

Urethral Catheterization

Introduction:

Urethral Catheterization is the most frequent retrograde manipulation of the urinary tract. It is routinely performed for diagnosis and therapeutic reason.

Indications:

Short term catheterization:

- Acute urinary retention
- Monitoring of urine output
- Urine collection for uncontaminated urine specimen
- Urologic evaluation of lower urinary tract
- Neurogenic bladder or mechanical inability to void
- Urinary tract surgery

Long term catheterization:

- Chronic urinary retention
- Incontinence with complicating skin break down
- Comfort measure for terminally ill or severely disabled patient with incontinence

Contraindications:

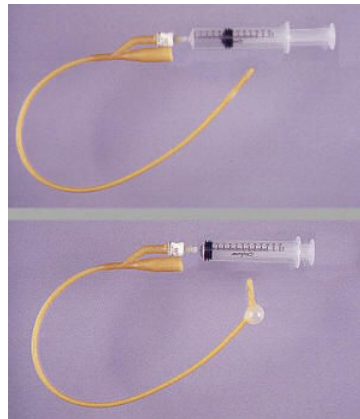
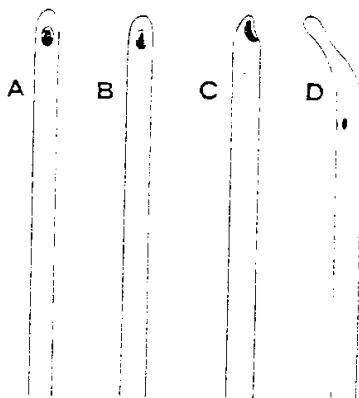
- No urethral meatus
- Trauma with blood at meatus, obvious penile deformity, or high-riding prostate
- Perineal hematoma
- Acute urethral or prostatic infection
- Known urinary tract obstruction, such as urethral stricture

Equipment:

- Sterile gloves
- Betadine antiseptic solution
- Lubricant
- Cotton balls
- 16 or 18 Fr Foley catheter for adult
- Drapes (both fenestrated and nonfenestrated)
- 10 ml syringe with still water
- Sterile urine collection system
- Pickups
- Adhesive tape, 1/2- inch

Types of Catheters:

- Straight rubber or latex catheter (A-C) often referred to as Robinson catheters, are most commonly used for one-time catheterization. They are not as well tolerated as other catheter materials (e.g. silicone) over the long term catheterization.
- Catheters with a curved tip (e.g. coude catheters, D) can be used in the normal S-shaped male bulbar urethra and the prostatic urethra associated with an enlarged prostate, that a straight catheter can not be passed.
- Foley type catheters are most often used for long-term urethral catheterization. Two-way catheters have a small lumen for inflating the balloon mechanism, that are used when an indwelling catheter is indicated. Three-way catheters have a lumen for instilling irrigant that are used when irrigation and drainage are necessary.



Preparation:

- For acute retention of urine, a rectal examination to assess the prostate gland prior to catheterization may be useful.
- Give appropriate explanation to patient and provide a comfortable and private environment.
- Collect equipment and a clean dressing trolley and wash hands thoroughly with antiseptic liquid soap.
- Choose the smallest urethral catheter that will accomplish the purpose of catheterization, because urethral secretions drain more easily around smaller catheter. Allowing egress of urethral secretion lessens the chance of a clinically significant urethral inflammatory response.
- Open catheterization pack, supplementary packs and catheter and arrange sterile field.
- Leave the catheter in its internal wrapper and pour cleansing solution into gallipot.
- If lubricant is available in a tube, it can be injected directly into the urethral meatus. Lidocaine jelly can be used as a lubricant to lessen the discomfort of catheterization.

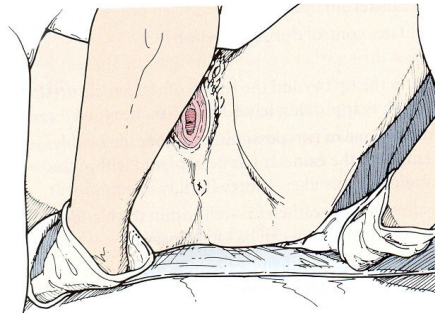
Female Catheterization

Position:

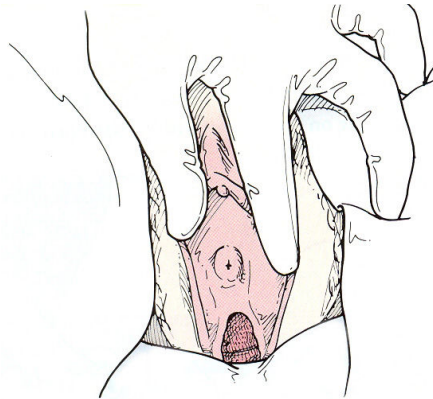
Supine, “frog leg” or to side lying position with upper leg flexed.

