

# Spina Bifida CIC booklet



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A practical guide for nurses and health workers  
to do clean intermittent catheterization (CIC)

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Importance of CIC in children with Spina Bifida

Clean Intermittent Catheterization (CIC):

1. helps to avoid urinary tract infections
2. helps to avoid dangerously high bladder pressure and kidney damage (keeps bladder and kidneys in a healthy condition)
3. is necessary to become (socially) continent

## IMPORTANT

- Tell the parents that CIC does not harm the genitals or affect fertility
- but that CIC helps to avoid bladder and kidney damage!
- If there is also constipation, CIC will need to be combined with bowel training from the age of 2.

(see bowel booklet)

### When to start CIC

1. In the case of bladder retention: seen by inspection of the abdomen and a bladder palpable up to the umbilical level
2. In the case of more than one proven urinary tract infection
3. A desire to become continent

### What to do before starting CIC

1. Assess how the child is peeing:
  1. is there urine retention (by feeling)

2. is the child dribbling when handled
3. does the child pee with a high pressure

2. Do a urine analysis using a dip stick (Combur-2 sticks)

Analyze twice weekly when the child is an in-patient and at every visit in the outpatient clinic

3. Plan a renal / bladder ultrasound if possible to screen for high bladder pressure
4. In the case of a proven urinary tract infection start nitrofurantoin or co-trimoxazole for 5 days and control the urine after treatment (see page 8)
5. If the child is a boy, assess the need for circumcision
6. If a second infection is proven, start CIC

What to do when starting CIC

1. Give a clear explanation of the importance of CIC to parents and children.
2. Make sure you have all the material necessary.
3. Use the largest size of catheter that can enter the urethra without force.
4. Do a good CIC and empty the bladder completely.
5. Instruct the parents how to do the CIC themselves and show them how to assess the urine:

Clear	OK
No smell	
Cloudy	Infection

Bad smell
Blood in urine

6. Instruct the parents how to note the volume removed at every CIC on a special volume chart (see volume chart).

7. Start with CIC 3 times (3 times is enough to reduce infection) but increase frequency to

5 times a day as soon as possible.

If necessary and if CIC technique is well known by the parents, start Oxybutynin.

(see manual of Oxybutynin)

#### Material

- Silicone Catheters, no latex to avoid allergies
- Lubricant for boys (KY Jelly, Paraffin). If not available, try water.
- Colorless transparent recipient to collect the urine
- Non-sterile materials to wash genital area
- Water and soap to wash hands
- Latex free gloves
- Use the widest catheter that can enter the urethra

For boys: start with CH 8 short for babies and toddlers. CH 8 Long afterwards.

For girls: always use short.

#### How to do a good CIC

CIC is only well done when the bladder is totally empty after CIC. Even a few drops of urine left in the bladder can cause a bladder infection.

