There are thousands of adults and children who are required to perform clean intermittent catheterization (CIC) as part of their daily lives. These catheterizations have to be performed secondary to a wide array of medical conditions. These conditions generally arise from problems with neurogenic (neurological origin) or myogenic (muscular origin) bladders that do not have the capability to squeeze out the urine or empty to completion. Therefore, the bladder must be emptied manually with insertion of a catheter.

This process of catheterization comes with several potential problems that can be harmful to the body. The normal urinary system is a bacteria free, “sterile environment”. Once a catheter is introduced through the native urethra or via a catheterizable stoma, bacteria from the outside world then become present in the bladder. This bacterium residing in the bladder is called “colonization”. A physiological process of adaptation to these many different bacteria living inside their bladder then takes place over time. These individuals now become at risk of developing urinary tract infections secondary to isolated strains of bacteria that may cause them to be “symptomatic”. These symptoms usually present as strong or foul smelling urine, thick or cloudy urine, painful catheterization, bladder pain, back or flank pain, hematuria (blood in the urine), lethargy, nausea, vomiting, and fever.

There is another population of people that catheterize “augmented” bladders. These are bladders that have had to be surgically enlarged for various reasons. The most common type of bladder augmentation uses a segment of small intestine (ileocystoplasty). Others include large intestine (sigmoidcystoplasty), stomach (gastrocystoplasty), or sometimes even salvaged ureteral tissue from complex megaureter cases (ureterocystoplasty). The most common problems with bladder augmentations using bowel tissue are the build up of mucous in the bladder that is normally produced by the bowel segment. This collection of mucous and sediment must be removed from the bladder to avoid complications with UTIs, stone formation, or urinary incontinence secondary to mucous plugs that cause disruption of the bladder neck or continent stoma valve mechanism.

Bladder irrigation has many advantages. It is quite healthy to perform regular “wash outs” of the bladder. This simple process can help rid the bladder of unwanted sediment, mucous, bacteria, tiny calculi, blood clots, and the constantly shedding epithelial cell debris from the lining of the bladder. Bladder irrigation in the gastrocystoplasty population using an anti-acid solution, such as Maalox, can help decrease problems with painful “hematuria - dysuria syndrome” caused from the caustic gastric acid secretions. Regular bladder irrigations in the non-augmented population can help decrease complications from unwanted bacterial colonization resulting in symptomatic UTIs. It also helps to remove “old-stale” urine from the various folds and pockets of the bladder lining. Bladder irrigation using an antibiotic solution, such as Gentamicin mixed with normal saline, can also be quite helpful in treating lingering cystitis and recurrent UTIs.

Bladder irrigation has very few disadvantages. It can be time consuming to some individuals and perceived as extra maintenance in addition to regular CIC. This can easily be rectified with good technique, efficiency, and planning with the individual’s catheterization schedule. For example, perform irrigation when it is more convenient, such as right before bedtime or before bathing. Do it in the comfort of your home or in a familiar environment, when all the needed supplies are at your disposal. Other disadvantages include certain manual dexterity issues when the person needs assistance to complete the irrigation process effectively. A large group of the bladder exstrophy population generally does not like to irrigate, or catheterize for that matter, secondary to their increased hypersensitivity of the bladder neck area. The flow of irrigation fluid, or even the catheter gently touching this area, can often cause severe discomfort resulting in ineffective irrigation and poor emptying over the long term.

The supplies needed for bladder irrigation are as follows:
- Sterile normal saline or sterile water
- A two ounce (60cc) "toomey" or "catheter tip syringe".
- Sterile lubricant such as K-Y Jelly (unless using a hydrophilic catheter).
- Catheter (preferably a long, sixteen inch, male type catheter with an adapting syringe hub) to provide an
Good technique is very important to perform appropriate bladder irrigation. I prefer to teach all my patients how to perform both “gentle” and “aggressive irrigations”. To do this, first drain the bladder completely. Then, depending on the size of the bladder, draw up anywhere from 10cc to 60cc of fluid to instill into the empty bladder. Gentle irrigation is simply done by instilling the fluid at a slower, steady rate and aspirating back the fluid slowly and gently. Perform irrigation until clear fluid return. Aggressive irrigation also involves instilling the fluid at a slightly faster, but steady rate. However, once the fluid is instilled into the bladder, begin to manipulate the syringe plunger back and forth in nice, steady 10-20 cc increments creating a “piston type” motion. This allows the fluid to create a “washing machine” effect inside the bladder, thus aggressively stirring up all types of debris. Then slowly aspirate the infused irrigation and debris back into the syringe and repeat until clear fluid return. You can actually see how much more effective this technique can be by the amount of debris you stir up and withdraw out of the bladder. When pulling the plunger back and it suddenly stops, most likely the bladder wall has been sucked up against the openings in at the end of the catheter. Just gently push some fluid back into the bladder, and reposition the catheter tip to resume irrigation. Some people with normal bladder sensation can feel this process happen and it may result in a sharp tinge of pain.

In conclusion, bladder irrigation can be very healthy for the regular maintenance of the many different types of bladder environments. It is a simple process to learn and does not require many extra medical supplies to perform adequately. Remember, a regularly irrigated bladder is a happy bladder. Maintaining a healthy bladder environment with regular wash outs can also provide good, long-term urological health outcomes for many individuals. Astra Tech / Lofric has a pamphlet entitled, ‘User Guide to Stomas - Intermittent Catheterization with a Continent Urinary Diversion’. This pamphlet has some very nice illustrations and instructions on the process of bladder irrigation as well.

Cranberry Blueberry Muffins recipe

Cranberry juice is believed to promote the health of your urinary tract.

Try this recipe and let us know how you enjoyed it!

**INGREDIENTS:**
- 2 cups flour
- 1/2 cup sugar
- 2 teaspoons baking powder
- 1 teaspoon salt
- 1 egg
- 1 cup milk
- 1/2 cup oil
- 1/2 cup Ocean Spray® Craisins® Original Sweetened Dried Cranberries
- 1/2 cup fresh or frozen blueberries
- 2 teaspoons sugar

**DIRECTIONS:**
Preheat oven to 400°F. Grease a 12-cup muffin tin, or line cups with paper muffin cups.

Combine flour, sugar, baking powder, salt in medium mixing bowl. Combine egg, milk and oil in small bowl. Add liquid to dry ingredients, stirring just until dry ingredients are moistened. Gently stir in blueberries and cranberries. Fill muffin cups 2/3 full with batter. Sprinkle muffins with remaining 2 teaspoons sugar.

Bake in 400°F oven for 20 to 25 minutes or until golden brown. Remove muffins from pan; cool on wire rack. Serve warm.

Makes 12 muffins.

Source: www.oceanspray.com

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