloves when in contact with blood, body fluids, excretions, secretions, and contaminated items.
- Clean up spills of infected material promptly.
- Between each patient use, disinfect or sterilize patient care equipment, supplies and linen contaminated with infective material.

## BARRIER PRECAUTIONS FOR STUDENTS

### *Decontamination of Hands*

- Hand washing is the most effective way of preventing the transfer of bacteria between hospital personnel and patient within hospital.
- Gloves are NOT a substitute for hand washing. Hands should always be washed after removing gloves and also before wearing gloves.
- Social hand washing: with plain soap and water.
- Hygienic hand washing: with antiseptic detergent / Povidine iodine detergent preparation or with alcohol. 0.5 % chlorhexadine.

## HEALTHY BEHAVIORS ADAPTATION FOR PREVENTION AND CONTROL OF HEPATITIS A, B, C, D AND E

### 1. Health promotive & preventive behaviors for operators

Barbers / beauticians and other invasive groups (acupuncturists, ear / nose pierce workers, tattooists, traditional dental healers and zangeer zani groups) must assume that all blood and body substances are potential sources of infection, so it is best to use single use disposable items on all clients / patients.

- a. To make sure that all Barbers/Beauticians and Operators doing formal/informal invasive practices must be vaccinated against Hepatitis B.
- b. The best way to stop diseases from spreading is for the operator (Barbers) to wash their hands well. Before attending to any new client and after having finished with that client.

The following method ensures that the hands are free of germs:-

- a. Remove all rings, watches and relevant jewelry
- b. Wet hands with warm running water.
- c. Apply liquid soap, preferably anti-bacterial and lather well. Rub hands vigorously as they are washed.
- d. Wash all surfaces, including:
  - i. backs of hand
  - ii. Wrists
  - iii. Between fingers
  - iv. Under fingernails
  - v. Rinse hand well
- e. Leave the water running.
- f. Repeat steps 3 through.
- g. Dry hands with a single use towel.
- h. Turn off the water using the same towel, or with a paper with bare hands. NOTE:

When washing hands frequently, it is important to dry them gently and thoroughly to avoid chapping. Chapped skin breaks open, thus permitting bacteria to enter a person's system. Therefore, if one has to wash hands frequently they should apply hand lotion as needed to keep the skin soft and reduce chapping. Staff with skin lesions (open sores) or cuts on their hands should wear disposable medical rubber gloves or avoid direct contact with clients. There is no minimum standard for this protocol.

### 2. Protocols for cleaning equipment and instruments to be adopted by operators (Barbers/Beauticians and other invasive groups (Acupuncturists, Ear/Nose Pierce workers, tattooists, traditional dental healers and Zanjeer Zani groups)

- a. Equipment designed not to penetrate the skin must be thoroughly cleaned prior to re-using. Thermal disinfection is then recommended. If this is not possible it must be cleaned with a 70% alcohol wipe or swab.
- b. Equipment must be cleaned prior to disinfection (solution of hypochlorite 1000 ppm 25 ml in one liter of water) or sterilization to remove all visible organic matter and residue, as they may inhibit the disinfection or sterilization process.
- c. To avoid debris from drying on instruments, place items in a disinfecting bath

immediately after use.

- d. Rinse items in hot water (cool water if blood-soiled)
- e. Wash debris from items
- f. Rinse again.

**3. Protocols of disinfection (especially to be adopted in hospital/dental surgeries)**

- a. All equipment must be cleaned prior to disinfection.
- b. Disinfection can be achieved by chemical or thermal methods.
- c. Thermal disinfection can be achieved by boiling the instruments for five minutes or more.
- d. If this is not possible it must be cleaned with a 70% alcohol wipe or swab. Spirit or clear Phenolics are also suitable for wiping equipment and surfaces.
- e. Chemical disinfectants are also found as chemicals in everyday use e.g Hypochlorite or household bleach. Solutions of Hypochlorite (1000 ppm 25 ml in one liter of water) can be used for disinfection.
- f. Glutaraldehyde is a commercially available disinfectant and can be used to immerse instruments for disinfection.
- g. Time is an important factor to take into account when using disinfectants. For most at least 30 minutes soaking time is required.
- h. Equipment that can be used after disinfection must be stored in a clean, dry and dust free environment.
- i. Ensure the directions are followed for mixing and using disinfectants. If mixed incorrectly or stored for too long the disinfectant may become ineffective.

**4. Protocols to be adopted for sterilization**

- a. All equipment used to penetrate the skin must be sterilized.
- b. Equipment can be pre-sterilized and/or single use.
- c. If contact occurs between a sterile and un-sterile item, both items are to be considered un-sterile.
- d. The recommended method of sterilizing is autoclaving.



