

## Interstitial Cystitis

Interstitial cystitis (IC) 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.

Because IC varies so much in symptoms and severity, most researchers believe that it is not one, but several diseases. In recent years, scientists have started to use the term painful bladder syndrome (PBS) to describe cases with painful urinary symptoms that may not meet the strictest definition of IC. The term IC / PBS includes all cases of urinary pain that can't be attributed to other causes, such as infection or urinary stones.

In IC / 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 the bladders of 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 (nocturia).

IC / PBS is far more common in women than in men by a factor of 9:1

### **How is IC / PBS 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

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, urine cytology, and laboratory examination of prostate secretions.

### **Urine Culture**

Examining urine under a microscope and culturing the urine can detect and identify the primary organisms that are known to infect the urinary tract and that may cause symptoms similar to IC / PBS. A urine sample is obtained by the patient providing a "midstream" urine sample in a sterile container. If the urine is sterile for weeks or months while symptoms persist, the doctor may consider a diagnosis of IC / PBS.

### **Culture of Prostate Secretions**

Although not commonly done, in men, the doctor might obtain prostatic fluid and examine it for signs of a prostate infection, which can then be treated with antibiotics.

### **Bladder Distention**

The urologist may perform a cystoscopic examination under a general anaesthetic in order to rule out bladder cancer. The urologist may at the same time record the maximum bladder capacity and might also distend or stretch the bladder to its capacity by further filling it with liquid.

### **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.

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

There is not as yet a cure for IC / PBS, nor can one 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.

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.

### **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 the bladder is filled with a solution that is held for varying periods of time, averaging 10 to 15 minutes, before being emptied.

Drugs that may be used in bladder instillation include 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 15 minutes before being expelled. 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.

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.

Other drugs include hyaluronic acid or Cystistat. This treatment is administered into the bladder once a week for 4 to 12 weeks and monthly thereafter. It may take more than 5 or 6 instillations before the patients start to describe relief of their symptoms.

What few side effects there are with this treatment tend to relate to the discomfort of repeated catheterization.

### **Oral Drugs**

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

It is thought that this drug helps to enhance the natural protection of the bladder wall and in clinical trials, Elmiron improved symptoms in 30 percent of patients treated. The recommended is 100 mg, three times a day. Patients are unlikely to

gain much improvement in their symptoms for some time and initial treatment regimes usually suggest a 6 month course in the first instance.

Elmiron's side effects are limited primarily to minor gastrointestinal discomfort. A small minority of patients experienced some hair loss, but this tends to be a reversible problem once the drug is stopped.

### **Other oral medications**

The use of anti-histamines, specifically H<sub>2</sub> blockers, such as cimetidine (tagamet) has been widespread in the U.K. Although the mechanism of action is unclear, small trials have demonstrated beneficial effects in some patients.

### **Transcutaneous Electrical Nerve Stimulation**

With transcutaneous electrical nerve stimulation (TENS), mild electric pulses enter the body for minutes to hours two or more times a day either through wires placed on the lower back or just above the pubic area, between the navel and the pubic hair, or through special devices inserted into the vagina in women or into the rectum in men. Although scientists do not know exactly how TENS relieves pelvic pain, it has trigger the release of substances that block pain.

TENS is relatively inexpensive and allows the patient to take an active part in treatment. Within some guidelines, the patient decides when, how long, and at what intensity TENS will be used. It has been most helpful in relieving pain and decreasing frequency in patients with Hunner's ulcers. Smokers do not respond as well as nonsmokers. If TENS is going to help, improvement is usually apparent in 3 to 4 months.

### **Diet**

There is no scientific evidence linking diet to IC / PBS, but many doctors and patients find that alcohol, tomatoes, spices, chocolate, caffeinated and citrus beverages, and high-acid foods may contribute to bladder irritation and inflammation. Some patients also note that their symptoms worsen after eating or drinking products containing artificial sweeteners. Patients may try eliminating various items from their diet and reintroducing them one at a time to determine which, if any, affect their symptoms. However, maintaining a varied, well balanced diet is important.

### **Smoking**

Many patients feel that smoking makes their symptoms worse. How the by-products of tobacco that are excreted in the urine affect IC / PBS is unknown. Smoking, however, is the major known cause of bladder cancer. Therefore, one of the best things smokers can do for their bladder and their overall health is to quit.

### **Exercise**

Many patients feel that gentle stretching exercises help relieve IC / PBS symptoms.

### **Bladder Training**

People who have found adequate relief from pain may be able to reduce frequency by using *bladder training* techniques. Methods vary, but basically patients decide to void (empty their bladder) at designated times and use relaxation techniques and distractions to keep to the schedule. Gradually, patients try to lengthen the time between scheduled voids. A diary in which to record voiding times is usually helpful in keeping track of progress.

### **Surgery**

Surgery should be considered only if all available treatments have failed and the pain is disabling. Many approaches and techniques are used, each of which has its own advantages and complications that should be discussed with a surgeon. These range from injections of BOTOX into the bladder wall to major reconstructive surgery.