

Clinical skills lab 4

URINARY CATHETERIZATION

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-Today we're going to talk about urinary catheters and how to insert them properly.

-What is a urinary catheter?

A tube inserted in the bladder to drain urine.

- **When do we use a urinary catheter?**

-**Prolonged anaesthesia** due to long surgeries.

Because the anaesthetic could affect the bladder leading to **urinary retention**.

-**Monitor the pt hydration status** by his urinary output.

-**Urinary obstruction** due to **benign prostatic hypertrophy** (increased risk with age), **blood clots** due to inflammation or cancer or a trauma, **stones** and **neurogenic bladder** due to DM, multiple sclerosis, Parkinson..... these diseases affect the bladder and prevent its contraction.

-**Hygiene purposes**, when the pt is so sick and can't go to the toilet. But even in this case the catheter is our last choice, we start with handheld containers, bed pans, diapers.... If all these ways fail or the pt has no assistance, then we use a catheter.

-**Diagnostic purpose** this is used especially when dealing with children in order to **collect a clean urine sample**.

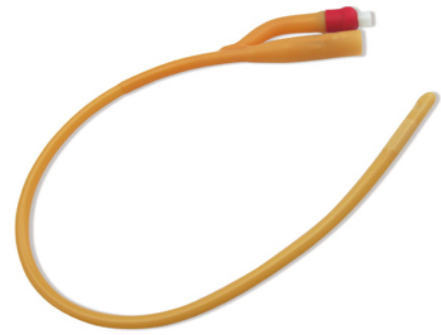
Or even to get an **image of urinary system** by VCGU (voiding cyst urethrogram) which is done by inserting the tube and then injecting it with fluids till the bladder is full then take an image of the bladder.

- **Types of catheters:**

There are lots of types, we will only talk about three of them:

- 1) **condom catheter**, only for men, it goes over the penis, and at the end of it there is a tube that collects the urine (balloon like), **not commonly used** because it's not that sterile and more uncomfortable than the other types.

2) **Foley catheter or indwelling catheter**, which means you put it inside and it **stays inside for sometime for example an hour or a day and its commonly used.**



3) **intermittent catheter or straight catheter**, this is used in cases of delivery to make space for the baby to pass through. **This type is immediately removed.** One type of intermittent catheter is **suprapubic catheter** this is used for patients for example with a spinal cord injury, so the brain can't know when it's time to urinate, so their bladder does not contract. So, we make a hole (incision) bellow the umbilicus directly into the bladder, then the patient at home can use a catheter every six hour to drain the bladder and then remove it when finished.



- **Sizes of catheters:**

- Catheters have different sizes according to the size of urethra, and they are measured by a unit called "French", and it's about 1mm. Another thing that is written on the catheter is the amount of fluid that you have to inflate the balloon with.

The small catheters are used for babies and that bigger catheter used for adults, so if you use a small catheter for an adult it might slip out, and if you use a big catheter it might not go in.

-for children we use 5 to 12 French (2 to 4 mm)

-for adults we use 12 to 18 French (4 to 6mm)

-incases of hematuria, stones, sediment.... We use catheters up to 26 French.

- **How do we determine the right tube size?**

In an adult for example we start with a 12 French catheter, if the urine is coming out (on sides) of the catheter then we have to use bigger one.

- **What are the contraindications?**

-pt with urethral tear

-a pt that doesn't need a catheter and can depend on other ways.

- **We have mentioned a lot that you only insert a catheter when needed so what are the adverse outcomes?**

-**infection and inflammation** because when you insert a catheter you have inserted some microbes as well.

How to prevent it?

1-hygine

2- used only when needed.

