and the number of colonies that grow will tend to be larger. Sometimes the laboratory will not be able to accurately determine which bacteria are causing your symptoms.

- 3. Never collect a urine specimen for culture from a leg bag or night bag.
- 4. Refrigerate the specimen and keep it cool until you can get it to your health care provider. It should be delivered within two hours of collection.

Antibiotic treatment

If your health care provider prescribes an antibiotic for you, ask your pharmacist whether you should take it before meals or with food. If you take Vitamin C regularly, you should also find out whether it is okay to continue it while you are taking your antibiotic. Be sure to take all of the medication as prescribed.

Some antibiotics will change the balance between your body's "good" bacteria and the "bad" bacteria that has caused your UTI. When this happens, an overgrowth of yeast can occur which may result in problems ranging from a skin rash to diarrhea. This can be prevented by taking acidophilus culture, which is available in some brands of yogurt, acidophilus milk, or as a pure culture (available in health food stores). If you develop any symptoms you think may be related to your antibiotic prescription, notify your health care provider.

In order to prevent re-colonization of your urine with bacteria from your catheter, you should always change the catheter about midway through the course of antibiotics. This is important because antibiotics can kill bacteria in your body and in your urine, but not on the catheter itself. When you have completed your antibiotic prescription it is not necessary to get a repeat culture unless your symptoms have not improved.

UW Medical Center Spinal Cord Injury Clinic:

- ◆ Maria Reyes, MD, Attending Physician.
- ◆ Rehabilitation Clinic nurses 206-598-4295.

Harborview Medical Center Spinal Cord Injury Clinic:

- ◆ Barry Goldstein, MD, PhD, Attending Physician
- ◆ Rehabilitation Clinic nurses 206-744-2581

The Northwest Regional Spinal Cord Injury System is funded by grant number H133N060033 from the National Institute on Disability and Rehabilitation Research (NIDRR) in the U.S. Department of Education.

© Northwest Regional Spinal Cord Injury System, 1998, 2006, 2010 Authors: Ginger Kawasaki, CRRN, and Cathy Warms, ARNP

http://sci.washington.edu

Staying Healthy After a Spinal Cord Injury

URINARY TRACT INFECTIONS

Indwelling (Foley) Catheter

Northwest Regional SCI System

UW Medicine

Department of Rehabilitation Medicine

University of Washington Medical Center 1959 NE Pacific St. • Box 356490 Seattle, WA 98195

> Harborview Medical Center 325 Ninth Ave. • Box 359612 Seattle, WA 98104

What is a urinary tract infection?

When bacteria get into your bladder or kidneys and cause you to have symptoms, you have a urinary tract infection (UTI). It is important to know the difference between an infection and bacteriuria (having bacteria in the urine but no symptoms).

What causes urinary tract infections?

Because of your spinal cord injury and the fact that you must use an indwelling catheter, you will always have bacteria in your urine. The catheter provides a direct pathway for the bacteria to enter your bladder. The bacteria that live in your bladder can develop into a UTI if your catheter becomes blocked, if your general resistance to infection decreases, or if you don't drink enough fluids and your urine becomes concentrated.

Symptoms of a urinary tract infection (things you may feel)

- ♦ Fever
- ◆ Chills
- ◆ Leakage (wetness around the catheter)
- ◆ Increased spasms of legs, abdomen, or bladder
- ◆ Burning of urethra, penis, or pubic area
- ◆ Nausea
- ◆ Headache
- ◆ Mild low back pain or other aches
- ♦ Feeling "lousy" or tired

Signs of a urinary tract infection (things you may notice)

- ◆ Sediment (gritty particles) or mucus in the urine or cloudy urine
- ◆ Bad smelling urine (foul odor)
- ◆ Blood in urine (pink or red urine)

Note: The appearance and smell of your urine may change because of changes in your diet or fluid intake. Changes in the urine without symptoms are not reason enough to seek treatment for a UTI.

Self care

Many people are able to prevent a UTI from developing by taking some self care steps. The most important step for people who use an indwelling catheter is to **drink**, **drink**, **and drink some more**. Your fluid intake should be enough so that your urine has the appearance of water or is only slightly yellow in color and clear.

Changing your catheter after increasing your fluids may also help cut down on the number of bacteria living in your bladder since catheters can become "colonized" with the bacteria that are flushed out of your urinary tract. Generally, changing your catheter every month should be enough to keep you healthy, but people who get frequent UTIs or whose catheters tend to become encrusted with built-up mineral deposits may have to change it more often.

Some people are able to avoid or treat UTIs by taking vitamin C (500-2,000 mg per day) or cranberry extract tablets. Other "natural" treatments may be helpful but you should consult someone who is knowledgeable in this field, such as a naturopathic physician.

When to call your health care provider

If you develop a fever (temperature greater than 100 degrees) or if your symptoms are interfering with your life, you should call your health care provider. He or she will want to know your temperature, current symptoms, whether you have any allergies to antibiotics, and what antibiotics have worked well in the past. Your health care provider will want you to get a urine specimen for culture and will discuss with you whether antibiotics should be started right away or if you should wait until the results of the culture are available.

How to collect a good specimen for urine culture

The accuracy of any urine test depends on careful collection of the specimen.

- 1. Open your **sterile jar**—either one from the hospital or one you have prepared at home. (To sterilize a jar at home, choose a small jar with a snug-fitting lid. Wash it carefully in soap and water and rinse well. Place the jar and lid in a pan of boiling water and immerse for 10 minutes. Remove jar and lid with metal tongs, invert on a dish drainer, and allow to cool.) Do not touch the inside of the jar.
- 2. To collect the best specimen, your catheter should be changed and the urine should be collected immediately from the newly inserted sterile catheter. Collect at least 30 ml (1 oz.) of urine. Occasionally it may be impossible to change the catheter for specimen collection, and urine may have to be obtained from the indwelling catheter. The specimen will be contaminated by the bacteria that live on the catheter as well as those that live in the urine,