

MODULE 1

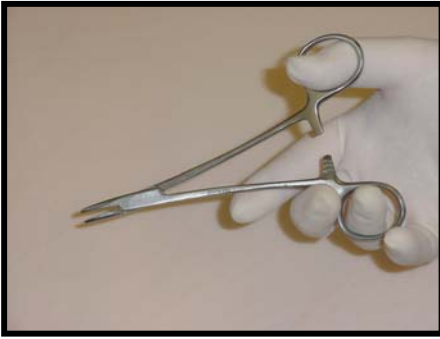
ASEPSIS & INSTRUMENT IDENTIFICATION Part Two of Two

**Helen MacRae, M.D.
Lisa Satterthwaite
University of Toronto**

IV. DESCRIPTION OF LABORATORY MODULE

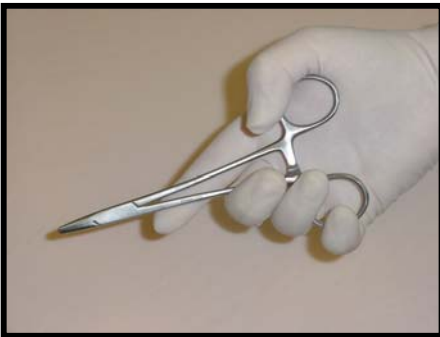
- 3) Instrument Identification and Handling

Instrument Handling

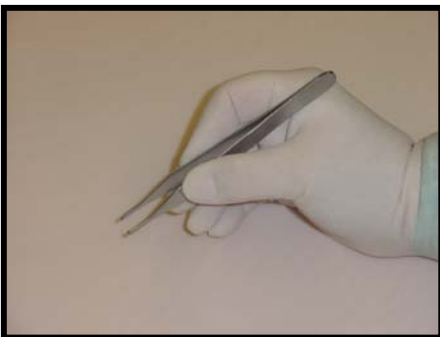


The thumb and ring finger are inserted into the rings of the scissors while the index and middle finger are used to guide the instrument.

The instrument should remain at the tips of the fingers for maximum control.



This is an alternate way to hold a needle driver, called palming.



THUMB forceps are held like a pencil.



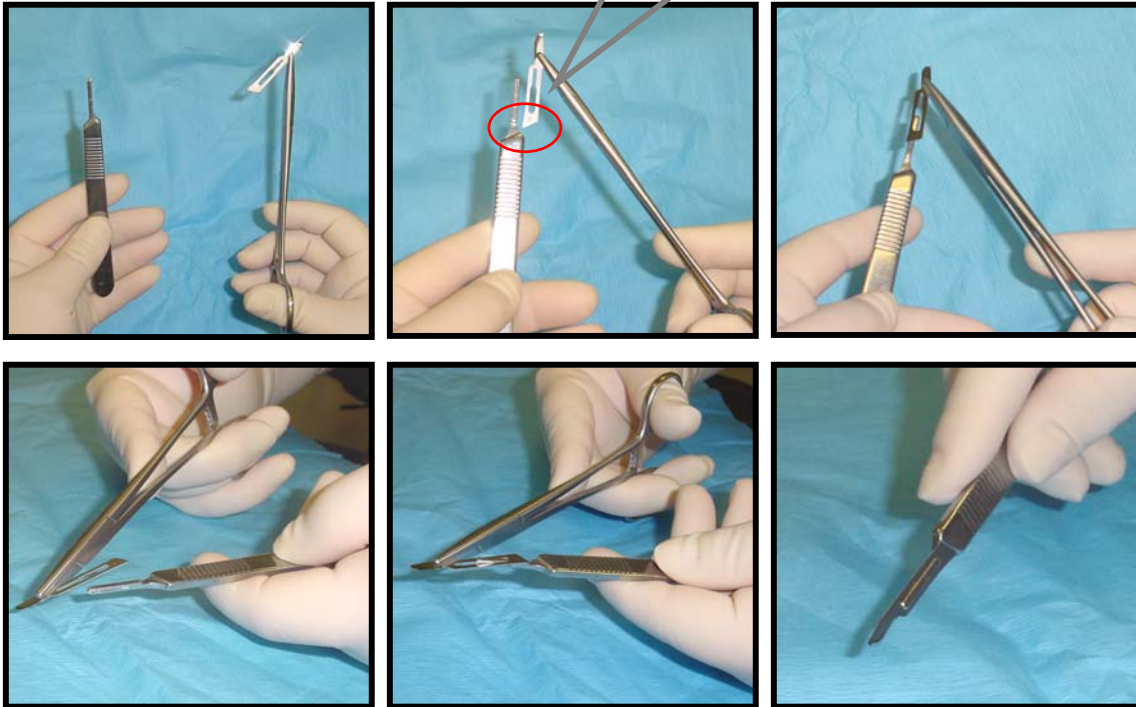
The scalpel is held with thumb, middle and ring finger while the index finger is placed on the upper edge to help guide the scalpel.

