Standard Operating Procedures (SOPs)

SOPs V 2.0

Center for Liver & Digestive Diseases, Holy Family Hospital, Rawalpindi

STANDARD OF OPERATING PROCEDURES (SOP'S)

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STANDARD OPERATING PROCEDURES (SOP)

This manual will serve as an official guide for the working tool in the Centre for Liver & Digestive Diseases (CLD).

The module has been adopted from ASGE, ACG, NatSSIPs Guidelines, and local articles.

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FORWARD

Centre for Liver & Digestive Diseases (CLD) Holy Family Hospital Rawalpindi, is a state of the art training center serving in the public sector where a huge number of basic as well as advanced procedures are performed daily. These SOPs aim to provide an objective format of working for the professional staff, administrators, paramedics, nurses, residents, house physicians, and doctors of the other collaborating departments at our center. SOP designing is a dynamic process that keeps on improving. This booklet is the first step towards this process and will be refined by future authors.

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INDEX

SECTION - I

PROCEDURES

Disinfection & Cleaning

- Cleaning is the absence of visible dust, soil, debris, blood, or other potentially infectious material whereas disinfection is a process that kills most forms of microorganisms on inanimate surfaces.
- There are many disinfectant solutions with varying degrees of effectiveness, most widely available is sodium hypochloride (Bleach) which is a particularly effective antiviral disinfectant solution.
- It is important to use all disinfectants within their expiry date as some solutions like bleach lose their activity very quickly.
- All disinfectants have a contact time so the cleaning staff shall allow adequate cleaning chemical contact time, as per the manufacturer's recommendation, after the application of the cleaning chemical onto the surfaces.
- To ensure effective disinfection, dilute the concentrated solution to the correct working strength. Following are the disinfectants with their preparation and usage:
- The restricted and semi-restricted areas should be cleaned at least once daily whereas the unrestricted area can be cleaned on once weekly basis.
- Damp dusting technique should be used to clean with special emphasis on high touch areas including Bed Rails, Control Panel, Call Bell, Procedure Table, Bedside Locker, Chair, Switches, Telephone.
- Use a clean, low-linting cloth moistened with disinfectant and Damp dust from top to bottom
- Damp dust should be the first thing in the morning before additional items or equipment are brought into the room.
- For floor cleaning separate mops should be used for restricted, semi-restricted and unrestricted areas. Clean and disinfect the floor surfaces at the edge of the room first moving toward the center of the room. The center of the room is where most patient care happens the center is likely to be dirtier.
- At the end of the day terminal cleaning should be performed. Remove all cleaning equipment brought into the room. Place all disposable cleaning supplies and equipment in the trash. Remove trash and linen bags from the room, use the corridor doors only and do not bring trash or any contaminated items through the clean/sterile core area. Clean and disinfect all exposed surfaces including wheels and casters and all equipment in the room. Move the equipment around the room to clean the floor underneath.

S. No.	Name	Properties	Preparation	Used For
1.	CHLORON EXTRA	Bactericidal Fungicidal Tuberculucidal	25 mls for 5 liters of cold water, disinfect the surface in 2-3mins	All types of surfaces i.e. ward, procedure room, walls and floors
2.	DISCOSID-N	Bactericidal Limited Virucidal	20mls/L ---- disinfects in 15 mins 5mls/L ----- disinfects in 60 mins	Wiping, disinfection and cleaning of medical devices and bed frames, tables and mattresses
3.	GERMIDEX-NQ CIDEX OPA 14 liters/14days	Sterilizing & High level disinfecting solution Bactericidal Fungicidal Virucidal Sporocidal	90 mints for disinfection and 10 Hrs for sterilization	Reusable tubings, cautri tips, suction tips
4.	PANALENE PLUS	Sterilent & disinfectant for heat sensitive surgical instruments Bactericidal Fungicidal Virucidal Tuberculucidal Sporocidal	50 mls in 5 liters Disinfects the surface for 2-3mins	For Surface Disinfection

- Toilets should be cleaned at least once daily with special attention to Switches, Main Door Knob, Tap, Head Grab Bar, Cubicle Door Knob, Flushing Button and Toilet Seat Cover.

Disinfecting the Endoscopes:

1. Post Procedure Check:

- As soon as the endoscopic examination is completed, the endoscopist performing the procedure should immediately do the following:
  - Irrigate the air and water channels to check for any blockage.
  - Expel any blood, mucus, or other debris.
  - Check for bite marks or other surface irregularities.

- The nursing staff assisting the procedure will detach the endoscope from the light source/video processor and transport it in a closed container to the reprocessing room.

2. Pre-Cleaning:

- The nursing staff will conduct a leakage test daily to check the integrity of all channels before reprocessing.
- All exposed internal and external surfaces should then be manually cleaned with a clean dedicated brush and a clean swab or tissue.
- This procedure should be followed for all accessories.

3. Cleaning & Rinsing:

- Remove all the valves(air water, suction and instrument channel)
- Brush all the channels with dedicated brush.
- Immerse the endoscope in a non-enzymatic detergent and irrigate all channels.
- Rinse the endoscope and valves under running tap/sterile water.
- Discard the used water after each use to avoid the concentration of detergent and the risk of reduced efficacy of disinfectant solution.

4. Disinfection:

- In manual disinfection, the endoscope and endoscope components should be completely immersed in gluteraldehyde 2%, ensuring that all channels are perfused well for 20 min, and for suspected M.tuberculosis, M.avium and fungi for 45-60 min respectively.

5. Rinsing and drying:

- After disinfection, rinse the endoscope and flush the channels with drinking quality or boiled water to remove the disinfectant.
- Dry with compressed air or inject air with clean syringe.

6. Storage:

- Ensure proper drying prior to storage.
- Hang preferably in a vertical position to facilitate drying.
- Remove caps, valves, and other detachable components in accordance with the manufacturer's instructions.
- Clearly mark which endoscopes have been reprocessed.
- Its staff duty to mark the date of preparation and date of expiry on disinfectants jar.

Cleaning the Disinfector:

- General cleaning of the disinfector with bleach and soap on weekly basis.
- Cidex is changed every week
- Cidex retrieve tub to be washed every 6 months
- The two water filters are changed every 6 monthly.

Cleaning of Ultrasound and other similar machines:

- General cleaning and dusting daily
- Probe sensor should be washed with saline and remaining parts are cleaned with 75% alcohol.
- Deep cleaning of other systems like EUS, ERCP, Manometry etc are also done with 75% alcohol on weekly basis.

Diagnostic Endoscopy

1. Indications:

- Endoscopy should be performed for an indication that is included in a published standard list of appropriate indications. Major indications are listed below:
  A. Upper abdominal pain refractory to any treatment.
  B. Upper abdominal pain with red flag signs.
  C. Dysphagia or odynophagia.
  D. Esophageal reflux symptoms, which are persistent or recurrent despite appropriate therapy.
  E. Persistent vomiting of unknown cause.
  F. Familial adenomatous polyposis syndromes.
  G. For confirmation and specific histologic diagnosis of radiologically demonstrated lesions:
     a. Suspected neoplastic lesion.
     b. Upper tract stricture or obstruction.
  H. GI bleeding.
  I. In patients with suspected portal hypertension to document or treat esophageal varices.
  J. To assess acute injury after caustic ingestion.
  K. Treatment of bleeding lesions such as ulcers, tumors, vascular abnormalities (eg, electrocoagulation, heater probe, laser photocoagulation, or injection therapy).
  L. Banding or sclerotherapy of varices.
  M. Removal of foreign bodies or selected polypoid lesions.
  N. Placement of feeding or drainage tubes (peroral, PEG, or percutaneous endoscopic jejunostomy).
  O. Dilation of stenotic lesions
  P. Management of achalasia
  Q. Palliative treatment of stenosing neoplasms (eg, laser, multipolar electrocoagulation, stent placement).
  R. Endoscopic therapy for intestinal metaplasia in Barrett's.

2. Informed consent:

- Patient should be informed about risks of procedure and sedation, procedure details, complication of procedure, alternative procedures and given a chance to ask any question.
- The particular risks associated with EGD include bleeding, perforation, infection, cardiopulmonary adverse events, missed diagnosis, missed lesions, intravenous site adverse events, chest pain, sore throat, aspiration, and reaction to local anesthetic spray.

3. Pre-procedure assessment:

Patient should be assessed according to ASA classification system as follows:

ASA I	Normal healthy patients
ASA II	Patients with mild systemic disease
ASA III	Patients with severe systemic disease that limiting but not incapacitating
ASA IV	Patients with incapacitating disease which is a constant threat to life
ASA V	Moribund patients not expected to live more than 24 hours
ASA VI	A declared brain dead patient whose organs are being removed for donor purpose

4. Preparation:

- Patient should not eat or drink at least 06 hours before test.
- Routine antihypertensive and anti-diabetic drugs can be taken with sips of water in morning.
- Do not take any antacids.
- All previous prescriptions, medical record and investigations must be checked.

5. Antibiotic prophylaxis:

- Appropriate prophylactic antibiotics are given in patients with cirrhosis with acute upper GI bleeding before EGD.
- Oral fluoroquinolones can be recommended safely for most patients, but intravenous ceftriaxone may be preferred in advanced cirrhosis.
- Antibiotics that cover cutaneous sources of bacterial infection such as intravenous cefazolin should be administered 30 minutes before the Placement of PEG tube.

6. Sedation Protocol:

- Patient's throat should be sprayed with lignocaine.

7. Sedation should only be given to those patients who are anxious, uncooperative and in whom therapeutic intervention is needed.

8. Who to Perform:

- Endoscopy should be performed by a **trained physician**
  - 1st year resident under-supervision of trained physician
  - 2nd year Resident can perform independent diagnostic EGD after passing the assessment test by GI training supervisor or may continue under-supervision and therapeutic under supervision of trained physician.

