

Medical Teaching Institution Mardan Medical
Complex, Mardan



Standard Operating Procedures
2017

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SOP's FOR ACCIDENT & 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 yourself.
- ✓ 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.

Sign outs

- ✓ For on-call batch, outgoing 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, auscultation 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:
 - ③ Gloves
 - ③ Masks
 - ③ Careful needle/sharp object handling
 - ③ Prophylaxis in cases of exposure if indicated (e.g. meningococemia).
 - ③ 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)

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.

SOP's FOR INTENSIVE CARE UNIT

1. All shifts should follow strict timings:
 - a. Morning 07:30 14:00
 - b. Evening 13:30 20:00
 - c. 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 is buying 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.
7. **No VIPs/protocols or non-bed availabilities in other wards should be considered.**
8. 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.
9. **No chit system** will be entertained; the house officer of concerned department on call will be present at all times.
10. House Officers/Medical Officers/Registrars rosters of all departments should be displayed on ITC notice board.
11. All non-concerned doctors/staff will enter inside ITC after changing shoes.
12. Staff/Doctors on duty in ITC will not leave their place of duty in any case.
13. A complaint box will be placed in ITC for complaints of patients/attendants of ITC.
14. Any complaints/problems/suggestion by any doctors/staffs or any hospital employee concerning ITC should be submitted with In Charge ITC.
15. No visitor of any duty staff/doctors of ITC should be entertained during duty hours.
16. There will be **three shifts in-charge nurses** and they will have their own medicine cupboards and maintain their record.
17. 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 Canola?
- 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 equipment.
- Any discrepancy should be reported to concern DMS/AMS in writing and record should be kept for every application.

Admission Criteria

- Pre-post of patient in shock (Hypovolumic & Shock)
- For total parental nutrition
- Post of major surgery e.g. total colostomies, Esophagectomies, gastrectomy
- Patient with multiple injuries (e.g. FAI)
- DIC
- Delay recovery from GA
- Patient requiring mechanical support e.g. ventilator, dialysis
- Patient with metabolic crisis or electrolyte imbalance, organ failure, shock (septicemia, hypovolumic)
- Comatose Patients, CVA, Infections, Meningitis, Encephalitis, Poisoning etc.
- 2 beds for tetanus patients
- The patients are admitted in ICU from medical & allied as well as surgical & allied wards with medical problems

❖ Round System

Morning:-

- Daily progress will be taken by the HO, MOs and TMOs.
- Documentation with time and date written clearly.
- The morning round will be supervised by the Sr. Reg. and M.O will present beds,
- If beds are allotted then MOs will present their respective beds.
- HO should be encouraged to present beds and supervised.

- During rounds The patient, his relatives attendants should be properly informed about the disease, state/ condition of the patient and prognosis
- If a procedure or referral is planned during the round it must be explained to the patient or his relatives.

Evening:-

- Evening round to be done on regularly basis irrespective of any holidays.
- Senior Rg. must supervise the evening round.
- HO and MO on duty must be present in the evening round and present their respective patients per SICU protocols.
- All orders, examination findings, unusual findings and treatment plans must be clearly documented and signed. Name of the responsible doctor should be written clearly under the signature.
- Any new development or change of plans must be explained to the patient or his relatives.
- Proper handover and takeover to be undertaken with clear documentation on the chart of the patient.
- This applies to doctors and nursing staff.

❖ Infection control

- Shoes and overall must be taken before entering the ICU.
- Wash hands before and after examining patients and
- Relatives must wash hands before touching their patients.
- Relatives and attendants accompanying the patients must be discouraged and
- Clearly told not to bring any unnecessary personnel belongings to the SICU.

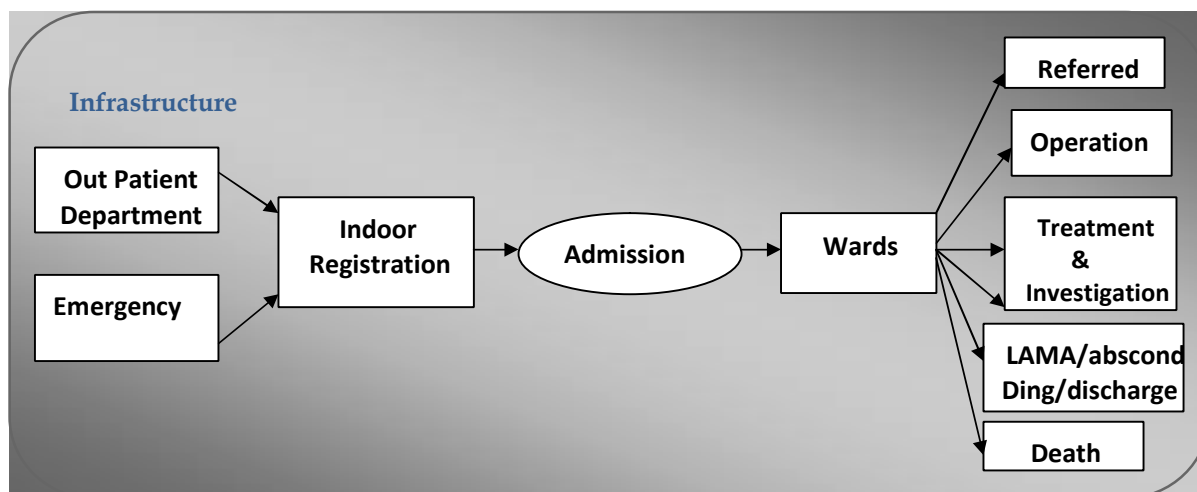
Protocols for I/V LINE

1. Wash hands
2. Pass by staff nurse/4th year nurse
3. Explain procedure to the patient
4. Take consent
5. Clean area with spirit swab
6. Share the area if needed
7. Spread plastic sheet
8. Pass I/V line in sterilized way, check with saline and stabilize with Michigan sticking
9. Change after three days

Attendant policy:

- Visitor pass must be issued to the attendant accompanying patients admitted in the ICU.
- Rupees 100 (refundable) deposited for each pass with the charge nurse and document in the register.
- Visitor pass collected by charge nurse when patient is discharged.