1. Wash your hands and use latex-free gloves (parents only have to wash their hands).

2. Clean the genital area with water and soap:

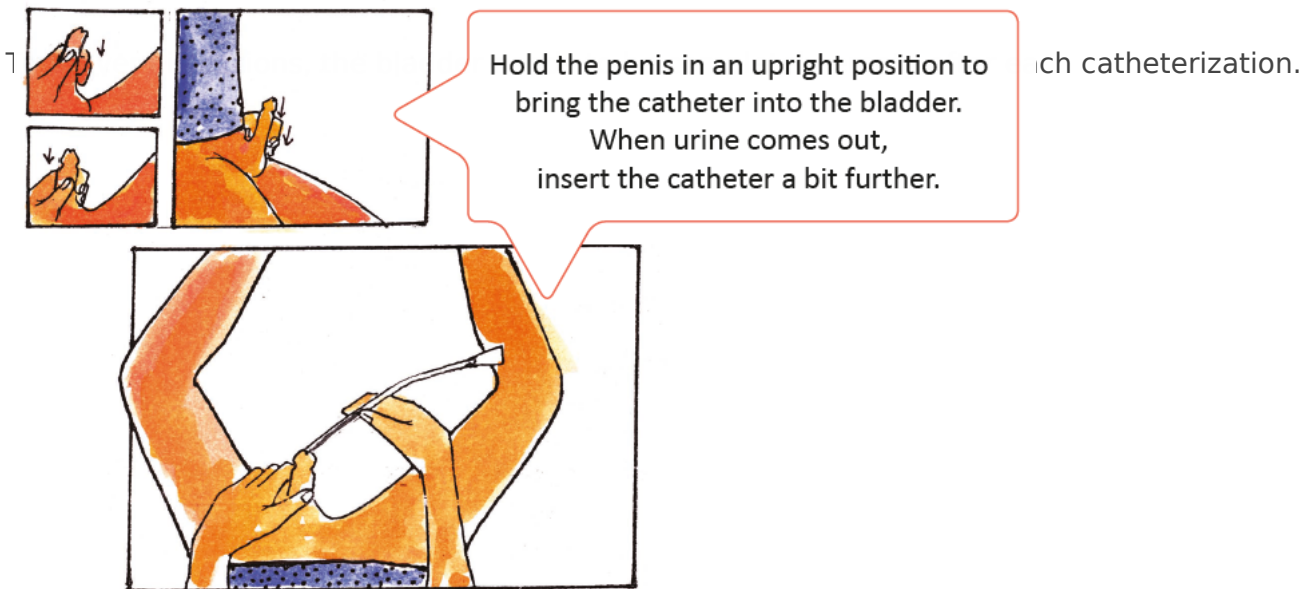
- Once a day, after every soiling or emptying the bowels
- Always wash from front to back to avoid feces from reaching the urethra.

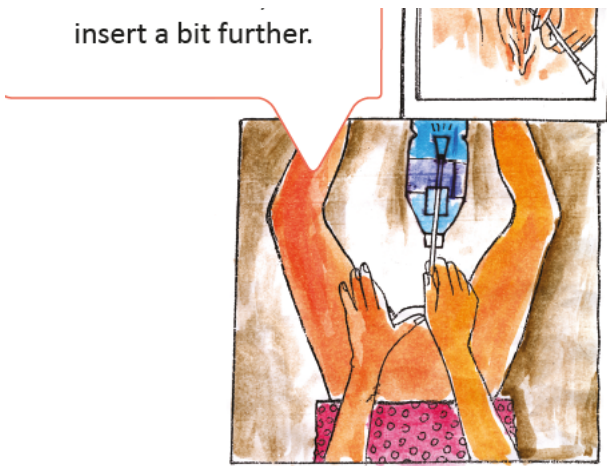
3. Insertion of the catheter

1. Use the widest catheter that can enter the urethra without forcing.
2. For Boys: place lubricant on the back of the hand and spread out on the tip of the catheter. If lubricant is not available, use water.

For Girls: spread the labia so that to urethra is clearly visible.

3. Put the catheter into the urethra until urine comes out.
4. Advance the catheter a bit deeper to make sure both holes are into the bladder.
5. Capture the urine in a transparent recipient and control if the urine is clear/cloudy.
6. Let the urine flow. When the urine stops to flow, apply pressure above the pubis.
7. Withdraw by slowly turning the catheter downwards.
8. Wash your hands





To check after CIC

1. Measure the urine volume obtained and note it on a chart
2. Teach the parents how to measure urine volume at home. Parents have to note the volumes 3 days before coming to the next consultation
3. When you always measure small amounts of urine DO NOT stop CIC but start to use Oxybutynin (the bladder muscle is too active)
4. When the urine smells and is cloudy, the urine is infected. (see page 12 about infections)

#### Clean and store catheters

1. Rinse the in and outside of the catheter with water
2. Shake off the remaining water. Leave it to dry in the sun when possible.
3. Store in clean piece of cloth

#### Why to start Oxybutynin

#### Oxybutynin prevents bladder overactivity

#### When to start Oxybutynin

1. When the urine volumes are always very small
2. If there are still urinary tract infections after starting CIC

### 3. To improve social continence

#### When to stop Oxybutynin

There is no reason to stop Oxybutynin,  
the child will require to take it his/her whole life.