Long gentle cutting strokes are less traumatic to tissue than short chopping motions.

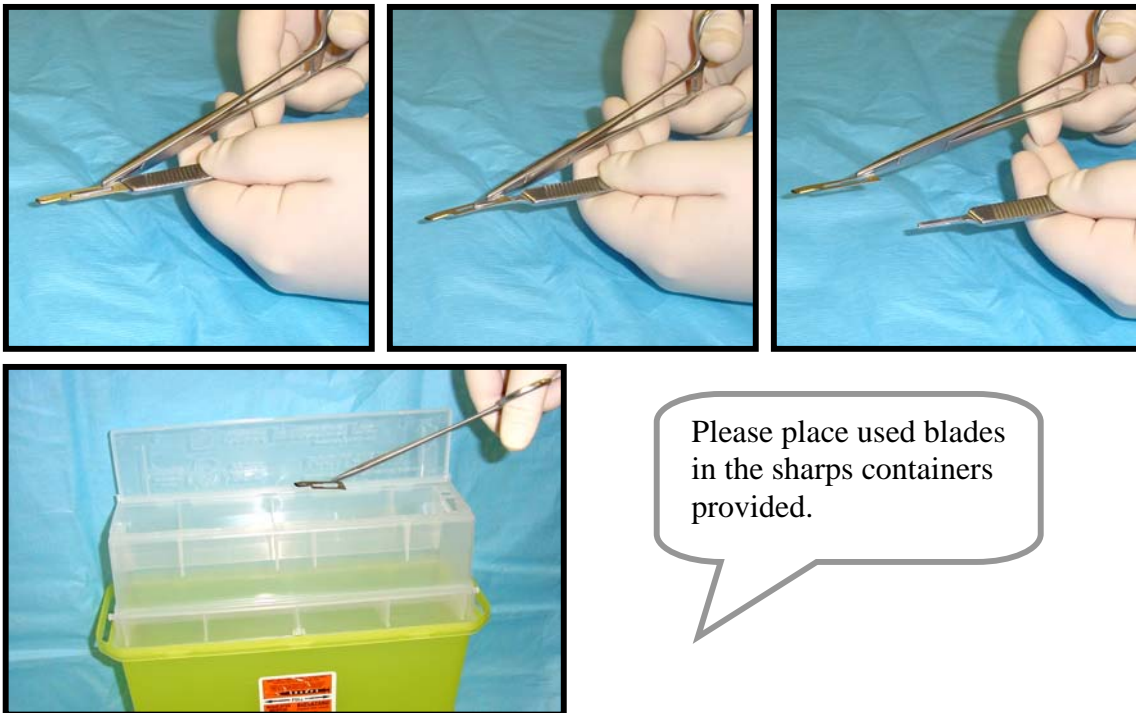
The scalpel should never be used in a "stabbing" motion.

Loading a Knife Handle

The angle of the bottom of the blade and the angle on the knife handle must match



Blade Removal



Please place used blades in the sharps containers provided.