SOP's FOR INDOOR PATIENTS



❖ Wards:

✓ The wards are usually of two types:

- Nightingale type: The beds are aligned perpendicular to the wall.
- Cabin type: 4-10 beds are kept in the cabin which reduces Nosocomial infection.

✓ The distance between two beds should be 6ft from the centre of the beds. This is required for two reasons mainly, one for the free movement of the trolleys/ wheelchairs and secondly to reduce nosocomial infection.

✓ There should be bedside lockers along with all the beds

✓ The wards must be well illuminated and ventilated.

❖ Human Resource:

- MO in charge of the ward must take rounds periodically.
- Staff Nurse: One Staff Nurse /6beds/ Shift in general ward.
- One Staff Nurse /4beds/ Shift in private ward
- One Staff Nurse /bed/ Shift in ICU.
- Class IV employee:
- One Aya and one ward boy and one sanitary worker/Shift

❖ Process:

The Inpatient department includes

1. Admission of Patients
2. Treatment of the patient
3. Investigations.
4. Operation
5. Information of Medico Legal cases to Police.
6. Physiotherapy
7. Counseling
8. Discharge.

❖ **Process or Provision of care:**

1. Patients transferred to the hospital with I.V.line and indwelling catheter should be changed with new, on arrival into the Hospital.
2. At the time of admission patient should be provided fresh linen. Patient linen should be changed every day or as and when it is soiled.
3. Care should be taken that soiled linen should not transmit infection to other wards.
4. Aseptic techniques are to be followed.
5. All invasive procedures should be done by nursing staff only after wearing gloves and following universal precautions.
6. During shift change the nursing staff should give a detail description in regards to condition of the patient and the treatment being given in the handover register.
7. Infected Patients should be treated in the Isolation room as far as possible.
8. During the rounds by the consultant the instruction given by the consultant should be thoroughly recorded and followed by the nursing staff.
9. If the patient is absconding from bed for more than 30 minutes the same should be recorded and reported to the authorities.

I. Investigation:

- ✓ For pathological investigation, sample may be taken from the ward and be sent to the laboratory for investigation.
- ✓ The reports of the same will be sent to the wards / collected from laboratory for further course of treatment.
- ✓ The non-ambulatory patients are shifted for radiological investigations like X – ray, USG or CT scan by wheel chair or stretcher.

II. Operation Theatre:

As per the instruction of the surgeon, Pre-operative Anesthetic Checkup (PAC) should be done before the patient is shifted to the OT and post-operative care is provided in the wards.

III. Medicines and Ward Store:

1. All the inventories of drugs, linen and other utilities should be maintained properly.
2. FIFO system of inventories should be followed for drugs.
3. Stock registers and daily medicine expenditure register should be maintained.

IV. Equipment:

1. Oxygen cylinder with key and Disposable mask
2. Suction apparatus (electric/ foot Operated)
3. Laryngoscope with end tracheal tubes.
4. Torch
5. Stethoscope
6. BP apparatus
7. Thermometers

V. Medico Legal cases:

All records of the medico legal cases should be kept in the wards with the file clearly mentioning “MLC” in red ink at the top of it.

VI. Physiotherapy:

Bedside physiotherapy is provided to all the patients who require the same. If any specific treatment is required, patient may be shifted to the physiotherapy unit.

VII. Counseling:

Counseling of patients as well as relatives/ attendants regarding the course and fate of the treatment should be done with due privacy.

VIII. Important Instructions:

1. All the wards should maintain the emergency drug list and emergency drug tray.
2. Indiscriminate movement of the people in the I.P.D. area should be discouraged. Visitors’ time into the IPD should be fixed, displayed and properly maintained.
3. Once in month the beds along with patients should be wheeled out so that the floors may be thoroughly cleaned.
4. Reusable items should be properly sterilized or autoclaved.

❖ **Performance Indicators**

The following performance indicators should be analyzed and displayed in the IPD Nursing station.

1. **Bed Occupancy Rate:** $\frac{\text{No of patient days (based on discharges) during a given period} \times 100}{\text{Bed complement days during the same period}}$
2. **Average Length of stay(ALOS):** $\frac{\text{No of patient days during a given period}}{\text{Total discharge (including deaths) during the same period}}$

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 Canola?
- ✓ 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 in-charge 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 otherwise 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, outgoing 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

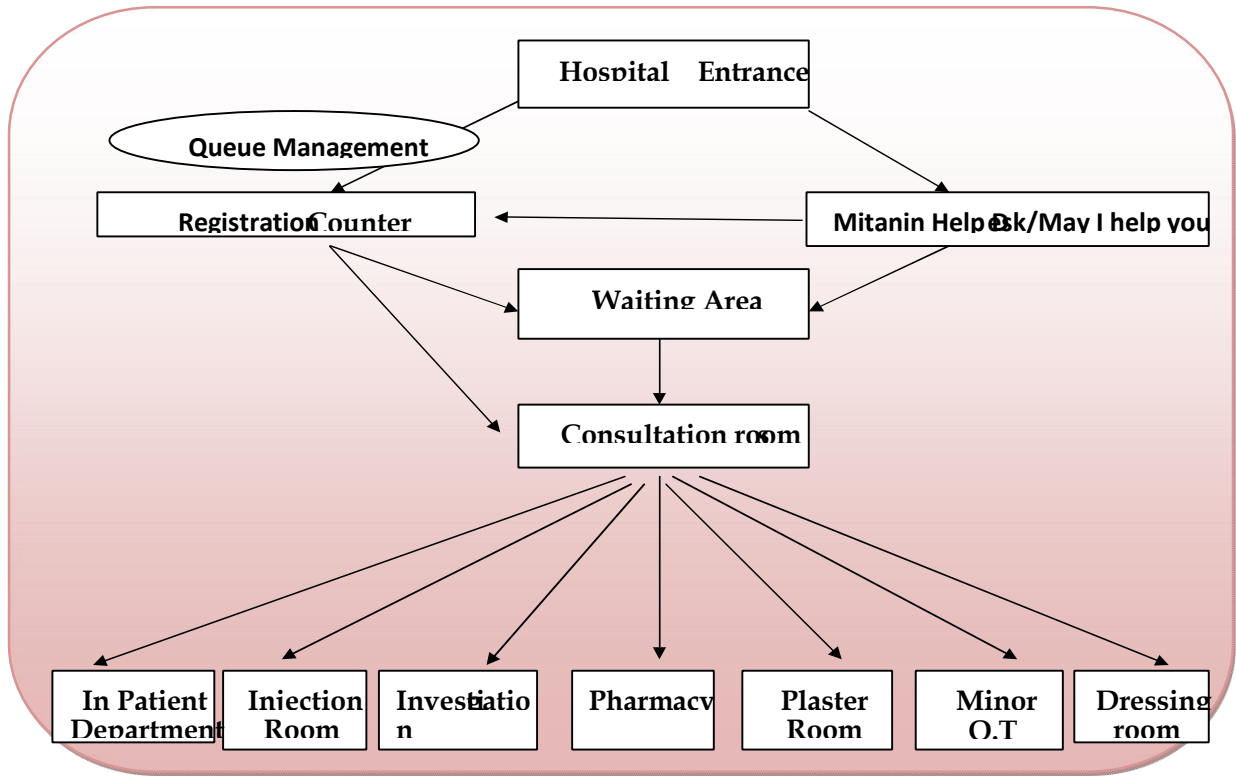
- ✓ DNAR (Do not attempt resuscitation) status should be decided after discussion with consultant on call.
- ✓ On being called to pronounce death, you must perform certain steps. oOn arrival to bed side observe for respirations, auscultation for heart sound palpate for pulse, check pupils and corneal reflex.
- ✓ 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.

