

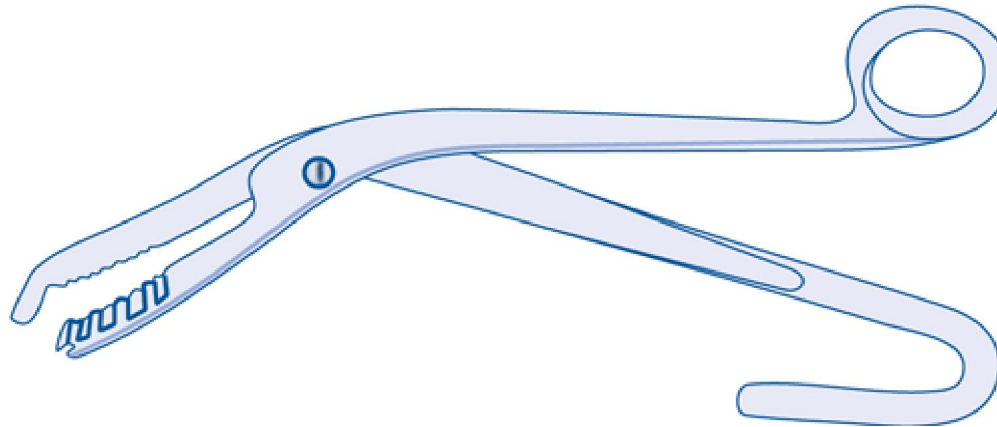
# **Surgical instruments**

**Clinical session**

**Dr.Adel Mosa Al-Rekabi**

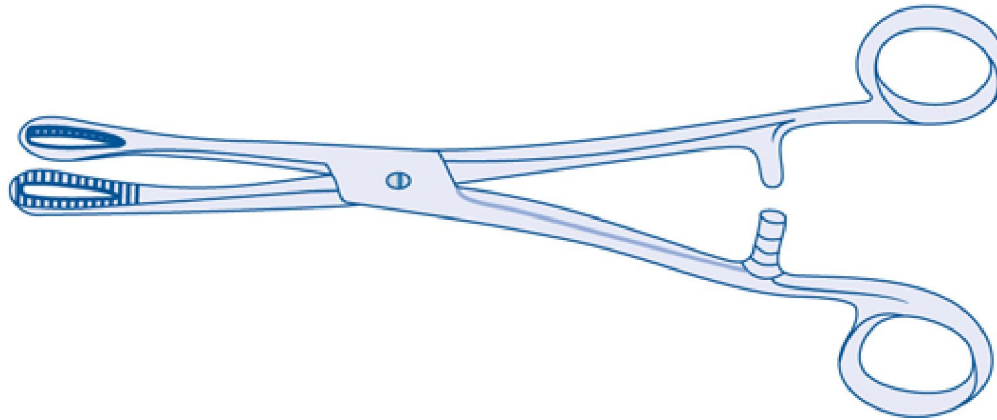
## CHEATLE'S FORCEPS

It is used to pick sterilised articles like instruments and drapes so that touching of the instruments is avoided while transferring them. It is kept dipped in antiseptic solutions. It does not have lock.



## SPONGE HOLDING FORCEPS (RAMPLEY'S)

It has got fenestrated, serrated, fl at distal end. It is used to clean the operative field, to swab the cavities, to mop the oozing area, to hold gallbladder and cervix during surgeries, for blunt dissections, as ovum forceps

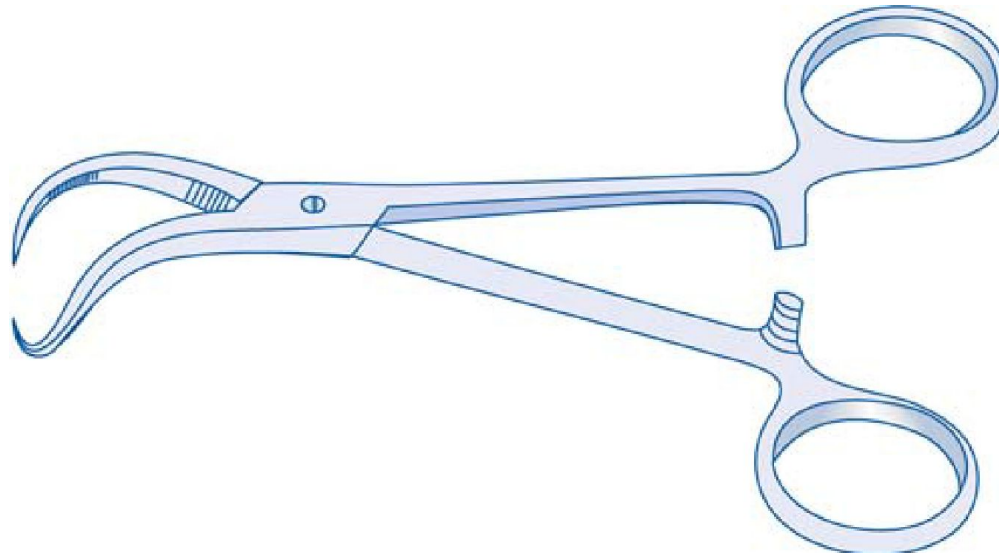


## MAYO'S TOWEL CLIP

It is used to fix drapes in operative field.

It is used to fix suction tubes, diathermy wires, laparoscopic cables in operative table.

It is used to fix ribs in flail chest.



