

**Hands-on experience on the identification, types, use / application
/administration of Needles, syringes, catheters, urine bag, RYLE's tube,
colostomy bags, oxygen masks**

AIM OF THE EXPERIMENT: To study the identification, types, use / application /administration of Needles, syringes, catheters, urine bag, RYLE's tube, colostomy bags, oxygen masks.

Needle :

It is sharp instrument used for suturing, for puncturing, or for the guiding of ligatures.

1. **Aneurysm** needle a blunt-pointed, curved needle with the eye at the point; used for passing ligatures around aneurysms or vessels.
2. **Aspirating needle** a long, hollow needle for removing fluid from a cavity.
3. **Atraumatic needle** an eyeless surgical needle with the suture attached to a hollow end.
4. **Biopsy needle** a hollow needle with an inner needle that detaches tissue for biopsy and brings it to the surface of its lumen; types include the Menghini and Silverman needles. See also needle biopsy.
5. **Cataract needle** one used in removing a cataract.
6. **Discission needle** a special form of cataract needle.
7. **Fine needle** a very thin, highly flexible steel needle with a narrow inner core used to cannulate very small bile ducts to perform transhepatic cholangiography (fine needle transhepatic cholangiography).
8. **Hagedorn's needle** a form of flat suture needle.
9. **Hypodermic needle** a hollow, sharp-pointed needle to be attached to a hypodermic syringe for injection of solutions.
10. **Knife needle** a slender knife with a needle-like point, used in ophthalmic operations.
11. **Ligature needle** a long-handled, slender steel needle having an eye in its curved end, used for passing a ligature underneath an artery.
12. **Menghini needle** a needle for liver biopsy, not requiring rotation to cut loose the tissue specimen.
13. **Reverdin's needle** a surgical needle with an eye that can be opened and closed by means of a slide.
14. **Scalp vein needle** a short rigid needle with flexible wings on each side; used to infuse IV fluids for short periods of time, in patients with small veins or in children.
15. **Silverman needle** a biopsy needle for taking tissue specimens, consisting of an outer cannula and an inner split needle with a longitudinal groove in which tissue is retained when the needle is withdrawn.
16. **Skinny needle** fine needle.
17. **Spatula needle** a minute needle with a flat or slightly curved concave surface that does not cut or pierce.
18. **Stop needle** one with a shoulder that prevents too deep penetration.
19. **Swaged needle** a needle with no eye, having suture attached to a hollow end.

Syringe:

A medical device that is used to inject fluid into, or withdraw fluid from, the body. A medical syringe consists of a needle attached to a hollow cylinder that is fitted with a sliding plunger. The downward movement of the plunger injects fluid; upward movement withdraws fluid. Medical syringes were once made of metal or glass, and required cleaning and sterilization before they could be used again. Now most syringes used in medicine are plastic and disposable.

Types of Syringe:

1. Disposable Syringe.
2. Medical Syringes.
3. Insulin Syringe.
4. Glass Syringes.
5. Prefilled Syringe.
6. Hypodermic Syringes.
7. Plastic Syringes.
8. Syringe Injector.

Catheter

- It is a thin tube made from medical grade materials serving a broad range of functions. Catheters are medical devices that can be inserted in the body to treat diseases or perform a surgical procedure. By modifying the material or adjusting the way catheters are manufactured, it is possible to tailor catheters for cardiovascular, urological, gastrointestinal, neurovascular, and ophthalmic applications. The process of inserting a catheter is "catheterization"
- Catheters can be inserted into a body cavity, duct, or vessel, brain, skin or adipose tissue. Functionally, they allow drainage, administration of fluids or gases, access by surgical instruments, and also perform a wide variety of other tasks depending on the type of catheter.
- Special types of catheters, also called probes, are used in preclinical or clinical research for sampling of lipophilic and hydrophilic compounds, protein-bound and unbound drugs, neurotransmitters, peptides and proteins, antibodies, nanoparticles and nanocarriers, enzymes and vesicles.

