The Main Purpose of Bladder Catheterization

Complete Bladder Emptying!

- Help maintain a healthy bladder
- Help maintain healthy kidneys
- Reduce the chances of significant urinary tract infection
Maintain a Healthy Bladder and Kidneys

- The bladder needs frequently emptying!

Stagnant urine can lead to:
- Overgrowth of bacteria or yeast
- Significant infection
- Dirty or foul urine
- Bladder stones or gravel
- Catheter blockage with debris
Maintain Healthy Bladder and Kidneys

Avoid Bladder Over-filling

Bladder over-filling can lead to high bladder pressures which can cause:

- Poor kidney drainage ("Hydronephrosis")
  - That can lead to kidney Failure
- Bladder scarring
  - Loss of capacity
- Bladder muscle damage
  - Loss of contractility
High Bladder Pressures

- Normal Bladder
  - Normal Kidneys

- Over Filled Bladder
  - High Pressures Inside

- Poorly Draining Kidneys
  - "Hydronephrosis"
Result of Long Term Bladder Pressures

Chronic Hydronephrosis  Shrunken, Damaged kidneys

Hi Pressure!

Year
Types of Catheters

- **Continuous draining** into a bag
  - Foley Catheter

- **“In and Out”** catheters
  - For self catheterization
Typical Foley Catheter

Catheter draining by Gravity

Foley catheter
Long Term Foley Catheter Problems

- Increased risk of serious infection
- Bladder stones
- Bladder spasms and pain
- Increased risk of bladder cancer
- Urethral erosion (permanent damage)
- Catheter changes every 4-8 weeks
- Hygiene problems
- Sexual function limitations
- Bag with leg attachment
- Foul smelling urine
“In and Out” Catheters

Self Clean intermittent Catheterization ("CIC")
Clean intermittent Catheterization ("CIC")

- Catheter is inserted for a few moments to drain the bladder completely and then it is removed.
- Self catheterization is done several times every day.
- The catheter does not have a balloon or valve.
- Catheters are reusable.
Clean intermittent Catheterization ("CIC")

Catheter is placed temporarily
Bladder is drained completely
Catheter is removed
Catheter is cleaned later and re-used
Benefits of CIC over a Foley Catheter

- Lower risk of serious infection and cancer
- Lower risk of significant urinary tract damage over time
- Less urethral and bladder irritation and discomfort
- Avoids bladder spasms caused by catheter balloons
- Better hygiene
- Fewer limitations – better life style
  - Work, sports, sexual function, travel all OK!
CIC is almost always Better
Who Can Do CIC?
Almost anyone with poor bladder emptying!

Baby with Spina Bifida
Active folks with Spinal Cord Injury
Busy Men with Prostate Enlargement
CIC is NOT for Everyone!

- Must be done reliably and on time
- Requires hand dexterity
- Some anatomic variations may prevent self-catheterization
- Surgical and hospital patients usually require continuous drainage
CIC
Clean intermittent Catheterization

- **Clean Procedure!**
  - Not sterile
  - Catheters should be as clean as silverware
  - Used and then cleaned and dried before next use

- **Catheters are re-used** (like silverware!)
  - Re-use until cracks, defects or discoloration
  - Most last at least 1 month
  - New catheters
    - ordered by our clinic and sent to your home
Types of CIC catheters

- **Female**
  - Short
  - Easy to store

- **Male**
  - Long
  - May have curved tips for easier use
QUESTION:
What problems can arise from CIC?

- Bleeding and blood clots
  - Usually minor
- Infection
  - Done properly, significant infection is unusual
- Urinary tract injury
  - Uncommon / rare
  - Usually minor
QUESTION:
Doesn’t putting a catheter into the Bladder several times every day increase the risk of urinary tract infection?

NO!

- Frequent bladder emptying helps control bacterial counts
- The bladder defenses work BETTER when there is no catheter in the bladder!
Continuous Catheterization promotes infection more than CIC

Continuous Catheterization:
- 24 hour pathway for bacteria into the urinary tract
- Promotes urinary tract inflammation and injury
  - Damaged tissues are less resistance to infection
- Promotes debris that nourish bacteria
- Promotes stones and gravel that protect bacteria
- Promotes bacterial “slime layer” which protects bacteria
Risk of Serious Urinary Infection
A Spectrum

Risk of Serious Infection

High
- Urinary Retention
- Poor Bladder Emptying

Normal Bladder Emptying

Low
- Foley Catheter
- CIC
How do I Prevent Serious Infection with CIC?

Catheterize frequently!

- Infrequent catheterization is the MOST common cause of significant infections!
- Drink lots of fluids
- Keep up with your best hygiene
- If your urine gets foul smelling or cloudy
  - Irrigate your bladder with saline daily
  - Increase your fluid intake
  - Increase the frequency of catheterization
How Often Should I do CIC?

At least 5 times every day!