SOP's FOR OUT PATIENT DEPARTMENT

➤ OPD-Layout



➤ Background:

OPD is the mirror of the hospital, which reflects the functioning of the hospital being the first point of contact between the patient and the hospital staff.

Patients visit the OPD for various purposes, like consultation, day care treatment; investigation, referral, admission and post discharge follow up. Not only for treatment but also for preventing and promotive services like, health check up, Immunizations, Physiotherapy and so on.

Knowing the importance of OPD services, let us know more about the OPD services in a simplified manner in this presentation on Organization and Management of OPD Services below:

❖ Duty Timing:-

- ✓ 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 ENT 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 outpatient 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 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.

Duty Timing

- ⌚ 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.

SOPs for Multidisciplinary Surgical Critical Care
Surgical Procedures

Purpose:

To describe the requirements for performing surgery.

Scope:

Patients will avail the approved protocols established for health care services.

Responsibilities:

In-charge surgery must ensure all personnel performing or assisting with surgery are trained in this SOP. Only qualified professionals are authorized to perform anesthesia and surgery.

Procedure:

Major surgeries must be conducted in approved surgery suites which meet all required Govt: standards. Minor surgeries may be conducted in the treatment area of the facility.

Designated surgery area: OT

- The surgery area must be easily sanitized.
- The surgery suite should not be used for other purposes during the time of surgery and traffic in this area should be minimized.
- Prior to and between surgeries, clean and disinfect the surface upon which surgery will be performed.
- Commonly used disinfectants are quaternary ammonium compounds; household bleach diluted 1 part to 32 parts water, chlorine dioxide-based sterilant, chlorhexidine, or other antimicrobial agent.
- Disinfectants must be prepared and used according to the manufacturer's recommendations.

Use of sterile instruments:

- Surgical instruments must be sterilized. Several techniques (steam, dry heat, ethylene oxide, or chemical agents) can be used to sterilize instruments and other materials that will come in contact with the soft tissues. /cloth.
- Steam or dry heat is the preferred methods to sterilize surgical instruments.
- Chemicals used to sterilize surgical instruments must be classified as a sterile and not a disinfectant.
- Chemical sterilants typically require a contact time of 6-24 hours, depending on the chemical used. Chemical sterilants must be prepared and used according to the manufacturer's recommendations.
- All instruments sterilized by chemicals must be rinsed in sterile water before use in tissues. When performing surgeries on multiple patients, a newly sterilized instrument pack must be used for each patient.

Aseptic technique:

- Preparation of patients-(as approved in a protocol)
- Clean and aseptically prepare the surgical site –

- Preparation of the surgeon -Surgeons must wash their hands with a surgical scrub; wear a cap and mask, sterile gloves, and sterile gown. A new pair of sterile surgical gloves must be used for each patient.

Monitoring:

- Monitor the patient carefully during the surgical procedure.
- Anesthetized patients must not be left unattended during the procedure.
- Surgeons must pay close attention to the patient's heart rate, respiratory rate, and body temperature.
- Assess the patient's depth of anesthesia prior to making an incision.
- Evaluating the patient's response to surgery (increased respiratory rate, movement) will also help determine the anesthetic depth.

Records:

- Post-surgical records must be kept in the room/ward where the patients are shifted the duration of post-operative care.
- All daily observations and treatments must be recorded in the patient's medical record.

Training:

- In-charge surgery is required to ensure all staff conducting or assisting with surgeries are appropriately trained and that training has been documented.

Patient Preparation for Surgeries;

- ✓ A written , informed consent is a must, duly signed by the pt. his/her immediate relative & the HO or MO
- ✓ Certain aspect must be made in writing, for example amputations, mastectomy, the need for permanent stoma etc.
- ✓ Common complications should also be mentioned in the consent form
- ✓ Should the patient refuse surgery this should be in writing in the presence of a relative & signed by the patient, relative & doctor?
- ✓ The side to be operated upon should be marked.
- ✓ The nurse should make sure that the site to be operated on is shaved, jewellery & dentures removed & all valuables left to a relative. She should know which patients are due for surgery & that they are shifted to the OT in time. All pre medications & investigations such as fasting blood sugar & early morning KUB should be positively done & sent with patients. The HO concerned should make sure that the patient is prepared properly. The HO staying in the ward on OT day should be present early in the ward & make sure that all these steps are carried out.
- ✓ During the evening round before the OT day, the registrar should make sure that the patient has the necessary requirements for surgery and calls to any department made if necessary.
- ✓ Ideally a copy of the OT list should be intimated to the OT after OPD and one of the anaesthetists concerned with the ward, should carry out a round on the day before surgery, so that necessary requirements are fulfilled. The anaesthetist should ideally carry out his round with the registrar at a time convenient to all.
- ✓ All preoperative investigations including hepatitis and HIV screening should be carried out before the patient is admitted so that they are ready for timely intervention

if needed. They would prevent unnecessary delays, and wastage of time as well as resentment on the part of patients for having to be admitted only to be deferred or have a delay.