Technique:

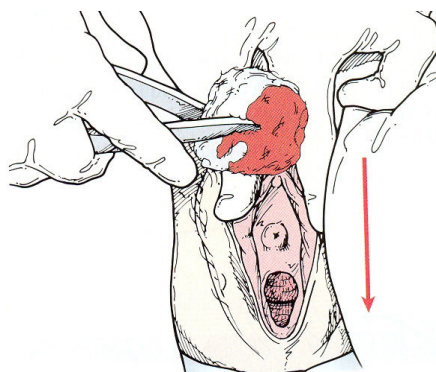
1. Place the fenestrated drape over the perineum and the nonfenestrated drape between the patient’s legs.



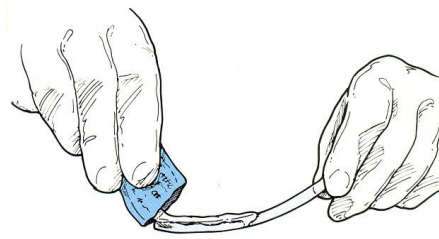
2. Done sterile gloves.
3. Spread the labia with the nondominant hand, allowing good exposure to the urethra (this hand will not be sterile for the remainder of the procedure).



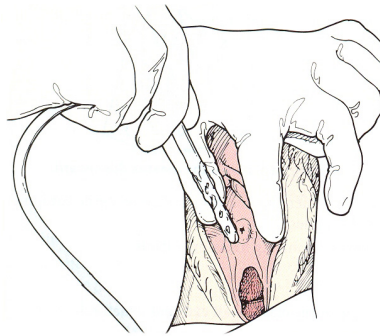
4. Use the pickups to hold the cotton balls. Prepare the area in sterile fashion by running the cotton balls over the meatus in an anterior to posterior direction three separate times.



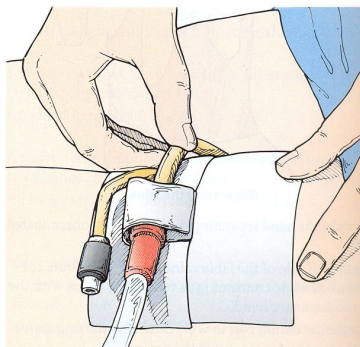
5. Cover the tip of the catheter with lubricant.



6. Introduce the catheter into the meatus.



7. Quickly advance the catheter until about half is inserted. At this point urine should flow through the catheter.
8. Inflate the catheter balloon with the 10 ml of still water, or appropriate amount for that catheter.
9. Pull the catheter back until the balloon is snug against the bladder.
10. Attach the urine collection system and secure the catheter to the leg with tape.



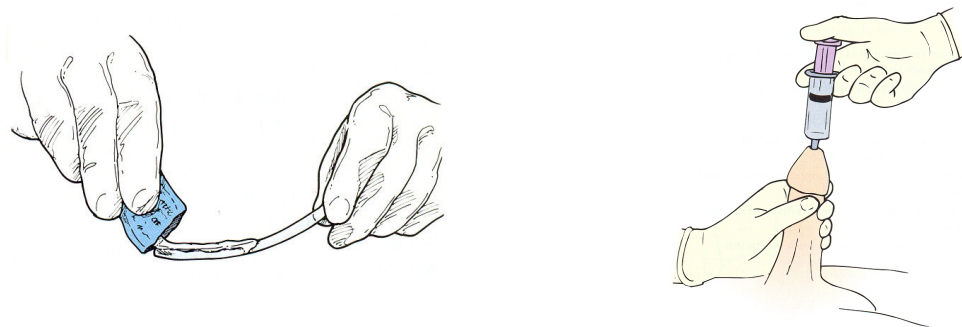
Male Catheterization

Position:

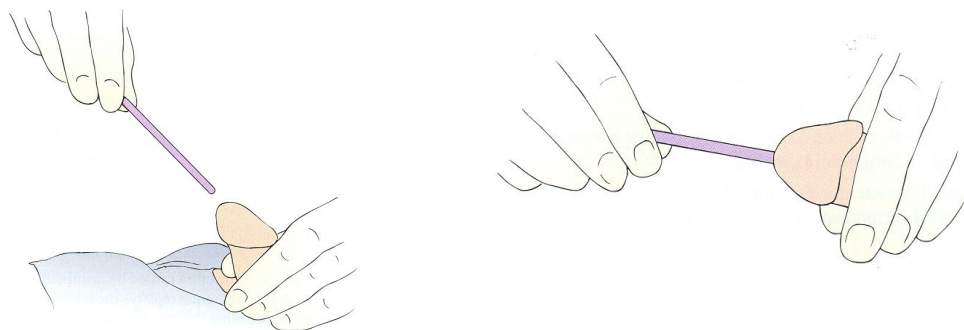
Supine with leg slightly spread apart.