- And whenever you feel that your bladder is full
  - High bladder pressures can damage the bladder and kidneys and can promote serious urinary tract infection and kidney stones!

- The **minimum** CIC Schedule – more frequent is even better!
  - Wake up 7AM
  - Coffee Break 10AM
  - Lunch 1PM
  - After Work 5PM
  - Bedtime 10PM
QUESTION:
What About Sterile Technique — Doesn’t that Prevent Bacteria?

- It is too impractical!
- It is not effective in keeping urine sterile
- The sterile technique procedure obstacle often leads to less frequent catheterization. That leads to more problems!
- Bacteria almost always find their way into the urinary tract in time
Care of CIC Catheters

- Keep 5-6 clean and dry catheters in a ziplock baggie
- Keep a second bag for “used catheters”
- Immediately after use of a clean catheter
  - Rinse with water, if available
  - Place the catheter in your “used bag”
- At the end of each day, clean and dry your catheters for the next day’s use
Care of Catheters

Clean Baggie with Clean Catheters ready for use!

Baggie with Used catheters for cleaning later
Cleaning Used Catheters

- Wash your catheters with soap and water
- Rinse well to remove soap residue
- They should be clean – like silverware
- Allow to air dry on a clean paper towel
- Store in a clean zip-lock bag until they are needed
Cleaning CIC Catheters

There are many recipes for cleaning catheters.

- **Recipe #1**
  - Soak 30 minutes in mixture of 1 tablespoon bleach in 1 quart of water. Rinse well with water after. Air dry before use.

- **Recipe #2**
  - Soak 30 minutes in 50:50 mixture of Hydrogen Peroxide and water. Rinse well with water after. Air dry before use.
QUESTION:
Why Not Use Antibiotics for My Foul Smelling Urine?

- Use of antibiotics kills bacteria for a few days, but soon new bacteria replace them!
- Bacteria are everywhere
- They enter the bladder by the catheter.

This is UNAVOIDABLE
- New or re-used catheter – no difference
- Iodine or soaps – no difference!
It’s like the Mice in the Garage
So you find mice in the garage.
You set traps and put out poison.
You catch lots of mice!
But 2 weeks later…

There are as many mice as ever!
What happened?
You left the Garage Door Open!

We’re back!
Mice in the Garage

This silly analogy helps explain why antibiotics don’t work.

Invader!  Treatment  Open Door for Returning Invaders

Bacteria  Antibiotics  Catheter
Mice
Bacteria

Antibiotics are like mouse traps
- Antibiotics don’t work for long because there are always new bacteria around to replace the ones that were treated!

The catheterization process is the open garage door.
- As long as you need catheterization, the bacteria will have access to your bladder!
QUESTION: What about a Daily Antibiotic?

- Daily or frequent use of antibiotics promote bacteria that are resistant to antibiotics.
- Within a week or so, bacteria will be growing in the bladder that are antibiotic resistant.
- All antibiotics can cause bacterial resistance and allow return of urinary bacteria!
Antibiotic Resistant Bacteria

- Repeated use of antibiotics can lead to bacterial resistance.
- People don’t become resistant, their bacteria do!
Antibiotics Resistance

When bacteria in the bladder, genitals and colon are repeatedly exposed to antibiotics, resistant bacteria are selected and promoted.

- Survival of the fittest!
  - Resistant bacteria survive, sensitive bacteria don’t!

Charles Darwin
Antibiotics resistance is dangerous.

Antibiotic resistant bacteria:

- May not respond to standard treatments when we are seriously ill from infection!
- Colonize our skin, nose, mouth, colon, genital areas and homes
- They create a potential danger to people we live with too.
Our Plan to Prevent Antibiotic Resistance

- Use antibiotics only when we really need them.
- Use the right antibiotic that kills the specific bacteria involved in infection.
- Use the shortest course necessary.
- Avoid the use of multiple antibiotics.
- Use good hygiene to prevent spreading resistant bacteria
  - Hand washing!
What is Bladder Irrigation?
Alternative to antibiotics

- The Urology Nursing Staff can teach you
  - to wash out your bladder with saline (salt water)
- This procedure is safe if done properly
- Cleans the debris that promotes bacteria
- Allows you to control bladder bacteria and improve bladder hygiene without chemicals or antibiotics
- Can be done daily, weekly or as needed!
What is Worrisome Bleeding?

- Minor Bleeding:
- Worrisome Bleeding:
  - Rest
  - Drink lots of water!
What to Do If you have **Bloody Urine**

- **Contact your doctor’s office**
  - Treatment is usually not needed!
- **Rest**
  - Bleeding may increase with activity
- **Avoid straining!**
  - Lifting
  - Pushing for bowel movements
- **Drink lots of water**
  - Helps prevent blood clots
  - Helps prevent blood clots from obstructing the urinary tract
Need More Information?

American Urological Association

National Institute of Health

Spina Bifida Association

National Spinal Cord Injury Association

National Multiple Sclerosis Society