# ARTERY FORCEPS (HAEMOSTAT)

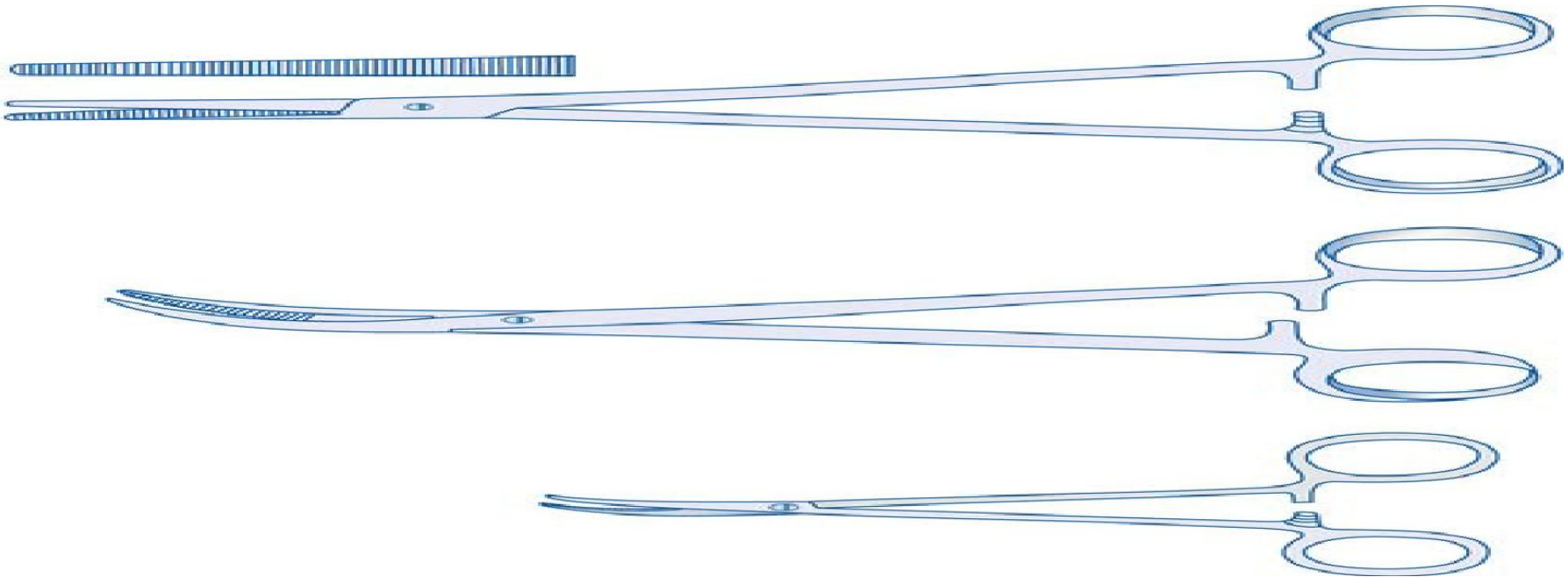
## Types

Based on size:

- a. Small or mosquito artery forceps.
- b. Medium sized artery forceps
- c. Large artery forceps.

Based on shape:

- a. Straight artery forceps.
- b. Curved artery forceps



## Uses of artery forceps

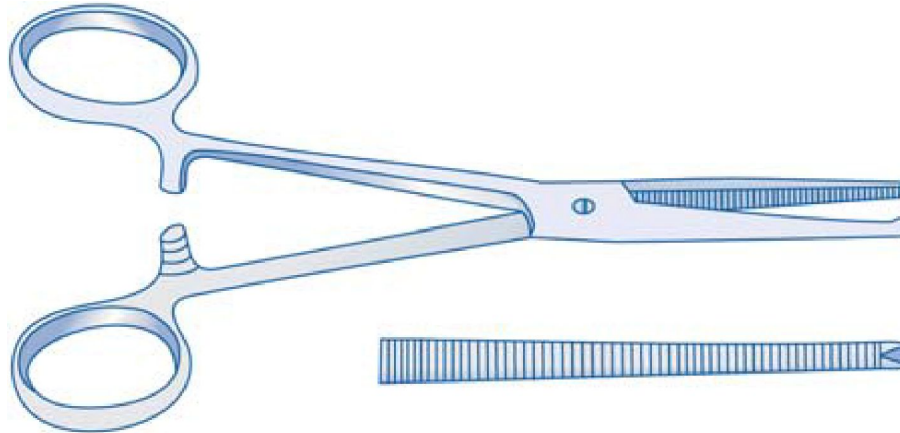
- 1-To catch bleeding points
- 2-To open the fascial planes in different surgeries
- 3-To pass a ligature
- 4-To hold fascia, peritoneum, aponeurosis
- 5-To hold sutures
- 6-To drain an abscess like a sinus forceps
- 7- To hold gauze as peanut

## KOCHER'S FORCEPS

It has got serrations in the distal blades and apposing tooth in the tip.

It is used to hold pedicles, tough structures, cut ends of the muscles.

It is used to hold gauze for blunt dissection, to hold resected bowel, to hold ribs during rib resection



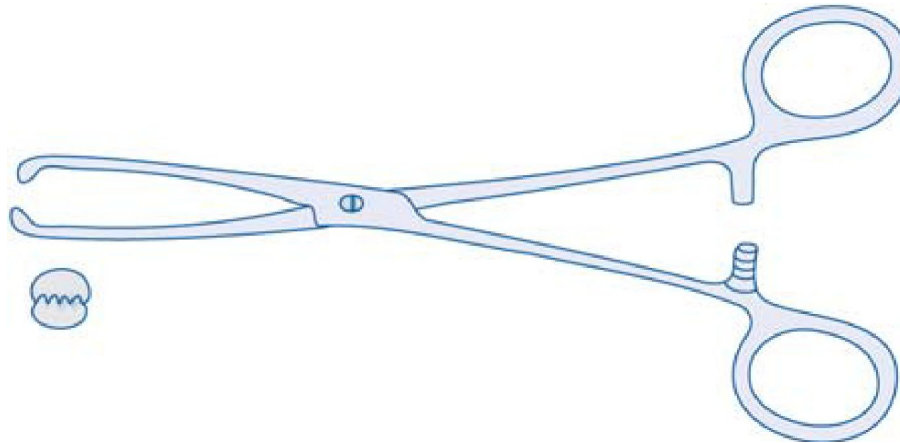
## ALLIS' TISSUE HOLDING FORCEPS

Here distal blades are not apposing each other.

Tip has got teeth in each blade which are apposing.

It has got a lock on the proximal part.

