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Subject : SURGICAL PROCEDURES –OTT 1st Year

(Note : The study material has been composed by our academic cell under the supervision of the Director of the college. The concerned students are hereby advised to study the same thoroughly in addition to their prescribed syllabus , text books/ references and the notes provided by your concerned tutors.)

NECK SURGERY :

THYROIDECTOMY:

Thyroid gland is a highly vascular gland composed of two lobes connected by a narrow bridge (isthmus). It is located on the anterior aspect of the trachea adjacent to the 2nd, 3rd and 4th rings.

Thyroidectomy is a surgical procedure which involves the removal of all or a portion (lobe) of the thyroid gland.

Indications of Thyroidectomy:

- Hyperthyroidism
- Thyroid mass (Lesion)
- Impaired swallowing due to mechanical obstruction I.e. compression of esophagus by the enlarged gland
- Carcinoma

Anesthesia: General anesthesia/ Local anesthesia infilteration or field block.

Skin preparation: Begin at the anterior neck extend the preparation from just below the level of infra – auricular border and lower lip to a level just above the nipple and down the table to sides of the neck and around the shoulders.

Draping folded towels and a sheet with a small fenestration are used. A sterile sponge may be placed at the sides of the neck to prevent the preparation solution from pooling under the patient.

Position of the patient

The patient is placed in a supine position with the head stabilized on a padded or gel donut head rest. Shoulder roll or small sand bag placed between the scapula, extending the neck to optimize exposure.

PROCEDURE:

- A transverse curvilinear incision is given, two fingers breadth above the sterna notch (in a natural skin crease).
- Skin flaps are developed as the platysma muscle is incised and retracted.
- The exterior Jugular veins are identified and ligated.
- The strap muscles are separated or divided.

- Cricoids cartilage and the thyroid Isthmus are exposed.
- The recurrent and superior laryngeal nerves are identified and protected.
- Parathyroid glands are avoided.
- The large vessels and supporting tissues (including Berry's) ligament that attaches the thyroid to the trachea) should not be divided prior to identifying the recurrent laryngeal nerve.
- The gland is mobilized and all or a portion of the gland (lobe) is removed.
- Complete homeostasis is achieved.
- The divided strap muscles are repaired.
- The wound may be irrigated and a drain may be inserted.
- The incision is closed in layers by interrupted stitches.
- Apply the antiseptic dressing.

THYROGLOSSAL CYSTECTOMY OR SISTRUNK PROCEDURE:

- Excision of thyroglossal duct cyst and duct in continuity with mid – portion of the hyoid bone to the foramen caecum.

INDICATION:

- Infection
- Mass effect (dysphasia, Dyspnea, pain)
- Cosmetic

Anesthesia: general / local anesthesia

Skin preparation and draping: same as Thyroidectomy.

PROCEDURE:

- Mark incision and a transverse curvilinear incision are made over skin crease, over mass.
- A superior muscle flap is raised to the level of the hyoid bone.
- An inferior flap is raised until the inferior aspect of the cyst is identified.
- The platysma muscle is incised and retracted.
- Separate strap muscles in midline and retract muscles laterally.
- Incise fascia overlying cyst.
- Sharp and blunt, dissection is employed to mobilize the cyst and duct.
- Incise superior muscular attachment to hyoid bone without under cutting hyoid or incision of Periosteum.
- Resect the mid-portion of hyoid in continuity with mass to prevent recurrence.
- The cephlaed portion of the duct is ligated or dissected to the foramen caecum.
- The specimen is excised with 5-10 cm core of muscles at the base of tongue.
- Irrigate the wound and achieve complete homeostasis.
- Place Penrose or suction drain.
- The wound is closed in layers with interrupted stitches.
- Antiseptic dressing is applied.

POSITION OF PATIENT: modified rose portion with neck extended.

INSTRUMENTS:

- Thyroidectomy tray
- Minor orthopedic procedure tray
- Tracheotomy tray
- Basic pediatric procedure tray

PARATHYROIDECTOMY: surgical procedure that involves the removal of one or more of the four parathyroid glands.

INDICATIONS:

- Hyperparathyroidism with high calcium blood level.
- Adenoma, Carcinoma and hyperplasia.
- Feelings of depression/aches and pain.

ANESTHESIA (MIRP):

Local anesthesia with conscious sedation or cervical plexus blood or under general anesthesia.

Position of patient, Preparation and Draping and Instruments: same as Thyroidectomy

PROCEDURE:

a) **Endoscopic Approach/ Minimally invasive Radio guided Parathyroidectomy:**
   - A 1 – inch incision is made above the supra sterna notch, a more exact location can be determined by placing the radioactivity detection probe, over the neck.
   - The endoscope and Neoprobe are inserted through the incision.
   - The audible signal leads to the location of the enlarged gland and is carefully dissected from the surrounding structures.
   - Vascular supply is clipped and the lesion is removed.
   - The excised specimen is then scanned, complete homeostasis is achieved and the wound is closed.

b) **Standard (open) Approach:**
   - The thyroid gland is mobilized and rotated to either side of the neck.
   - Care is taken to identify and protect the recurrent and superior laryngeal nerves.
   - The NIM (Neural Integrity Monitor) endotracheal tube may be employed.
   - The Parathyroid glands are identified, isolated and excised, as indicated according to the pathology.
   - Hemostasis is achieved, the wound may be irrigated and a drain may be inserted.
   - The incision is closed in layers by interrupted stitches.

