PROCEDURE

Urinary catheter - infants

A urinary catheter is a thin tube placed through an infant's urethra to collect urine, drain the bladder, or monitor urine output.

PURPOSE
Collect urine, drain the bladder, or measure urine output

PROCEDURE TYPE
Both; minimally invasive bedside tube placement

WHERE IT IS DONE
At the bedside or in an outpatient clinic

ANAESTHESIA
None; comfort measures and lubricating gel usually used

HOW LONG IT TAKES
Usually 5-15 minutes

PREPARATION
No fasting usually; follow the treating facility's instructions

RECOVERY
Same day; no caregiver driving restriction

MAIN RISKS
Discomfort, bleeding, urethral injury, urinary infection

RESULTS
Urine flow immediately; cultures often within 24-48 hours

Overview

A urinary catheter is a soft, narrow tube passed through your baby's urethra and into the bladder. The urethra is the opening through which urine leaves the body.

The catheter may be inserted briefly to collect a clean urine sample. This is called an intermittent, or "in-and-out," catheter. It is removed as soon as enough urine has been collected.

An indwelling catheter stays in the bladder to drain urine continuously. Depending on the catheter and your baby's size, it may be held in place by a small water-filled balloon. It connects to a closed drainage bag.

Catheter placement does not usually require sedation or general anaesthesia. Your baby may

cry because of being held still, the cleaning solution, or pressure as the tube is inserted.

Why the procedure is performed

Your baby's healthcare team may recommend a urinary catheter to:

A catheter sample is less likely to be contaminated by skin bacteria than urine collected in a diaper or collection bag. This matters when the sample will be cultured to look for bacterial growth.

An indwelling catheter should remain in place only while it is needed. Removing it promptly reduces the chance of infection and other problems.

- Collect a urine sample when a urinary tract infection is suspected
- Drain a bladder that is not emptying properly
- Measure urine output accurately during serious illness or surgery
- Keep the bladder empty before, during, or after certain procedures
- Monitor or manage a known urinary tract condition

Who should and should not have it

Catheterization may be appropriate when an accurate urine sample or dependable bladder drainage is important and a less invasive method will not provide what is needed.

It is not necessary for every urine test. A clean-catch sample may be tried first when it can be collected without delaying care.

The procedure may need to be avoided, delayed, or performed by a specialist if your baby has:

Tell the team if previous attempts have been difficult. A catheter should not be forced when it does not pass easily. Another size, imaging guidance, or help from a urology specialist may be needed.

- A known difference in the urethra or genital anatomy
- Recent surgery involving the bladder, urethra, or genitals
- A history of difficult catheter placement
- Significant swelling, injury, or infection around the urethral opening
- Possible urethral injury, such as after major pelvic trauma

How to prepare

The treating facility's own instructions take priority over general information in this article.

Fasting is not usually needed for catheter placement alone. If catheterization is being done with surgery, imaging, or sedation, your baby may have separate feeding instructions.

Tell the team about:

You can usually stay nearby and help comfort your baby. Feeding, a pacifier, swaddling, or another age-appropriate soothing method may be used. Ask whether your baby can feed during or immediately after the procedure.

- Allergies or previous reactions to latex, antiseptics, adhesives, or anaesthetics
- Previous urinary or genital surgery
- Known differences in urinary anatomy
- Bleeding conditions or medicines that affect clotting
- Previous problems with catheter placement

What happens during the procedure

Your baby is placed on their back. A healthcare professional gently positions the legs so the urethral opening can be seen. Another team member may help keep your baby safely still.

The genital area is cleaned with an antiseptic solution. Sterile drapes and equipment help prevent bacteria from entering the bladder.

The catheter is coated with lubricating gel and gently passed through the urethra. Urine begins to flow when the catheter reaches the bladder.

For a urine sample, urine is collected in a sterile container and the catheter is removed. The laboratory may perform a urinalysis, which checks the urine for signs such as white blood cells, and a culture, which looks for bacterial growth.

If ongoing drainage is needed, the catheter is secured and connected to a collection bag. The bag is kept below bladder level so urine can drain. In very small or premature babies, the catheter type and method used to secure it may be different.

Placement commonly causes brief pressure or stinging. Your baby may cry during cleaning, positioning, or insertion, but the procedure is usually short.

Recovery and what to expect afterward

Your baby may be briefly unsettled after catheterization. Mild stinging during the next urination or a tiny amount of pink staining can occur after the tube is removed. Ongoing pain or bleeding is not expected.

Feeding can usually continue as normal unless the underlying illness or another procedure requires restrictions.