- 3rd Year Resident can perform independent diagnostic and therapeutic EGD independently after passing the assessment test by GI training supervisor or may continue under-supervision.

9. Endoscope Check:

- Prior to performing EGD perform white balance, lubricate the distal tip and double check the critical functions (Tip angulation Air, water & suction, Image quality).

10. Intra-procedure Protocols:

- Intubate GI TRACT with good technique.
- correctly identify landmarks.
- A complete examination of the esophagus, stomach, and duodenum, including retro-flexion in the stomach, is conducted and documented.
- All pathologies should be identified.
- Examination should be completed within a reasonable period.
- Among those with non-bleeding gastric ulcers, gastric biopsy specimens are taken to exclude malignancy.
- Four or more biopsies should be taken in case of suspected malignancies.
- In the setting of acute GI bleeding, the endoscopist may choose to defer biopsy of the ulcer, provided that a subsequent endoscopy is planned**.**
- The length and location of the Barrett esophagus (salmon-colored mucosa) should be measured during EGD.
- During EGD examination revealing peptic ulcers, at least one of the following stigmata is noted: active bleeding, non-bleeding visible vessels (pigmented protuberance), adherent clot, flat spot, and clean-based.
- At least 4 intestinal biopsy specimens are taken from patients in whom celiac disease is suspected and some should include the duodenal bulb.

11. Post procedure:

- Patient should be discharged according to discharge criteria from endoscopy unit:
  - Patients with active bleeding should be admitted for 48 hours.
  - Patients with no active bleeding can be discharged.
- All instructions are given to the patient.
- Pathology follow-up should be specified.
- A complete procedure report should be made.
- Adverse events should be reported and documented.

12. Complication Rate:

- Hemorrhage (4%), Perforation (1 in 2500 – 1 in 11000), Infection/bacteremia (8%), cardiopulmonary sedation related (upto 60%).

Therapeutic Upper GI Endoscopy

1. For upper GI Bleed:

- Maintain large bore double IV access or a CVP line.
- Adequate Intravenous fluids (crystalloids/colloids/blood) as per availability, patients condition and presence of co-morbids.
- Maintain Hemoglobin concentration till 7 g/dl for varecial bleed and 10 g/dl for non-varecial bleed.
- Intravenous Antibiotics (Ceftriaxone 1 g IV BID).
- Intravenous PPI should be given to all patients with upper GI bleed.
- IV Sandostatin(50 microgram IV bolus, then 25-50 microgram/hr for 1-5 days) or Terlipressin(0.5-1 mg/4hr) should be started in every suspected varecial bleed.
- Perform gastric lavage as an aid to monitor ongoing active bleed and to accelerate gastric emptying. Metoclopramide can also be used to accelerate gastric emptying.
- Transfuse FFPs if INR > 2
- Transfuse platelets if PLT < 50,000/mm3
- The endoscopy should be performed with in 24 hours of presentation after stabilizing the patient.
- Obtain informed written consent for UGIE
- A complete examination of the esophagus, stomach, and duodenum should be performed in every bleeding patient, no matter what is seen en route.
- If esophageal varices are identified on endoscopy, they should be graded as small or large (O5 mm) and the presence of red wales or cherry spots , varix over the varix or nipple formation over the varix should be noted because these findings have been identified as risk factors for future bleeding.
- Band ligation should be done for esophageal varices starting from lowest point at gastr-esophageal junction.
- Cyanoacrylate glue should be injected for fundal varices as per protocol
- After EVBL patient should be advised NPO for 4 hours and liquid diet for 3-4 days.
- Repeat EVL can be safely performed at 1- to 8-week intervals until variceal eradication is achieved. Surveillance EGD should be performed 1 to 3 months after eradication, and every 6 to 12 months thereafter to assess for variceal recurrence.
- Beta-blockers should be prescribed to all bleeding varecial patients at discharge unless contraindicated.
- Every bleeding patient should be admitted for at least 24 hours.
- If bleeding ulcer or AV malformation, Dieulafoy lesion is present , either adrenaline (1:10,000) injection or APC can be done according to the respective lesion
- If Bleeding continue despite endoscopic therapy, surgery dept./ radiology dept. should be taken on board.

- According to the underlying cause ,PPIs / H-pylori eradication treatment should be advised

2. For Esophageal Stricture Dilatation:

- Thinnest scope/pediatric scope should be used.
- If scope can be passed through stricture then guide wire can be placed under direct vision, otherwise it should be placed under fluoroscopic guidance.
- If stricture looks same size that of the scope then dilatation can be started with a savory dilator of 11 Fr.
- In case of tight stricture lowest savory dilator should be start with and in one sitting only 2up- size dilators should be used. In very tight stricture balloon dilatation can also be used.
- Steroid spray can be done after dilatation.
- After dilatation check supra-sternal notch and supra-sternal fossa for surgical emphysema. If pain persists get CXR and immediate consultation.
- Patient should remain NPO for 4 hours. Antibiotics, PPIs and sucralfate should be prescribed
- Nutritional support should be properly advised and multivitamins should be prescribed for at least 8 to 12 months.
- Dilatation should be repeated every 2 to 3 weeks till dilatation with 15 Fr dilator can be performed.

3. For Achalasia Dilatation:

- Every patient must undergo high resolution manometry for confirmation of Achalasia.
- Possible treatment options should be discussed with patients with their merits and demerits.
- Standard pneumatic dilation, if opted, should be done according to standard protocol.
- NPO for 12 hrs before procedure and if suspected NGT should be passed and aspiration of esophageal contents should be done.
- If on passing scope esophageal secretions present they should be aspirated first.
- Rigiflex balloon dilator will be used for pneumatic dilatation.
- First dilatation should be performed with 30 mm size balloon up to 12 PSI pressure if easily tolerated.
- Post dilatation antibiotics, PPIs and sucralfate should be prescribed.
- Follow-up manometry should be performed if symptoms reoccur.
- Repeat sessions according to the results of manometry.

4. Complication Rate of therapeutic upper GI endoscopy:

- **Overall risk** (0.1-0.4%). **Hemorrhage**: polypectomy (immediate 3.4-7.2%, delayed 3.1-22%), during foreign body retrieval (<1%), during endoscopic submucosal dissection (11%), during endoscopic mucosal resection (0.5-5%). **Perforation**: during dilataion of Achalasia (1.6-8%), during dilatation of benign gastric outlet obstruction (7%), during foreign body retrieval(≤0.8%), during endoscopic submucosal dissection(6%).

Colonoscopy

1. Indications:

- Colonoscopy should be performed for an indication that is included in a published standard list of appropriate indications. Major indications are listed below:
  A. Lower GI symptoms, which persist despite an appropriate trial of therapy e.g. Chronic Diarrhea, Chronic Constipation.
  B. Lower GI symptoms associated with other symptoms or signs suggesting serious organic disease (e.g., anorexia and weight loss) or in patients aged 45 years.
  C. Two consecutive positive fecal occult blood tests.
  D. Bleeding per Rectum.
  E. Screening average risk males > 60 years or patients with positive family history.
  F. Surveillance after Polypectomy or cancer resection.
  G. Abnormal Bowel Habit with organic symptoms.
  H. Patients who have a history of ulcer or PR bleeding who are scheduled for organ transplantation, long-term anticoagulation, or chronic nonsteroidal anti-inflammatory drug therapy.
  I. Familial adenomatous polyposis syndromes.
  J. For confirmation and specific histologic diagnosis of radiologically demonstrated lesions.
  K. In patients with suspected portal hypertension to document rectal varices with PR-Bleed.
  L. Treatment of bleeding lesions such as ulcers, tumors, vascular abnormalities (eg, electro coagulation, heater probe, laser photocoagulation, or injection therapy).
  M. Banding of Rectal Varices/ Hemorrhoids.
  N. Removal of selected polypoid lesions.
  O. Placement of colonic stents.
  P. Surveillance of IBD.
  Q. Dilation of stenotic lesions

2. Informed consent:

- In addition to the risks associated with all endoscopic procedures, the consent should address the relevant and substantial adverse events pertaining to each specific Colonoscopic procedure.
- The particular risks associated with colonoscopy include bleeding, perforation, infection, cardiopulmonary adverse events, missed diagnosis, missed lesions, intravenous site adverse events, chest pain, and reaction to drugs.

- Specific risk factors should be assessed and reduced like cardiac and pulmonary diseases, coagulation disorders, sedation issues, pregnancy, endocarditis.

3. Preparation (24 hour protocol):

- Patient should start taking clear liquids 24 hour prior to procedures.
- 4 tablets of Laxoberan(Sodium Picosulphate) 5mg/Dulcolex before starting preparation.
- 5 sachet of Movicol (Macrogol – PEG3350) should be given in 1L mineral water for 3 times during 24 hours (15-16 Sachets in 24 hours)
- 8 hours NPO before procedure.

4. Sedation:

- Usually not recommended for a limited procedure i.e sigmoidoscopy or even colonoscopy if patient is fully compliant and comfortable.
- If required 2cc midazolam may be used or as per anesthesia protocols of our unit, mentioned in relevant section.

5. Who to perform :

- Colonoscopy should be performed by a **trained physician**
  - 1st year resident under-supervision of trained physician
  - 2nd year Resident can perform independent diagnostic colonoscopy after passing the assessment test by GI training supervisor or may continue under-supervision
  - 3rd Year Resident can perform independent diagnostic and therapeutic colonoscopy independently after passing the assessment test by GI training supervisor or may continue under-supervision.

6. Endoscope Check:

- Select a standard forward-viewing **colonoscope** and check the critical functions(Tip angulation, Air, water & suction, Image quality). Perform a white-light balance and lubricate the distal tip.

7. Intra-procedure Protocols:

- Perform per-rectal examination: Check preparation, local pathology (hemorrhoids), anal tone, pain and any signs of bleed.
- Intubate lower GI tract with good technique.
- Correctly identify landmarks.
- A complete examination of the rectum, sigmoid, descending colon, transverse colon, ascending colon, cecum and ileum should be done.
- All pathologies should be identified.
- Examination should be completed within a reasonable period.