It is used to hold skin flaps, fasciae, aponeurosis, bladder wall

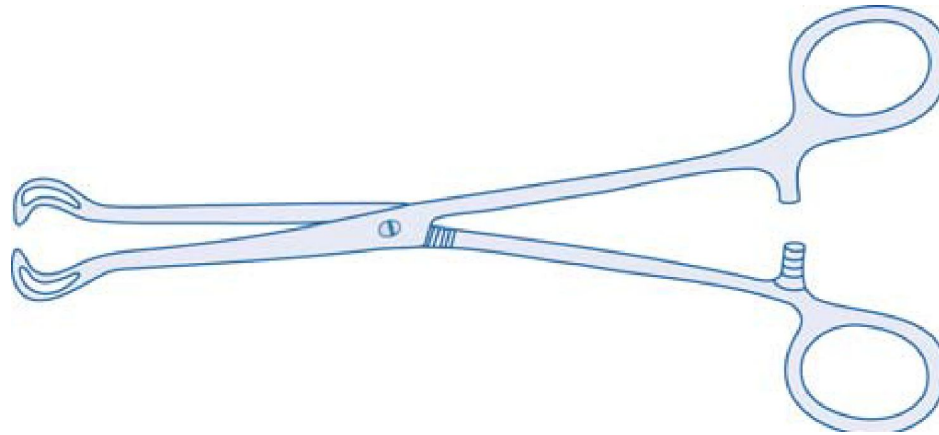




## BABCOCK'S FORCEPS

Its distal part of distal blades are curved with a triangular fenestra in it which allow soft tissues to bulge out.

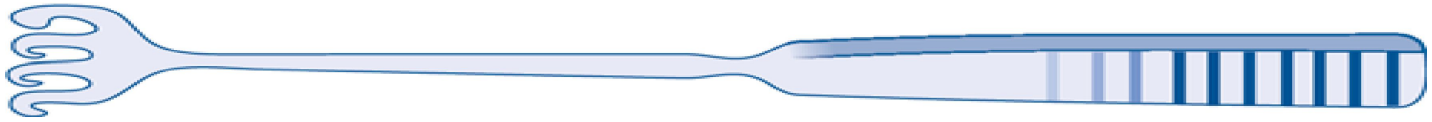
Tip is non-traumatic with transverse serrations on it. It has got a lock in the proximal part.



It is used to hold any part of the bowel, fallopian tubes, appendix, ureter, cord, etc.

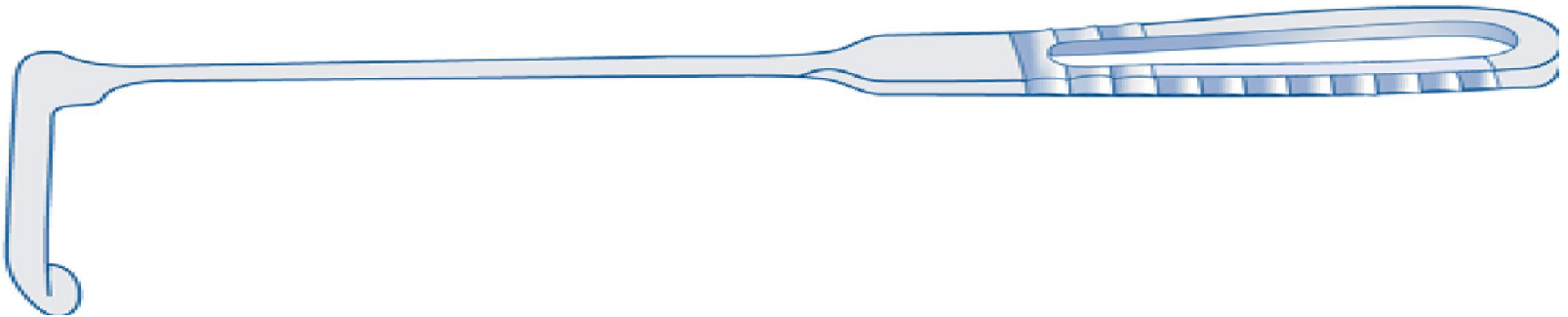
## VOLKMANN'S RETRACTOR

It is used to retract fasciae in soles and palms.



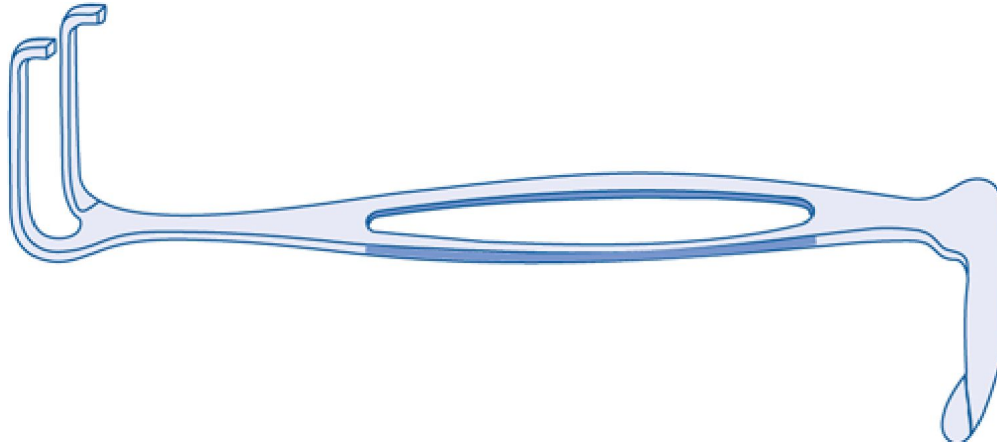
## LANGENBECK'S RETRACTOR

It has got a long handle and a small solid blade. It is used in hernia surgery or any superficial surgeries to retract skin, fasciae and aponeurosis, etc.



## CZERNY'S RETRACTOR (HERNIA RETRACTOR)

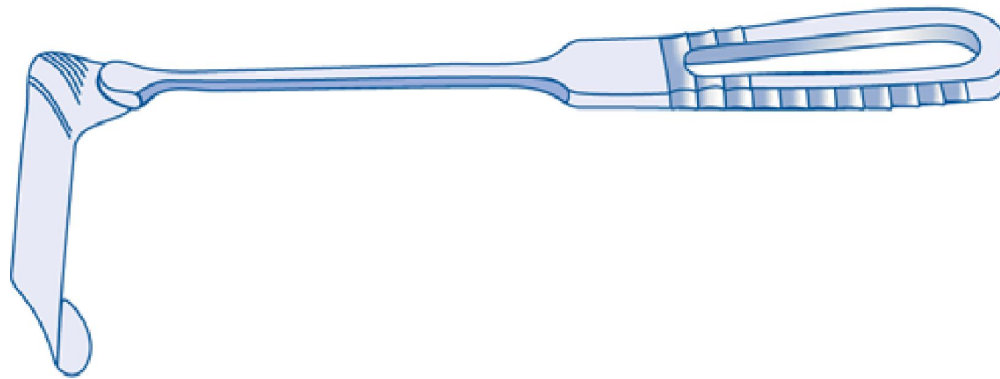
This retractor has got thick, small blade on one side and biflanged hook on the other side in opposite directions. It is used in surgeries like hernia, laparotomy especially during closure



## MORRIS' RETRACTOR

It may be single blade type or double blade type.