- ✓ Containers for specimens should be available with patients and should be properly marked beforehand by the House Officer concerned showing the name, bed number, ward and specimen name.

SOPs for Surgical ward

Attendance, punctuality and leave:

- ✓ Senior Registrar should maintain an attendance register of the House Officers, Medical Officers and Registrar
- ✓ The Registrar must ensure the presence of nursing staff, dispensers and auxiliary staff.
- ✓ Habitual late comers or absenteeism should be reported by the SR to the MS who should warn such doctors and later on after the recommendation of the Professor in charge either be transferred or his/her services terminated. The Dean PGMI should additionally be informed in case trainees.
- ✓ Leave if needed should be applied for two days in advance. This should be signed by a substitute and Registrar and forwarded by the SR to the MS. Leave for unforeseen emergencies must be communicated to the Registrar.
 - ✓ A House Officer is allowed a total of ten days leave during a six month period. A trainee is allowed days per year.
 - ✓ A Medical Officer is allowed 25 casual leaves per year. A House Officer and Trainee is allowed days per year. A Medical Officer is allowed 25 casual leaves per year.
 - ✓ A House Officer and Trainee will have to compensate by leaves per year.
 - ✓ A House Officer and Trainee will have to compensate by additional days in their training should their leave exceed the allotted number of days allowed.
 - ✓ The leave Register must be maintained by the SR.

Admission to Surgical units:

- ✓ All patient needing admission should be offered admission irrespective of whether they have been seen in a private clinic or in OPD. Emergency patients will take priority as well as those needing urgent surgery eg. Cancer patients.
- ✓ Elective admission should be done after the patient is seen by a person of SR level and above. The admission should be justifiable
- ✓ Should a consultant see a patient in his / her private clinic & refer him/her to the casualty as an emergency case, the patient should be managed accordingly whether the particular consultant belongs to that ward or not. The patient may be shifted to the ward the consultant belongs to, only if he/she has requested to

Admission to Private Rooms

- ✓ Medico legal cases & emergency cases should not be admitted to private rooms
- ✓ No patient should be admitted to the private room without the approval of a member of the teaching staff of the ward
- ✓ Patients with cardiopulmonary problems, if admitted to private rooms should stay in the ward for at least 24 hours post op

History Sheets

- ✓ Patient clerking must be done by the house officer at the earliest possible time following admission. This should include proper examination of relevant systems & a note of chest findings, BP, Pulse
- ✓ TMO notes & plans in writing are mandatory, especially in emergency cases. However resuscitation of the patient will take priority
- ✓ Daily morning & evening progress report should be recorded by the HO & TMO

Duty Rotas

- ✓ These should be made by the SR or Assistant Professor of the ward & should include duties in minor OT, recovery room & ward
- ✓ The doctors on duty have to be physically present in the ward
- ✓ The HO & TMO can leave the ward after their duty is over only when the next doctor on duty has arrived. However doctors on duty in the afternoon & night shift should all be present in the evening round.

10. Doctors should communicate with each other at the time of change of duty ie they should inform the next doctor on duty the status of serious patients etc

Academic Activities:

- ✓ The SR will prepare a list of academic activities to be held on “free days” in liaison with the professor of the unit
- ✓ The HO & TMO must attend classes & demonstrations/ seminars being held in the ward

Emergency Patients

- ✓ The registrar should ensure that the emergency drugs, disposables & equipments is available at all times & in working condition
- ✓ Emergency patients should be promptly attended by the HO & TMO. The registrar should see all emergency admission & record important observations. Should he/she be busy in OT, he/ she should be informed.
- ✓ Every effort should be made to resuscitate patients if indicated according to ABC protocol
- ✓ Emergency patients should be closely monitored & findings recorded & dealt with.
- ✓ Only stable patients can be shifted out of the ward for important investigations.
- ✓ Important surgical interventions should be done on the same day if the condition of the pt permits
- ✓ TMOs can perform emergency surgeries according to their year of training only under the supervision of the registrar SR. Should the SR face difficulty he/she should call his next senior.

OPD

- ✓ All doctors should be available in the OPD.
- ✓ The Dispenser should make sure that the OPD is clean, the instruments sterilized, disposables available and all equipment and lights etc in working order.
- ✓ The staff should make sure that patients are asked to wait for their turn to prevent unnecessary chaos.
- ✓ Relevant information should be written on the OPD chit and signed.
- ✓ All patients due for surgery should be assessed for co morbid conditions, their BP and pulse noted and chest examined. They should be referred for an assessment for fitness if needed. Two or three doctors can use a separate room in the OPD for patient workup etc.

- ✓ All patients due for surgery should be advised investigations before admission. These should be seen and corrected if possible, before the patient is admitted.
- ✓ A waiting list should be maintained by each ward ideally mentioning the patients contact number and address.
- ✓ Unforeseen delays should preferably be communicated to the patient.

Operation theatre:

- ✓ All OT notes should be complete and then recorded in an OT register.
- ✓ The House Officers should ensure that all specimens are sent and received in the ward.
- ✓ The chief OT tech is responsible for the cleanliness and discipline of the OT.
- ✓ Swab count should be maintained at all times by one member of the operating team and the same nurse or OT tech. ideally this should be written on a board.
- ✓ A House Officer and Trainee of the ward should be present in the recovery room and ward to respond to unforeseen mishaps.
- ✓ All post op patients should be monitored.
- ✓ Patients with Hepatitis B or C should be operated according to set protocol which should be developed by the Surgical Department and the administration.

Minor OT:

- ✓ Two trainees should be present in the minor OT on OPD days to carry out minor procedures like biopsies, nail avulsions etc.

Ward rounds:

- ✓ All morning rounds must be done by a consultant at a set time, preferably starting before 9 am so as to have time for carrying out orders like investigations, calls etc.
- ✓ The evening round must be done daily by the Registrar and important entries made.
- ✓ The post of and emergency evening round should be done by the senior registrar/Assistant professor with the registrars, medical officers and house officers.
- ✓ The nurse and dispenser should be present in the round.
- ✓ The Head Nurse should make sure that the ward is cleaned and the bedding done before the round. The nurse should make sure that ward decorum is maintained 24 hours. The attendants should be asked to leave. One attendant must be present the patient who needs one.
- ✓ The Registrar should ensure that all orders of the senior teaching staff regarding patients have been carried out including referrals to medical and other related specialties.