#### What to check before starting Oxybutynin

1. Be sure that parents and/or the child are able to do a good CIC
2. Assess the size of catheter; the widest size which enters the urethra easily, without forcing is the best
3. Check the urine for infection (cloudy and bad smell) by using urine control sticks (urine-10 sticks)
4. Start to use 0.2 mg Oxybutynin/kg bodyweight BD (see page 11)
5. Measure the volumes and assess whether they are increasing
6. The child should be dry for longer periods in between CIC and/or bigger volumes should be obtained

#### IMPORTANT

The solution of Oxybutynin has to be stored in the dark!

Put it in a towel and keep it in a closet!

#### What to do in case of urinary tract infection

- Infected urine is cloudy and has a bad smell. Teach the parent that they have to assess this at home

- When in doubt, you can assess leucocytes level using a dip stick (Combur-2 sticks).
  - Ensure a good catheterization technique during the first 24 hours and encourage the child to drink extra water
  - Do not stop the Oxybutynin
  - Empty the bladder completely by holding the child in an upright or standing position (if possible) for 1 or 2 times a day
  - If possible, use a wider catheter (bigger CH)
  - After 24 hours you have to assess the urine again using a leucocytes stick (Combur-2 sticks)
5. If the stick is negative, the infection has cleared. If it is still positive you can start nitrofurantoin or trimethoprim/ co-trimoxazole for 5 days. It's not necessary to treat all infections with antibiotics, do a good CIC technique ensuring to completely empty the bladder:

## Doses

Newborns / 6 weeks to 5 months:

Nitrofurantoin (not before 3 months) 1mg/kg x 3times a day

Trimethoprim 20mg BD or Co-trimoxazole 120mg BD

6 months until 5 years:

Nitrofurantoin 1mg/kg x 3times a day

Trimethoprim 40mg BD or Co-trimoxazole 240mg BD

6 years until 12 years:

Nitrofurantoin 1mg/kg x 3times a day

Trimethoprim 80mg BD or Co-trimoxazole 240mg BD

REMARKS:

Co-trimoxazole = trimethoprim 1/5 + sulfamethoxazole 5/5

Look for the local used names of these medications

What to do on follow-up visits

1. Check the urine for infection
2. Does the child have bigger volumes of urine than before the start of Oxybutynin?

(look at the volume chart)

3. Ask the parent if the child is able to remain dry for longer periods

Remarks:

- The urine volume chart is a very important instrument to follow the success of the treatment.
- Explain the parents how they can measure and note these volumes.
- They have to learn it in the hospital.

- They have to note it on the chart during 3 days in the week before they come to outpatient clinic.

## Potential problems after starting CIC

### 1. The child is still wet

- Assess if there is a urinary tract infection, increase fluid intake and do a good CIC. If the infection does not clear, start nitrofurantoin or co-trimoxazole (see page 8)
- Assess whether the frequency of CIC is adequate
- Assess whether the child would benefit from Oxybutynin (if not already on it)
- If the child is constipated, start bowel washout
- If all above do not improve continence, further assessment and review by a specialist is necessary as surgery may be required

### 2. Still a lot of urinary tract infections

- Check if the child uses the correct size of catheter, assess if a wider size is possible (do not force)
- Assess if the parents perform CIC technique correctly (see page 7)
- Assess the frequency of CIC (5 times a day)

- Check if the child is already on Oxybutynin and if the parents give it on a regular base. Start it if necessary.
- Assess if you have to raise the dose of Oxybutynin (see page 11)
- Assess if the child uses bowel training and start it if necessary
- If the infection does not clear ask the doctor for a renal and bladder echo or RX cystography, if possible, to assess for vesico-urethral reflux

### 3. A few drops of blood into the catheter after CIC

- A few drops of blood after CIC does not give problems if it disappears after 2 or 3 catheterizations
- Look if the catheter is damaged. Replace if necessary
- If there is a lot of blood, there can be a wound inside. Ask a doctor if you have doubts

### 4. Problems with inserting the catheter

- Check if you use the good size of catheter, you have to use the widest one which can enter the urethra (do not force)
- Use lubricant for boys (girls do not need it)
- Look if the catheter is damaged. Replace if necessary

- If you still have problems with boys, ask the doctor to assess if there is trauma

#### 5. Feeling pain when using Oxybutynin solution

- The child can have a painful sensation if the catheter tip is not inserted deep enough
- Insert the catheter deeper in the bladder before the instillation and do not instill the solution too fast



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