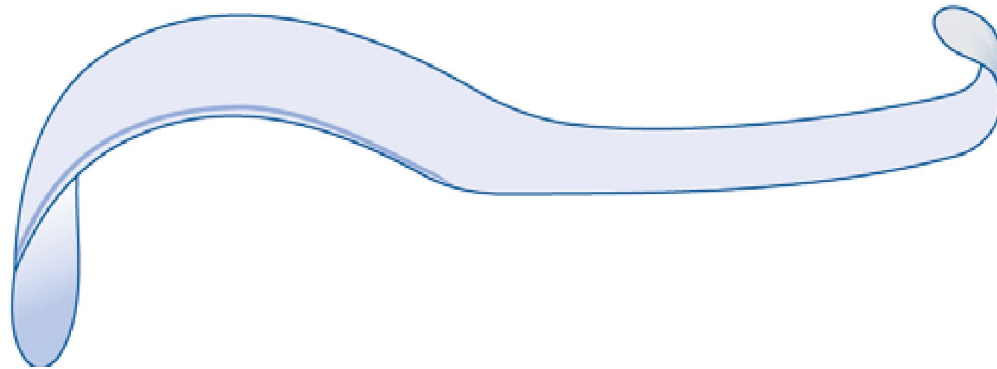
It is used to retract abdominal wall



It is a retractor with a broad, gently curved blade.

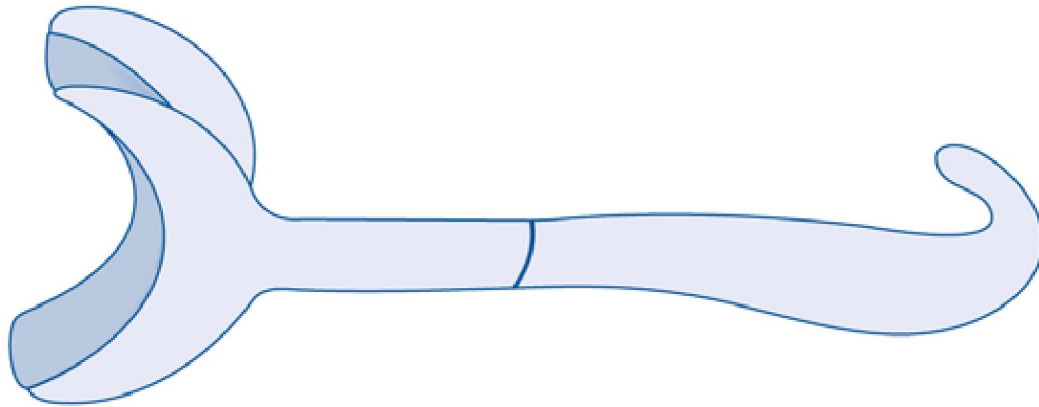
It is used to retract liver, spleen and other abdominal viscera

It is atraumatic and gives adequate exposure of the surgical field

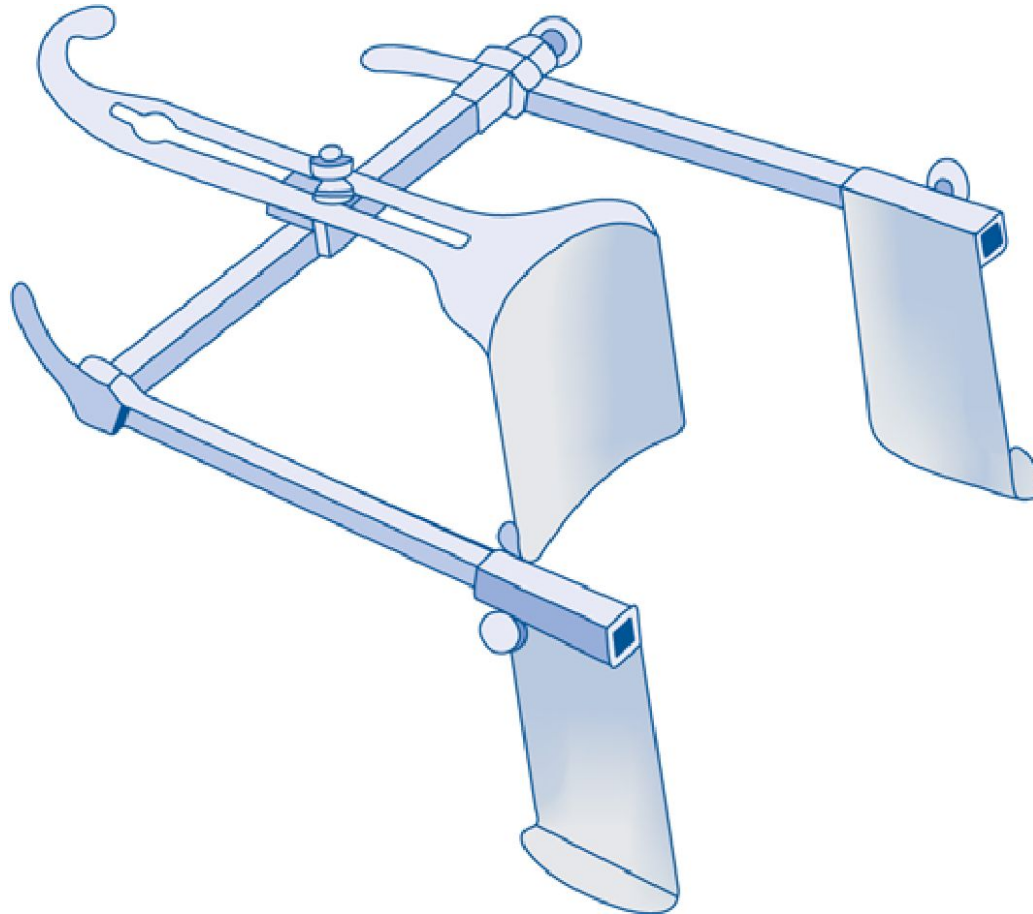


## DOYEN'S RETRACTOR

It is used in pelvic surgeries.