Basic Instruments

1. Crile Hemostat (“Snap”)

- Used for grasping tissue/vessels to be tied off
- Atraumatic, non-toothed, ratcheted handle
- Tissue must be grasped near the tip of the instrument to prevent slippage
- Held between the thumb and fourth finger
- Available as curved or straight.
- Also used for blunt dissection



2. Kelly Clamp

- Similar uses as the crile/snap but larger, heavier gauge instrument
- To be used for larger tissue pedicles and/or larger vessels.



3. Kocher Clamp

- Large, straight-toothed tissue clamp with ratcheted handle
- Traumatic instrument generally used to clamp transected bowel or to hold tissue, which is to be discarded.



Tissue Forceps

1. Non-Toothed

- For fine manipulation of tissues and application of traction and dissection
- Held between thumb and index finger, usually in the non-dominant hand

2. Toothed forceps

- Firmer grip required for application of counter traction in dense tissues or tissue to be discarded

3. Sponge or Ovum forceps

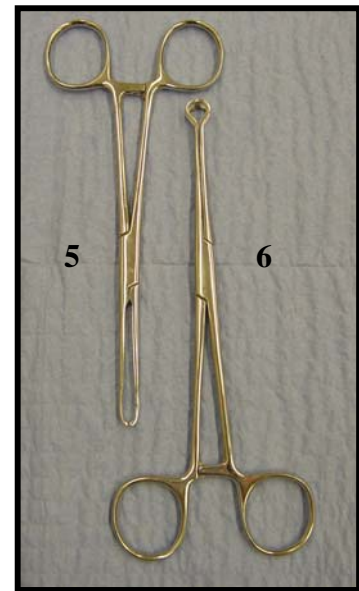
- Usually only used for holding gauze sponges (i.e. skin prep).

4. Towel Clamps

- Not frequently used because most current drapes are paper and have an adhesive strip to place on the patient for draping purposes

5/6. Allis and Babcock Intestinal Forceps

- Used for grasping intestine
- Allis have a firmer hold but are more traumatic than babcocks
- Usually applied with only one ratchet rather than the full ratchet.



7. Bonnie Forceps

- Strong hold on tissue
- Often used for orthopaedic surgery

8. Debakey Forceps

- Used in vascular and general surgery

9. Cooley's Forceps

- Used in vascular and general surgery

10. Russian Forceps

- Used in OB/Gynae surgery



Scalpel Blades and Handles

Basic Scalpel Handle with disposable blades can be held like a pen or held underhand depending on the user's preference. Practice attaching and removing blades is required.