Pre-Operative SOPs

Marking of operation side

Operation side should be mark with indelible marker a night before surgery to ensure patient safety.

Aseptic Technique:

All staff working in the operation theater will ensure a safe environment for the patient by maintaining asepsis, limiting the risk of contamination and the risk of cross infection to the patient.

Staff will change into freshly laundered specialized OT clothes, use OT shoes, Hair covering and masks before entering into the clean/ semi restricted and restricted areas

(Clean corridor, sterile equipment store, surgical procedure rooms and recovery rooms) of OT

Staff will ensure proper scrubbing. Gowning and gloving before every surgical procedure

OT attire and shoes should not be worn outside the operation theater suite.

Personal entering into clean/ semi restricted and restricted areas for short periods, such as maintenance staff management staff and students will wear clean surgical cover gowns to cover street clothes, hair covering to completely cover their hair and masks to cover properly mouth and nose as appropriate.

OT doors will be closed during surgical procedure, except as needed for the passage of equipment, personnel and the patient.

Each elective infected/contaminated (HBs, HCV, HIV and MRSA positive) surgical procedure will be scheduled at the end of procedure list.

Surfaces Cleaning and disinfection of all Equipment's, tables and trolley will be carried out after in every surgical procedures.

Trolley Preparation for Surgical Intervention:

During the preparation of sterile instrument trolleys for surgical intervention staff must prepare and maintain a sterile field all time to minimize the risk of cross infection to the patients.

Checking of Prostheses and Implants:

All prosthesis / implants intended for implantation during surgical procedure will be checked prior to use by the surgeons concerned and scrub practitioner to confirm size. Type manufacturer and side (if applicable)

Use of Electro Surgical Equipment / diathermy:

Staff will check diathermy machines prior to the start of every list, in accordance with the manufacturers guidelines and will also ensure that all patients. Whose surgery requires the use of diathermy will be protected from the risk of burns.

Surgical Disposable Item and Anesthesia Drug:

All the required surgical disposable item and anesthesia drug for surgical procedure will be made available before shifting Patients to OT and OT table.

After surgery spare un-used item that received from hospital pharmacy will be return to hospital pharmacy and patient in case of purchase by patient from outside pharmacy.

Pre-operative investigation:

All the required pre-operative investigation including HBs, HCV and HIV screening will be carried out before shifting patient to OT and result of these investigations will be attached with patient file.

Patient shifting from wards to OT:

Patients for scheduled elective surgical procedure will shift from OT according to scheduled OT list. Each unit will sent first six listed patient to OT and next will be waiting in ward for their number and will be called according to their OT list number from ward.

Communication of scheduled OT list with OT

A final scheduled surgical procedures list will be communicated with OT and CSSD a day before surgery, in order to fulfill the necessary requirement.

Confirmation of instrument sterilization:

Before induction of anesthesia staff responsible for preparing the surgical trays should confirm the sterility of the instruments by evaluating the sterility indications and will communicate if any problems regarding the sterilization (colors of external indicator lines not changed from half white to black and internal indicator from white to black) and the instrument sets will be returned to CSSD for reprocessing. The internal instruments sterility indicators will be attached with patient file record.

Intra Operative SOPs

Opening of sterile trays and packages:

All sterile items to be used during surgical procedure should be opened in a manner so as to avoid any possible contamination.

Skin Preparation and Draping:

Theatre staff will ensure that the patient's skin is prepared for surgery in a safe and aseptic manner, exposing the patient as little as possible. Staff will ensure that sufficient quantities of sterile drapes are applied in order to maintain an adequate sterile field around the incision site.

Handing of Instruments during Surgical Procedures:

All staff involved in the using and handing of surgical instruments will ensure ----- for its use and will also ensure the safe handling of instruments to minimize the risk of accidental injury to the patient, to themselves and _____. All instruments will be checked prior to and following use so as to ensure that they are fit for their intended _____so following their use.

Specimens handing:

All the concern OT staff will Label all specimen containers with patient name, patients MR number, specimen type, and Date of collection. Tissue specimen should be placed in a container with 10 % buffered formalin (formaldehyde) immediately after removal.

Prevention of Retained Foreign Objects and Swabs:

All member of surgical team will be responsible for the counting and recording of swabs, instruments and additional items, and will ensure that no item is unintentionally retained the surgical site, in a body cavity or in the incision site. Provided standardized “dry wipe “ count board and will be used for swabs, instruments and additional items count and will be remain visible to the scrub team all the time.

Disposal of Waste:

Waste products team must be correctly segregated and placed in the appropriate container the container must never be overfilled and must be safely sealed.

Wound Drain and Catheter Dressing:

The surgical team will ensure that an appropriate dressing, drain and catheter is applied to the patient according to surgery, surgical preference and known patient allergies.

Post-Operative SOPs:

Handing of used Instruments

All non-disposable instruments used during surgical procedures will be returned to CSSD for reprocessing and sterilization in a manner to minimize the risk of cross infection to CSSD staff.

All instruments used in a surgical procedure will be returned to the original tray as it came from CSSD and the instruments record will be maintained on proper record book.

All disposable items will be removed and safely disposed of scrub person will be responsible for discarding all sharps (surgical blade, needles and other sharps) before Applying dressing.

Patient Shifting from OT:

The patient will be shifting from OT to recovery and from recovery to ward with patient charts containing records of intra-operative and post-operative vital monitoring records.

Other SOPs

Surgical safety checklist

All operative procedures performed in operating theaters will have the correct and full application of the surgical safety checklist process completed and documented by the theater team.