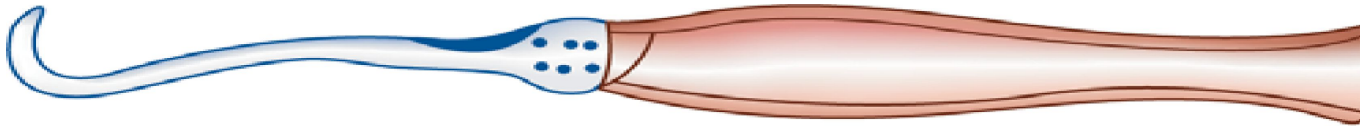


## Self-retaining retractor



## SINGLE HOOK RETRACTOR

It is used to retract skin.



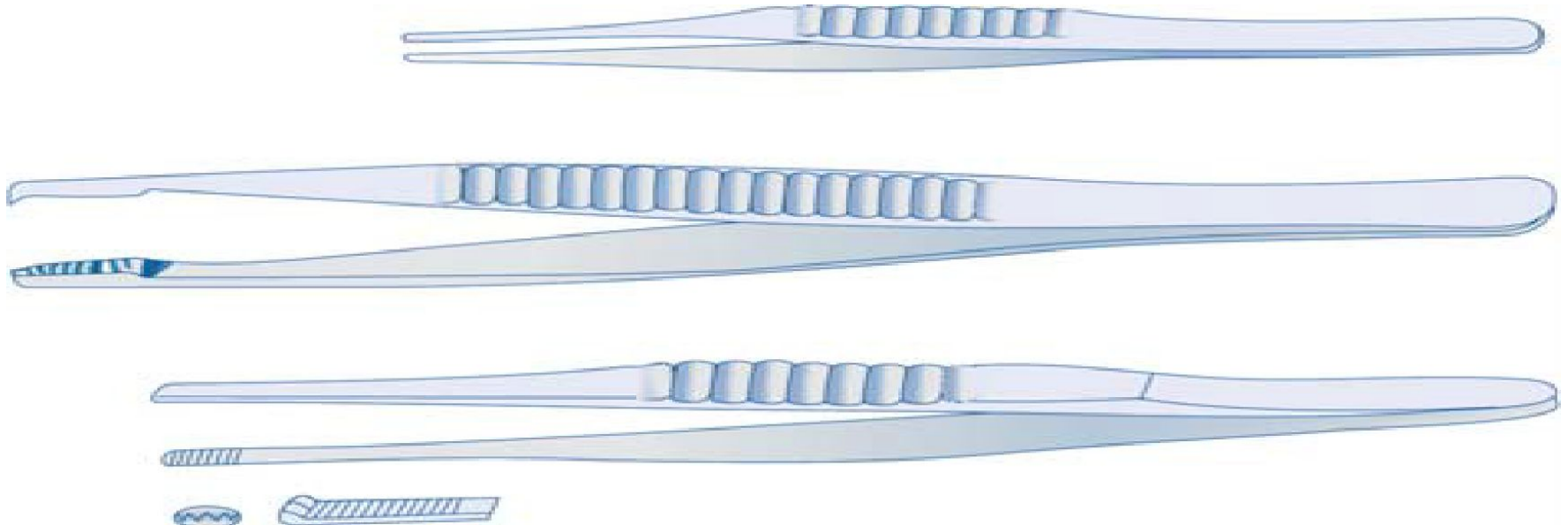
## 1-PLAIN NON-TOOTHED DISSECTING FORCEPS

It is used to hold delicate structures like peritoneum, vessels, bowel, nerves, tendons

## 2-TOOTHED DISSECTING FORCEPS

It is used to hold skin and tough structures.

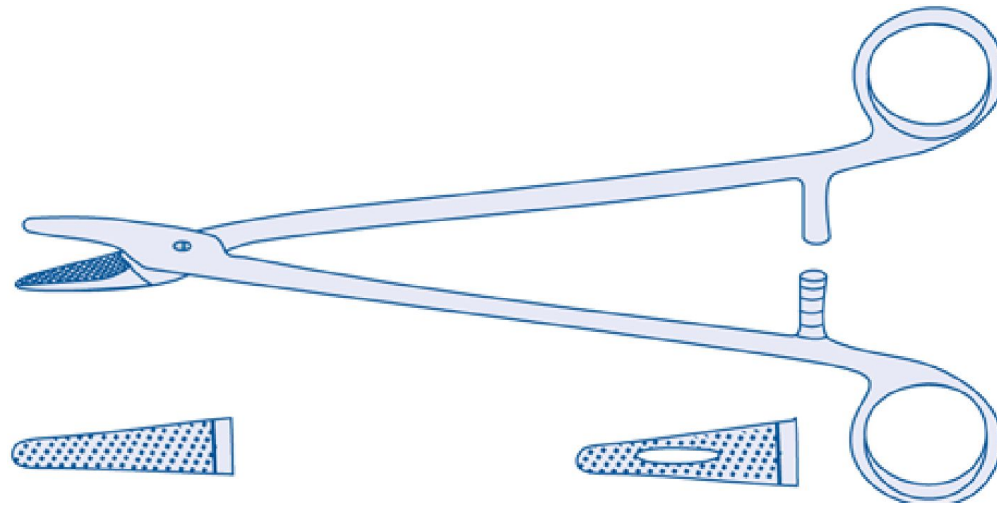
Dissecting forceps: (A) Non-toothed, (B and C) Toothed