## **SOP'S FOR INJECTION SAFETY, DEVICE CONTROL AND HOSPITAL WASTE MANAGEMENT**

### **1. Sharp Safety**

Prevention of needle stick / sharp injury

- a) Take care to prevent injuries when using syringes, needles, scalpels and other sharps instrument or equipment.
- b) Place used disposable syringes and needles, scalpel blades and other sharp items in a puncture resistant container with a lid that closes.
- c) Such container must be located in all patient care and laboratory area where they are easily accessible to personnel working in these locations.
- d) Take extra care when cleaning sharp reusable instrument or equipment.
- e) Never recap or bend needle.
- f) Sharp must be appropriately disinfected and or destroyed as per the national standard or guidelines.

### **2. Disposal of Sharp Objects**

Sharp objects represent a threat for transmission of Hepatitis B, C and HIV. The following procedures must be adhered to ensure that this risk is minimized. Respective managers must ensure adherence to policy items.

- b) All sharp objects must be placed in designated containers only.
- c) Containers must be placed in all patient room and in convenient locations in all patient care areas.
- d) If a sharp object is opened from its sterile packing and not used it still must be disposed in the said containers.
- e) Normal waste must not be deposited in the sharp containers.
- f) Sharp objects must not be carried around or placed in pockets while working.
- g) Sharp objects must not be filled to more than 3/4<sup>th</sup> capacity.
- h) The containers should be carried out by designated persons from housekeeping and disposed off by incineration.

### **3. Exposure to Hepatitis Via Needle Stick or Splash**

Needles must not be recapped. If absolutely necessary, one hand technique should be used. Gloves should be used for all invasive procedures. Open wound must be covered with waterproof dressing. Protective eyewear must be worn if spray or splash is expected. If an exposure occurs the following procedure must be adopted:

1. Express any blood out of the punctured area.
2. The punctured site should be thoroughly cleaned with liberal amounts of alcohol.
3. Report the incident officially and report to your supervisor.
4. Obtain full information about the patient on whom the needle was used, especially in regard to Hepatitis B, C and HIV.
5. Report to the registrar ward (working hours) or the resident on call (after hours).
6. The registrar or the on call resident will:

a. Categorize the exposure

High risk

- Visibly bloody needle.
- Penetration 3mm or more into the skin of the employee.
- Mucous membrane or open wound splashed with blood or bloody fluid

Low risk

- No penetration by the needle, just a graze.
- No visible blood on the needle.

b. Categorize the patient

High risk

- Known positive HIV or Hepatitis B or C
- Risk factors HIV or Hepatitis B or C

Low risk

- No risk factors HIV or Hepatitis B or C

c. Determine vaccination status of the employee against Hepatitis B

d. Order Hepatitis B / C and HIV serologies on the employee.

e. Determine or order Hepatitis B / C and HIV serologies on the patient

f. Order appropriate action (in consultation with registrar or on call consultant if necessary)

- g. If the patient is HBsAg positive or is high risk for Hepatitis B and the employee is anti-HBs negative:
- Hepatitis B immune globulin (HBIG) (within 24 hrs) plus a single booster of hepatitis B vaccine if the employee was vaccinated already with 3 doses of the vaccine
  - Hepatitis B immune globulin (HBIG) (within 24 hrs) plus offer full 3 doses series of Hepatitis B vaccine if the employee was unvaccinated
- h. If the patient is HBsAg positive or is a high risk patient for Hepatitis B and the employee is Anti-HBs positive:
- No vaccination or HBIG
- i. If the patient is HBsAg negative or a low risk patient
- No vaccination or HBIG.

## WASTE DISPOSAL POLICY

Hospital waste comprised of waste generated of hospitals & other Health Care facilities commonly known as Health Care Waste.

This can be Sub-Classified into two varieties

- Clinical &
- Non Clinical

### **Clinical Waste:**

- Infectious waste
- Pathological Waste
- Sharps
- Pharmaceutical Waste
- Geno-toxic Waste
- Chemical Waste

### **Non Clinical Waste:**

- Paper
- Packaging
- Food Waste

According to studies at RMC & Allied Hospitals, Rawalpindi on average 1.5kg/bed/24 hours waste is generated. The bed strength of Holy Family Hospital, Rawalpindi is 850 so on an average 1275kg of waste is generated/day out of this 10% - 25% is risk waste which is 125 - 350kg/day. Hospital Waste Management team comprised of

|                           |          |
|---------------------------|----------|
| Medical Superintendent    | Chairman |
| Waste Coordinator AMS/DMS | Member   |
| Nursing Superintendent    | Member   |
| Registrar Surgical        | Member   |
| Registrar Gynae/Obs.      | Member   |
| Registrar Peads           | Member   |
| Pathologist               | Member   |
| Radiologist               | Member   |
| Sanitary Inspector        | Member   |
| Ward Master               | Member   |

Representative of Sanitation Department of District Govt.