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 in-charge of procedure room under supervision of consultant in-charge.
- ✓ The in-charge will be responsible for maintenance and audit of
 1. Essential drugs
 2. Stock
 3. Cleanliness
- ✓ In-charge 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 FOR PRIVATE ROOMS

Admission Criteria

- ✓ Patient should be hemodynamically stable
- ✓ Patient does not require frequent monitoring(monitory devices)
- ✓ Patient does not have violence issues/ suicidal thoughts)

Admission Process

- ✓ Private Room admission should be done on single occupancy basis
- ✓ Consultant/ SR, can admit patients in private room directly via CMO
- ✓ Consultant/ SR, JR can admit in patients from the ward to private room
- ✓ After admission , MO of private room should take history, send investigations & start treatment as directed by the admitting doctor

Private Rooms Services

- ✓ There should be one registrar for each side of private rooms
- ✓ One MO should be present in each duty shift in each side of private rooms
- ✓ One staff nurse should be present in each duty shift on each side of private room
- ✓ Registrar of respective side of private rooms should conduct the morning & evening rounds
- ✓ 24 hours laboratory & radiological services should be available
- ✓ Each room should be connected to nursing station via telecom services
- ✓ Each section should have emergency trolleys fully equipped with emergency medicines & instruments & placed at an accessible area of the nursing station.
- ✓ The consultant/ SRs are authorized to shift the patient from private room to respective ward if needed.
- ✓ The consultant /SRs of the respective medical unit will conduct the morning round of the respective patients in private room & the JR of the respective medical unit will conduct the evening round.

SOPs 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.

SOPs 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 outdoor reception has been divided into cubicles/sections for patient’s convenience is labeled from 1-4.

Counter no. 1

1. Mr. Kareem 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. Mr.Nasir 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 simple collection except bone marrow FNAC, Histopathology and viral serology.

Counter no. 2

Mrs. **ZahidaKashif** 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 outdoor 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 vulnerable patients and for control and prevention of Hepatitis, HIV and AIDS program
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.
5. Depending of the test the patient will be directed to either counter No. 2 are to the procedure room.
6. Reports of these patients will be delivered at the same counter.

Indoor Reception

1. This is located next to counter No. 4
2. All indoor samples will be collected by 03 Ward Boys from wards according to their duties as blow.

The samples along with test request slips will be deposited at indoor reception. All those will be registered and numbered by Mr.kareem.He will be assisted by ward boys.

Indoor Sample Collection, Delivery and Report Delivery

1. Ward boy will collect samples from respective wards and they will check the sample error in collection, In case the sample error is there they will be rejected.
2. He will receive the sample and request slips and sign on ward register.
3. They will collect the sample between 9:00 to 10:00am
4. 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.
5. Respective reports will be collected by the Ward Boys and entered regarding to the test by the said Ward Boy.
6. Reports of all routine tests will be delivered next morning.
7. C/S Report after 03 days.
8. Certain parameter of chemistry may require delivery of report on second day.
9. Histopathology report after 12 days.
10. FNA & Cytology reports after 03 days.
11. Bone Marrow reports after 03 days.
12. Trepine biopsy after 08 days.
13. BM & Hp reports will be collected directly from respective section of the ward.
14. 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.
15. No patient will be allowed to come in the lab directly.
16. 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.

SOPs FOR MAIN OPERATION THEATER

Process

On occasions the anesthetist may request seriously unwell patients to go directly from Operating Theatre following their surgery. This is usually out of normal working hours when the “on call” team is doing the case.

Plan

- The Anesthetist must communicate to the ICU/CCU team prior to transfer of the patient to that department.
- The ICU/CCU Nursing Team must inform the Anesthetist if they have adequate staffing to deal with a patient directly from operating theatre. Consideration must be taken regarding the number of patients already admitted to the ICU/CCU at the time and also the staffing levels of that department.
- If the situation allows for the patient to go directly to ICU/CCU, the Registered Nurse from theatre, and the Anaesthetist must accompany the patient to ICU/CCU to give a full hand over/report/instructions for continuing care, including fluid and medication prescriptions. The Anaesthetist and the theatre nursing staff must remain with the patient until the patient is maintaining their own airway.
- The Registered nurse in ICU/CCU must be satisfied with the patient’s condition before the Theatre nurse and the Anaesthetist leave the department.
- If the ICU/CCU team does not have sufficient staff or are already dealing with a complex case, then the patient must be completely recovered in the recovery/post anaesthetic case unit of operating theatre, and transferred to ICU/CCU when they are stable as is the usual process.
- On occasions the theatre team may have been on a call out and then received another request for acute surgery, for example the team are completing a patient for a bowel obstruction and they get an urgent request for a Caesarean Section. Again this will be out of normal working hours
- At this time it is possible to transfer the patient whose surgery is just completed directly to ICU/CCU in the interest of attending to the other acute case as soon as possible. The Duty Nurse Manager must be involved in this situation to allow for good processes with transfer and handover. This allows the theatre team to meet the demands of the pending case as soon as possible.

Precautions and Considerations

At all times in either situation patient safety will be the top consideration. Staffing and patient load in CCU/ICU must be considered. Acute demand in Operating Theatre must be considered.

Operating room equipment

- The operating table in the center of the room can be raised, lowered, and tilted in any direction.

- The operating room lights are over the table to provide bright light, without shadows, during surgery.
- The anesthesia machine is at the head of the operating table. This machine has tubes that connect to the patient to assist him or her in breathing during surgery, and built-in monitors that help control the mixture of gases in the breathing circuit.
- The anesthesia cart is next to the anesthesia machine. It contains the medications, equipment, and other supplies that the anesthesiologist may need.
- Sterile instruments to be used during surgery are arranged on a stainless steel table.
- An electronic monitor (which records the heart rate and respiratory rate by adhesive patches that are placed on the patient's chest).
- The pulse oximeter machine attaches to the patient's finger with an elastic band aid. It measures the amount of oxygen contained in the blood.
- Automated blood pressure measuring machine that automatically inflates the blood pressure cuff on patient's arm.
- An electrocautery machine uses high frequency electrical signals to cauterize or seal off blood vessels and may also be used to cut through tissue with a minimal amount of bleeding.
- If surgery requires, a Heart-lung machine, or other specialized equipment, may be brought into the room. Heart lung machine takes the temporary control of the heart and lung during the surgery maintaining the circulation of blood and oxygen content of the body
- Advances in technology now support Hybrid Operating Rooms, which integrate diagnostic imaging systems such as MRI and Cardiac Catheterization into the operating room to assist surgeons in specialized Neurological and Cardiac procedures.