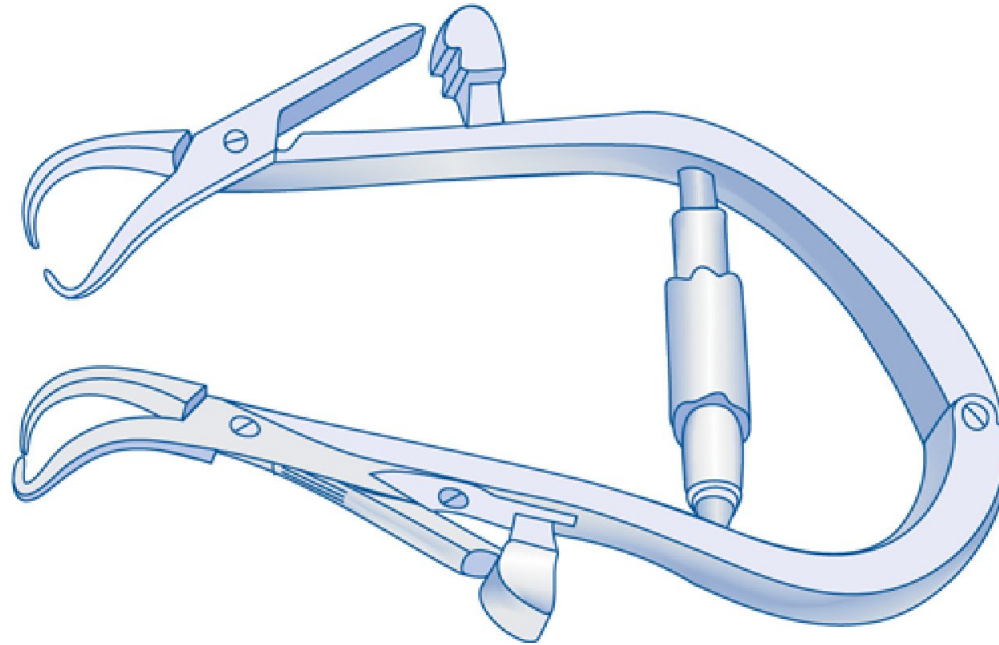
## NEEDLE HOLDER

Smaller distal blades with criss-cross serrations often with a groove in the middle are the features of a needle holder.



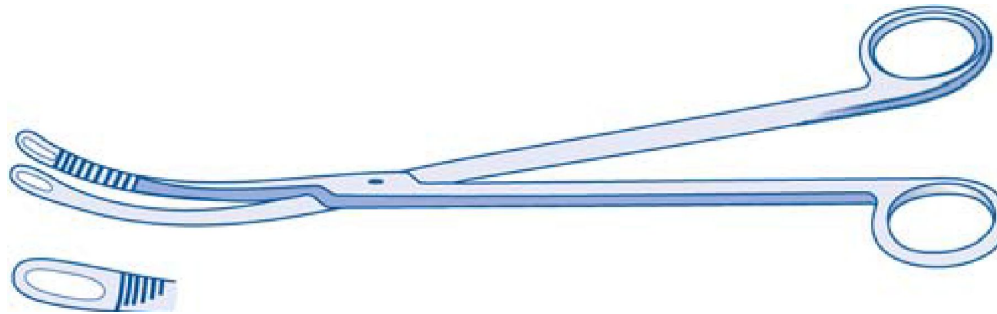
## JOLL'S THYROID RETRACTOR

It is a self-retaining retractor specifically used for thyroid surgeries.



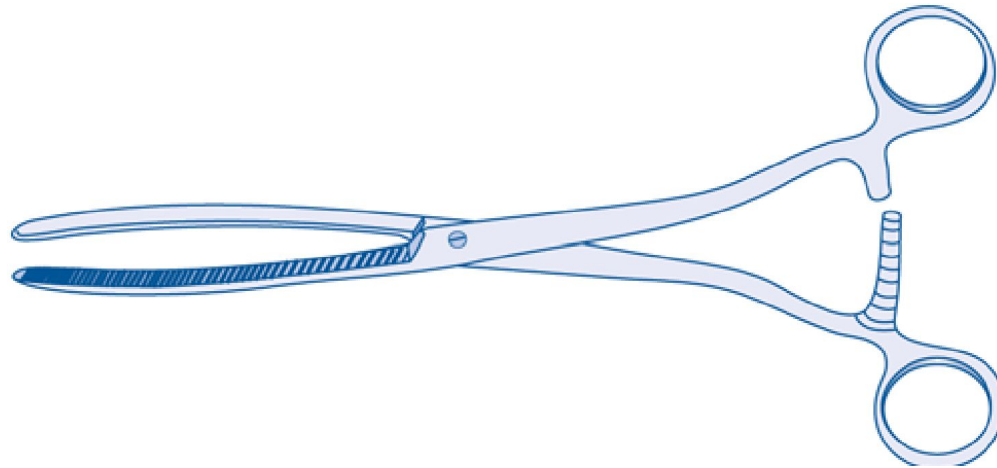
## DESJARDIN'S CHOLEDOCHOLITHOTOMY FORCEPS

It has got long distal blades with smooth serrations and fenestra in the tip. It does not have lock and so accidental damage of CBD mucosa or crushing of the CBD stone are avoided



## MOYNIHAN'S OCCLUSION CLAMP

- 1- It has got long distal blades with longitudinal serrations.
- 2-It may be straight or curved.
- 3-It is non-traumatic, non-crushing type.
- 4-It occludes lumen of the bowel/stomach and so prevents spillage of the content of the bowel
- 5-It also occludes the vessels in the wall of the bowel and so prevents bleeding during surgery.
- 6-It is used during anastomosis of the stomach and other parts of the bowel

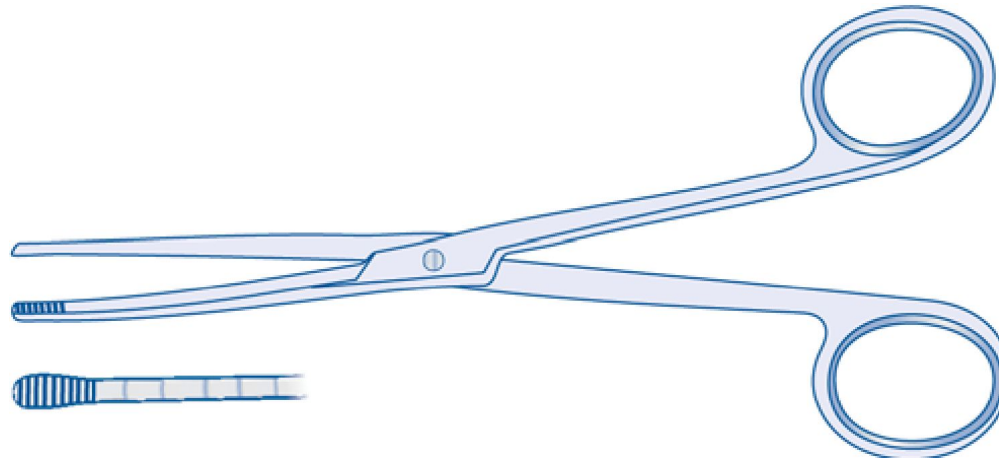


## SINUS FORCEPS (LISTER'S)

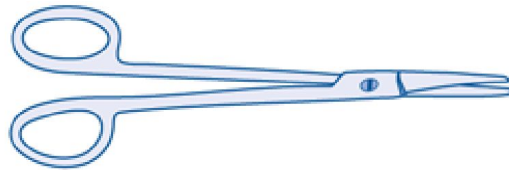
It has got straight, long blades with serrations in the tip. It does not have a lock.