The Waste Coordinator AMS/DMS has an overall responsibility for implementing the waste disposal policy. Each member of staff must ensure that they are aware of and abide by the requirements of that policy. SOP's should be followed.

Waste Management consist of *Waste Collection & Segregation*

It is the back bone of waste management, collection and segregation is done as follows:

### **Waste Containers**

| Color of Container | Type of Waste   | Final Disposal |
|--------------------|---|----------------|
| Yellow Container   | All waste (i.e. clinical waste) destined for incineration | Incineration   |

|                      |  |              |
|----------------------|--|--------------|
| Yellow Sharps box    | For disposal of used Sharps  | Incineration |
| Red Container        | Blood bags, body fluids and human tissues                                      | Incineration |
| Black Plastic Bucket | Normal household waste:<br>Not to be used to store or transport clinical waste | Landfill     |
| Cardboard box        | For aerosols, broken glass, glass bottles etc.                                 | Landfill     |

Blood bags, body fluids and human tissues are collected in the red container. They must be carefully handled and transported to final disposal by incineration.

Waste from non-disposable apparatus, i.e. suction bottles etc., must be poured gently into a sluice hopper and flushed away.

### **Closure and Handling**

The plastic bags should be secured in a foot operated lidded bin or carrier frame. The lid will bear of label denoting the category of waste.

The bags are sealed when three- quarters full. Lighter weight bags may be secured by tying the neck, while heavy duty bags require a purpose made plastic tie or closure. Staples must not be used, as they may cause a sharps injury to the handler.

The bags should be labeled:

- By writing on them with a suitable permanent marker,
- Tying by a label with the name of the department concerned clearly identified on it.

Waste handler should wear (Rubber Gloves, Long Rubber boots, facemask & Jackets) protective clothing when handling waste bags. The bags should be handled by neck only kept upright. To avoid injuries, do not put your hand underneath the waste bag while lifting.

### **Waste Transportation**

- Transportation of waste to the disposal site is the responsibility of the Sanitary Inspector.
- Waste is removed from clinical area daily according to the following schedule or more frequently if necessary.
  1. Waste generated during morning time till 01:30 pm
  2. Waste generated during evening and night time till 07:30 am
- For proper collection of the waste sanitary worker wear protective clothing like apron, rubber gloves, long rubber shoes and mask.
- Loaded trolleys should be covered in order to minimize spillage. If spillage occurs, this must be dealt with properly
- After closure the waste is transported by purpose made yellow colored transport trolleys to the storage room.
- Trolleys/should be cleaned regularly three times in a week.

### **Waste Storage**

- Waste is stored in the air conditioned storage room near the incinerator, which must be secured against unauthorized access to persons, pests or rodents.
- Waste is weighed to know that how much waste is generated per day per bed or in each ward.

- During storage of the waste Air conditioner is used to reduce putrefaction.
- Waste is not stored more than two days because pathogenic micro-organisms will multiply rapidly and increase the risk of contamination or disease transmission.
- Waste bags should be stored in a neat fashion to maintain safe handling procedures.
- The area should be cleaned when necessary and kept dry.

### **Incineration**

- Incineration is the complete combustion of infectious waste.
- Before incineration proper amount of waste is stored in the waste room so that whole process be completed within 2-3 hours this leads to save fuel consumption
- First the ignition burner is switched on and then the burners are run for at least 15 minutes, to maintain the temperature, without waste.
- After 15 minutes the temperature increases in the primary chamber the door is opened and waste is loaded in to the primary chamber where temperature starts increasing and waste burns out.
- Total capacity of incinerator is 120 kg/hr and about 25-30- Kgs. of waste is fed in each cycle and one cycle is completed in 15 minutes.
- For refining of ash or complete combustion of waste, more and more feed is required because with each cycle the temperature goes on increasing and the previous waste is burnt completely.
- During incineration note down the gases emission from the chimney if increased smoke is emitted the chimney flaps of the fans are adjusted accordingly so that black smoke can be controlled.
- After completions of the whole process properly follow the shut down procedure (almost 2- 3 hours are required to shut down the whole equipment).
- The hot water containing non hazardous particulate matters is drained out on daily basis.
- For the proper hospital waste management it is very necessary to analyze the flue gases released from the chimney periodically.

### **Removal of Ash**

Next day before starting the incinerator ash is removed.