BREAST PROCEDURE OR BREAST BIOPSY:

It is a technique that involves the removal of tissue from the breast to determine the nature of Lesion.

INDICATION:

- Cyst or Lump
- Inflammation/ infection

POSITION OF PATIENT: Supine with the arm on the affected side extended on a padded arm rest.

Anesthesia: Local/ General Anesthesia

Skin preparation: Using circular motion, begin at the side of incision and extending from neckline to lower ribs, including a wide margin beyond the midline and under the arm.

Draping: Four folded towels and a Laprotomy sheet.

PROCEDURE:

- An incision is generally made over the lesion.
- For central lesion, a circumareloar incision may be employed.
- The lesion is grasped and dissected free.
- The specimen may be sent for a frozen section.
- Complete homeostasis is achieved.
- A drain may be inserted.
- Subcuticular tissue is approximated and skin is closed with fine Subcuticilar suture or fine interrupted skin suture.
- An antiseptic dressing is applied.

INSTRUMENTS:

- ESU(electro surgical unit)
- Basic /minor procedure tray
- Major procedure tray (if needed)

MASTECTOMY PROCEDURE

A mastectomy, defined as the complete removal of the breast tissue, is a surgical option for patients diagnosed with breast cancer as well as a prophylaxis to reduce the risk of breast cancer in high risk women.

INDICATIONS:

- Patient with large, malignant or centrally located tumor may undergo mastectomy.
- Multicentric carcinoma.
- Inadequate breast conserving surgery.
- Prophylactic mastectomy.

ANESTHESIA: under general Anesthesia

POSITION OF PATIENT: supine position with arms extended on a padded arm rest.

SKIN PREPARATION:

In circular motion, start at the site of incision, extending upwards to the neck line and downwards to the umbilicus with a wide margin beyond the mid-Axillary line.

DRAPING: the field around the breast is draped with folded towels. The arm is brought through the fenestration of a Laprotomy sheet.

PROCEDURE:

(A) PARTIAL MASTECTOMY:

- The incision is made over the lesion or if centrally located on the breast, a circumareloar incision is given.
- The skin is elevated and the breast mass is excised.
- Homeostasis is completely achieved, wound may be irrigated and a drain may be inserted.
- Skin is closed with interrupted stitches and a skin stitch secures the drain to prevent retraction of the drain into the wound.

(B) SUBCUTANEOUS MASTECTOMY:

- The incision is made in the inframammary fold.
- If the breast is small (or in male patient with Gynacomastia) a circumareloar incision may be given.
- The skin is elevated and all subcutaneous and connective tissues are removed, with the nipple and the skin left intact.
- Complete homeostasis is achieved and wound may be irrigated and a suction drain may be placed.
- Alternatively prosthesis may be inserted at this time.
- The skin is closed with interrupted sutures.

MODIFIED RADICAL MASTECTOMY:

- In modified radical mastectomy, usually a transverse or longitudinal incision is made.
- Skin flaps are developed and often fascia pectoralis is dissected free from underlying structure.
- The Axillary contents are dissected free from vascular and nervous structures and are removed.
- The skin flaps are approximated over drain or suction catheter.
- A skin graft may be required for skin grafting/ skin closure.

INSTRUMENTS:

- Major procedure tray.
- Rake retractor (4or6 prongs).
- Hemoclip appliers (small, medium, large).
- Curved Crile clamp, (large) and large towel clips.
- ESU, plume evacuator unit and suction.

ABDOMINAL EXTRA-INTESTINAL SURGERY OR CHOLECYSTECTOMY:

Cholecystectomy is a surgical procedure to remove the diseased gall bladder.

INDICATIONS:

- Symptomatic gall stones.
- Choledoclolithiasis (stones in GB).
- Cholecystitis.
- Pancreatitis due to gall stones.
- Traumatic or inflammatory perforation of gall bladder.

Anesthesia: under general anesthesia.

Position of Patient: The patient is supine and both the arms are extended on a padded arm board.

PREPERATION OF PATIENT:

Begin at the site of incision, either sub-costal right, right paramedian or midline, extending from the axilla to the pubic symphysis and down to the table on the sides.

DRAPING: four folded towels and a Laprotomy sheet.

PROCEDURE:

- A right sub-costal, right paramedian or midline incision is given.
- The gallbladder is identified, grasped and adhesions are divided.
- The cystic artery, cystic duct and CBD are exposed.
- Forceps are applied to fundus and to infundibulum of gall bladder and these structures are drawn right and forward.
- The cystic duct and cystic artery are clamped and ligated with a suture, passed on a long instrument or by metal clips.
- The gall bladder is mobilized by incising overlying peritoneum and is divided and cut open to rule out any malignancy.
- The abdomen is closed in layers with suction drain in sub-hepatic pouch.
- The skin is closed in layers with interrupted stitches.