It is used to drain pus from abscess cavity (Hilton's method). It is called as sinus forceps because it was initially originated to pack the sinus cavities. It is less traumatic.

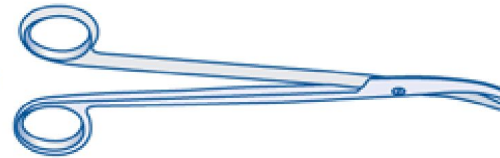
Sinus forceps has no lock; no serrations; broad tip; blunt



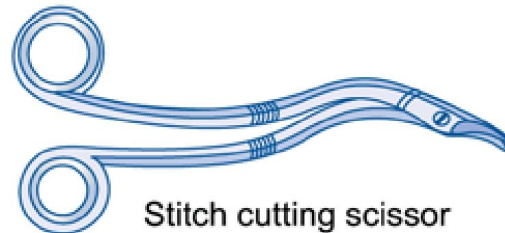
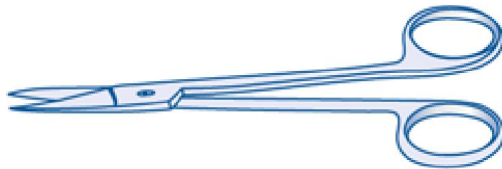
# SCISSORS



Straight scissors



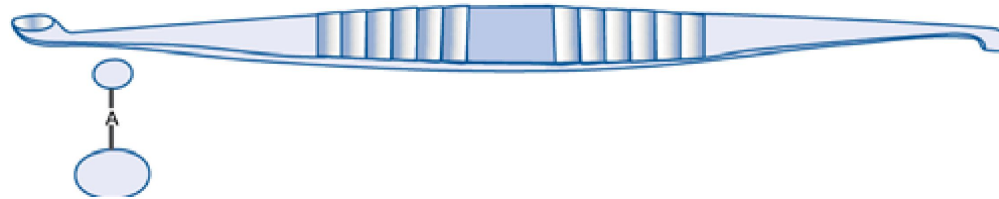
Curved scissor



Stitch cutting scissor

## VOLKMANN'S SCOOP

To scoop cavities, ulcer bed, granulation tissues.



## TRACHEOSTOMY TUBE

Fuller's bivalved tracheostomy tube: It has got outer tube and inner tube. Outer tube is biflanged and so insertion is easier. Inner tube is longer with an opening on its posterior aspect. Inner tube can be removed and reinserted easily whenever required

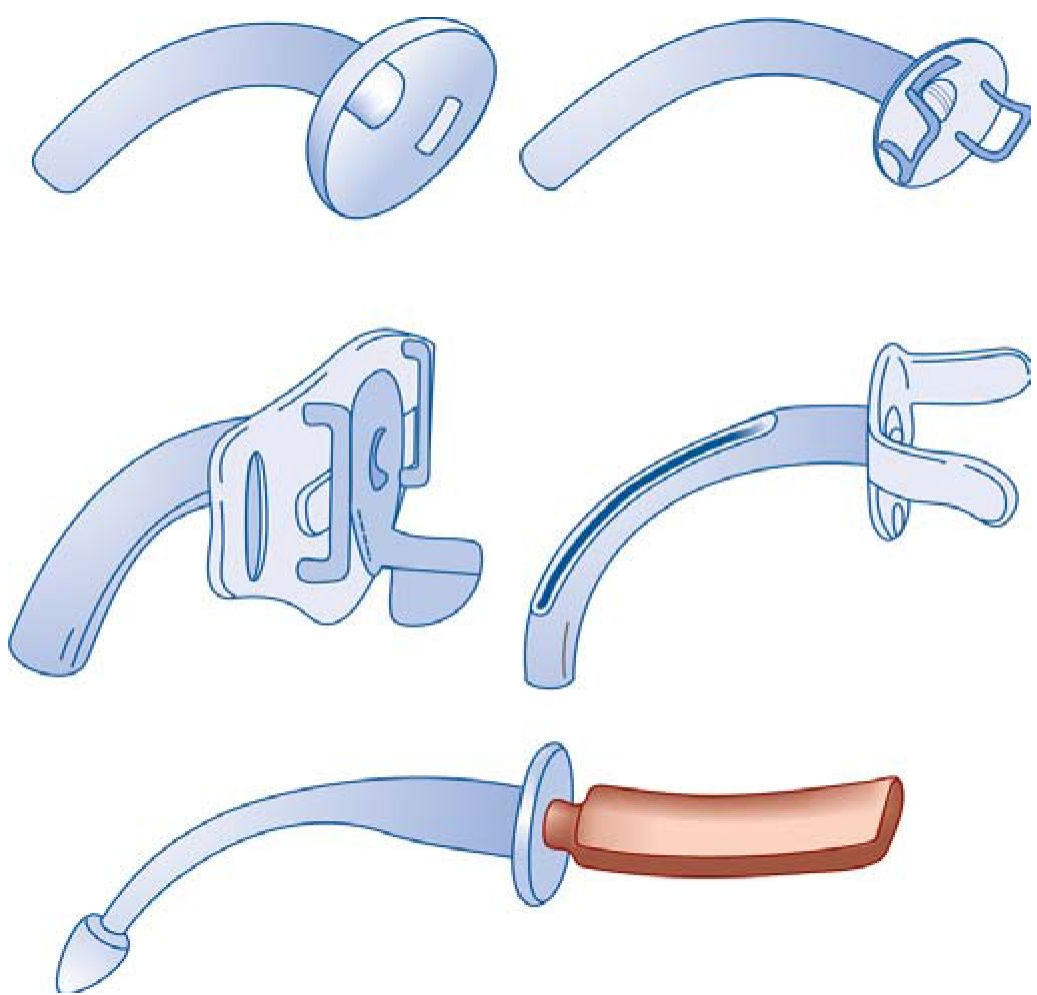
1- Jackson's tracheostomy tube: It has got outer tube, inner tube and an obturator.

