



AUA 2022 IC/BPS Guideline Fact Sheet

In May 2022, the American Urological Association released the long awaited update of their guidelines for the diagnosis and treatment of IC/BPS. The guidelines provide an evidence based “best practice” approach for urologists and patients as they seek to treat IC/BPS symptoms. Developed originally in 2011 and revised in 2014, the 2022 guidelines provide new, groundbreaking changes that will help patients find the best treatments to help their unique case of IC/BPS. Here are the major changes:

IC/BPS is no longer considered to be a bladder disease.

It is now recognized as a chronic pain syndrome.

IC is a diverse, varied patient population with three identifiable subtypes.

This is the first time that the AUA has acknowledged distinct patient groups each with different treatment priorities.

- **BLADDER CENTRIC** - These patients have clear bladder wall dysfunction, as demonstrated by the presence of Hunner’s lesions, a small bladder capacity and/or pain that improves with local anesthetics (i.e. a lidocaine instillation). This group could include patients with estrogen atrophy and/or chemical irritation of the bladder wall. Patients with Hunner’s lesions should receive lesion specific treatments (fulguration, steroid therapy).
- **PELVIC FLOOR** - These patients have tight, sensitive pelvic floor muscles. Their immediate treatment goal is to restore normal muscle tone, resolve painful trigger points in the pelvis and ease tight, constricted tissue. All patients with tight pelvic floor muscles should be referred to a pelvic floor physical therapist.
- **CHRONIC OVERLAPPING PAIN CONDITIONS / WIDE SPREAD PAIN** - These patients have one or more pain conditions beyond the bladder (IBS, fibromyalgia, vulvodynia, TMJ, etc.), suggesting that their central nervous system is involved. They have signs of central sensitization, anxiety, depression and/or, a history of trauma or abuse. (Research has identified that these patients are in a constant state of “fight or flight”, also known as a central *nervous system maladaptation*, and benefit from mind-body medicine techniques.)

Diagnosis

- A diagnosis of IC/BPS requires a careful history, physical examination and lab tests. Symptoms of urinary frequency, urgency, pressure and/or pain should be present for at least six weeks. IC should be suspected in patients who have pain as the bladder fills with urine that is relieved by urination or who report increased symptoms with certain foods (i.e. coffee, tea, soda, citrus, etc.).
- Physicians should actively work to exclude other disorders, such as UTI. Are there masses, areas of tenderness or hernias? Are the pelvic floor muscles tight, tender or do they have trigger points? Is there visible or microscopic blood in the urine? Bladder cancer should be ruled out in patients with tobacco exposure. Patients with very low urinary frequency or high bladder capacity should prompt a diligent search

for an alternative diagnosis. (AUA makes no mention of embedded infection playing a role in IC nor do they mention research which has identified fungal or viral infection.)

- A one day voiding diary should be obtained from the patient to establish baseline values for frequency, urine volume and pain that can be used to determine if future treatments are helping.
- An in-office cystoscopy and/or urodynamics should be considered in complex cases or if the diagnosis is in doubt. Cystoscopy may identify bladder cancer, bladder stones, urethral diverticula and/or if any foreign bodies (vaginal mesh) are present.
- Glomerulations (petechial hemorrhages) are no longer considered specific to IC as they are seen in other conditions as well as some normal, healthy bladders.
- If Hunner's lesions are suspected, particularly in patients over the age of 50, an office cystoscopy should be performed unless the patients to prefer to have this done under anesthesia. If lesions are found, the AUA recommends that treatment be performed under general anesthesia. The AUA recommends that physicians use a low pressure (60 to 80 cm water) with a short duration (under 10 minutes) to reduce the risk of bladder rupture and trauma. High pressure, long duration procedures are no longer recommended due to the risk of bladder rupture and/or necrosis.

Treatment Approach

- No single treatment works over time for the majority of patients. Treatment should be tailored to the specific symptoms (phenotype/subtype) of each patient.
- AUA has abandoned the six step treatment protocol which allowed patients and providers to rate the potential risks of treatment in a logical, intuitive scale. The 2022 guidelines rely on physicians to discuss the risks and benefits of each treatment. The key question? Do urologists have the time to have this in-depth conversation with their patients?
- If a patient is not responding to multiple treatments, the diagnosis of IC/BPS should be reconsidered. If bladder therapies are not effective and/or a patient is getting worse rather than better, the AUA strongly recommends reconsidering the diagnosis. Was something missed? Is another condition present that could be producing pelvic and/or urinary symptoms, such as: endometriosis, fibroid tumors, pelvic congestion syndrome, tarlov cyst, pudendal neuralgia or coccyx injury?

Pain Care

- Pain management should be an integral part of IC/BPS treatment and pain levels should be assessed at every appointment. Multimodal therapy is encouraged, including medications, stress management and manual therapy. Complex patients may be referred to a pain management professional.
- If using medications, the goal is to provide significant pain relief with minimal side effects, including the use of: urinary analgesics, NSAID's, narcotics and a variety of non-narcotics used for chronic pain. Starting doses should always be the smallest.
- The AUA recommends having a flexible pain management plan for flares (i.e. breakthrough pain).
- Pain management alone does not constitute sufficient treatment for IC/BPS. It is simply one element of treatment.