### **Disposal**

Ash is disposed off properly into municipal container for final disposal in the landfill

## **SECTION- V**

### **SOP'S FOR SURGICAL ICU PATIENT CARE AND EQUIPMENT MAINTENANCE**



## **SURGICAL INTENSIVE CARE UNIT**

### **DVT and Thrombo-embolism Prophylaxis**

#### **Responsibility: MO/ Anaesthetist ICU**

- > Following will receive prophylactic treatment:
  - o After surgery for more than two hours
  - o After Orthopedic and neurosurgical patients
  - o Patients with prior history of MI, IHD, DM and valvular heart diseases
  - o Patients on anticoagulant therapy
  - o Patients requiring prolonged bed rest for more than three days
  - o Patients with increased risk factors like advanced age, obesity, varicose veins, previous VTE, thrombophilia, cancer, heart failure, estrogen therapy and immobility
- > Mechanical prophylaxis, drug prophylaxis or both would be used as indicated
- > Mechanical prophylaxis includes graduated elastic compressing stockings (GECS) and International pneumatic compression (IPC)
- > Drug prophylaxis include low dose UFH, LMWH and Warfarine
- > Mechanical prophylaxis given to those patients who are at increased risk of bleeding or deranged coagulation profile like head injury, severe sepsis etc.

## THORACIC EPIDURAL CATHETER CARE

**Responsibility:** MO/ Anaesthetist ICU/ sister in-charge patient

- > Always handle the catheter and filter with clean hands
- > Ensure that aspiration test is negative before injecting top-up dose
- > Each time check BP and HR before and ever five minutes for 15 minutes after each injection and if any change consult anaesthetist on duty immediately
- > Always cap the filter port after injection
- > In all patients remove the catheter after 72 hours
- > Always examine the tip of the catheter after removal
- > Apply ASD after removal of catheter



## NUTRITIONAL SUPPORT OF PATIENTS IN ICU

**RESPONSIBILITY:** MO/ Anaesthetists I/C ICU

1. Any patient who stays on ventilator for more than 24 hours will be given nutritional support.
2. Routes of nutritional support are:
  - a. Enteral
  - b. Parenteral
3. Calculate Caloric requirements by formula: 40 Kcal/Ikg/24 hours for adults and 100 Kcal/Ikg/24 hours for children below 10kg by weight.
4. In the initial phase (non-catabolic state) 60 -70% of the calculated calories are provided. However after 3-4 days once the patient goes into catabolic state, 100% of the caloric requirement is fulfilled.
5. Nutrients include:
  - a. Carbohydrates                      60 - 70% of the calculated calories.
  - b. Fats                                      30 - 40% of the calculated calories. Proteins are not included while calculating the caloric requirements. Proteins are given in a dose of 1 - 1.5 g/kg24 hours. If serum creatinine is more than 2 then proteins should be given about 1g/kg/24 hours.
6. Vit"C" 500 mg shall be given to every patient who needs nutritional support.
7. Multivitamins shall be given with macro and micro elements.
8. Details of nutritional support provided during last 24 hours must be recorded on Monitoring Chart.
9. Nutritional support be calculated for next 24 hours on daily basis in the morning round.

## CRITERIA FOR EXTUBATION IN ICU

**Responsibility:** MO/ Anaesthetists on duty

Following criteria MUST be met before ordering extubation of a patient in ICU

1. Neurological:
  - a. Awake.
  - b. No residual neuromuscular block, assessed by strong hand grip, head raising

and 3 out of 4 stimuli of train of four present.

- c. Co-operative
- d. Able to take deep breath and cough

2. Cardiac:

- a. Blood pressure stable i.e. within 10% of the prior basal reading
- b. Patient should be on low inotropic support
- c. No serious dysrhythmias e.g., runs of VT

3. Respiratory:

- a. Respiratory rate between 12 to 20/minute
- b. pH not <7.30
- c. Maximum Inspiratory pressure (MIP at least 25 cm of H<sub>2</sub>O)
- d. Acceptable Chest X-ray i.e. No evidence of gross pulmonary oedema or multiple or large peri-pneumonic consolidations
- e. No pneumothorax. If pneumothorax is found put the chest tube, expand the lung and then attempt to extubate

4. Renal:

- a. Urine output not less than 0.5 ml/kg/hr
- b. No sign of marked fluid overload

5. Temperature:

- a. Core temperature between 35 to 39 C°
- b. Core -peripheral temperature gap NOT > 5C°

## VENTILATOR CHECKLIST

**Responsibility:** MO/Anaesthetists in-charge of the case

1. Ventilator is placed besides the patient's bed at before patient's arrival
2. Electric and gas connectors are secured into appropriate wall sockets.
3. A new breathing circuit is attached to the ventilator for every patient. All filters are checked for proper functioning.
4. Artificial lung is attached to the ventilator.
5. Ventilator is switched on and following functions are checked:
  - a. Expired tidal volume is almost 'equal to' the set inspired tidal volume showing there is no major leak in the circuit.
  - b. Respiratory rate is same as set on the ventilator.
  - c. Ventilator is able to give 100% oxygen.
  - d. All available modes (CMV, SIMV, and PSV) are checked for proper functioning.
  - e. Expiratory pressure is within normal limits i.e., around 20 cm of water.
  - f. All alarm settings are reviewed and checked.
  - g. I: E ratio is around 1: 2.5
6. Ventilator is set according to patient's requirements by the MO/ anaesthetist before patient is shifted to ICU. General guidelines are:
  - a. Tidal volume                      7 - 10 ml per Kg Body weight 10-15/ min
  - b. Respiratory rate                10 then change according to the patient SaO<sub>2</sub>
  - c. FiO<sub>2</sub>                                25 -35 lit/ min.  
5-20 cm of water
  - d. Peak inspiratory flow        AC at the beginning then according to the patient
  - e. Sensitivity                        requirement 5 cm of water
  - f. Mode
  - g. PEEP