- Among those with non-bleeding colonic ulcers, colonic biopsy specimens are taken to exclude malignancy.
- Four or more biopsies in case of suspected malignancies.
- In the setting of acute PR bleeding, the endoscopist may choose to defer biopsy of the ulcer, provided that a subsequent colonoscopy is planned**.**
- For patients with known pathology to exclude dysplasia 2 biopsies from each segment (the rectum, sigmoid, descending colon, transverse colon, ascending colon, cecum and ileum) or from visible lesions should be taken.
- The type of lower GI bleeding lesion is described along with its location and should be documented.
- Extubation from cecum should be done at least in six minutes with proper visualization.

8. Post procedure

- Patient should be discharged according to discharge criteria from endoscopy unit:
  - Patients with active bleeding should be admitted for 48 hours.
  - Patients with no active bleeding can be discharged.
- All instructions are given to the patient.
- Pathology follow-up should be specified.
- A complete procedure report should be made.
- Adverse events should be reported and documented.
- Communication with referring physicians should be sought where necessary.
- Patient satisfaction should be assessed.

9. Complication Rate:

- Abdominal pain/ discomfort (5-11%), Hemorrhage (0.1-0.6%), Perforation (0.01%), Infection (4%), cardiopulmonary (0.9%), post-polypectomy electrocoagulation syndrome (0.003%-0.1%)

Endoscopic Retrograde Cholangiopancreatography (ERCP)

1. Indications:

- Obstructive Jaundice.
- Evaluation of signs or symptoms suggesting pancreatic malignancy when results of direct imaging (e.g., EUS, US, computed tomography [CT], magnetic resonance imaging [MRI]) are equivocal or normal.
- Evaluation of pancreatitis of unknown etiology.
- Preoperative evaluation of the patient with chronic pancreatitis and/or pseudocyst.
- Acute biliary pancreatitis in 1st 24 hours.
- Endoscopic sphincterotomy for one of the following reasons:
    - Choledocholithiasis.
    - Papillary stenosis or sphincter of Oddi dysfunction.
    - To facilitate placement of biliary stents or dilation of biliary strictures.
    - Sump syndrome.
    - Choledochocele involving the major papilla.
    - Ampullary carcinoma in patients who are not candidates for surgery.
    - Facilitate access to the pancreatic duct
- Stent placement across benign or malignant strictures, fistulae, postoperative bile leak, or in high-risk patients with large unremovable common duct stones.
- Dilation of ductal strictures.
- Nasobiliary drain placement.
- Pancreatic pseudocyst drainage in appropriate cases.
- Tissue sampling from pancreatic or bile ducts.
- Ampullectomy of adenomatous neoplasms of the major papilla.
- Therapy of disorders of the biliary and pancreatic ducts.

2. Informed consent:

- At least attending resident will take informed consent from patient or attendant. In case of critically ill patients, high risk consent will be taken.
- Explain the procedure to the patient/attendants.
- Explain the risks of the procedure.
- Explain the side effects of medications likely to be used during procedure.
- Explain the possible outcomes including successful or failure of the procedure and risk to the life.
- Give opportunity to the patient/attendant to ask questions.
- Get the document signed.

3. Pre-procedure assessment:

- Following investigations are routinely carried out before procedure[3].
    - Blood CP
    - Serum electrolytes
    - PT/APTT
    - RFTs
    - Chest x rays
    - ECG
    - Pregnancy testing may be considered in women of childbearing age
    - Echocardiography if IHD/CCF is suspected or when advised by cardiologist

- Patient will be evaluated for ASA (American society of anesthesiologists) class and Mallampati score.

4. Preparation:

- For the best possible examination, the stomach must be empty. The patient should not eat anything after midnight on the evening preceding the exam or 8 hours prior to examination.
- Heart and blood pressure medications should always be taken with a small amount of water in the early morning.

5. Appointment:

- Resident will decide whether appointment should be given on urgent basis or OPD/elective basis keeping in mind the need and fitness of the patient.

6. Antibiotic prophylaxis:

- Inj. Ceftriaxone 1G will be given to every patient before start of procedure.

7. Sedation:

- ASAI and ASAII shall be given sedation by the resident himself whereas ASA more than II shall be given sedation by anesthetist.
- Sedation shall be given according to departments set protocol mentioned in relevant section or as desired by the anesthetist, whatever the case may be.

8. Preparations on the day of Procedure:

- Resident will re-evaluate the case and investigations thoroughly and will discuss with the consultant in pre-procedure round.
- Staff nurse will maintain two I/V cannulas with the type of fluid decided by the resident.

- Following injections will be given to all patients undergoing ERCP procedure (unless contraindicated):
    - Inj. NOSPA
    - Inj. PYROLATE
    - Inj. GRAVINATE
- Vitals including blood pressure, pulse, temperature and respiratory rate with sugar levels will be carried out by the staff nurse. House officer will write it on informed consent and monitoring Performa.
- Ward boy will shift the patient to the procedure room.
- In case of critical patient, house officer and PGT will accompany the patient.
- Patient will be shifted on the procedure couch in left lateral position.
- Inside the procedure room staff nurse will ensure:
    - The disinfection of the scopes and other accessories
    - Availability and functioning of laryngoscope
    - Maintenance of emergency tray
    - Upto date medicines likely to be used during procedure.

9. The ERCP team:

- Minimum team members will consist of:
    - 1 Consultant Gastroenterologist: who will perform ERCP or can supervise the 3rd year resident.
    - 1 resident: who will be responsible for NAAP (for ASAI and ASAII) and sedation monitoring throughout the procedure (anesthetist will give sedation to ASAIII and ASAIV)
    - 1 House officer: who will help the resident in administering the drugs.
    - 2 Staff nurses: who will assist the consultant.
    - 1 Ward boy: who will stabilize mouth piece and maintain position of head and neck during the procedure.
    - 1 Fluoroscopic technician: who will assist for fluoroscopic guidance and keep the radiologic record of patient.

10. Post-procedure:

- After ERCP, patient will be monitored by resident while the sedative medications wean off.
- Ward boy will shift patient to the recovery room along with house officer.
- Patient will remain in left lateral position and one of the attendants can accompany the patient in recovery room.
- Patient will not be allowed to go to washroom until sedation effect is completely weaned off.

- Resident will make new file and follow up card of the patient and will enter the patient in register
- Resident will write the report, monitor the vitals, follow stat orders (if any), explain the attendants regarding outcome of the procedure, discharge medicine, labs (if any) and follow up.
- Discharge/ Shifting back to parent ward/ Admission to indoor facility will be the decided by the resident on case to case basis.
- The OPD patients can be admitted for monitoring if required:
    - Having new onset severe pain abdomen.
    - Development of surgical emphysema.
    - Collapsed patient during or post procedure or
    - Any other suspected intra/post procedure complication.

11. Post procedure follow up:

- Resident of Hepato pancreatico biliary clinic will follow the admitted and OPD patients on specified days with investigations and will write the follow up in the record file.

12. Complication Rate:

- Pancreatitis (3.5%), Hemorrhage (1.3%), Perforation (0.1%), Cholangitis (<1%), cardiopulmonary (1%)

Endoscopic Ultrasound (EUS)

Endoscopic Ultrasound (EUS) is a group of related techniques whereby an endoscope is used to place an ultrasound transducer within the gastrointestinal lumen to perform ultrasonography of the wall, wall associated lesions, and of structures surrounding the gastrointestinal tract.

1. Indications:

- Staging of tumors of the GI tract, pancreas, bile ducts, and mediastum including lung cancer.
- Evaluating abnormalities of the GI tract wall or adjacent structures.
- Tissue sampling of lesions within or adjacent to the wall of the GI tract.
- Evaluation of abnormalities of the pancreas including masses, pseudocysts and chronic pancreatitis
- Evaluation of abnormalities of the biliary tree.
- Placement of radiologic (fiducial) markers into tumors within or adjacent to the wall of the GI tract
- Treatment o symptomatic pseudocysts by creating an enteral cyst communication.
- Providing access into the bile ducts or pancreatic duct, either independently or as an adjunct to ERCP
- Evaluation for perianal and perirectal disorders (anal sphincter injuries, fistulae, abscesses)
- Evaluation of patients at increased risk of pancreatic cancer
- Ceiliac plexus block or neurolysis

2. Informed consent:

- Attending resident will take informed consent from patient or attendant. In case of critically ill patients, high risk consent will be taken.
- Explain the procedure to the patient/attendants.
- Explain the risks of the procedure.
- Explain the side effects of medications likely to be used during procedure.
- Explain the possible outcomes including successful or failure of the procedure and risk to the life.
- Give opportunity to the patient/attendant to ask questions.
- Get the document signed.

3. Pre-procedure assessment:

- Following investigations are routinely carried out before procedure.
    - Blood CP
    - Serum electrolytes

- PT/APTT
- RFTs
- Chest x rays
- ECG
- Pregnancy testing may be considered in women of childbearing age

- Patient will be evaluated for ASA (American society of anesthesiologists) class and Mallampati score.

4. Preparation:

- For the best possible examination, the stomach must be empty. The patient should not eat anything after midnight or 8 hours prior to examination.
- Heart and blood pressure medications should always be taken with a small amount of water in the early morning.

5. Appointment:

- Resident will decide whether appointment should be given on urgent basis or OPD/elective basis keeping in mind the need and fitness of the patient.

6. Antibiotic prophylaxis:

- Administration of prophylactic antibiotics to be given before EUS-FNA of Mediastinal cysts and involves administration of fluoroquinolone before the procedure and continued for 3 to 5 days post procedure.

