

What is it?

Clean intermittent catheterization (CIC) is the insertion of a clean plastic tube (catheter) into the urethra to empty the bladder. It is generally performed 5-6 times a day.

Background

The urinary tract is made up of the kidneys, ureters, bladder and urethra. The kidneys make urine by filtering the blood. The urine passes down the ureters into the bladder, where it is stored until the bladder is full. A normal bladder empties once full, via the urethra.

Some people are unable to empty their bladder normally. This may be because the nerve supply to the bladder is not normal (neuropathic bladder), because of an abnormality in how the bladder has formed, or because the sphincter of the bladder does not allow the bladder to empty properly. After surgery to increase the volume of a bladder (bladder augmentation), emptying the bladder with CIC is mandatory. If the bladder does not empty completely, the 'old' urine sitting in the bladder is prone to become infected.

Why is it done?

Clean intermittent catheterisation is a way of emptying the bladder, when the bladder cannot function normally itself. It helps to prevent high pressure in the urinary tract, and to reduce the incidence of urinary tract infection.

Intermittent urethral catheterization is an excellent way to empty the bladder and prevent problems that can be caused by inadequate/absent emptying. Children can be dry and "tube-free" for much of the day. It also mimics the normal bladder cycling of "full-and-empty", which helps maintain bladder compliance (stretchiness)

What are the alternatives?

Some children are unable to catheterise via the urethra. In these situations, a surgical procedure can be done to create a channel to the abdominal wall for catheterization. This channel becomes the access point for intermittent catheterisation. These surgical channels are not always successful, may have complications, and they do not allow the bladder to empty as well as the urethra.

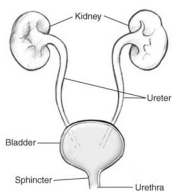
Alternative methods of indwelling catheterisation do not allow the bladder to cycle in a manner mimicking normal. The bladder becomes small and stiff if it is left empty for a long time. *Indwelling* catheters have much higher risk of serious infection, stone formation and chronic inflammation of the bladder, which can lead to bladder cancer. For this reason, long-term indwelling catheters are not commonly used in paediatrics.

In some circumstances, an operation to open the bladder directly to the skin (vesicostomy) is considered as an alternative, if the bladder pressures are very high. This provides good drainage, but does not allow the child to be dry. This is usually a short-term alternative.

What are the complications?

Complications from CIC are most likely to occur from failure to perform CIC adequately. The most common problem is urinary tract infection. The best way to prevent urinary tract infection is to regularly empty the bladder completely. The best way for someone with abnormal bladder emptying to avoid a urinary tract infection is with regular CIC.

If you think your child may have a urinary tract infection because of a high temperatures, and smelly/ cloudy urine you should take your child to the doctor.



How?

In babies or young children the parents will be taught how to perform CIC. Older children will be taught how to do CIC themselves. The following steps are followed.

1. Wash hands
2. Collect equipment – catheter, lubricant, wipes or cloth (+/- jug for urine)
3. Clean the urethral opening with the wipes: wipe front to back and repeat
4. Put gel on the catheter
5. Hold the catheter near the tip and gently insert into the urethra until urine flows
6. Place the other end of the catheter over the toilet or into a jug
7. Hold the catheter in place until urine flow stops
8. Slowly remove the catheter, if urine starts flowing again – hold the catheter at this position until the urine stops.
9. Dispose of the catheter
10. Wash hands