## PROTOCOL FOR STARTING VENTILATORY SUPPORT

**Responsibility:** Immediate: MO/ Anaesthetist on Duty.

1. If present or when required senior anaesthetist must do clinical assessment before starting

ventilatory support.

2. Criteria for starting ventilatory support:

- a. Respiratory rate > 35/min
- b. PCO<sub>2</sub> > 60 mmHg in a non-COPD case.
- c. PO<sub>2</sub> < 50 mmHg in a non-cyanotic heart disease patient
- d. Signs of muscle fatigue
- e. Sweating
- f. Metabolic failure

3. Complete preparation for rapid sequence intubation

- a. Ambu bag **MUST** be at hand
- b. Adequate size facemask **MUST** be at hand
- c. One larger and one smaller than the predicted size of Endotracheal tube (ETT) be available
- d. Adequate size laryngoscope blade
- e. Suction catheter **MUST** be at hand
- f. Magill's forceps **MUST** be at hand
- g. Style for ETT **MUST** be at hand
- h. Pre Oxygenate for three minutes

4. Ventilator should be set on:

- a. CVM for emergency ventilation and mode should be changed to SIMV + Pressure Support when emergency is over.
- b. Minute Volume, 100 ml/kg
- c. Tidal Volume, 10 ml/kg
- d. Respiratory rate, 20 / minute initially and according to age and ventilatory

requirements

e. I:E ratio, 1:2 f. FiO<sub>2</sub>,1

5. Deep sedation/ analgesia or induction agent may be used according to patient's requirement
6. If NG tube in place than suck out stomach contents first.
7. Give muscle relaxant and ventilate the patient while applying cricoid pressure
8. Confirm appropriate position of ETT, fix it and connect to ventilator
9. When possible get ABG's done 10 minutes before and 10 minutes after putting patient on ventilator and readjust the ventilator settings according to report otherwise treat clinically
10. Drugs which are already given must be continued during ventilatory support
11. CPR trolley & resuscitation drugs must be at hand
12. Get an X-Ray chest done as early as possible

## **CLEANING AND ASEPSIS OF VENTILATORS**

Responsibility: Nurse in-charge ITC.

1. Ventilator cleaning & asepsis will be carried out after every use.
2. Breathing circuits & humidified filter **MUST** be changed after every use
3. Only disposable breathing circuits must be used in ICU
4. External case of ventilator will be cleaned with damp cloth soaked in detergent daily
5. Change bacterial filter daily

### **Change of Breathing Circuit of Ventilators**

Responsibility: NCO in-charge ITC.

1. Breathing circuit will be changed for each patient
2. No breathing circuit will be used without bacterial filter
3. **ALWAYS** use disposable breathing circuit
4. In extreme emergency and lack of disposable breathing circuit a re-usable type can be used
5. Breathing circuit is dipped in Cidex (gluteraldehyde) solution for 2 hours then hanged till it is dry. After wards it is autoclaved before re use

## **CHANGE OF CONDENSER HUMIDIFIER OF VENTILATOR**

**Responsibility:** Nurse in-charge ICU

1. Filter and water of condenser humidifier will be changed after ever use
2. Only distilled water will be used in humidifier
3. Humidifier water level should be checked every two hours and level should be maintained

### **Removal of Chest Drains**

**Responsibility:** Nurse in-charge of the case.

While removing the drains ensure that:

1. There is no drainage for last 2-3 hrs (especially after change of posture & Physiotherapy)
2. Drains are removed in the presence of doctor or senior ICU nurse.
3. Patient be given prior analgesia.
4. It is carried out by two persons so that sutures around incision are immediately tightened to prevent pneumothorax
5. Aseptic dressing must be done afterwards.
6. X-ray must be repeated after removal of drains.