2-Red-rubber tracheostomy tube.

3-PVC tracheostomy tube.

Modern tracheostomy tubes are made of plastic. They are soft, least irritant and disposable. They have inflatable cuff which makes it easier to give assisted ventilation. Cuff should be deflated at regular intervals to prevent tracheal pressure necrosis (For assisted ventilation, endotracheal, tube can be kept for 7 days. Beyond that period, patient needs tracheostomy for further ventilation)





## Indications for tracheostomy

1- In head, neck and facial injuries

2-Tetanus

3-Tracheomalacia after thyroidectomy

4-Laryngeal oedema/spasm

5-Major head and neck surgeries like commando's operation, block dissection, etc

## DRAINS

A drain is a created channel which allows any fluid collected, to come out after closure of the main wound.

### Types

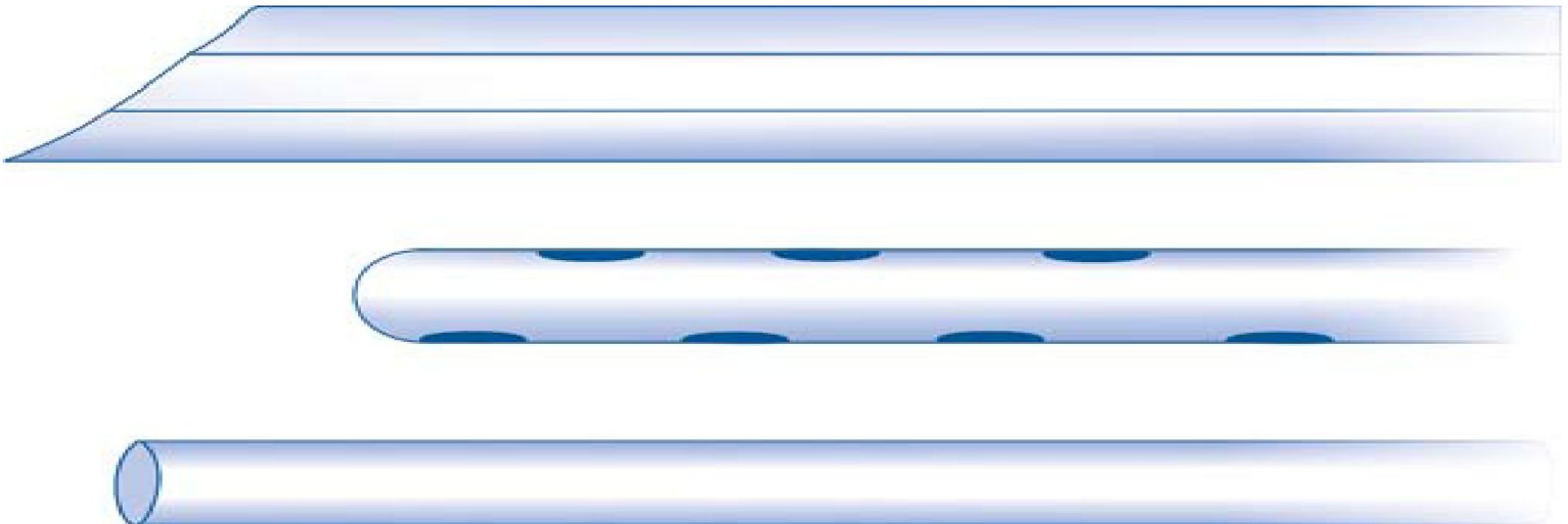
1- Corrugated rubber drain: It drains by capillary action and gravity. It is cheaper and technically easier. But it allows soakage of dressings and causes discomfort to the patient.

2- Tube drains

3- Malecot catheter can be used as a tube drain.

4- Penrose soft latex rubber tube.

5- Multiple perforated tubes.



## Advantages of tube drains

Quantity of fluid like bile, pus can be measured

It can be kept for longer time

Skin excoriation will not occur

Patient remains more comfortable

Infection rate is less

Removal is easier

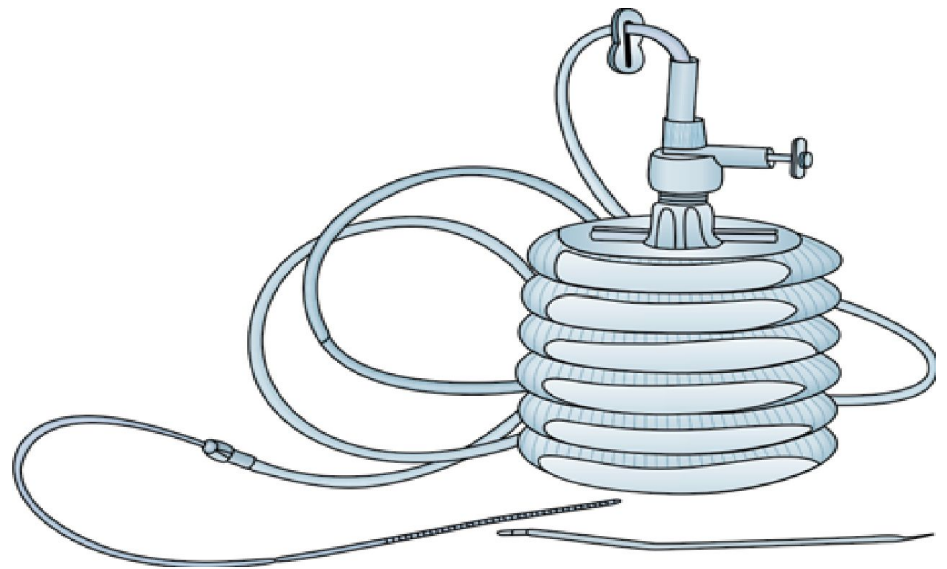
Dye can be injected and cavity or communication can be assessed using 'C-ARM

6-Closed suction tube drain system.

7-Glove drain.

8-Wick drain is a gauze drain to drain pus, discharge, etc.

9-Sump drain: This is a type of drain where parallel air vent prevents the adjacent soft tissues from being sucked into the drain when negative pressure is applied



Radi vac suction drain. Here suction is created by pressing the suction corrugation. There is a sharp metallic introducer to pass the tube into the required area after puncturing the skin. It is used for thyroidectomy, mastectomy, radical dissection, wide excisions, flap surgeries, etc.