INSTRUMENTS:

- Laprotomy set.
- Gall stone forceps (Desjardin).
- Gall stone probe.
- Oschsner's gall bladder trocar.
- CBD dilator (Bakes').
- Kerr – t- tube.

SPLEENECTOMY: Excision or partial removal of spleen.

INDICATIONS:

- Traumatic rupture.
- Hematologic Splenic disorder.
- Hereditary spherocytosis.
- Tumor, cyst.
- Spleenomegaly.

ANESTHESIA: Under general anesthesia..

POSITION OF PATIENT: Supine with arms extended.

SKIN PREPARATION: Begin at the midline or at the lower border of ribcage, extending from axilla to just above the pubic symphysis and down the table on the sides.

DRAPING: folded towels and a Laprotomy or transverse sheet.

PROCEDURE:

- A midline or left sub-costal incision is made.
- Entry to the peritoneal cavity is achieved.
- The spleen is identified and the splenic hylum is isolated, taking care not to injure the tail of pancreas.
- The Splenic artery and vein is divided between double ligatures.
- The short gastric arteries are divided between ligatures taking care not to injure stomach wall.
- In hematological disease, look for accessory spleen.
- The spleen is removed, wound may be irrigated.
- Complete homeostasis is achieved and wound is closed in layer's using interrupted suture.

INSTRUMENTS:

- General set.
- Laprotomy set.
- Harrington splanchnic retractor.

DRAINAGE OF PANCREATIC CYST (PSEUDO CYST): a Pancreatic cyst is a fluid filled sac that forms in the abdomen, comprised of pancreatic enzymes, blood and necrotic dead tissue. Pancreatic cysts are most often caused by chronic pancreatitis; other less frequent causes are gall bladder disease, toxicity from medicine, traumatic injury, surgical complication and congenital conditions.

OBJECTIVE:

To drain a pseudo cyst by anatomizing the cyst wall to an adjacent hollow organ, marsupiolization (stomach, duodenum, jejunum).

ANESTHESIA: Under general anesthesia.

POSITION OF PATIENT: Supine with the arms extended.

SKIN PREPARATION: Begin at the intended site of incision (vertical or transverse), extending from nipples to upper thighs and down to the table at the sides.

DRAPING: Folded towels and a Laprotomy or transverse sheet (depending on incision).

PROCEDURE

- A vertical or transverse incision is made.
- The cyst is identified and anatomized to an adjacent abdominal viscous (organ).
- An incision is made into the anterior wall of a hollow viscous (e.g.; stomach) to gain access to the posterior wall to which the anastomosis is made prior to suturing the cyst, the contents are aspirated to facilitate the anastomosis and to avoid spillage of pancreatic fluid into the operative filed.
- After the anastomosis is completed, the anterior gastric wall is closed.
- A drain may be placed and secured to the skin.
- The abdomen is closed in layers and antiseptic dressing applied.

INSTRUMENTS:

- Major procedure tray.
- Biliary tract procedure tray.
- Hemoclip appliers and suction tubing's.

HEPATIC RESECTION:

Refers to a small wedge biopsy, the local excision of tumors, or a major segmentectomy of the liver.

INDICATIONS

- Trauma, cyst.
- Tumors, benign (e.g. Hemangioma) and malignant (e.g. primary or secondary metastasis).

ANESTHESIA: Under general Anesthesia.

POSITION OF PATIENT:

- For a partial left lobe excision, employing a sub – costal approach, the patient is supine with arms extended on a padded arm board.
- For a major resection, the approach is thoraco- abdominal, the patient is in a modified lateral position with right side upper most.

SKIN PREPARATION:

- **Sub costal approach:** Begin at the bottom of the ribcage, extending from axilla to just above the pubic symphysis and down the table at the sides.
- **Poster lateral approach:** Begin at the eight interspace extending from the shoulder to the iliac crest and down to the table anteriorly or posterior.

DRAPING: Folded towels and a transverse or Laprotomy sheet.

PROCEDURE:

- The location of the incision is determined by the section of the liver to the resected.
- Using thoracoabdominal incision, the abdominal portion is incised first.
- The thoracic portion of the incision is made next, incising diaphragm.
- Hepatic artery, portal vein, and major billary ducts are controlled by vascular forceps or vessel loops at the porta hepatis to avoid excessive bleeding or bile leakage.
- The liver parenchyma is divided, pausing to ligate major vascular and biliary channels.
- After homeostasis is obtained and the bile ducts are ligated, the exposed parenchyma may be covered by greater omentum or absorbable haemostatic agents.
- A fibrin sealant may be employed to control bleeding, and the area is drained.
- The drains are secured with a skin stitch and the abdomen is closed in layers.

INSTRUMENTS:

- Major procedure tray.
- Long instrument tray.
- Vascular procedure tray.
- Thoracotomy tray.
- Gastro intestinal tray.
- Biliary tract procedure tray.
- Large self retaining retractors e.g. Belfour etc.