## **CHEST PHYSIOTHERAPY**

**Responsibility:** MO in-charge ICU

1. Must be done by two-hour basis
2. Should be done by two physiotherapists / Nurses / Paramedical staff
3. Physiotherapist must explain to patient even if patient is not full awake or is on ventilator
4. Nebulization & administration of some mucolytic agent must precede physiotherapy
5. Joints of all four limbs MUST be mobilized on every session of physiotherapy

### **Correction of Base Deficit**

**Responsibility:** Medical Officer

1. Use the following formula to calculate dose

$$\text{Dose:} \quad \text{Body wt(kg)} \times \text{base deficit} \times 0.3$$

2. Give half of this calculated dose
3. Give in 5 - 10 min
4. Correct if pH < 7.0
5. First correct Potassium and then deficit (because bicarbonate further 1 K by pushing it into cell)
6. In case of protracted CPR for > 15 minutes give @ 1 mmol/kg if ABG's not available
7. If ABG's are available then correct acid base according to pH value
8. In children double dilute it before giving



## **CARE OF CENTRAL VENOUS LINES**

**Responsibility:** Nurse in-charge of the case.

- ALWAYS keep three-way stopcock capped.
- After aspiration of blood, flush line with flushing fluid.
- NO blood should be visible in central venous line when not in use.
- Before applying cap, three-way connector shall be cleaned with spirit swab.
- Lines should be changed after 72 hours.
- Lines should be inspected daily for any signs of infection like redness, edema or any discharge.
- Lines should be dressed daily aseptically.

## CONTENTS OF EMERGENCY TROLLEY

### 1 DRUGS

| No. | Name of the Drug   | Concentration | Quantity |
|-----|--|---------------|----------|
| 1   | Adenosine  | 6mg / ml      | 03       |
| 2   | Adrenaline (Pre-filled syringe) Syringe labeled as ADRENALINE with Red | 1mg / 20ml    | 01       |
| 3   | Adrenaline (Pre-filled syringe) Syringe labeled as "AD" with Red       | 0.05mg / 20ml | 01       |
| 4   | Adrenaline (Ampoule)   | 1mg / ml      | 20       |
| 5   | Atropine (Ampoule)   | 1mg / ml      | 20       |
| 6   | Aminophylline (Ampoule)  | 250mg / 10ml  | 05       |
| 7   | Calcium Chloride (Ampoule)   | 1g / 10ml     | 05       |
| 8   | Calcium Gluconate (Ampoule)  | 1g / 10ml     | 05       |
| 9   | Cimetidine (Ampoule)   | 250mg / ml    | 02       |
| 10  | Decadron (Ampoule)   | 4mg / ml      | 02       |
| 11  | Diazepam (Ampoule)   | 5mg / ml      | 05       |
| 12  | Digoxin (Ampoule)  | 0.5mg / ml    | 02       |
| 13  | Furosemide (Ampoule)   | 20mg / ml     | 10       |
| 14  | Hydrocortisone (Solu-cortef) (Ampoule)                                 | 100mg / ml    | 05       |
| 15  | Lignocaine (2%) without Adrenaline Pre-filled Syringe                  | 2g / 10ml     | 05       |
| 16  | Lignocaine (2%) without Adrenaline (Ampoule)                           | 2g / 10ml     | 05       |
| 17  | Metoclopramide (Maxalon) (Ampoule)                                     | 10mg / ml     | 05       |
| 18  | Morphine (Ampoule)   | 15mg / ml     | 05       |
| 19  | Pancuroium (Ampoule)   | 4mg / 2ml     | 05       |
| 20  | Potassium Chloride (Ampoule)   | 25mmol / 25ml | 05       |
| 21  | Sodium Bicarbonate (Ampoule)   | 8.7%          | 05       |
| 22  | Suxamethonium (Ampoule)  | 100mg         | 02       |
| 23  | Vitamin K (Ampoule)  | 10mg / ml     | 05       |

### 1 FLUIDS

| No. | Name of fluid                      | Concentration | Quantity |
|-----|------------------------------------|---------------|----------|
| 1   | Glucose                            | 5%            | 02       |
| 2   | Glucose                            | 10%           | 02       |
| 3   | Glucose                            | 25%           | 02       |
| 4   | Hemecel / Haes-Steril / Gelafundin |               | 02       |
| 5   | Normal Saline                      | 0.9%          | 02       |
| 6   | Ringer's Solution                  |               | 02       |

## EMERGENCY DRUG TRAY

**Responsibility:** MO/ Anaesthetist in-charge ICU

Under-mentioned drugs should be kept readily available at patients bedside in concentration given against each drug in pre-filled syringes, when indicated.

|                     |                       |
|---------------------|-----------------------|
| 1. Adrenalline      | Img in 1ml 1: 1000    |
|                     | Img in 10ml           |
|                     | 5mg in 5ml Img/ml     |
| 2. Atropine         | Img in 1ml            |
|                     | Img in 10ml (diluted) |
| 3. Calcium Chloride | 1G in 10ml (10%)      |
| 4. Lignocaine       | 200mg in 10ml (2%)    |
| 5. Soda Bi-carb     | ImEq/ml (25ml)        |
| 6. Nalbuphane       | Img/ml (20ml)         |
| 7. Morphine         | Img/ml (15ml)         |
| 8. Pancuronim       | 4mg/2ml               |
| 9. Midazolam        | Img/ml (5ml)          |
| 10. Atracurium      | 10mg/ml (2.5ml)       |

Five extra ampoules/ vials of the above drugs will also be present in the tray.