Technique:

1. Place the fenestrated drape over the penis and the nonfenestrated drape between the patient's legs.
2. Don sterile gloves.
3. If the patient is uncircumcised, retract the foreskin. Grasp the penis with the nondominant hand (this hand will not be sterile for the remainder of the procedure). Hold the penis at length in a direction perpendicular to the perineum.
4. Use the pickups to hold the cotton balls. Prepare the area in sterile fashion by running the cotton balls over the meatus and glans three separate times.
5. Cover the distal third of the catheter with lubricant, and lubricate the urethra.



6. Hold the penis in an upright position with the nondominant hand and insert catheter in urethral meatus. Gently stretch penis taut to eliminate urethral reboundancy.



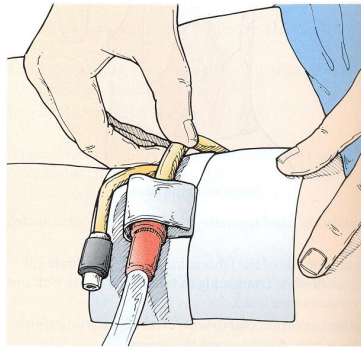
v. Advance catheter:

Overcome slight obstruction at external sphincter with constant gentle pressure or ask the patient to take slow, deep breaths, that will help relax the patient and often allow easier catheter passage.

Advance it to balloon sidearm. At this point urine should flow through catheter.

If resistance is met, one should not attempt forceful insertion, but should apply continuous gentle pressure.

- vi. Inflate the catheter balloon with the 10 ml of still water, or appropriate amount for that catheter.
- vii. Mention pulling back foreskin if retracted.
- viii. Pull the catheter back until the balloon is snug against the bladder.



- ix. Attach the urine collection system, and secure the catheter to the leg with tape.

Catheter care:

- Wash urethral meatus with soap and water three times daily.
- Apply antibiotic-steroid cream to meatus.
- Avoid opening drainage system.

Complications:

- Microscopic hematuria (gross hematuria is uncommon)
- Inability to pass the catheter
- Infection
- Passage of the catheter into a blind pouch (male)

Note:

- If no urine returns, irrigate with 30 ml sterile saline, free fluid return confirms position of catheter in bladder.
- A coude tip catheter may be necessary in a male patient with a large prostate that makes standard catheterization difficult. If unsuccessful, proceed with filliforms catheters.
- In women the biggest error in placement is trying to catheterize the clitoris, mistaking it for the urethra. The urethra is more posterior and has a slitlike opening.
- The catheter should not be touched directly with the gloves as powder particles from the gloves can act as foreign bodies and allow stone formation.

Checklist for Urethral Catheterization

1. Mentions handwashing
2. Checks patient's name and hospital number
3. Assembles correct equipments in the tray (Selects suitable catheter)
4. Greets and introduces oneself to the patient
5. Explains procedure and gets verbal consent
6. Provides privacy
7. Opens catheter and supplementary packs and arranges sterile field
8. Fills 10 ml syringe with water, places outside sterile field
9. Positions the patient
10. Places the fenestrated and nonfenestrated drape
11. Uses gloves
12. Preps the area: In female: spreads the labia and using forceps, cleans periurethral mucosa with antimicrobial solution In male: Retracts foreskin (gently) and, using forceps, cleans glans penis with Antimicrobial solution
13. Coats the catheter with lubricant (The tip for female and distal third for male)
14. Separates the labia in female patient with the nondominant hand. Holds the penis in an upright position with the nondominant hand in male patient
15. Places receiver dish between legs
16. Gently introduces the catheter, causing the least amount of discomfort, with dominant hand until urine is noted (In male patient inserts until bifurcation is met)
17. Inflates the catheter balloon with appropriate amount of water
18. Mentions pulling back foreskin of retracted in male patient
19. Gently withdraws catheter and stops when balloon rests against bladder neck
20. Attaches catheter bag to catheter
21. Places drainage bag below level of bladder
22. Secures catheter to abdomen or thigh
23. Removes gloves, disposes of equipments
24. Helps the patient adjust position
25. Assesses catheter function and amount, color, odor and quality of urine
26. Documents date, time, size of catheter inserted, amount of water in balloon, patient's tolerance to procedure, and assessments of urine
27. Thanks and listens to the patient's questions