ABDOMINAL HERNIOGRAPY: Repair of a musculofascial defect, through which various organs or tissues may present.

INDICATIONS:

- Strangulatin.
- Compromising the viability of entrapped tissue.
- Cosmetic.

CLASSIFICATION:

a) **Inguinal (Direct and Indirect) and Femoral:** The musculofascial defect is in the groin, the herniated tissue presenting through the abdominal wall medial to the deep inferior epigastric vessels (direct) or through the deep inguinal ring and inguinal canalm emerging at the superficial inguinal ring (indirect), or through the femoral canal (femoral).
b) **Umbilical:** Within the umbilicus, most often seen in children, pregnant women or obese adults.
c) **Epigastric:** Defect in the abdominal wall between the xiphoid process and the umbilicus through which fat protrudes.
d) **Incisional (Ventral):** A defect underlying the scar of a previous surgical site in the abdomen through which viscera or fat may protrude.

ANESTHESIA: Under general anesthesia.

POSITION OF THE PATIENT: The patient is supine with the arms on the affected side extended on a padded arm board. The opposite arm is padded and tucked in at the patient's side.

SKIN PREPARATION:

a) **Inguinal and femoral:** Begin at the inguinal region on the affected side, extending from just below the nipples to mid-thighs and down to the table on the affected side, external genetalia are prepared last.
b) **Umbilical:** Begin at the umbilicus, extending from the nipples to upper thighs and down the table at the sides.
c) **Epigastric:** Begin at the midline, extending from the nipples to the upper thighs and down to the table at the sides.
d) **Incisional:** Begin at the site of previous incision, preparation widely enough to allow for a generous operative field.

DRAPING: Four folded towels and a Laprotomy or transverse sheet.

PROCEDURE:

- Usually an incision is made over the site of defect.

- Both sharp and blunt dissection is employed to expose the hernia sac and the surrounding musculofascial defect.
- With Incisional hernia, peritoneal cavity is entered.
- The hernia sac may be retracted; it is sutured over or exposed.
- The musculofascial defect may be closed employing a variety of techniques including mobilization of facial flap and anchoring tissue to adjacent ligaments (e.g. cooper's ligament) suture material and often mesh prosthesis.
- A fibrin sealant or staples may be employed to prevent the mesh migration.
- The usage of mesh potentially allow for a tension free repair.
- The subcutaneous tissue and skin are approximated.
- Antiseptic dressing is applied.

INSTRUMENTS:

- Basic / minor procedure tray.
- Self retaining retractor (Adson).
- Ligating clip appliers e.g. hemoclip appliers.

ABDOMINAL LAPAROTOMY:

An incision made through the abdominal wall into the peritoneal cavity, peritoneal space, or retroperitoneal space for the purpose of exploration, diagnosis and treatment.

Laprotomy is performed for diagnostic and/or therapeutic purposes.

ANAESTHESIA: Under general anesthesia.

POSITION OF PATIENT: The patient is supine; arms may be extended on padded arm boards.

SKIN PREPARATION:

Determine the intended site of incision, begin at this site working outward, and include skin surface area from nipples to mid-thigh level and down to the table at the sides. For women, a vaginal preparation may be indicated.

DRAPING: 4 folded towels and Laprotomy sheet.

PROCEDURE:

- The skin is incised with the skin knife.
- Subcutaneous tissue and deeper structures are incised with the deep knife or ESU.
- Blood vessels may be clamped and ligated or cauterized with electro surgery.
- Fascia is incised and the underlying muscles are retracted or transected.
- The surgeon grasps the peritoneum and incises it with the deep knife.
- The incision is completed with a scissor.
- Wound edges are retracted accordingly by Deaver or Richardson retractor or by a self-retaining retractor.
- The abdomen is explored and surgery is performed.
- The wound/ peritoneal cavity may be irrigated and the irrigation fluid may be removed by suction.

- Drains may be brought out through stab wound incision and sutured to the skin.
- The peritoneum is closed with a continuous suture.
- The musculofascial tissues are closed in layers or in a single layer.
- The skin is approximated with suture mounted on a small cutting needle.
- For infected cases (e.g. peritonitis) skin and subcutaneous tissue may be left open to drain using approximate wound packing and dressing.
- If a stoma is created or a fluid collecting catheter is placed, a collection device is applied to the surrounding skin following the application of tincture of benzoin to protect the skin.

INSTRUMENTS:

- Major procedure tray.
- Large self retaining retractor (e.g. Belfour).
- Ligating clips appliers e.g. Hemoclip appliers.

GYNAE AND OBSTERIC SURGERY:

DILITATION AND CURETTAGE: It is a gynecological operation having two objectives.

- To dilate the cervix.
- To curette the endometrium for histological examination.

ANESTHESIA: General or spinal anesthesia.

POSITION OF PATIENT: Lithotomy.

SKIN PREPARATION: Start at the pubic symphysis and extend over the Labia. Next clean the each inner thigh, vaginal vault and cervix is cleaned using sponge sticks.

DRAPING: Drape sheet tucked in under the buttocks followed by leggings and a drape sheet over the abdomen.