Normal movement and age-appropriate activity can usually resume immediately. If the catheter remains in place, avoid pulling or putting tension on the tubing. Keep the drainage bag below the bladder and prevent the tubing from becoming kinked.

There is no procedure-related restriction on a caregiver driving the baby home. However, your baby may need to stay for treatment or observation because of the reason the catheter was placed.

A caregiver can often return to work the same day if the baby is well and has usual childcare available. Illness, hospital observation, or an indwelling catheter may change that plan.

Risks and possible complications

Urinary catheterization is generally a brief procedure, but possible complications include:

Repeated attempts can increase irritation. If the catheter will not pass, the clinician may stop and use a different approach.

The chance of infection rises the longer an indwelling catheter stays in place. Staff should use sterile technique during insertion and review regularly whether the catheter is still required.

- Temporary pain or distress
- Minor bleeding or blood-tinged urine
- Irritation or injury to the urethra
- Introduction of bacteria into the urinary tract
- Difficulty placing or removing the catheter
- Bladder spasms or urine leaking around an indwelling catheter
- Catheter blockage, kinking, or accidental removal

Results and follow up

Urine begins draining as soon as the catheter reaches the bladder. If the purpose was to relieve a full bladder or measure urine output, the team can assess this immediately.

Some urinalysis results may be available within minutes or hours. A urine culture often takes 24 to 48 hours to show whether bacteria are growing. Testing which antibiotics like amoxicillin or doxycycline may work can take additional time.

The team will explain how and when results will be shared. A positive culture does not always mean the same thing in every situation. It is interpreted alongside how the sample was collected, the urinalysis, and your baby's health.

An indwelling catheter is removed when continuous drainage or measurement is no longer needed. Follow-up is based on why it was placed, not on the catheter procedure alone.

Alternatives

The available alternatives depend on whether the goal is to collect urine, measure it, or drain the bladder.

If the bladder must be drained urgently, observation or a collection bag cannot replace catheter drainage.

- Clean-catch urine: Urine is caught in a sterile container during urination. This avoids inserting a tube, but collection can take time and contamination is more likely.
- Urine collection bag: A bag sticks over the genital area. It is easy to apply, but bacteria from the skin often contaminate the sample. A positive bag culture may need confirmation with a cleaner sample.
- Suprapubic aspiration: A needle is passed through the lower abdomen directly into the bladder, sometimes with ultrasound guidance. It can provide a very clean sample but is more invasive and requires suitable expertise.
- Bladder ultrasound: A scanner can estimate how much urine is in the bladder without inserting a tube. It cannot drain urine or provide a culture sample.
- Weighing diapers: Changes in diaper weight can estimate urine output. This is less invasive but less precise than continuous catheter drainage.
- Intermittent catheterization: Repeated brief catheter placement avoids leaving a tube in continuously, but it means more than one insertion if ongoing drainage is needed.

When to call your healthcare team

Contact the healthcare team routinely if you have questions about catheter care, results, removal, or follow-up.

Seek prompt medical advice if:

Do not try to reinsert a catheter yourself unless you have been specifically trained and instructed to do so.

A baby younger than 3 months with a temperature of 38°C or higher needs urgent medical assessment. Seek emergency help if your baby is difficult to wake, has trouble breathing, develops blue or grey colouring, or has heavy uncontrolled bleeding.

- Bleeding or pain continues or increases
- Urine becomes cloudy or unusually foul-smelling
- The skin around the urethra becomes increasingly red or swollen
- An indwelling catheter stops draining and your baby seems uncomfortable
- Urine leaks repeatedly around the catheter
- The catheter falls out or appears to have moved

Common questions

Will my baby be asleep?

Usually not. Catheter placement is brief and is generally done without sedation or general anaesthesia. Comfort measures and lubricating gel are commonly used.

Can I drive my baby home afterward?

Yes. Catheterization itself does not create a driving restriction for the caregiver. Whether your baby can leave immediately depends on the illness or procedure that required the catheter.

How painful is it?

Your baby may feel pressure, stinging, and discomfort from being held still. Crying is common, but insertion usually lasts only a short time. Significant or continuing pain should be reported.

When will I know the urine results?

Some initial urine results may be available within minutes or hours. A culture commonly takes 24 to 48 hours, with more time sometimes needed for antibiotic testing.

Can I stay with my baby?

Often, yes. You may be able to soothe your baby with your voice, touch, a pacifier, feeding, or swaddling. Local infection-control or procedure rules may affect where you can stand.

Sources

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