7. Sedation:

- ASAI and ASAII shall be given sedation by the resident himself whereas ASA more than II shall be given sedation by anesthetist.
- Sedation shall be given according to departments set protocol mentioned in relevant section or as desired by the anesthetist, whatever the case may be.

8. Preparations on the day of Procedure:

- Resident will re-evaluate the case and investigations thoroughly and will discuss with the consultant in pre-procedure round.
- Staff nurse will maintain two I/V cannulas with the type of fluid decided by the resident.
- Following injections will be given to all patients undergoing EUS procedure (unless contraindicated):
    - Inj. NOSPA
    - Inj. PYROLATE
    - Inj. GRAVINATE
- Vitals including blood pressure, pulse, temperature and respiratory rate with sugar levels will be carried out by the staff nurse. House officer will write it on informed consent and monitoring Performa.

- Ward boy will shift the patient to the procedure room.
- In case of critical patient, house officer and PGT will accompany the patient.
- Patient will be shifted on the procedure couch in left lateral position.
- Inside the procedure room staff nurse will ensure:
  - The disinfection of the scopes and other accessories
  - Availability and functioning of laryngoscope
  - Maintenance of emergency tray
  - Upto date medicines likely to be used during procedure

9. The EUS team:

- Minimum team members will consist of:
  - 1 Consultant Gastroenterologist: who will perform ERCP or can supervise the 3rd year resident.
  - 1 resident: who will be responsible for NAAP (for ASAI and ASAII) and sedation monitoring throughout the procedure (anesthetist will give sedation to ASAIII and ASAIV)
  - 1 House officer: who will help the resident in administering the drugs.
  - 2 Staff nurses: who will assist the consultant.
  - 1 Onsite Histopathologist: who will stain and examine the FNAC slides and will decide whether the specimen is adequate or not. He/she will label the specimen/slides accordingly, will fill the laboratory request form and will hand over the specimen/slides and laboratory request form to the Resident.
  - 1 Ward boy: who will stabilize mouth piece and maintain position of head and neck during the procedure.

10. Post-procedure:

- After EUS, patient will be monitored by resident while the sedative medications wean off.
- Ward boy will shift patient to the recovery room along with house officer.
- Patient will remain in left lateral position and one of the attendants can accompany the patient in recovery room.
- Patient will not be allowed to go to washroom until sedation effect is completely weaned off.
- Resident will make new file and follow up card of the patient and will enter the patient in register
- Resident will write the report, monitor the vitals, follow stat orders (if any), explain the attendants regarding outcome of the procedure, discharge medicine, labs (if any) and follow up.
- Discharge/ Shifting back to parent ward/ Admission to indoor facility will be the decided by the resident on case to case basis.
- The OPD patients can be admitted for monitoring if required based on any suspected intra/post procedure complications.

11. Post procedure follow up:

- Resident of Hepato-pancreatico-biliary clinic will follow the admitted and OPD patients on specified days with investigations/histopathology report and will write the follow up in the record file.

12. Complication Rate:

- Pancreatitis (0-2%), Hemorrhage (1.3-4%), Perforation (0.03%), infection (0-8%), overall (2.2%)

Motility Lab:

General Lab Protocols

- **Operating Hours**: 8:00 AM – 3:00 PM (Wednesday, Friday & Saturday)
- **Appointment**: All referrals are analyzed by the motility team personnel, and an appointment is allocated on first cum first-served basis via the reception counter of CLD. A dedicated appointment register for the motility lab is in place at the reception desk.
- **Staffing**: At least one trained technician and one supervising physician present during procedures.
- **Documentation**: All procedures must be logged with patient consent, equipment calibration records, and interpretation notes.
- **Infection Control**: Follow hospital-wide sterilization protocols for reusable equipment and surfaces.
- **Quality Assurance & Safety**
  - **Monthly calibration** of equipment.
  - **Annual competency review** for staff.
  - **Incident reporting** for complications (e.g., bleeding, vasovagal response).
  - Maintain **patient confidentiality** and secure data storage.

Esophageal Manometry

Purpose:

To assess esophageal motor function and sphincter pressures.

Indication:

- To evaluate patients with dysphagia and/or chest pain for esophageal motor disease.
- To aid in the diagnosis of progressive systemic sclerosis (scleroderma) or intestinal pseudo-obstruction by documenting esophageal motor dysfunction.
- Evaluate the effectiveness of pneumatic dilatation or surgical myotomy in lowering lower esophageal sphincter pressure (LESP) in patients with achalasia.
- Evaluate esophageal motility and LESP before fundoplication in patients with gastroesophageal reflux and assess its effectiveness in raising LESP.

Pre-Procedure:

- Patient fasts for **6–8 hours**.
- Avoid sedatives, antispasmodics, and prokinetics on the day of the test.
- Explain procedure and obtain informed consent.

Procedure:

- Apply a topical nasal anesthetic.
- Insert a high-resolution manometry catheter via the nostril.
- Position the catheter to span from the pharynx to the stomach.
- Record baseline and swallow-induced pressure waves.
- Perform **10 wet swallows** with 5 mL of water each.

Post-Procedure:

- Remove the catheter gently and place it in the water tub.
- The technician/staff nurse shall wash the probe and disinfect it with Sydex after every procedure, as per disinfection instructions.
- Patient may resume normal diet and activities.
- Document findings and forward to the interpreting physician.

Anorectal Manometry

Purpose:

- To evaluate rectal sensation, sphincter function, and coordination during defecation.

Indication:

- Chronic constipation, with suspicion of anorectal dyssynergia/pelvic floor dysfunction.
- Suspected Hirschsprung disease
- Fecal incontinence
- Pre-op and post-op evaluation for surgeries involving the anorectal region

Pre-Procedure:

- Administer **rectal enema** 2 hours prior.
- Explain procedure and obtain consent.
- No sedation required.

Procedure:

- Position the patient in left lateral decubitus.
- Insert a lubricated catheter with pressure sensors into the rectum.
- Measure:
    - Resting and squeeze pressures
    - Recto anal inhibitory reflex
    - Balloon expulsion test
    - Rectal compliance and sensation

Post-Procedure:

- Remove catheter and clean area.
- Patient may resume normal activities.
- Record and interpret data.

pH and Impedance Testing

Purpose:

To detect acid and non-acid reflux episodes over 24 hours.

Indication:

- Persistent reflux symptoms despite PPI therapy
- Atypical symptoms of GERD, such as chronic cough, hoarseness, asthma, or chest pain.
- Preoperative evaluation for anti-reflux surgery
- Assessment of esophageal acid exposure in patients with suspected GERD.
- Correlation of symptoms with reflux episodes
- Evaluation of laryngopharyngeal reflux (LPR)
- Monitoring efficacy of acid-suppressive therapy
- Suspected non-acid reflux

- Postoperative assessment
- Diagnosis of achlorhydria

Pre-Procedure:

- Stop PPIs **7 days prior**, H2 blockers **48 hours prior**.
- Fast for **6 hours** before catheter placement.
- Obtain informed consent.

Procedure:

- Insert pH-impedance catheter trans nasally.
- Confirm placement via manometry or anatomical landmarks.
- Connect to portable recorder and instruct patient:
    - Record meals, symptoms, and posture changes.
    - Avoid acidic foods and carbonated drinks.

Post-Procedure:

- Remove catheter after 24 hours.
- Download and analyze data using software.
- Generate a report for physician review.

Phototherapy Room

1. General Room Protocols

- **Operating Hours: 8:00 AM – 3:00 PM (Monday to Saturday)**
- **Staffing:** Minimum one trained technician and one supervising physician per session.
- **Documentation:** Maintain individual treatment logs, consent forms, and progress notes.
- **Infection Control:** Disinfect all surfaces and equipment before and after each session.
- **Patient Identification:** Confirm MR number and verify treatment card before each session.

2. Photobiomodulation Therapy (PBMT)

Indications:

- Solitary rectal ulcers
- Oral aphthous ulcers
- Diabetic foot ulcers

Pre-Treatment:

- Review patient history and contraindications.
- Clean and prepare treatment area.
- Explain procedure and obtain informed consent.

Procedure:

- Select appropriate wavelength (typically 400–850 nm).
- Adjust dosage based on lesion size and depth.
- Apply probe directly or at a slight distance from the lesion.
- Duration: 30 seconds to 3 minutes per site, depending on protocol.
- Use protective eyewear for both patient and staff.

Post-Treatment

- Document lesion response and patient feedback.

- Schedule next session as per protocol (e.g., alternate days or weekly).
- Provide wound care instructions if applicable.

3. Photodynamic Therapy (PDT)

Indications

- Dermatologic lesions such as acne vulgaris and cutaneous leishmaniasis

Pre-Treatment

- Cleanse the lesion area thoroughly.
- Apply photosensitizing agent (e.g., ALA).
- Allow incubation (typically 1–3 hours depending on agent used).
- Obtain informed consent and explain post-treatment care.

Procedure

- Use appropriate light source (e.g., red light at 630 nm).
- Illuminate lesion for prescribed duration (usually 8–15 minutes).
- Monitor for discomfort or adverse reactions during exposure**.**

Post-Treatment

- Advise sun avoidance for 48 hours.
- Document lesion response and side effects.
- Schedule follow-up based on lesion type and severity.

4. Safety & Quality Assurance

- **Calibration:** Monthly calibration of light-emitting devices.
- **Training:** Annual competency review for all staff.
- **Incident Reporting:** Log any adverse events or equipment failures.
- **Patient Education:** Provide printed instructions for home care and follow-up.
- **Data Security:** Ensure all patient records are stored securely and confidentially.