Surgeon and Assistants Equipment

People in the operating room wear PPE (personal protective equipment) to help prevent germs from infecting the surgical incision. This PPE includes the following:

- A protective cap covering their hair.
- Masks over their lower face, covering their mouths and noses with minimal gaps to prevent inhalation of plume or airborne microbes
- Shades or glasses over their eyes, including specialized colored glasses for use with different lasers. a fiber-optic headlight may be attached for greater visibility
- Vinyl gloves on their hands; latex is used as well, but much less common due to latex sensitivity which affects some health care workers and patients
- Long gowns, with the bottom of the gown no closer than six inches to the ground.
- Protective covers on their shoes
- if x-rays are expected to be used, lead aprons/neck covers are used to prevent overexposure to radiation

The surgeon may also wear special glasses that help him/her to see more clearly. The circulating nurse and anesthesiologist will not wear a gown in the OR because they are not a part of the sterile team. They must keep a distance of 12-16 inches from any sterile object, person, or field.

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.

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.

Sop's for Prevention and Control of Infection

Purpose/Objective:

To provide safety for patient and employee within the hospital environment through an infection control program.

Scope and Objectives:

As stated above, the goals of the hospital infection control programme are to prevent or minimize the potential for infections to patients as well as to staff. The programme itself will have the following objectives & scope.

- To develop written policies, procedures and standards for cleanliness, sanitation and asepsis in the hospital.
- To interpret, uphold and implement the hospital infection control policies and procedures in specific situations.
- To provide surveillance for different types of infections.
- To review and analyze infections, those occur, in order to take corrective steps.
- To develop preventive measures designed to control, prevent or minimize the risk of nosocomial infections.
- To develop a mechanism to supervise infection control measures in all phases of hospital activities.

Personnel Safety and Universal Precautions

In a hospital setting personnel protection should be considered as the utmost priority. The principle of universal precautions is to provide a barrier between the HCW and the patient's body substance when they have to come in close proximity. Blood, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, salival in dental procedures, semen, vaginal secretions, any body fluid that is visibly contaminated with blood; any unfixed tissue or organ from a human ; HIV containing culture medium or other solutions; blood or other tissues infected with HIV or hepatitis B, C or non A non B are considered as the source of potential infection ,for which following Precautions and instructions should be followed:

| Barrier | User of Barrier |
|---------|-----------------|
|---------|-----------------|

| | |
|--|--|
| Hand washing | Before and after patient contact after using gloves, immediately after contact with blood and care workers who have oxidative lesions or weeping dermatitis should refrain from all patient care activities that involve direct contact and from handling patient care equipment. |
| Masks and other protective equipment such as face shields and goggles. | When one is likely to be splashed in the face with infective material, which may lead to contamination of the eyes, nose or mouth. |
| Gloves | When direct contact with blood and body fluids, mucous membranes non-intact skin surfaces or infectious material is anticipated when performing vascular access or other invasive procedures and when handling specimens, cultures, or tissues that are visibly contaminated with blood or other infectious material. . Hands must be washed each time gloves are removed. Those with non intact skin must wear gloves when indirect handling of infectious material is a possibility. |
| Protective clothing Gowns, lab coats, caps, hoods, shoe covers, boots, or other such paraphernalia. | When the HCW is likely to be soiled by the splattering of infectious material. These must be removed and discarded properly immediately after use. |
| Handling Needles and small sharps | Never recap or bend the needles unless by using an instrument or by no touch technique. Dispose of used needles and disposable small sharps in puncture proof containers that are located as close to the area of use as possible. |

Universal Precaution Instruction

Blood, body fluids, synovial fluids and tissue of all patients are considered potentially infectious and therefore should be handled accordingly.

This is also called as standard precautions.

- Wash hands before and after all patient/specimen contact
- Handle blood of all patients as potentially infectious
- Always use gloves for contact with blood/body fluids
- Place used syringes in puncture proof containers
- Do not recap or manipulate needles
- Wear protective eye-wear and masks if splash/splatter of blood/body fluids is possible e.g.



during oral surgery, bronchoscopy etc.

- Wear gowns and aprons when splash with blood/body fluids is expected
- Lab staff should not use mouth pipette
- Wear masks while examination and Rx of TB patients
- When there is any breach in skin, seal it with strongly water proof adhesive tape

Protocols for Gloves

- Use of Disposable gloves to be ensured.
- In high risk cases; double gloving should be done; routine cases single.
- Gloves should be changed if duration of procedure/operation is > 3 hours
- Any pair of gloves can be used for total time of 3 hours
- Between patients; gloved hands should be disinfected for at least 30 seconds
- Surgical hygienic hand (w) should be done before and after use of gloves
- Check gloves for gross defects before putting on Cover cuts with waterproof dressing before gloving
- Discard gloves immediately on suspicion of puncture



Protocols for Masks

- Masks are mandatory for infections patients' esp. airborne infection
- Ideally masks should be disposable; if not cotton masks can be used Masks should fit properly and cover both mouth and nose.
- Masks should be changed after every proc/surgery lasting > 20 minutes
- Cotton masks should be disinfected with liquid bleach before washing and reuse

Safe Handling of Sharps

- Pass syringes and needles in a tray, cut it with electric /manual needle cutlers after use
- Put needle and syringes in a puncture proof white container , containing 2% hypochlorite solution
- Remove cap of needle near the site of use
- Pick up open needle from tray/drum with forceps
- Destroy syringes by burning their tips/cutters not available
- Never pass syringe and needle on directly to next person
- Do not bent/or break used needle with hands
- Never test the fineness of the needle's tip before use with bare or gloved hand
- Never pick up open needle by hand
- Never dispose it off by breaking it with hammer/stone
- Always dispose of your own sharps, into a Sharp pit
- During exposure-prone procedure, the risk of injury should be minimized by ensuring that the operator has the best possible visibility, e.g. by positioning the patient, adjusting good light source and controlling bleeding

Infection Control in the facility and the High Risk Areas:

Basic minimum sanitation and hygiene, with proper cleaning of hospital twice a day (once in the morning and once in the Evening) with disinfectants should be practiced. Apart from this specific attention should be provided to the High risk areas in the hospital to ensure optimum infection control in the hospital. The High Risk Areas in the Hospital include:

- Operation Theatre
- Labor room
- Intensive care unit/Burn Wards

| Activities | Responsibility |
|--|--|
| <p>Following procedures should be followed for ensuring optimum infection control in the High risk areas:</p> <ul style="list-style-type: none"> • The floor of the OT and labor room should be cleaning regularly twice every day , and after each procedure performed with use of proper disinfectant • The floor should preferably of marble, or rubber painted to prevent accumulation of germs in the gaps and facilitate dryness. • Unauthorized entries in the OTs and Labor room should be restricted and Direct access of attendants and other patients to these areas should be avoided. • Use of personnel protective gears should be encouraged, while working inside the OT, LR . • All the instruments used should be properly sterilized, either by autoclaving or using manual sterilizers. • Separate entry and exit routs for patients and waste should be defined to prevent cross infection. • Fumigation should be performed at fixed intervals preferably after each procedure. | <ul style="list-style-type: none"> • In- charge of the respective • Department (OT in- charge. • Matron, etc) |
| <ul style="list-style-type: none"> <input type="checkbox"/> Different registers for Autoclaving, fumigation etc to be maintained. <input type="checkbox"/> Air sampling, environment sampling, swab cultures etc to be performed every month. <input type="checkbox"/> OT preferably should be without windows to prevent the accumulation of dust and germs. <input type="checkbox"/> Installation of Air conditions (Exhaust fans, where AC is not available) should be practiced to allow flow of fresh air. | |

General Measures

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

Minimal Requirement for Personal Protection

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

Barrier Precautions for Students

Decontamination of Hands

- o Hand washing is the most effective way of preventing the transfer of bacteria between hospital personnel and patient within hospital.
- o Gloves are **NOT** a substitute for hand washing. Hands should always be washed after removing gloves and also before wearing gloves.
- o Social hand washing: with plain soap and water.
- o 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 (acupunturists, ear / nose pierce workers, tattooists, traditional dental healers and zangeerzani 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 ZanjeerZani groups)

- a. Equipment designed not to penetrate the skin must be thoroughly cleaned prior to reusing. 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.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 missing 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.

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)

3. 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

4. Chemical Waste:

- a. Expired drugs
- b. Disinfectants and germicides used for cleaning

5. Human

Biological Waste:

Parts of Human body amputated during surgery

6. Radiological Waste

B. Separation and Disposal:

Separate the waste according to following color coding system:

1. No Risk waste: Throw it in Black colored bucket containing Black colored polythene bag, when filled dispose of this black bag.
2. Risk waste: Throw it in yellow colored bucket containing yellow colored polythene bag, when filled dispose of this yellow bag.
3. Sharps are kept in a puncture proof hard bag, which is of yellow color.
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 pucharasany 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 violent 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 incharge of the ward is responsible for compliance of this order.**

6. Disposal of Syringes:

Following points get special stress:

1. ALWAYS freshly opened syringe is used.
2. Already opened syringe is NEVER used except form emergency trolley, where few syringes are kept pre filled for emergency.
3. 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.

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 3/4th 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 antiHBSnegative:
 - 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 as given;

Waste Management consists 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: 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 23 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 of properly into municipal container for final disposal in the landfill

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. PCO₂ > 60 mmHg in a non-COPD case.
 - c. PO₂ < 50 mmHg in a non-cyanotic heart disease patient
 - d. Sign's 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. FiO₂, 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

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

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.

CONTENTS OF EMERGENCY TROLLEY

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 | Cimitidine (Ampoule) | 250mg / ml | 02 |
| 10 | Decadron (Ampoule) | 4mg / ml | 02 |
| 11 | Diazepam (Ampoule) | 5mg / ml | 05 |
| 12 | Digoxin (Ampoule) | 0.5mg / ml | 02 |
| 13 | Frusemide (Ampoule) | 20mg / ml | 10 |
| 14 | Hydrocortisone (Solucortef) (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 |

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/Anesthetist in-charge ICU

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

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

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

EMERGENCY MEDICINES

| S.NO | Medicine | Quantity |
|-------------|---|-----------------|
| 1. | Adrenaline of different strength | 5 |
| 2. | Antihistamine like Avil injection | 10 |
| 3. | Atropine Sulphate | 5 |
| 4. | Hypertonic | 10 |
| 5. | Soda bicarbonate & Calcium gluconate vial | 5 each |
| 6. | Injection Dobutrex & Dopamine | 5 each |
| 7. | Inj. Solucortef of different strength | 10 each |
| 8. | Inj. Decadron | 10 |
| 9. | Inj. Lignocaine | 5 |
| 10. | Inj. Diazepam | 5 |
| 11. | Tab. Inderal, thyroxine & lanoxin | |
| 12. | Tab. Aspirin | |
| 13. | Angesid (Sublingual nitrate tab.) | |
| 14. | Inj. Lasix | 10 |
| 15. | Inj. Nalaxone | 10 |
| 16. | Inj. Flumazaniol | 03 |
| 17. | Activated Charcoal | 10 |
| 18. | Drips | 05 |
| 19. | Potassium Chloride | 05 |
| 20. | Isoket Inj. | 05 |
| 21. | Inj. Vitamin K | 10 |
| 22. | Inj. Zantac | 05 |
| 23. | Inj. Transamine | 05 |
| 24. | Ventoline Solution | 05 |
| 25. | Atem nebulas | 05 |
| 26. | Inj. Aminophyline 250 mg | 05 |
| 27. | Humalin Regular. 70/30 | 03 |
| 28. | Anti snake venoms | 20 |
| 29. | Inj. Sandostatin | 10 |
| 30. | Kleen enema | 05 |
| 31. | Inf. Hemacell | 10 |

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 = $\mu\text{g}/\text{kg}/\text{min}$ (in case of “a” above)

OR

ml / hour = $\mu\text{g}/\text{kg} / \text{min}$ (in case of “a” above)

2. Adrenaline / Isoprenaline / Noradrenaline / Phenylepherine

- 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

$\mu / \text{kg} / \text{min} = .01$ micro drops/min (in case of “a” above)

OR

$\mu / \text{kg} / \text{min} = .01$ 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.