STEPS OF PROCEDURE:

- The Vulva, Vagina and Perineum are cleaned.
- The parts are draped with sterile towels, leaving the Vulva exposed.
- The bladder is catheterized.
- Next the cervix is exposed with Sim's or Cusco's speculum.
- The anterior lip of cervix is caught with Vulsellum forceps.
- The cervical canal is cleaned with cotton swab.
- Pass a uterine sound to determine the size and direction of the uterine cavity.
- Pass the dilators well lubricated steadily and gently, and in the direction of cervicouterine axis till the tips go beyond the internal os.
- Do not pull on the cervix but use the Vulsellum to fix and steady the cervix in its normal position.
- The cervix should be dilated enough to admit the sharp Curette easily.
- Steadying the cervix with the Vulsellum forceps, pass the sharp curette in the axis of the cervicouterine canal till its tip touches the fundus of the uterus.
- With steady pressure, scrape down in the long axis starting with the anterior uterine wall and working systematically around the uterine cavity until the whole surface is scraped away.

- A typical grating sensation is felt by the curette when the endometrium has been satisfactorily removed.
- Collect the endometrium into a bowl containing sterile saline or a citrate solution.
- The endometrium should be washed in saline till all blood and clots are removed and then put in a jar containing 10% formalin.

INSTRUMENTS: D & C set.

CEASERIAN SECTION (LSCS):

Removal of fetus through an incision in the abdomen wall and the uterus especially if there is fetal distress or normal labor has increased risk for mother.

INDICATIONS:

- Cephalo Pelvic disproportion.
- Fetal distress before engaging cervix.
- Placenta Previa.
- Breech Presentation.
- Previous scar in uterus.

ANESTHESIA: General /spinal cord.

POSITION OF PATIENT: Supine with a lateral tilt away from the surgeon followed by Trendelenburg position with 10 – 20 tilt head down.

SKIN PREPARATION: Begin at the site of incision and extend above up to the nipples and below to the pubis symphysis and down the table on the sides.

DRAPING: Folded towels and a Laprotomy sheet.

PROCEDURE:

- A vertical lower midline or Pfanneustiel incision is made.
- The rectus sheath/muscles are separated and the peritoneum is incised.
- Hemostasis is assured.
- The bladder is reflected from the lower uterine segment and a 10 cm (4inch) incision is made in the uterus.
- The amniotic sac is spontaneously entered and the fluid is aspirated immediately.
- The fetal head is delivered using manual pressure or by obstetric forceps and counter pressure on the fundus.
- Retractors are removed and as soon as head is delivered, the delivery is completed Oxytocin is administered intravenously to encourage the uterus to contract and to decrease the blood loss.
- The umbilical cord is clamped and cut the placenta and the placenta is delivered and uterus is massaged to encourage its contraction.
- Blood, amniotic fluid etc are aspirated and Hemostasis is achieved.
- The edges of the uterine incision are clamped to help in its closure.
- The uterus and bladder are closed in single or a double layer.
- The peritoneum at the lower uterine segment is sutured to its anatomic position.
- The wound is closed in layers and an abdominal dressing is applied.

INSTRUMENTS:

- Caesarian Section tray.
- Delivery forceps.
- Oxytocin (20mg loaded).

THERAUPATIC ABSORPTION BY SUCTION CURRETAGE (MTP): To terminate pregnancy for medical reason (MTP) up to 10 weeks of gestation usually in the interest of mother's health.

ANESTHESIA: General / spinal.

SKIN PREPARATION: Same as D &C.

DRAPING: Drape sheet tucked in under the buttocks following the legging. Drape sheet over the abdomen.

SURGICAL STEPS:

- Catheterize the bladder and insert speculum to expose the cervix.
- Hold the anterior lip of cervix with Vulsellum forceps and gently apply traction to straighten cervical canal.
- Dilate cervical canal up to internal os using Hagar's dilator of increasing size.
- Now introduce flexible plastic cannula into the uterine cavity (size of cannula).
- Corresponding to Hager's dilator size equal to the no. of weeks of gestation of pregnancy.
- Connect the cannula to Vaccum aspirator pump and build pressure in suction up to 60mmHg.
- Evacuate uterine cavity completely till no more products are obtained on suction, bleeding stops and grafting sensation is obtained.
- Confirm complete uterine evacuation with gentle curettage by a blunt curette.
- Uterine contents are collected in a gauze bag within the unit.

INSTRUMENTS REQUIRED:

- D &C set.
- Vaccum aspiration machine.
- Aspiration cannula (Plastic flexible no. 5-12 mm and rigid no. 7-14mm).

MARSUPIALIZATION OF BARTHOLINS DUCT CYST: Incision and drainage of a Bartholin's gland duct cyst (Vulvo vaginal cyst) and then suturing the wall of the cyst to the edges of the incision (the vestibular mucosa as applicable).

INDICATIONS:

To treat the cyst or abscess.

ANESTHESIA: local /spinal cord.

POSITION OF PATIENT: Lithotomy.

SKIN PREPARATION AND DRAPPING: Same as D & C.