Hepatic Fibro Scan

1. Indications:

- FibroScan is principally used to estimate the degree of liver scarring present (i.e. stage of liver disease) in patients with chronic liver disease, including:
  - Chronic Hepatitis B & C & HIV / HCV Coinfection
  - Chronic Alcohol Abuse
  - Fatty Liver

2. Contraindications:

- **Absolute:**
  - Pregnancy
  - In patients with a pacemaker

- **Relative:**
  - Obesity (BMI >30–35 kg/m2) → Accurate readings are obtained in <50% of patients who have a body mass index (BMI) >35 kg/m2
  - Older / Increasing Age
  - Presence of Ascites → Prevents propagation of the vibration wave and therefore frequently results in failure to obtain readings
  - Features of the Metabolic Syndrome (Type 2 Diabetes, Hypertension, Increased Waist Circumference)
  - Liver inflammation (e.g. Active Hepatitis)
  - Cholestasis (e.g. Biliary Obstruction)
  - Mass lesions within the liver (e.g. Tumors)
  - Liver congestion (e.g. Heart Failure)

3. Pre-procedure assessment & Preparation:

- For the test to be performed, prior appointment is not necessary
- Registrar will evaluate the patients for indications and contraindications.
- Informed consent must be taken prior to start of the FibroScan
- Patients should have fasted for at least 2 hours before the procedure

4. Procedure:

- The test shall be performed by the On Call Registrar.
- With the patient lying supine, an ultrasound-like probe is placed on the skin over the liver area, typically in the right mid-axillary line
- The patient feels a gentle 'flick' each time a vibration wave is generated by the probe so the patents must be adequately counseled prior to the procedure
- A minimum of 10 valid readings, with at least a 60% success rate should be taken.

- An interquartile range (IQR) must be ≤30% of the median value.
- Parameters including LSM, IQR and IQR/Med should be documented in the register along with necessary information by the performing registrar.
- Report generated should be properly signed with official stamp.
- The registrar should also inform the patient regarding the interpretation of results and should guide the patient for follow-up in the respective clinic.

Radio Frequency Ablation (RFA):

1. Patient Selection

- All patients with SOL liver will be discussed in morning meeting after CTP classification, BCLC/ HKLC system selected for RFA.
- Life expectancy more than 6 months.
- Normal coagulation parameters (in patients with cirrhosis: INR <1.3, platelets >50.000).

2. Pre-Op Planning

- Communicate all potential complications to the patient prior to treatment.
- High quality helical tri-phasic assessment CT and US, maximum age of one month.
- If RF is performed under US guidance, scan the patient in the same orientation as the planned treatment using normal breathing patterns. If the lesions can only be visualized with the patient taking deep inspirations, this is not a good candidate for treatment.
- Some Exophytic lesions can be better treated with open laparotomy.
- Sub capsular lesions adjacent to the bowel, when some adhesions are suspected, are contraindicated for percutaneous approach (in HCC, PEI is preferable).
- Antibiotic administration (for 3 days, including the day of RF treatment) is advisable, above all for diabetic patients.

3. Contraindications

- Bile duct or major vessel invasion.
- Significant extrahepatic disease.
- Child class C cirrhosis or active infection.
- Decompensated liver disease.
- Lesions that are difficult to reach with electrodes or when electrode placement is impaired - In such cases, an open rather than percutaneous approach should be used
- Tumors that occupy more than 40% of the volume of the liver - Tumors of this size cannot be safely ablated, because the liver reserve left after RFA might not be sufficient to preserve hepatic function
- Proximity to vital structures like vessels and adjacent organs [26] - This is a relative contraindication.

- Lesions larger than 5 cm (relative contraindication) - RFA should be used cautiously for lesions larger than 5 cm.
- Use of open RFA for lesions larger than 5 cm.

- Patients with metastatic lesions larger than 3 cm - These lesions are not optimally suited for RFA, because the risk of recurrence is high [18]
- Large or numerous tumors - Multiple studies recommend RFA as a choice if there are fewer than three tumors, each of them measuring less than 3 cm.

4. Post-Op Care

- NSAIDS
- Cox-2inhibitors
- Oral / injectable antibiotics for 3 days.

5. Follow-Up

- USG abdomen should be done on discharge; if feasible do CT scan abdomen.
- Tumor markers, US and CT can be performed every 3-4 months.

6. Complication rate:

Hemorrhage (0.7%), Infection (0.3-1.7%), Liver failure (0.2-4.3%), Biliary tract damage (0.1-12%), Visceral damage (0.5-0.7%), Pulmonary complication (0.8-2.1%), skin burn (0.2-0.6%), Tract seeding (0.2-0.9%), Hepatic vascular damage (0.5-1%).

Tea Room

1. Purpose

- To provide a clean, safe, and comfortable space for staff to take breaks.
- To ensure consistent hygiene, efficient use of resources, and respectful conduct in the tea room.

2. Scope

- Applies to all hospital staff, trainees, and visitors authorized to use the tea room.
- Covers daily operations, hygiene, equipment use, and etiquette.

3. Responsibilities

- **Tea Room In-Charge (designated staff member):**
  - Oversee cleanliness and supplies.
  - Report maintenance issues.
- **All Users:**
  - Follow hygiene and etiquette rules.
  - Use equipment responsibly.
- **Housekeeping Staff:**
  - Perform scheduled cleaning and waste disposal.

4. Hygiene & Cleanliness

- Wash hands before preparing or consuming food/drinks.
- Wipe spills immediately to prevent accidents.
- Dispose of waste in designated bins (segregated for recyclable and non-recyclable items).
- Refrigerator to be cleaned weekly; expired items discarded.
- Crockery and utensils must be washed, dried, and stored properly after use.

5. Equipment Use

- **Electric Kettle / Water Dispenser:**
  - Ensure water level is adequate before switching on.
  - Switch off after use to prevent overheating.
- **Microwave Oven:**
  - Cover food before heating.
  - Clean interior after spills.
- **Refrigerator:**
  - Label personal items with name and date.
  - No storage of raw meat or strong-smelling items.
- **Tea/Coffee Supplies:**
  - Keep sugar, tea, coffee, and milk sealed to avoid contamination.

6. Etiquette & Conduct

- Respect shared space; avoid loud conversations.
- Limit break time to 15–20 minutes during peak hours.
- Do not leave personal belongings unattended.
- Maintain professional decorum; avoid discussions that may disturb others.

7. Safety

- Electrical appliances must not be left unattended while in use.
- Report faulty equipment immediately to administration.
- Fire extinguisher to be placed nearby and checked monthly.
- First aid kit to be available in the tea room.

8. Supplies & Inventory

- Tea room in-charge to check supplies daily (tea, coffee, sugar, milk, disposable cups).

- Maintain a logbook for inventory and replenishment.
- Emergency stock to be kept for night shifts.

9. Cleaning Schedule

Task	Frequency	Responsible Person
Floor mopping	Twice daily	Housekeeping
Countertops & tables	After each shift	Users/Housekeeping
Refrigerator	Weekly	Housekeeping
Microwave & kettle	Daily	Users
Waste disposal	Twice daily	Housekeeping

10. Monitoring & Compliance

- Monthly inspection by departmental administration.
- Non-compliance to be reported and addressed through staff meetings.
- Feedback mechanism (suggestion box or digital form) for continuous improvement.

SECTION - II

PATIENT SAFETY & SEDATION

Patient Safety:

Patient safety is the utmost responsibility of healthcare professionals directly involved in the delivery of invasive procedures and can only be maintained by working together as a team and to create, adapt and adopt local standards for procedures.

1. Standardized documentation for invasive procedures must be ensured by recording the essential information throughout the patient pathway, including pre-procedural assessment and planning, the conduct of anesthesia or sedation, the invasive procedure itself and post-procedural care.
2. Throughout the patient pathway, the patient transfer and handover should be both verbal and written, and should be documented as well. During each handover the specified team member should be physically present. If there is a change in team members during a procedure or between procedures, the outgoing and incoming team members must ensure that they hand over all relevant information
3. All patients undergoing invasive procedures must undergo safety checks before the start of procedure including anesthesia fitness, basic labs, procedure indications as per local protocols, and a valid consent form completed in accordance with local guidance.
4. A safety briefing must be performed at the start of all elective, unscheduled or emergency procedure sessions. The briefing may need to be conducted on a case-by-case basis if there is a change in key team members during a procedure session.
5. A safety briefing must be performed at the start of all procedures. The briefing may need to be conducted on a case-by-case basis if there is a change in key team members during a procedure session. All members of the procedural team should attend the briefing. The briefing can be conducted by the team lead.
6. If Prosthesis e.g. stent is required during the procedure the team lead should define the specifications of prosthesis and a named team member should be responsible for ordering and checking the availability of correct prosthesis before the start of procedure.
7. A record of the prosthesis used must be made in the patient's notes and appropriate details should be shared with the patient after the procedure.
8. If a sample is collected during the procedure, a named team member should be responsible for proper labeling of the specimens including patient's name and site or side when relevant and brief history or clinical notes. The sample should be properly handed over to family or delivered to laboratory whatever the case may be.

9. Procedural team debriefing is a key element of practice in the delivery of safe patient care during invasive procedures and should be performed at the end of all procedure sessions. Every member of the procedural team should take part in the debriefing. Any team member may lead the debriefing, but the operator and anesthetist (if an anesthetist has been involved) must be present.
10. The content of the team debriefing should be relevant to the patient and procedure. For each patient, the discussion should include things that went well, any problems with equipment or other issues that occurred, any areas for improvement, any complication during procedure or any anticipated late complication.
11. The team lead should nominate a member to address the post procedural orders in clear format both verbally and written.