Blade Handle

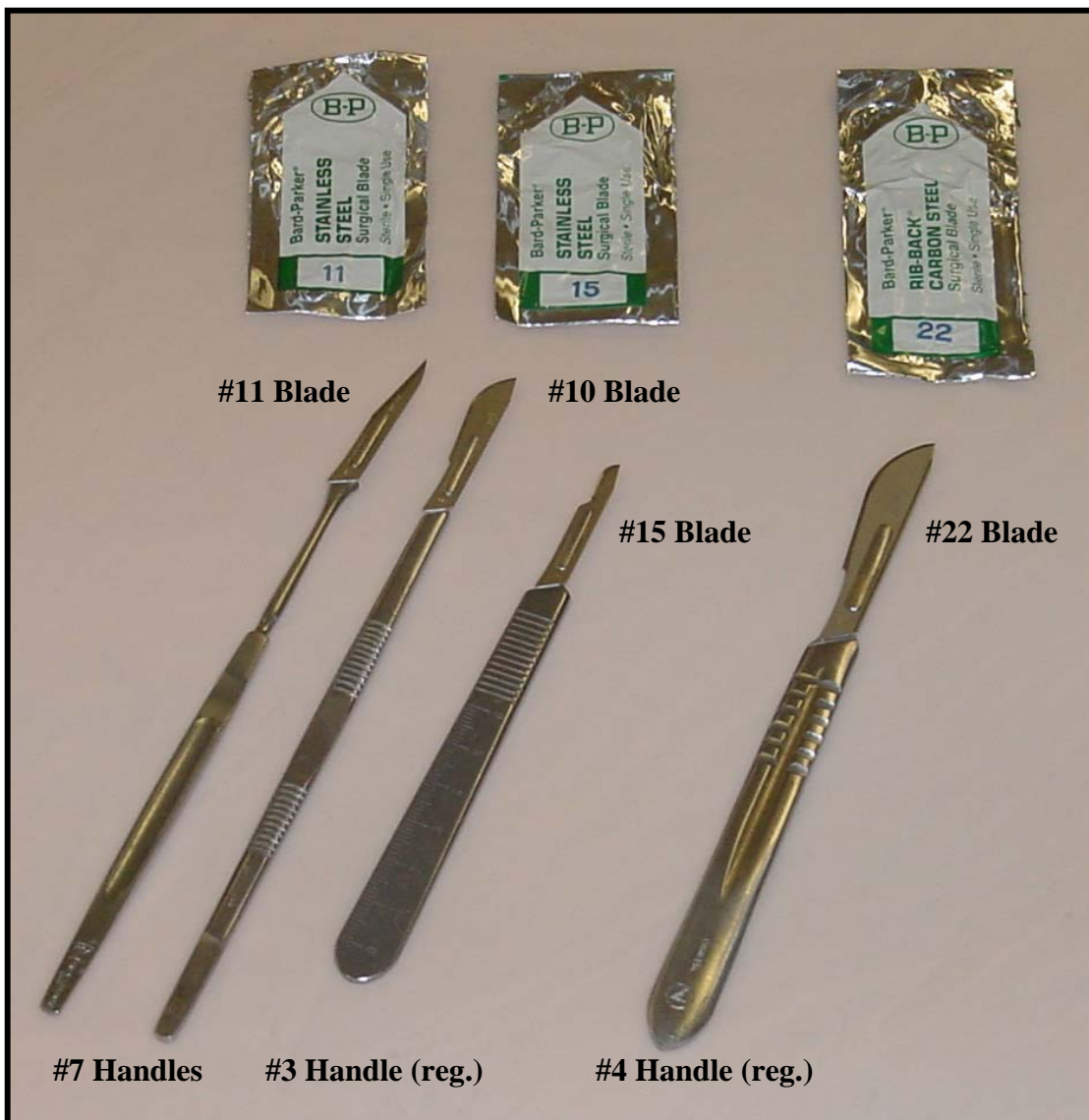
#7 & #3 Handle - Regular or Long

#4 Handle – Regular or Long

Blades that will fit

#10, #11, #15

#20, #22



Scissors

1. Mayo Scissors - Straight

- For cutting heavy sutures, NOT tissue
- Held with thumb and fourth finger by the dominant hand to cut
- Scissors need to shear. Therefore in addition to closing the blades, practice pushing out with the thumb and in with the fourth finger while closing the scissor to increase apposition of the blades.
Left handed users: the opposite technique must be used