SURGICAL STEPS:

- A vaginal incision is made in the vaginal mucosa over the center of the cyst.
- The cyst is incised and drained
- Marsupialization is performed.
- If cystectomy is necessary, the cyst is mobilized using blunt dissection and scissors for sharp dissection.
- A drain may be inserted when the Mucosa is approximated.
- The catheter may be placed left in place for 4-6 weeks.
- A perineal pad is placed.

INSTRUMENTS:

- D &C set.
- Suction apparatus.

CONIZATION OF THE UTERINE CERVIX: The excision of tissue about the cervical os (opening).

INDICATIONS:

- Cervicitis.
- Epithelial dysplasia.
- Carcinoma in situ.
- Invasive carcinoma.

ANESTHESIA: General or regional anesthesia.

POSITION OF PATIENT: Lithotomy position.

SKIN PREPARATION: Skin preparation is done but the internal vaginal preparation may be omitted. For vaginal preparation follow the direction for preparation of D&C.

DRAPING: Drape sheet under the buttocks, followed by leggings, and a drape sheet over the abdomen.

SURGICAL STEPS:

- A weighted speculum is placed in the vaginal vault.
- The outer portion of the cervix is grasped with a tenaculum.
- D & C is performed after the uterine canal is carefully sounded and dilated.
- The cervix may be stained with logo's solution.
- The cervix may be initially injected circumferentially, with a phenylepharine solution to reduce bleeding.
- An incision is made circumferentially around the cervical os using a scalpel scissors or electro surgery.
- Following the procedure, the vagina is packed with gauze and a Foley's catheter is inserted, connected to straight drainage.
- The unit is placed below the level of the patient's bladder to prevent reflux.
- A perineal pad is applied before removing the drapes.

INSTRUMENTS:

- D & C set.
- Cervical conization tray.

VAGINAL HYSTERECTOMY:

Removal of uterus through the vaginal approach.

INDICATIONS:

- Disease of uterus once restricted to benign conditions e.g. irregular bleeding or menorrhage.
- Uterine prolapsed in which the uterus is not greatly enlarged.
- Conditions in which severely poor pelvic musculature support is present.

ANESTHESIA: General or regional.

POSITION: Lithotomy.

SKIN PREPARATION: Start at the pubic symphysis and extend over the labia, next clean the each inner thigh. Vaginal vault and cervix are cleaned using sponge sticks.

DRAPING: Drape sheet tucked in under the buttocks, followed by the leggings and a drape sheet over the abdomen.

SURGICAL STEPS:

- An Avuards speculum is placed in the Vaginal Vault.
- The cervix is grasped with a tenaculum.
- D & C may be performed.
- An incision is made anterior to the cervix in the vaginal wall.
- The bladder is reflected from the cervix using sharp then blunt dissection, exposing the peritoneum of the anterior cul-de-sac which is then incised posterior.
- The uterosacral and round ligament are ligated and divided.
- The uterus is placed on traction and the cardinal ligaments and uterine arteries are ligated and divided and the uterus is delivered.
- The remaining structures and the broad ligaments are ligated and divided.
- The incision in the cul-de-sac and the vaginal apex are approximated.
- The uterosacral and round ligaments may be sutured to the angles of the vaginal vault closure.
- The vagina is packed with gauze packing and a peritoneal pad dressing is applied.

INSTRUMENTS: Vaginal hysterectomy set/tray.

TUBECTOMY OR TUBAL STERILIZATION: Interruption or block in the continuity of the lumen of the fallopian tubes, resulting in sterilization.

INDICATION:

- Patient's desire for permanent contraception.

ANESTHESIA: Local /spinal.

POSITION: Supine.

SKIN AND VAGINAL PREPARATION: A combined abdominal and vaginal preparation is done.

STEPS OF PROCEDURE:

- The bladder of the patient should be empty or catherized.
- Open the abdomen by 2-3 cm or through Suprapubic transverse or pfannestiel incision.
- Retract abdominal wall to one side and elevate the uterus with the help of uterine elevating forceps to bring the fallopian tubes into view.
- Visualize the fallopian tube and hold with Babcock's forceps to form 1-2 cm loop in its middle position.
- Pass no. 0&1 chronic catgut through and a vascular position of mesosalpinx.
- Ligate the base of loop on each side and excise approximately 1cm of the loop.
- Repeat procedure on the opposite side and close the abdomen in layers.

INSTRUMENTS:

- General set except large artery forceps.
- Doyen's self retaining retractor.

SALPINGO – OOPHERECTOMY:

Removal of fallopian tubes and the corresponding ovary or ovaries.

This procedure is performed for a variety of non-malignant diseases that include acute and chronic infection, cysts, tumors and hemorrhage (tubal pregnancy).

ANESTHESIA: General anesthesia or spinal block.

POSITION OF PATIENT: Supine position with the arms extended on padded arm board.

SKIN PREPARATION: Begin at the site of incision and extend above up to the nipples and below to the symphysis pubis and down to the table at the sides.

DRAPING: Folded towels and a Laprotomy sheet.

