

# THE UROLOGY GROUP

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## INTERSTITIAL CYSTITIS (PAINFUL BLADDER SYNDROME)

### What is it?

Interstitial cystitis (IC), (also known as Painful bladder syndrome, PBS) is a condition that results in recurring discomfort or pain in the bladder and the surrounding pelvic region. The symptoms vary from case to case and even in the same individual. People may experience mild discomfort, pressure, tenderness, or intense pain in the bladder and pelvic area. Symptoms may include an urgent need to urinate (urgency), a frequent need to urinate (frequency), or a combination of these symptoms. Pain may change in intensity as the bladder fills with urine or as it empties. Women's symptoms often get worse during menstruation. They may sometimes experience pain with vaginal intercourse.

In PBS, the bladder wall may be irritated and become scarred or stiff. Glomerulations (pinpoint bleeding caused by recurrent irritation) often appear on the bladder wall. Hunner's ulcers are present in 10 percent of patients with IC. Some people with IC / PBS find that their bladders cannot hold much urine, which increases the frequency of urination. Frequency, however, is not always specifically related to bladder size; many people with severe frequency have normal bladder capacity. People with severe cases of IC / PBS may urinate as many as 60 times a day, including frequent nighttime urination.

### What causes it?

Some of the symptoms of IC / PBS resemble those of bacterial infection, but medical tests reveal no organisms in the urine of patients with IC / PBS. Furthermore, patients with IC / PBS do not respond to antibiotic therapy. Researchers are working to understand the causes of IC / PBS and to find effective treatments.

### How is it diagnosed?

Because symptoms are similar to those of other disorders of the urinary bladder and because there is no definitive test to identify IC / PBS, doctors must rule out other treatable conditions before considering a diagnosis of IC / PBS. The most common of these diseases in both genders are urinary tract infections and bladder cancer. IC / PBS is not associated with any increased risk in developing cancer. In men, common diseases include chronic prostatitis or chronic pelvic pain syndrome.

The diagnosis of IC / PBS in the general population is based on presence of pain related to the bladder, usually accompanied by frequency and urgency and the absence of other diseases that could cause the symptoms.

Diagnostic tests that help in ruling out other diseases include urinalysis, urine culture, cystoscopy, biopsy of the bladder wall, distention of the bladder under anesthesia, and urine cytology.

## **Cystoscopy Under Anesthesia With Bladder Distention**

The doctor may perform a cystoscopic examination in order to rule out bladder cancer. During cystoscopy, the doctor uses a cystoscope—an instrument made of a hollow tube about the diameter of a drinking straw with several lenses and a light—to see inside the bladder and urethra. The doctor might also distend or stretch the bladder to its capacity by filling it with a liquid. During this test the patient's maximum bladder capacity (the maximum amount of liquid the bladder can hold) is measured. Because bladder distention is painful in patients with IC / PBS, an anesthesia is used for the procedure. This procedure is done as an out patient at the hospital, and takes about an hour.

## **Biopsy**

A biopsy is a tissue sample that can be examined under a microscope. Samples of the bladder and urethra may be removed during a cystoscopy. A biopsy helps rule out bladder cancer and better identify cells commonly seen with PBS. —Mast cells are cells that are common during an inflammatory response, and are commonly seen in patients with PBS.

## **What are the treatments for IC / PBS?**

Scientists have not yet found a cure for IC / PBS, nor can they predict who will respond best to which treatment. Symptoms may disappear without explanation or coincide with an event such as a change in diet or treatment. Even when symptoms disappear, they may return after days, weeks, months, or years. Scientists do not know why.

Because the causes of IC / PBS are unknown, current treatments are aimed at relieving symptoms. Many people are helped for variable periods by one or a combination of the treatments. As researchers learn more about IC / PBS, the list of potential treatments will change, so patients should discuss their options with a doctor.

## **Bladder Distention**

Many patients have noted an improvement in symptoms after a bladder distention has been done to diagnose IC / PBS. In many cases, the procedure is used as both a diagnostic test and initial therapy.

Researchers are not sure why distention helps, but some believe that it may increase capacity and interfere with pain signals transmitted by nerves in the bladder. Symptoms may temporarily worsen 24 to 48 hours after distention, but should return to predistention levels or improve within 2 to 4 weeks.

## **Bladder Instillation**

During a bladder instillation, also called a bladder wash or bath, the bladder is filled with a solution that is held for varying periods of time, averaging 10 to 15 minutes, before being emptied.

The only drug approved by the U.S. Food and Drug Administration (FDA) for bladder instillation is dimethyl sulfoxide (DMSO, RIMSO-50). DMSO treatment involves guiding a narrow tube called a catheter up the urethra into the bladder. A measured amount of DMSO is passed through the catheter into the bladder, where it is retained for about 1 hour. Treatments are given every week or two for 6 to 8 weeks and repeated as needed. Most people who respond to DMSO notice improvement 3 or 4 weeks after the first 6- to 8-week cycle of treatments. Researchers think DMSO works in several ways. Because it passes into the bladder wall, it may reach tissue more effectively to reduce inflammation and block pain. It may also prevent muscle contractions that cause pain, frequency, and urgency.

A bothersome but relatively insignificant side effect of DMSO treatments is a garlic-like taste and odor on the breath and skin that may last up to 72 hours after treatment. Long-term treatment has caused cataracts in animal studies, but this side effect has not appeared in humans.

## **Oral Medication**

### **(Pentosan polysulfate sodium (Elmiron))**

**This** first oral drug developed for IC was approved by the FDA in 1996. In clinical trials, the drug improved symptoms in 30 percent of patients treated. Researchers do not know exactly how it works, but one theory is that it may repair defects that might have developed in the lining of the bladder and helps to coat the bladder.

The FDA-recommended oral dosage of Elmiron is 100 mg, 2 tablets 2 times a day. Patients may not feel relief from IC pain for the first 2 to 4 months. A decrease in urinary frequency may take up to 6 months. Patients are urged to continue with therapy for at least 6 months to give the drug an adequate chance to relieve symptoms.

### **Hydroxyzine (Atarax)**

This antihistamine helps to treat the symptoms of PBS by decreasing the amount of mast cells within the bladder.

### **Amytriptyline (Elavil)**

This tricyclic antidepressant affects the C-fibers within the pelvis helping to control pain. There is a major side effect of sedation that may last approximately 10 hours. Dosing of this medication is 1/10-1/5 of the antidepressive dosage levels.

## **InterStim**

InterStim involves placement of a wire via x-ray capabilities to stimulate bladder function. This sacral nerve modulation, is a minimally invasive procedure. It involves testing nerves above the coccyx bone for two weeks, if success is noted, a pacemaker like device is surgically implanted under the skin at the back hip area.

## **Surgery**

Bladder augmentation or cystectomy is the ultimate form of therapy that is infrequently utilized for completely intolerable and unresponsive bladders. Whereby the bladder is removed or replaced with bowel.

Resource: NIH PublicationNo.05-3220  
June 2005