Appointment for Advanced Procedure

- **For an appointment,** the patient will report primarily to the receptionist. The receptionist will help the patient get seated and inform the on-call resident/Medical Officer.
- Resident/Medical Officer on duty will assess the patient with respect to the indication of procedure and patient fitness and can seek the help of a consultant if required.
- The assessment includes history, physical examination, and ASA and MALAMPATTI score determination.
- Resident/Medical Officer will decide for anesthesia at the time of appointment. ASAI and ASAII will be given sedation by the Gastro residents, whereas ASA more than II will be given sedation by an anesthetist. Parent department will arrange, if an anesthetist is required.
- Anesthesia Fitness required for patients with:
    - Cardiovascular disease
    - Hypertension
    - Asthma
    - COPD
    - Diabetic
    - Interstitial Lung Disease
    - Valvular Heart Disease
    - Hemodynamic instability with urgency of procedure
- The following labs are required before the procedure:
    - Blood complete picture
    - LFTS
    - RFTS
    - Serum Electrolytes
    - PT/APTT
    - Hepatitis B and C profile by Elisa
    - Chest Xray
    - ECG
    - CT/MRCP(case sensitive)
    - Echocardiography if IHD/CCF is suspected or when advised by cardiologist

- The resident/Medical Officer will explain the procedure and its merits and demerits along with the necessary prerequisites for the day of procedure, including NPO, antibiotic prophylaxis, etc.

- The resident/medical officer on duty will enter the name of the patient into the appointment register. As a principle, patients are given appointments as early as possible.
- All data for the patient is properly documented in the appointment register and an appointment card is issued to the concerned patient.

Patient Care Pathway

Purpose

- To outline a streamlined protocol for the management of all patients presenting to the CLD for interventional procedures, ensuring timely intervention and optimal patient outcomes.

Scope

- This pathway applies to all patients visiting the CLD for interventional procedures who are identified as requiring intervention by the attending physician.

Pathway Summary

Entry Point

⬇

Gatekeeper / Security Desk

- Guides patient to the correct department
- Ensures orderly flow and basic triage (if needed)

⬇

Reception Desk

- Registers patient details
- Provides basic instructions for navigation

⬇

Duty Doctor / Medical Officer*

- Conducts initial clinical assessment
  - (For emergency cases, “Urgent Care Pathway” will be adopted)
- Orders relevant investigations
- Schedule Procedure
- Refers to a specialist if needed

⬇

Specialist Consultation

- Patient seen by gastroenterologist or hepatologist
- Register/Manage patient through dedicated clinics
- Advanced diagnostics or therapeutic procedures performed

⬇

Admission (if required)

- Patient admitted to the dedicated GI ward/Emergency
- Managed by a consultant-led team

⬇

Follow-up & Discharge Planning

- Post-procedure care
- Medication and lifestyle guidance
- Scheduled follow-up visits in respective clinics

Grievance Redressal

In case of any grievance, patients or attendants may contact:

- ***Patient Facilitation Officer*** *with the help of the reception (Dr. Sadia/Dr. Tayyab)*

A formal complaint can also be submitted via the hospital's ***Patient Feedback Desk***

Patient Care Pathway for Urgent Interventional Procedures

Purpose

- To outline a streamlined protocol for the management of patients presenting to the CLD for interventional procedures who require urgent or emergent care, ensuring timely intervention and optimal patient outcomes.

Scope

This pathway applies to all patients visiting the CLD for interventional procedures who are identified as requiring urgent or emergent intervention by the attending physician.

Pathway Summary

1. Initial Assessment

- Patient will be immediately notified by the Reception Desk/Medical Officer
- Upon presentation, the **attending consultant** will promptly assess the patient.
- If the patient is deemed to require **emergent intervention**, the pathway is activated immediately.

⬇

2. Temporary Retention and Monitoring

- The patient will be **retained in the Recovery Room** under the supervision of the **on-duty Senior Registrar (SR)**.
- **Supportive treatment** will be initiated without delay.

⬇

3. Laboratory Investigations

- The **staff nurse** will collect the required laboratory samples.
- The **"Patient Priority"** stamp will be applied to the investigation request forms to ensure expedited processing.
- The **ward boy** will personally transport the samples to the laboratory and ensure **fast-track processing**.
- The ward boy will also be responsible for **retrieving the results** as soon as they are available.

⬇

4. **Same-Day Intervention**

   - Once preliminary stabilization and investigations are complete, the **interventional procedure will be performed on the same day**.

⬇

5. **Post-Procedure Disposition**

   - Based on the clinical status post-intervention, the patient will be admitted to one of the following:
     - **Intensive Care Unit (ICU)**
     - **Gastroenterology Ward**
     - **Emergency Room (ER)**

   The decision will be made by the attending consultant in consultation with the on-duty team.

Key Roles and Responsibilities

Role	Responsibility
Attending Consultant	Clinical decision-making, procedural planning, and post-procedure disposition
Senior Registrar	Immediate care and monitoring in Recovery Room
Staff Nurse	Sample collection, documentation, and coordination
Ward Boy	Fast-track transport and retrieval of lab investigations

Notes

- This pathway is designed to minimize delays in care for critically ill patients requiring GI interventions.
- All team members must be familiar with their roles to ensure seamless execution.

Sedation Protocols

- **Pre-sedation medications:** After maintaining a double IV line, it is mandatory to premedicate all patients in the recovery room by the assigned House Officer before moving that patient to the procedure room, and includes the following:
  - Inj Dimenhydrinate(Gravinate) 50mg
  - Inj Glycopyrolate(Pyrolate) 0.2mg
  - Inj Drotaverine(No-spa) 40mg
  - IV Antibiotics if required.
- **Sedation Induction:** Following agents are routinely used for induction:
  - **NALBUPHINE**

    Induction dose: 5 mg (0.5 ml) iv.

    Contraindications: Respiratory depression , Obstructive Airways disease, Renal or Hepatic Impairment , Head Injury. Caution advised in pregnancy and lactation.
  - **BENZODIAZEPINES(*Midazolam)***

    DOSE: 2.5 mg(2.5 ml) iv.
  - **Contraindications:** cardiorespiratory depression in compromised patient ESPECIALLY if given with opioids. AVOID IN PATIENTS with Chronic COPD, Sleep Apnea & Morbid Obesity.
  - **KETAMINE**

    DOSE: 12.5 mg for induction.

    Contraindications: Eclampsia , Hypertension
- **Maintenance:**
  - **PROPOFOL:**

    DOSE: 1 mg/kg (10 mg/ml).

    Contraindications: Severe cardiovascular and respiratory depression, Epilepsy or seizures, Hyperlipidemia, Hypotension
- **Reversal Agents**
  - **NALOXONE:** Reversal of opiod depression

    DOSE: 0.4-2mg every 3mins or by IV infusion
  - **FLUMAZENIL :** Benzodiazepine antagonist

    DOSE: 300 -600mcg in divided dosed of 200 mcg over 15secs
- **Monitoring**
  - Continually monitor ventilatory function and vital clinical signs including blood pressure and heart rate and keep on charting them during procedure.
  - Use electrocardiographic monitoring during moderate sedation in patients with clinically significant cardiovascular disease or where dysrhythmias are anticipated.

- If patients develop hypoxemia, significant hypoventilation or apnea during sedation/analgesia: (1) encouraged or physically stimulated patients to breathe deeply; (2) administered supplemental oxygen; and (3) provided positive pressure ventilation if spontaneous ventilation is inadequate.
- Use reversal agents in cases where airway control, spontaneous ventilation or positive pressure ventilation are inadequate
- ETTs/laryngoscopes/introducers/suction/airway/ambo bag for resuscitation should be daily checked by staff nurse**.**
- Once the procedure is over, the accompanying resident will monitor the patient till complete recovery from anesthesia.

Quality Assurance Enhancement (QAE):

It offers a framework for measuring quality of service in the healthcare industry. Assessment and feedback are the vital components of quality assurance. The basic tool used for quality assurance in our department is a "Quality indicator Performa" attached as Annexure I and is adapted from ACG and ASGE guidelines.

1. A quality assurance team shall be nominated by the head of department and should submit their report on quarterly basis.
2. The team members shall randomly evaluate different procedures by filling the quality indicator Performa.
3. During each quarter at least 3 performs shall be filled for each type of procedure.
4. Whereas for infection control random sampling should be done from scopes, equipments or solutions on quarterly basis and should be sent for culture and sensitivity testing.
5. At the end of each quarter the team will submit the report to the head of department pointing/ highlighting:
    a. Overall quality of individual procedures
    b. Areas with poor performance
    c. Culture sensitivity report
    d. Measures to improve quality in the poor areas
6. Head of department should formulate a strategy e.g courses, workshops, training, and change in SOPs etc. in the light of the recommendations by the team.
7. After the implementation of the required changes the team shall reassess the poor quality areas for any improvement within 30 days' time and should submit their report.

SECTION - III

RESEARCH & PUBLICATIONS

Disease Data Center

1. Purpose

- To provide a standardized system for recording, storing, analyzing, and reporting clinical data within the department for patient care improvement, audit, research, and administrative reporting.

2. Scope

- Applies to all doctors, residents, nursing staff, and the Research Officer responsible for maintaining the Departmental Data Center.

3. Roles & Responsibilities

Role	Responsibility
Head of Department (HOD)	Supervises data quality, approves monthly report
Consultants	Ensure accurate documentation in patient files and summaries
Residents / Medical Officers	Fill daily/weekly case forms and ensure completeness of records
Research Officers (Primary Responsible Person)	Maintains database, enters data, prepares monthly report
Data Security/IT Coordinator	Ensures data protection & backup system

4. Data Collection Workflow (Daily Routine)

1. Patient seen in OPD / Ward / Procedure Room.
2. Clinical findings, investigations, diagnosis & management documented in patient file.
3. Resident/MO completes a one-page Case Data Form (standard departmental template).
4. All Case Data Forms are submitted to the Research Officers by end of day.

5. Data Entry

1. Research Officers enter all received patient data into the Respective clinic's excel file.
2. Data must be entered **within 48 hours** of receipt.
3. If any form has missing information, it is returned to the responsible resident for correction.