SURGICAL STEPS:

- A low mid line, Para median or Pfannenstiel incision is made.
- The peritoneal cavity is entered and a self retaining retractor is placed.
- The table is placed is Trendelenburg position and intestine are protected with warm moist (saline) pads.
- The abdomen is explored and if adhesions are present, hydro dissector may be used.
- For excision, the infundibulopelvic ligament is ligated and divided.
- The broad ligaments attached and the blood vessels of the affected tube and ovary are also ligated and divided.
- The fallopian tube and ovary are excised.
- The site of adnexal excision may be reperitonealized.

- The wound is closed in layers and a dressing is applied to the wound.

INSTRUMENTS:

- Major procedure tray.
- Self retaining retractor e.g. Balfour's.
- Sonar's clamps etc.

TUBECTOMY OF FALLOPIAN TUBES: Re-establishment of Patency to the Fallopian tubes.

INDICATIONS:

- When the patient seeks a reversal of a sterilization process.
- It is also performed to surgically treat when there is an interrupted tubal pregnancy.

ANESTHESIA: General anesthesia or spinal block.

POSITION OF PATIENT: Supine.

SKIN PREPARATION: Same as LSCS.

DRAPING: Same as LSCS.

SURGICAL STEPS:

- A Plannenstiel incision is employed.
- The peritoneal cavity is entered and a self retaining retractor is applied.
- Warm, moist (saline) sponges are used to protect the bowl and ureters.
- The table may be placed in head down position.
- Tubal patency may be demonstrated by injecting a dye (methylene blue), Indigo Carmine) through a cervical cannula that is placed in the cervix by the surgeon.
- When a fallopian tube is not patent, the operating microscope is often used to perform a tuboplasty procedure.
- According to the types of site obstruction, cornal resection with reimplantation, tubal resection with anastomosis or fimbroidplasty is performed.
- After completion of the procedure the abdomen is closed in layers.
- The cervical cannula is removed.

INSTRUMENTS:

- Major procedure tray
- Self-retaining retractor
- Sonar's clamp

TOTAL ABDOMINAL HYSTRECTOMY: Removal of the entire uterus through an abdominal incision.

INDICATIONS:

- Endometriosis
- Adnexal disease

- Post menopausal bleeding
- Dysfunctional uterine bleeding
- Benign and malignant tumors

ANESTHESIA: General Anesthesia or spinal block.

POSITION OF PATIENT: Supine.

SKIN PREPARATION: Same as LSCS.

DRAPING: Folded towels and a Laprotomy sheet.

PROCEDURE:

- A transverse, Plannenstiel, midline or Para median incision is given.
- The peritoneal cavity is entered and a self retaining retractor is placed.
- The table is placed in Trendelenburg position to facilitate viewing the pelvic contents.
- The intestines are protected with warm moist packs.
- The fundus of the uterus is grasped with a multi-toothed tenaculum for manipulation
- The round ligaments of the uterus are ligated and divided and ligatures are tagged with a hemostat.
- After identifying the uterus, the broad ligaments are ligated and divided.
- The bladder is refracted from the anterior aspect of the cervix using sharp and blunt dissection.
- The infundibulopelvic ligaments are ligated and divided.
- The ovarian vessels are ligated and divided adjacent to the uterus.
- The cervix is grasped anteriorly and the vagina is incised circumferentially.
- The specimen is removed.

INSTRUMENTS:

- Major procedure tray.
- Self retaining retractor.
- Abdominal Hysterectomy tray.

ANTERIOR AND POSTERIOR COLPORRHAPHY:

Repair and reinforcement of the musculofascial support of the urinary bladder and the urethra (anteriorly) and the distal rectum (posterior) to prevent protrusion of these structures through the vaginal wall.

INDICATIONS:

- Herniation of the urinary bladder into the vagina through a defect in the anterior vaginal wall.
- Herniation of the small bowl through the recto uterine pouch.

ANESTHESIA: Regional or general Anesthesia.

POSITION OF PATIENT: Lithotomy position with padded stirrups.

SKIN PREPARATION: Begin 3-4 inches above the pubis symphysis and extend downward over the labia. Clean the each inner thigh the vaginal vault and cervix are then cleaned using sponge sticks (3).

DRAPING: Drape sheets under the buttock and a Laprotomy sheet.

PROCEDURE:

- The cervix is grasped with a tenaculum. For anterior colporrhaphy, the anterior vaginal mucosa is incised in the midline.
- The incision is deepened into the musculofascial wall, reflecting the bladder anteriorly mobilizing the urethra, and exposing the urethrovesical junction.
- Placation sutures are placed in the musculofascial tissue to restore the urethrovesical angle and support of the bladder.
- Care is taken not to over tighten the repair.
- Excess tissue from the previously stretched vaginal mucosa is excised, and the mucosal incision is approximated.