2. Mayo Scissors - Curved

- For cutting heavy suture and thick dense tissue, NOT for tissue dissection

3. Metzenbaum Scissors

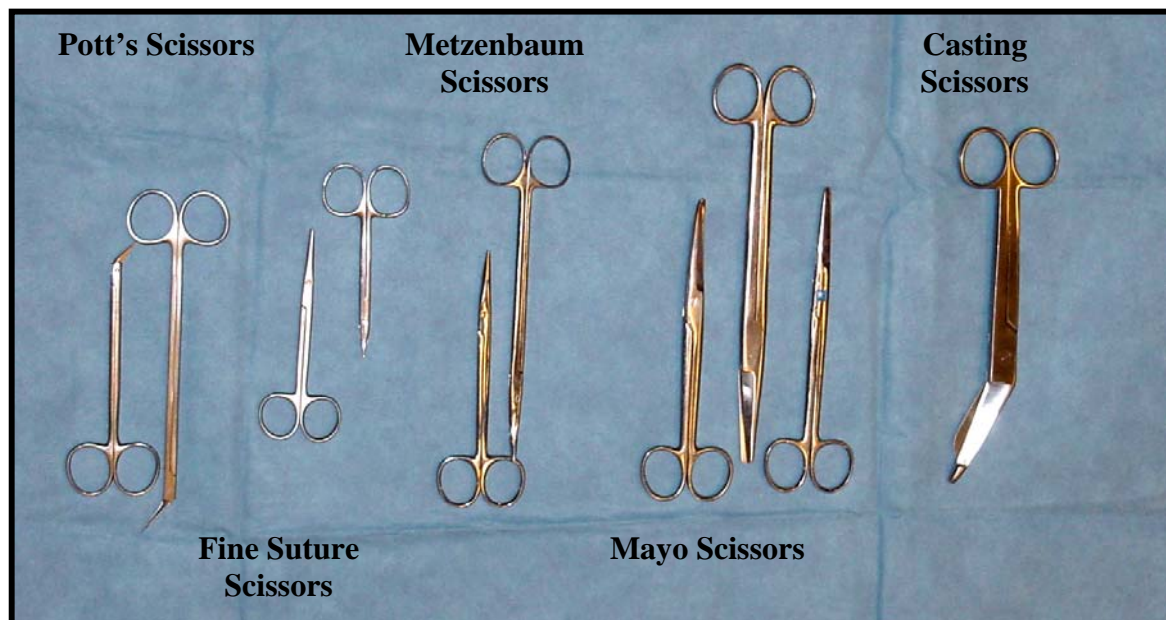
- Most commonly used instrument in surgery
- For fine dissection, cutting and spreading of tissues, NOT for cutting sutures.

4. Fine Suture Scissors

- For cutting fine sutures, NOT for cutting heavy sutures
- Technique similar as for Mayo scissors, only smaller

5. Pott's Scissors

- For performing arteriotomy or venotomy



Needle Holders

1. Heavy tipped

- Use with heavy suture and/or large size needles.
- Hold between the thumb and fourth finger of your dominant hand.
- Manipulate by using pronation and supination of the wrist, practice with various sutures.

2. Fine Tipped

Vascular or Ryder Needle Driver

- For fine, vascular sutures (4-0 to 5-0)

3. Spring Action Lock / Castroviejo Needle Driver

- Generally used for microsurgery (7-0 suture or finer)
- Ratchet locks and opens alternatively with each squeeze of the handles
- Hold like a pen between thumb and first finger
- Manipulation is a combination of fine hand movement and pronation/supination of the wrist

4. Regular Needle Driver

- Use with relatively fine suture (3-0 to 6-0)
- Action is the same as for heavy driver

NOTE: Do not try to use these with heavy needles as the jaws of the instrument will be damaged. This will not be recognized by the OR cleaning staff so you will eventually get these damaged forceps back in your set up. Try to use them with a fine needle and have it spin around in the jaws!



Exploratory Instruments for Laparotomy - Retractors

1. Malleable retractor

Can be bent into appropriate shape for each use. Often bent into an arc and placed into peritoneal cavity apex cephalad, to retract bowel while operating in the pelvis