6. Data Storage & Security

- **Primary Storage:** Respective clinic data Folder on Google Drive.
- **Backup:** Monthly backup maintained in printed and shared version, secured with IT Coordinator.
- Access is **restricted** to:
    - HOD
    - Research Officer
    - Authorized Research Personnel (Clinic In-charge)
    - IT Coordinator

7. Monthly Report Preparation & Submission

- **Data Entry Cut-off:** 5th of each month for previous month's cases.
- **Report Prepared By:** Research Officer.
- **Report Format:** Standard Excel Report including:
    - Total Patients (OPD / Ward / Procedures)
    - Diagnosis Categories
    - Interventions / Treatments provided
    - Follow-up statistics
- **Submission Deadline:** Report must be submitted by the 7th of every month.
- **Submitted To:** Head of Department.

8. Research & Data Use

- Any use of data for research/publication requires:
    1. HOD approval
    2. Ethical Review Board (IRB) approval (if applicable)
- No data may be shared externally without authorization.

9. Quality Control

- Random audit of 10 patient records per month by HOD or assigned consultant.
- Errors corrected and feedback given to responsible staff.
- SOP reviewed and updated annually.

Research Standard Operating Procedures

Purpose and Scope

Purpose

This document outlines standardized procedures for the design, review, conduct, and oversight of all research activities within the Center of Liver and Digestive Diseases (CLD) at Holy Family Hospital (HFH), Rawalpindi.

It ensures that all research adheres to:

- RMU's institutional ethical policies
- National biomedical research ethics (DRAP, HEC, CPSP, NIH Pakistan)
- International standards such as the **Declaration of Helsinki** and **ICH-GCP (Good Clinical Practice)**

Scope

This SOP applies to:

- Faculty, residents, postgraduate trainees (PGTs), and students conducting research within CLD.
- Research involving human participants, medical records, biological samples, or data from HFH.
- Collaborative and multicenter studies where CLD–HFH acts as the principal or participating site.

It covers all phases: concept, proposal preparation, ERB submission, data collection, analysis, publication, and archiving.

Governance and Oversight

Governance Structure

Research at CLD will operate under a three-tier oversight model:

Level	Body	Primary Role
Level 1	**Departmental Review Board (DRB–CLD)**	Conducts departmental review and ensures compliance with RMU SOPs before ERB submission.
Level 2	**Ethics Review Board (ERB–RMU)**	Provides independent ethical review, approval, and monitoring of research involving human participants.
Level 3	**Office of Research, Innovation and Commercialization (ORIC–RMU)**	Manages funding, authorship policy, intellectual property, and misconduct inquiries.

Composition of DRB–CLD

- Chairperson: Head, Center of Liver and Digestive Diseases
- CLD Research Coordinator
- Members: Two senior faculty members, one statistician, one resident/fellow representative

Responsibilities

- Maintain a **record of all departmental research projects**.
- Conduct **pre-ERB technical review** for scientific rigor and feasibility.
- Ensure **training in research ethics and GCP** for all investigators.
- Liaise with R&D RMU, ERB, and ORIC on documentation, compliance, and progress reporting.

Preparation of Research Proposals

1. Initial Concept Development

Investigators shall identify research gaps relevant to Gastrointestinal tract & liver diseases, including but not limited to:

- Gastrointestinal tract
- Pancreas

- Biliary disorders
- Hepatitis B and C
- Non-alcoholic fatty liver disease (NAFLD/NASH)
- Hepatocellular carcinoma
- Cirrhosis and complications
- Motility disorders

Topics should align with RMU's research priority areas and national health needs.

2. Synopsis Preparation

Follow the **ERB-approved format** from RMU SOP–ERB–RMU–21–06–24 Guidelines-for-Submitting-a-Synopsis (available on RMU website).

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The synopsis must include:

- Title (with study design and site)
- Background and rationale with literature review
- Clearly defined objectives (primary, secondary)
- Study design and methodology
- Ethical considerations
- Data analysis plan
- Budget and funding sources
- References

The synopsis must be signed by the **PI, supervisor(s), and Head of Department**, with the date of submission clearly stated.

3. Full Protocol Development

Researchers must then prepare a **comprehensive protocol** using the RMU Observational/Interventional Research Template

observational-research-protocol (available on RMU website).

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All placeholders and instructional text must be replaced with specific study content.
Include:

- Version control page (version number, date, summary of revisions)
- Statement of compliance (Declaration of Helsinki, ICH-GCP, RMU policies)
- Roles and responsibilities table
- Statistical analysis plan
- Data collection tools and informed consent documents

4. Internal Review and Approval Workflow

a. Submission to DRB–CLD

- Submit soft and hard copies to the Research Coordinator.
- DRB–CLD will screen the proposal for completeness and ethical soundness.

b. Pre-ERB Sign-Off

- Once approved internally, the DRB Chairperson signs the **Departmental Review Board (DRB) Clearance Form**, certifying readiness for ERB submission.

c. ERB Submission

- Submit **hard copy + ERB checklist (available on RMU website)** at least **15 days before ERB meeting**.

Email soft copy to ERB Office, R&D RMU, as per submission schedule.

5. Ethical Approval and Participant Protection

a. Ethical Review

All proposals must receive **Ethical Review Board (ERB–RMU)** clearance **before recruitment** or data access.
The ERB may request:

- Clarification on consent procedures
- Data protection mechanisms
- Risk–benefit justification

- Safety monitoring plans

b. Informed Consent

- Obtain **written informed consent** from each participant before any study-related procedure.
- Consent must be taken in **Urdu and English**, with translation support for illiterate participants.
- Ensure participants understand study objectives, risks, benefits, and voluntary participation.
- Store signed consent forms securely and separately from data files.

c. Confidentiality and Data Protection

- Use anonymized codes instead of personal identifiers.
- Store physical data in locked cabinets; digital data in password-protected systems.
- Only authorized investigators may access identifiable information.

d. Vulnerable Populations

When dealing with minors, pregnant women, or critically ill patients:

- Obtain **assent (if applicable)** plus guardian consent.
- Extra caution must be exercised to minimize risk.

6. Research Documentation and Version Control

Every study folder must contain:

- Signed synopsis and protocol with version history
- ERB correspondence (approval letters, queries, responses)
- Data collection tools and CRFs
- Delegation of duties log
- Investigator medical license, training certificates (GCP, ethics) and CVs.
- Budget and funding documentation (if applicable)
- Communication log and meeting minutes

Each revision must be tracked with:

- Version number
- Revision date
- Description of changes
- Approved by (PI / Supervisor / ERB)

7. Data Management and Quality Assurance

a. Data Collection

- Use standardized CRFs or validated questionnaires.
- Data collectors must be trained in **confidential handling** and **source documentation**.
- Approved Informed Consent Form (Urdu/English) must be signed by patient/ guardian.
- Other patient-facing materials (participant card, participant diary, participant information sheet should be maintained.
- In case of clinical trials sample eligibility checklist, trial participant identification log, informed consent checklist, Drug accountability log, protocol deviation log and adverse event form should be maintained in patient's record file.

b. Data Quality

- Conduct **weekly quality checks** by the PI or designee.
- Missing or inconsistent data must be resolved through documented queries.
- Maintain a **Data Query Log** and **Audit Trail** for all corrections.

c. Data Storage

- Store hard copies in locked storage within CLD Research Office.
- Electronic data to be backed up weekly on institutional servers.
- Retain data for **a minimum of 3 years** after study completion.

d. Data Analysis

- Use authorized software (SPSS, R, STATA, etc.).
- Follow the Statistical Analysis Plan in the protocol.
- Clearly state confidence levels (usually 95%) and significance threshold ($p < 0.05$).

8. Authorship, Intellectual Property, and Publication

a. Authorship Criteria (ICMJE) ORIC-Policies

Each author must:

- Contribute substantially to conception, data acquisition, or analysis.
- Participate in drafting or revising the manuscript.
- Approve the final version for publication.
- Be accountable for integrity of all aspects of the work.

b. Order of Authorship

- **First Author:** Principal Investigator
- **Corresponding Author:** Faculty member affiliated with RMU/CLD
- **Co-authors:** Must have verifiable contributions (documented in the authorship log).

c. Institutional Affiliation

All manuscripts must include:

"Centre for Liver and Digestive Diseases, Holy Family Hospital, Rawalpindi Medical University, Pakistan."

d. Ethical and Funding Acknowledgements

Include ERB approval number and funding source in all submissions.

e. Conflict of Interest

All potential conflicts (financial, institutional, or personal) must be declared in writing.

9. Research Funding

a. Internal Funding (ORIC-RMU)

- Submit proposal via DRB–CLD to ORIC using prescribed application form.
- Scoring criteria:
  Significance, Investigator Capability, Innovation, Approach, Environment (20 marks each).
- ≥70% score: Approved for internal funding; 50–69%: Revise and resubmit.

b. External Funding

- ORIC will identify potential agencies (HEC, DRAP, NIH, WHO).
- PI must ensure timely submission with all supporting documents.
- Upon approval, all fund disbursements must follow RMU financial protocols.

10. Research Misconduct and Compliance

A detailed document on ORIC policies is available on the RMU website that must be followed.

a. Definition of Misconduct

Includes but not limited to:

- Plagiarism, fabrication, falsification, or data manipulation
- Misuse of funds or unauthorized publication
- Breach of participant confidentiality
- Noncompliance with ERB or ORIC policies

b. Procedure

- Written complaint submitted to **DRB–CLD or ORIC**.
- Preliminary inquiry by DRB within 10 working days.
- Full investigation by ORIC-appointed committee (≤30 days).
- Decision by Competent Authority (VC RMU).

c. Sanctions

- Retraction of publication

- Suspension of research privileges
- Reporting to CPSP or HEC (if applicable)

11.Monitoring, Audit, and Continuous Improvement

- DRB–CLD conducts **biannual audits** of active studies.
- PIs must submit **progress reports every 6 months** to DRB and ERB.
- All approved projects are listed in a **Center Research Registry**.
- SOPs are reviewed annually or upon updates from RMU ORIC/ERB.