Uses

1. Single-use urinary catheter, 40 cm
2. Placement of a catheter into a particular part of the body may allow:
3. Draining urine from the urinary bladder as in urinary catheterization, using intermittent catheters or Foley catheter inserted through urethra. When the urethra is damaged, suprapubic catheterisation is used instead. The suprapubic catheter is inserted through the lower part of the abdomen directly into the urinary bladder
4. drainage of urine from the kidney by percutaneous (through the skin) nephrostomy
5. drainage of fluid collections, e.g. an abdominal abscess
6. direct measurement of blood pressure in an artery or vein

Urine drainage bags

Urine drainage bags collect urine. Your bag will attach to a catheter (tube) that is inside your bladder. You may have a catheter and urine drainage bag because you have urinary incontinence (leakage), urinary retention (not being able to urinate), surgery that made a catheter necessary, or another health problem.

Urine will pass through the catheter from your bladder into the leg bag.

How leg bag works

- Your leg bag will be attached to you all day. You can move around freely with it.
- You can hide your leg bag under skirts, dresses, or pants. They come in all different sizes and styles.
- At night, you will need to use a bedside bag with a larger capacity.

Where to place your leg bag:

- Attach your leg bag to your thigh with Velcro or elastic straps.
- Make sure the bag is always lower than your bladder. This keeps urine from flowing back into your bladder.

Emptying Leg Bag:

- Wash your hands well.
- Keep the bag below your hip or bladder as you empty it.
- Hold the bag over the toilet, or the special container your doctor gave you.
- Open the spout at the bottom of the bag, and empty it into the toilet or container.
- Do not let the bag touch the rim of the toilet or container.
- Clean the spout with rubbing alcohol and a cotton ball or gauze.
- Close the spout tightly.
- Do not place the bag on the floor. Attach it to your leg again.
- Wash your hands again.

RYLE'S TUBE (RT)

It is a disposable polyvinyl chloride tube used for both therapeutic and diagnostic purposes. It is mainly used for feeding in patients with lower cranial nerve palsies, in unconscious patients and in patients with PEM. It is also used for doing gastric lavage in cases of poisoning. It is used to aspirate gastric contents in case of hematemesis, intestinal obstruction, post surgery and gastric acid aspiration for gastric function tests. In the radiology department, it is used for barium studies. It may be passed in the duodenum for diagnosis of giardiasis.

The tube has 4 radio opaque markings, where each denotes the position of the tube in the stomach or duodenum. While passing the tube, be careful not to let the tube coil in the mouth. Rarely, violent passage of RT may cause perforation of stomach. Ryle's Tube comes in a pre-sterile pack, sterilized by irradiation.

Colostomy

A colostomy is a surgical procedure that changes the trajectory of food waste through your bowels. When part of the colon needs to be bypassed for medical reasons, surgeons make a new opening in your abdominal wall for poop to come out. With a colostomy, you poop into a colostomy bag. The operation can be temporary or permanent.

Some conditions that may require a temporary colostomy include:

- Serious infection, such as diverticulitis.
- Acute inflammation from inflammatory bowel disease (IBD).
- Acute injury to your colon.
- An obstruction (or blockage) in your colon or anus.
- Anal fistula (a tunnel leading from your anal cavity through to your skin or another organ).
- Partial colectomies (when the remaining ends of the bowels can be reattached later).

Some conditions that may require a permanent colostomy include:

- Incurable fecal incontinence.
- Advanced colorectal cancer.
- Permanent removal of the rectum and/or anus

oxygen masks:

An **oxygen mask** provides a method to transfer breathing oxygen gas from a storage tank to the lungs. Oxygen masks may cover only the nose and mouth (oral nasal mask) or the entire face (full-face mask). They may be made of plastic, silicone, or rubber. In certain circumstances, oxygen may be delivered via a nasal cannula instead of a mask

Medical plastic oxygen masks

Medical plastic oxygen masks are used primarily by medical care providers for oxygen therapy because they are disposable and so reduce cleaning costs and infection risks. Mask design can determine accuracy of oxygen delivered with many various medical situations requiring treatment with oxygen.

Silicone and rubber masks

Silicone and rubber oxygen masks are heavier than plastic masks. They are designed to provide a good seal for long-duration use by aviators, medical research subjects, and hyperbaric chamber and other patients who require administration of pure oxygen, such as carbon monoxide poisoning and decompression sickness victims.

Anesthesia oxygen masks

Anesthesia masks are face masks that are designed to administer anesthetic gases to a patient through inhalation. Anesthesia masks are either made of anti-static silicone or rubber, as a static electricity spark may ignite some anesthetic gases.