## **PREPARATION OF DRUG INFUSIONS**

**Responsibility:** Nurse in-charge of the case.

**To prepare infusion of:**

### **1. Dobutamine/ Dopamine/ Lignocaine**

- a. Add 6mg of drug x body wt in kg / 100 ml of fluid
- b. Add 3mg of drug x body wt in kg / 50ml of fluid

**NOW**

Micro drops / min= pg/kg/min (in case of "a" above)

**OR**

ml / hour = pg/kg /min (in case of "a" above)

### **2. Adrenaline / Isoprenaline / Noradrenaline / Phenylephrine**

- a. Add: 0.06mg of drug x body weight in kg / 100 ml of fluid
- b. Add: 0.03mg of drug x body weight in kg / 50 ml of fluid

**NOW**

p / kg / min = .01 micro drops/min (in case of "a" above)

**OR**

p / kg / min = .01 ml/hr (in case of "b" above)

**3. ALWAYS** mark the name of the drug clearly on the burette/syringe and at the point of attachment of infusion with the three-way stopcock near the patient

**4. ALWAYS** mark the **strength of the drug** on the burette/syringe

**5.** In case exact amount of drug calculated above could not be added to the infusion mark the multiple of the amount of drug used, as "strength" on the burette.

**6. ALWAYS** prepare infusions after wearing gloves and facemask on a trolley / tray covered by sterile towel.

## **INFECTION CONTROL PROCEDURES IN ICU**

### **1. Waste Disposal Policy:**

- a. Categorization of waste

**1. No Risk waste:**

1. General waste such as papers, unused tubing, packing of drugs and infusion bags etc.
2. Cooked food or food related waste

**2. Risk waste**

1. Infected Waste
    - a. Human Blood and blood products
    - b. Collections from Chest Drains
    - c. Empty Syringes (Note: ALL SYRINGES MUST BE CUT BEFORE DISPOSAL)
  2. **Sharps**
    - a. Used and unused hypodermic needles (Note: all needles must be cut before disposal)
    - b. Style of peripheral cannula and central venous lines
    - c. Empty glass ampoules
  3. **Chemical Waste:**
    - a. Expired drugs
    - b. Disinfectants and germicides used for cleaning
  4. **Human Biological Waste:** Parts of Human body amputated during surgery
  5. Radiological Waste
- b. Separation and Disposal: Separate the waste according to following colour coding system:
1. No Risk waste: Throw it in Black coloured bucket containing Black coloured polythene bag, when filled dispose off this black bag.
  2. Risk waste: Throw it in yellow coloured bucket containing yellow coloured polythene bag, when filled dispose off this yellow bag.
  3. Sharps are kept in a puncture proof hard bag, which is of yellow colour.
  4. Disposal Points (DPs): There we disposal points in different areas from where waste is collected at least twice a day.
  5. Collection of waste: Waste is collected from DPs at 10:00 hours and 18:00 hours
  6. Disposal of collected waste: All bags are collected from the whole hospital twice in a day they are carried to a place outside the main hospital building.

- 2. Cleaning the hospital:** Cleaning the hospital is carried out at least twice a day unless required more frequently e.g., in OT or ICU. Sweepers are not allowed to use "Jharoo" or pucharas any where in the hospital. Garbage is collected at the spot and then thrown away according to waste disposal policy. Floor is than disinfected with phenyl. Floor

polishes are not allowed because it may cause injuries to the patients and relatives and attracts dust.

- 3. Cleaning and disinfection of bathrooms:** Bathrooms are cleaned at least twice a day unless needed more frequently. Toilet bowles and wash basins are cleaned with detergent and then disinfected with phenyl. More permanent stains cleaned with carbolic acid in

strength of 1/20.

4. **Special Dresses in more Vulnerable Area's:** The whole staff of ICU wears special dresses. Once changed to the specific dress nobody is allowed to leave the area without changing back to street clothes. ICO checks any violation of this order by his monthly surprise rounds and can send report of violation to the administration department and the violator may be fined or punished.
5. **Change of Shoes, Caps and facemasks in ICU :** No individual is allowed to enter in ICU without changing shoes provided for the purpose. Visitors and Doctors who are supposed to go nearer to the patients in ICU must also wear cap and facemask, sister in- charge of the ward is responsible for compliance of this order.
6. **Disposal of Syringes:**  
Following points get special stress:  
ALWAYS freshly opened syringe is used.  
Already opened syringe is NEVER used except from emergency trolley, where few syringes are kept pre filled for emergency.  
All Syringes and needles are CUT before disposal.
7. **Washing of Hands:**  
All Doctors must wash their hands and apply sterillium just after entering ICU and in between the examination of every patient.  
All visitors entering ICU must wash their hands with soap and apply sterillium.  
All nurses must wash their hands after ever handling of patient and apply sterillium.