SECTION - IV

TEACHING & TRAINING

Skill Lab:

1. Purpose

To ensure the Skill Lab is maintained in optimal condition and utilized effectively for resident training, workshops, and skill development in gastroenterology and hepatology.

2. Scope

These SOPs apply to all registrars, residents, technical staff, and faculty members involved in the operation, supervision, and training activities conducted in the Skill Lab.

3. Responsibilities

- **Skill Lab Coordinator (Registrar):**
    - Supervise daily operations and training activities.
    - Ensure compliance with SOPs.
    - Maintain communication with faculty and technical staff.
- **Residents (1st Year):**
    - Attend scheduled practice sessions.
    - Record activities in the **Skill Lab Log Register**.
    - Follow safety and cleanliness protocols.
- **Technical Assistant (Parent Company):**
    - Provide technical support during workshops.
    - Assist in equipment handling and troubleshooting.

4. Procedures

Daily Cleanliness & Maintenance

- General cleaning and dusting with damp cloth shall be performed **daily before use**.
- Equipment surfaces must be disinfected after each session.
- Waste disposal should follow hospital infection control guidelines.

Appointment of Skill Lab Coordinator

- One registrar shall be appointed as **Skill Lab Coordinator**.
- Responsibilities include:
    - Scheduling resident practice sessions.

- Supervising training activities.
- Ensuring log register entries are complete and accurate.
- Reporting issues to the Head of Department.

Resident Training & Documentation

- All **1st year residents** must practice in the Skill Lab on their **designated days**.
- Training must be conducted **under supervision** of the Skill Lab Coordinator or designated faculty.
- Residents must record:
  - Date of practice
  - Skills performed
  - Supervisor's signature
  - Feedback received

Workshops & Hands-On Training

- The Skill Lab may be used for **hands-on training workshops**.
- Workshops must be supervised by:
  - Skill Lab Coordinator, or
  - Technical Assistant from the parent company.
- Attendance records and workshop outcomes must be documented.

5. Documentation & Records

- **Skill Lab Log Register**: Mandatory for all resident activities.
- **Workshop Attendance Sheet**: Maintained for each training event.
- **Maintenance Checklist**: Updated weekly by the Skill Lab Coordinator.

6. Compliance & Review

- SOP compliance will be reviewed **monthly** by the Head of Department.
- Non-compliance will be addressed through corrective measures.
- SOPs will be updated annually or as required based on training needs.

Library:

1. Purpose

To establish clear guidelines for the management and utilization of both the **Conventional Library** and **Digital Library**, ensuring accessibility, accountability, and effective use of resources for residents and staff.

2. Scope

These SOPs apply to all residents, faculty, staff nurses, and technical staff utilizing the library facilities.

3. Responsibilities

- **Library In-Charge (Staff Nurse):**
    - Maintain records of issued and returned books.
    - Supervise library operations and ensure compliance with SOPs.
    - Report any loss or damage to the Head of Department.
- **Residents:**
    - Follow issuance and return policies.
    - Handle books and digital resources responsibly.
    - Adhere to timelines and replacement policies.

4. Procedures

Conventional Library

- **Issuance of Books:**
    - Each resident may issue a maximum of **3 books at a time**.
    - Issuance must be recorded in the **Library Register** maintained by the Library In-Charge.
- **Return Policy:**
    - Books must be returned within **3 months** of issuance.
    - Late returns may result in restricted borrowing privileges.
- **Damage/Loss Policy:**
    - In case of damage or loss, the resident must:
        - Replace the book with the same edition, OR
        - Pay an equivalent amount as determined by the Library In-Charge.

Digital Library

- **Access to Digital Resources:**
    - Residents may watch **procedure videos** only within the library premises.
    - Videos can be accessed on designated **library computers**.
- **Usage Guidelines:**
    - No copying, downloading, or external sharing of digital content is permitted.
    - Residents must log their usage in the **Digital Library Register**.
    - Computers should be used responsibly; any technical issues must be reported immediately.

5. Documentation & Records

- **Library Register:** Records of book issuance and returns.
- **Digital Library Register:** Records of video access and usage.
- **Damage/Loss Report:** Maintained for accountability and corrective action.

6. Compliance & Review

- Compliance will be reviewed **quarterly** by the Head of Department.
- Non-compliance will result in restricted access to library facilities.
- SOPs will be updated annually or as required.

Residents:

1. Purpose

To define the responsibilities, conduct, and training requirements of residents, ensuring structured rotations, academic engagement, and professional discipline.

2. Scope

These SOPs apply to all residents rotating through indoor, outdoor, emergency, basic, and advanced procedures, as well as academic activities.

3. General Responsibilities

- Follow and comply with the **duty rota** and **academic roster** in full spirit.
- Mark attendance in the **attendance register** before **08:30 am** daily.
- **Leave Policy:**
    - No leave without prior intimation; unauthorized absence may lead to disciplinary action.
    - Leave requests must be submitted in **written application** form with a proper replacement arranged.
    - Emergency leave requires immediate **telephonic intimation** to the Supervisor.
    - All leaves/absences must be compensated at the end of training.
- Maintain **log books**, signed weekly by the Supervisor.
- **Dress Code:**
    - Males: Dress shirt with dress pants or scrubs.
    - Females: Simple, decent attire with no hanging dupatas.
    - All residents: Neat, clean overalls with properly displayed **ID card/nameplate**.

4. Indoor Responsibilities

- Manage patients on assigned beds.
- Keep patient files updated; prepare **discharge slips** upon discharge.
- Write **daily progress notes** using the **SOAP protocol**.
- Ensure consultant rounds are conducted for assigned beds.
- Guide and assist **House Officers** in ward duties.
- Remain in the ward from **08:00 am to 03:00 pm**.
- Provide a **written handover** to the on-call resident before leaving.

- **On-call Resident Duties:**
    - Physically present in the ward during duty hours.
    - Conduct evening rounds with House Officers; record progress notes.
    - Cover Gastro patients in ICU, HDU, and other departments.
    - Manage all ward patients during call hours.
    - Attend interdepartmental calls promptly.
    - Submit a **daily ward report** to the Supervisor.
- Maintain **indoor patient data** in the ward database; present audit at end of rotation.

5. Emergency Responsibilities

- Initiate treatment and management of patients referred by the **CMO**.
- Advise House Officers for implementation of orders.
- Seriously ill patients managed by the **Registrar** personally.
- Investigations and admissions authorized by the **Registrar**.
- Assist the CMO in **medico-legal cases** and disasters.
- On-call resident to submit **ER report** to Supervisor each morning.
- Maintain **ER data** in the ward database; present audit at end of rotation.

6. Outdoor Responsibilities

- Take history, perform examination, and prepare management plans for OPD patients.
- Discuss cases with consultants.
- Maintain follow-up records in patient files.
- Enter clinic data into the ward database; present audit at end of rotation.

7. Basic Procedures

- Perform/observe procedures under supervision on designated days.
- Generate patient reports and record them in the **procedure register**.

8. Advanced Procedures

- Take history, perform examination, prepare patient file, and present cases during morning rounds.
- Prepare patients for procedures, assist during procedures, and provide post-procedure care.
- Personally discharge/admit patients as required.
- Maintain **procedure data** and present audit at end of rotation.

9. Documentation & Records

- **Attendance Register** – daily compliance.
- **Log Books** – weekly supervisor signatures.
- **Ward Database** – indoor, ER, OPD, and procedure data.
- **Audit Reports** – presented at the end of each rotation.

10. Compliance & Review

- Supervisors will review resident compliance **weekly**.
- Non-compliance may result in restricted privileges or disciplinary action.
- SOPs will be updated annually or as required.

Supervisor:

1. Purpose

To define the roles and responsibilities of Supervisors in ensuring smooth departmental functioning, effective training, and disciplined clinical practice.

2. Scope

These SOPs apply to all Supervisors overseeing medical, paramedical, and resident staff within the department.

3. Responsibilities of Supervisors

Duty Roster Management

- Prepare a **monthly duty roster** for all medical and paramedical staff.
- Ensure equitable distribution of duties, including ward, emergency, and clinic responsibilities.
- Display the roster in a visible location within the department.

Punctuality & Attendance

- Monitor the punctuality of all staff members.
- Record attendance daily and report repeated delays to the Head of Department.
- Encourage a culture of professionalism and time management.

Daily Morning Meeting & Academic Session

- Conduct the **daily morning meeting** promptly at the designated time.
- Include an **academic session** (case discussion, journal club, or teaching topic).
- Document meeting highlights and circulate key learning points.

Training Supervision

- Ensure the **smooth flow of training** for residents and junior staff.
- Monitor adherence to training schedules and logbook entries.
- Provide constructive feedback and guidance during training activities.

Clinical Supervision

- Supervise both **basic and advanced procedures** performed in the department.
- Ensure patient safety and adherence to clinical protocols.
- Oversee outpatient clinics, ensuring efficiency and quality of care.

Ward & Emergency Rounds

- Ensure ward and emergency rounds are conducted **as per the rota**.
- Verify that residents and staff complete documentation during rounds.
- Address clinical issues promptly and escalate when necessary.

Discipline & Professional Conduct

- Maintain discipline within the department.
- Address conflicts or misconduct in a fair and timely manner.
- Promote teamwork, respect, and ethical practice among staff.

4. Documentation & Records

- **Duty Roster Register:** Monthly record of staff allocation.
- **Attendance Register:** Daily record of punctuality and presence.
- **Morning Meeting Log:** Notes of academic sessions and discussions.
- **Training Logbooks:** Maintained by residents, verified by Supervisors.
- **Clinical Supervision Checklist:** Weekly record of supervised procedures and clinics.

5. Compliance & Review

- Supervisors will submit a **monthly compliance report** to the Head of Department.
- Non-compliance will be addressed through corrective measures.
- SOPs will be reviewed annually or as required.

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OUR TEAM - Centre for Liver and Digestive Diseases, CLD