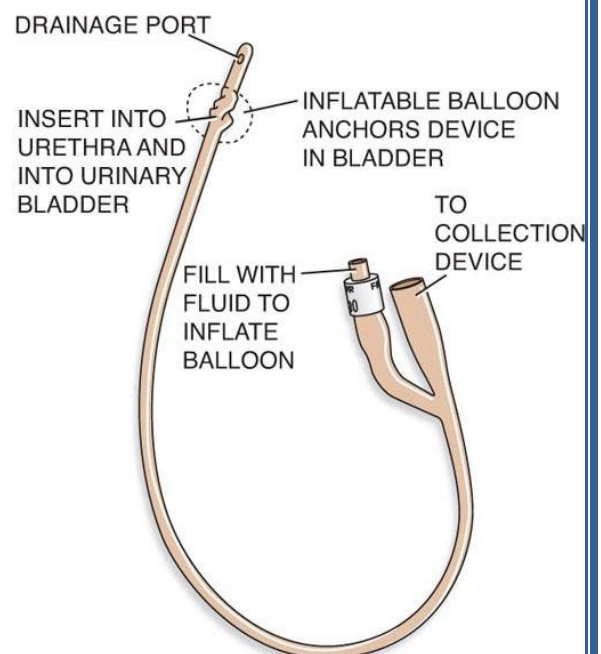
3-connect the bag to the tube before inserting the catheter.

4-remove catheter as soon as possible.

-**trauma to urethra.**

-**causing neurogenic bladder.**

-**Take a look at this catheter to understand what each part is for.**



The steps for applying the catheter?

- 1- Introduce yourself (Your name and your position) and ask for the pt name.
- 2- Explain the procedure, so you have to use simple language when talking to patients, for example you can tell the patient I am going to insert a small tube in your bladder. The patient might ask if it's painful, so you should tell them that it's not painful procedure, but it might be uncomfortable.

Keep in mind that a lot of patients refuse to put a urinary catheter because they do not understand what it is so it's your job to explain everything to the patient.

- 3- Gain consent.
- 4- Wash your hands.
- 5- Maintain privacy and ask for a chaperone if needed.
- 6- Prepare you equipment, it's comes in a package normally, but in OSCE exam the equipment will be already placed on the table. keep all the equipment sterile as possible.

What should you find? (remember to mention them in OSCE exam)

- iodine or alcohol
- gauze or cotton
- syringe with lidocaine (anesthetic)
- Vaseline for lubrication.
- catheter (making sure it the correct size)
- bag
- syringe with saline (to fill the balloon)

- 7- Now ask the pt to expose the area from above the waist to his knees.
If a male, only lies on his back.
If a female, she must lie on her back, with knees bent, her feet together and legs open (sometimes called frog position)



- 8- Wear sterile gloves

- 9- Clean area around urethral opening with alcohol from inner to outer area. This should be done three times from above downwards each time using a new gauze in females and from urethral meatus to the sides in males.
At the lab the doctor asked us to use another gauze in the other hand to support the area.
- 10-Expose urethral opening by separating the labia in females and holding the penis in males.
- 11-Then you will put the anesthesia in the urethra not surrounding it, about (1-2 cc) and tell the pt that they will feel a stingy pain, and then you should wait for 2 minutes.
- 12-During these two minutes change your gloves and attach the catheter to its bag (it will cause less infection)
- 13-Then lubricate the tip of catheter.
- 14-holding the catheter in one hand and exposing the urethral opening in the other using a gauze you will start inserting the catheter until you see urine coming out.
Keep in mind that female urethra is 5 centimeters long whereas the male urethra is 20 centimeters and that males have changes in directions to reach their bladders so in male cases we should elevate the penis a little bit to reduce the changes and make the pathway as straight as possible.
- 15-when urine come out push it an additional 5 centimeters, so you can be sure that the balloon part of the catheter is in the bladder because otherwise if inflated in a wrong position it will lead to urethral injury.
- 16- inflate the balloon using the syringe filled with saline.
- 17- gently pull the catheter to make sure that it is in its right place and closes the bladder.
- 18-tape the catheter to the pt upper leg and the bag to the bed.

19-Then you have to cover the pt, thank him and wash your hands and clean the area, and after you leave the room you have to document what you did (In the exam say that you will document what you did and that's enough, or there might be a chart to sign)

Some videos that may help

Male Catheterization: <https://youtu.be/2iLPfCAMgZs>

Female Catheterization: <https://youtu.be/MGCRwDX2Q1k>