## REPLACEMENT OF POTASSIUM

Responsibility: Nurse in-charge of the case

1. Keep potassium above 4.0mmol / L
2. If less than 2.5mmol/L replace the deficit
3. Calculate deficit by Formula:

$$0.4 \times \text{Body Weight (kg)} \times (5.0 - \text{lab value})$$

4. Time: Give in 30-45 min IV infusion
5. DO NOT give more than 1 mmol/kg in <30 minutes.
6. Adults should not be given more than 25 mmol in one hour
7. ALWAYS give it through central venous line because it causes pain if given in peripheral line
8. ALWAYS mark the burette clearly as "Potassium Infusion"
9. ALWAYS give potassium through syringe pump / drip counter / dial-a-flow which could give higher accuracy and there is no danger to RUN the potassium in
10. NEVER give potassium in an uncontrolled drip
11. DANGER: Patient can be KILLED if potassium is given faster than recommended

rate

## **CHANGE OF PATIENT'S POSITION IN BED**

**Responsibility:** Nurse in-charge of the case.

1. Must be done two hourly unless specified otherwise
2. Should be done by nurse in charge of patient
3. Always move whole body i.e. neck with trunk in case of spine injury
4. One person will hold the ETT (if pt is on ventilatory support) and / or neck of patient while other two will move the trunk
5. During every change of position:
  - a. Sponge the patient with Luke warm water
  - b. Disinfect with cloth soaked in chloroxenol solution (Detol)
  - c. Apply talcum powder
  - d. Perineal & urethral areas are cleaned with normal saline soaked towels
  - e. Soft support (pillows) are given on one side & between the legs
  - f. Massage legs and heels
  - g. Keep heels over soft things like gloves filled with water
  - h. Look for the pressure sores on pressure areas.



## **VISITOR POLICY IN ICU**

### **Visitor Policy:**

1. No attendants allowed to stay with patient
2. Only one visitor at a time can go and have a look at his patient
3. In ICU ever visitor
  - a. MUST change there shoes at the entrance provided by ICU staff
  - b. MUST wear a gown over his/her clothes provided at the entrance
  - c. MUST not touch anything / anybody in ICU
  - d. MUST not touch his/her patient without permission
  - e. MUST not bring any utensil/ eatable for his/her patient
  - f. Must not stay for more than 3 minutes inside ICU
4. Rights of admission are reserved and are on the discretion of MO/ Anaesthetist on duty
5. Mothers of breast-fed babies shall be allowed to stay with their babies for a limited time when they come to attend their babies they:
  - a. MUST wash their hands with soap and apply "Sterillium" before attending their child
  - b. MUST be clean and neat in dress
  - c. MUST change their shoes and wear ICU gown before entering in ICU
  - d. MUST leave the ICU when asked for

## CLINICAL AUDIT

### > Purpose and Scope:

1. To know the amount and type of work load every month.
2. To find out number and type of clinical complications during and after surgery and prevent their occurrence
3. To analyses cause of peri-operative and postoperative mortality and find out solutions for avoidable causes

### > Agenda:

1. Following matters will be discussed in every meeting of the clinical performance audit (CPA):
2. Preoperative and postoperative mortality of previous two weeks
3. Cardiac arrests in ICU and operating theatres
4. Septicaemia
5. Prolonged Ventilation
6. Re-openings
7. Low cardiac output syndrome (LCOS)
8. Recommendations from previous audit

### > Quorum:

1. Following will attend unless engaged in some other clinical work
2. Senior most Anaesthesiologist
3. One of the senior surgeons
4. Members:
5. All available Anaesthetists
6. All available surgeons
7. MO IC ICU
8. Sister IC ICU

### > Schedule:

1. Meeting will be held the last Friday of every months at 10:30 hours
2. Venue: Conference room at NOT

**> Procedure:**

1. The senior most Anaesthetist will be responsible for over all discipline and make sure that the meeting is held on regular basis as per schedule
2. Designated surgeon/Senior registrar of concerned unit will prepare a summary of all complications and deaths during previous three weeks and prepare the minutes of the meeting on two separate registers which will be:
3. Mortality register, All mortality and minutes of the audit concerning to the individual complications will be recorded on this register.
4. Morbidity register, All types of complications and the minutes regarding the individual complications will be recorded on this register.
5. Every member is required to make his/hr comments and suggestions during the discussion, which has to be short, and to the point
6. If the chairman feels that a member is involving him/her self in unnecessary and/or personal discussion he can stop the discussion at that level and ask other member to continue the discussion