Other Retractors

2. Jackson Retractor

3. Double-Armed Jackson Retractor

4. Ribbon Retractor

5. Right-Angle Retractor

6. Rake Retractor

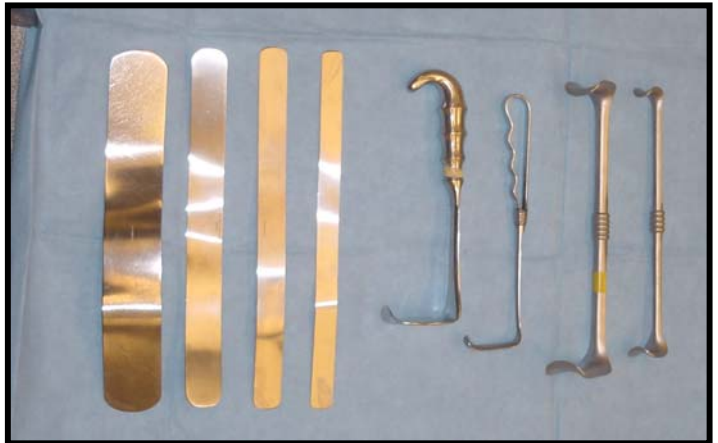
7. Hook Retractor

8. Miller-Senn / Army Navy Retractor

9. Balfour Self-Retaining Retractor

10. Deaver Retractor

11. Herrington Retractor



Accessory Items

1. Frazier Suction Tip

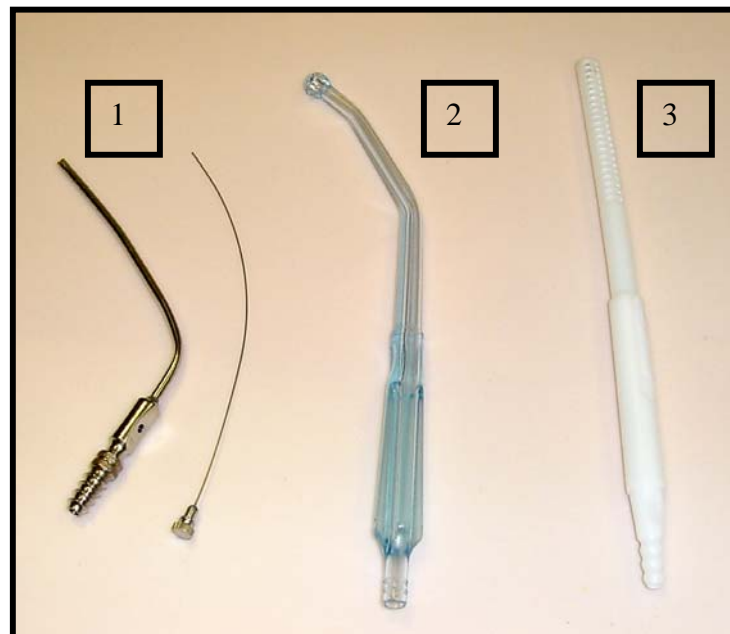
- Available in multiple sizes
- Used extensively in nasal, cranial & spinal surgery
- The angle allows for easy visualization of the tip by the operator
- Thumb hole controls the amount of suction
- Metal construction allows the instrument to be used for suction and cautery at the same time

2. Yankauer “tonsil” Suction

- Used for surface suction rather than intra-peritoneal, as bowel can inadvertently get sucked up and injured
- Used for pharyngo-laryngeal suction by anaesthesia
Shape designed for suction of pharynx-larynx

3. Poole Suction

- Used for intra-abdominal suction and multiple small holes
- Intestine or omentum less likely to get sucked up than with the yankauer tip
- Blunt end is atraumatic
- 2 pieces to the suction tip; tube and sheath over top
- Current models usually made of polyethylene and are disposable



VI. EQUIPMENT NEEDED

Station 1: Gowning and Gloving

Sterile gown packs, variety of gloves including non-latex, goggles, mask, boot covers,

OR caps/hats, soiled linen hamper, and garbage.

A sink nearby to review scrubbing techniques recommended with hand scrub solution and orange sticks for nails available.

To view the gowning and gloving video you will need appropriate AV equipment.

Station 2: Prepping and Draping

Abdominal mannequin covered with plastic wrap, prep sticks, green towels, prep solutions (variety of solutions particular to your institution), 4 x 4 gauze, prep cups, bowl of water (for cleaning up), plastic aprons (to protect clothing from prep stains), and an abdominal draping pack.



Laerdal line insertion torso.

Station 3: Instrument Identification

A variety of common instruments should be laid out on a table for viewing as well as extra knife handles with blades to practice putting on and taking off of blades. Extra snaps/criles should be available to practice one-handed opening and closing of ratcheted instruments as well as the review of the proper way to hold, handle and pass in the surgical field.

Sharps container available to review proper disposal of needles and blades.



Low/clinical grade surgical steel instruments.

VII. SUGGESTED TIME LENGTH

90 minutes