FOR POSTERIOR COLPORRHAPHY:

- An incision is made at the mucocutaneous junction, reflecting the attenuated vaginal mucosa proximally to expose the rectocele.
- Peri rectal fascia is separated from the mucosa and plicated.
- The levator muscles are approximated at the midline to an appropriate degree of tension.
- The excess vaginal mucosa is excised and the mucosal incision is closed.
- A vaginal pack is often placed.
- Approximation of the uterosacral ligaments and the levator is accomplished.
- A Foley's catheter is inserted and a gauze packing is inserted.
- A perineal pad dressing is applied before the drapes are removed.

INSTRUMENTS: Same as Vaginal Hysterectomy.

PELVIC EXENTERATION: The embolic removal of rectum, distal sigmoid colon, urinary bladder and distal ureters, internal genetalia, pelvic lymph nodes, pelvic peritoneum and a portion of the levator muscles and the creation of an ileal or colonic loop urinary diversion and colostomy, the hypo gastric vessels are no longer removed.

INDICATIONS: Radio – resistant or recurrent cervical carcinoma.

ANESTHESIA: General anesthesia.

POSITION OF PATIENT: The patient is placed in a modified Lithotomy position with the legs tilted forwards and the buttocks positioned just over the lower break in the table. A Foley urinary catheter, a nasogastric tube and a rectal tube may be inserted before the surgical procedure starts.

SKIN PREPARATION: Begin cleansing at the mid-line, extending from nipples to knees and down to the table at the sides. Clean the anus last, discarding each sponge after use.

DRAPING: Drape sheet under the buttocks, followed by a laparoscopy sheet, leggings and a Laprotomy sheet.

PROCEDURE:

- A generous midline incision is employed.
- A large self – retaining retractor is placed.

- The abdomen is explored.
- Multiple frozen sections may be done.
- The order of the procedure varies with the surgeon.
- The urinary diversion may be done first or later in the procedure.
- Pelvic Lymphadenectomy is done, removing the fatty tissue about the iliac vessels extending into the obturator Fossa.
- The ligamentous attachments of the uterus and adnexae are separated from the pelvic wall, and the rectum is mobilized from its posterior and lateral attachments.
- The bladder and urethra are mobilized and excised.
- From the perineal approach, the anus and distal rectum are excised.
- The distal vagina may be preserved or reconstructed later on.
- The specimen is removed enbloc and a colostomy is created and the pelvic floor is closed.
- Perineal drains may be placed and the abdomen is closed in layers.
- Appropriate stomal pouches are applied.

INSTRUMENTS:

- Major procedure tray
- Long instruments tray
- Abdominal hysterectomy tray
- Self retaining retractor
- Multifire Hemoclip appliers
- Vascular procedure tray
- GI procedure tray
- Gastrointestinal staplers, as requested

GYNECOLOGIC LAPAROSCOPY PELVISCOPY: The introduction of an endoscope through the anterior abdominal wall following the establishment of a Pneumoperitoneum to visualize intra abdominal and pelvic structures for purposes of diagnosis and treatment.

INDICATIONS: To diagnose:

- Causes of infertility.
- Ectopic pregnancy.
- Pelvic masses (benign or malignant).
- Endometrial implants.
- Etiology of the Acute Abdomen.
- Pelvic pain etc.

ANESTHESIA: Regional or General Anesthesia.

POSITION: The patient is placed in modified Lithotomy position.

SKIN AND VAGINAL PREPARATION: Begin cleansing at the umbilicus, extending from nipples to the mid-thighs and down to the table at the sides continue with a vaginal preparation as for D & C.

DRAPING: Drape sheet under the buttocks, folded towels on the abdomen and a Laprotomy sheet.

PROCEDURE:

- The table may be placed in Trendelenburg position.
- Pneumoperitoneum is established via the inferior margin of the umbilicus.
- Usually a 10 mm or 11mm tro car is placed and a laparoscope with a 30 degree angle is inserted.
- Additional ports (5 and 12mm) are placed in either lower quadrant at the lower lateral aspect of the rectus muscle.
- D&C may be performed.
- The anterior cervical os is grasped by a toothed tenaculum.
- A lubricated intrauterine cannula is inserted into the uterus to permit transvaginal manipulation during the procedure as necessary.
- For chromotubation, methylene blue or indigo carmine is injected into the uterus via a flexible catheter placed in the cervical canal.
- Laparoscopically, if the dye is seen to escape the fimbriated fallopian tube, the tube is patent.
- In gynecologic laparoscopy, multiple definitive procedures may be performed.
- Tubal insufflations, salpingostomy, tubal reimplantation, salpingestomy, salpingo-oophorectomy, oophorectomy and ovarian cystectomy may be performed laparoscopically.
- Upon completion of the procedure, any intra abdominal blood of fluid is aspirated.
- Pneumoperitoneum is released and Incisional sites are closed and dressed.
- The transvaginal cannula is removed and a perineal pad dressing is applied.

INSTRUMENTS:

- D & C set.
- Tenaculum, uterine retractors.
- Uterine cannula.
- Linuited procedure tray.
- Hemostasis (6) curved, (2) straight.
- Trocars (5mm, 10 or 11mm, 12mm).
- Fiber optic laparoscope, 30 degree and cord.
- Intrauterine cannula.
- Babcolus forceps, scissors curved.
- Dissecting forceps.