Self-help Strategies

- The AUA guidelines embrace self-help and behavior modification techniques that may reduce symptoms, including:

- adequate water intake
 - the use of heat or cold packs
 - avoidance of certain foods that are common bladder irritants (i.e. coffee, tea, soda, citrus, etc.)
 - the use of an elimination diet to identify trigger foods
 - the use of OTC nutraceuticals / supplements.
 - pelvic floor muscle relaxation
 - bladder training
- Uncontrolled stress, anxiety and catastrophizing are well known to increase pain and urinary symptoms. Patients should learn new techniques to reduce these symptoms, often with mind-body medicine techniques. The goal is to bring the central nervous system out of chronic “fight or flight.”
 - If pelvic floor tenderness and/or tension is present, referral for physical therapy is immediately recommended. The physical therapist should attempt to identify and resolve trigger points, muscle contractures, painful scars, and connective tissue restrictions. Exercises to strengthen the pelvic floor (i.e. Kegel’s) should be avoided.
 - When Hunner’s lesions are found, they should be treated with fulguration/laser therapy or steroid injection. Treatment is performed as an outpatient procedure under general anesthesia. Cyclosporine may serve as a backup should these initial treatments fail.

Oral Medications

Five oral medications may be useful though they also come with a significant risk of side events.

- **Amitriptyline** may help reduce pain and the depression associated with chronic pain conditions. Research studies show that it may benefit 50% to 64% of patients who try it with positive results seen within a month. It appears to be most effective at higher doses though the risk of adverse events is high, including: dry mouth, urinary retention, constipation, sedation, drowsiness, nausea, weight gain, orthostatic hypotension and cardiac conduction abnormalities. The typical starting dose is 10mg at bedtime, increasing weekly to 25, 50 and 75mg or the maximum tolerated dose.
- **Hydroxyzine**, an antihistamine, has shown solid success in studies. 92% of patients with a history of allergies and/or asthma showed significant improvement in their symptoms. The typical dose is 25 to 50mg at bedtime and patients may see a benefit within just a few days. (*Montelukast* may be considered in patients with a history of asthma.)
- **Cimetidine**, a medication known to reduce stomach acid, was found to be helpful with 44% to 57% reporting an improvement in their symptoms. Dosing ranged from 600 to 800mg per day in various studies. No adverse events were reported, making this therapy particularly appealing.
- **Pentosan polysulfate** (Elmiron®) may benefit some, but certainly not all, IC/BPS patients. It is believed to have a bladder coating effect and remains on the list despite evidence that has associated its use with retinal damage and vision injuries that may be irreversible. Other side effects include nausea, diarrhea, hair loss and elevation in liver function enzymes. It may take 3 to 6 months of use to show success. Physicians considering prescribing PPS should obtain a detailed eye history from patients prior to treatment. A comprehensive retinal exam is recommended prior to starting this therapy in patients with pre-existing eye disease. All patients should receive periodic retinal examinations to determine if changes in their retinas are occurring.
- **Cyclosporine A**, an immunosuppressant medication, may be offered to patients with Hunner’s lesions that are not responding to fulguration or steroid injection. One study found that 75% of patients experienced an improvement in their symptoms compared to just 19% of patients using pentosan. Success rates are much higher in patients with Hunner’s lesions with 85% responding to treatment, when

compared to just 30% without lesions. The potential for adverse events is high, including increased serum creatinine, hypertension, alopecia, cutaneous lymphoma, mouth ulcers and acute gout.

Intravesical Instillations

Medications placed directly into the bladder via a catheter are called intravesical instillations. \ Side effects can include irritation of the urethra and/or an increased risk of UTI.

- **DMSO** is the only FDA approved bladder instillation and has mixed research results with some studies showing a 25 to 90% response. The panel suggests four treatments instilled at 2 week intervals with a 15 minute dwell time. Longer retention times are associated with greater pain. DMSO can be used in a cocktail with heparin, sodium bicarbonate, a steroid and/or a numbing agent (i.e. lidocaine). Urologists should be mindful that DMSO may enhance the absorption of the other ingredients, particularly lidocaine, which could result in toxicity. Adverse events may include pain and a strong garlic odor after the procedure.
- **Heparin** is believed to act as a bladder coating when instilled into the bladder. One recommended protocol was 10,000 IU heparin in 10cm³ sterile water three times a week for three months with a retention of one hour. 56% of patients reported a significant improvement in their symptoms. 25,000 IU in 5ml distilled water twice a week for three months also showed long term success with 72.5% reporting improvement at 3 months. Heparin is often combined with lidocaine, in the form of a rescue instillation.
- **Lidocaine**, a local anesthetic, acts to numb the bladder wall. Research shows modest, short term success at reducing symptoms that fades over a two week period. Lidocaine is often combined with sodium bicarbonate, which acts to increase the absorption. However, care must be taken with the formula as lidocaine absorbed into the blood stream can cause significant toxicity. Lidocaine is often combined with heparin, showing greater and more long term response over several months. When used together, it significantly reduced bladder pain and urgency when compared to lidocaine alone.

Procedures

Procedures are more complex, invasive therapies that are considered if previous treatments have failed.

- **Hydrodistention with cystoscopy** may be considered as a treatment, generally in patients who do not respond to oral therapies or bladder instillations. Studies show that it may provide relief of symptoms for 30 to 54% of patients, with results declining rapidly over time. Low pressure (60 to 80 cm water) and short duration (less than 10 minutes) methods should be used to minimize bladder rupture. Before the hydrodistention is performed, the bladder should be inspected for Hunner's lesions, bladder stones, tumors, etc.
- **Fulguration (laser therapy or cauterization) & triamcinolone injection** are recommended as Hunner's lesion treatment. One study found that 100% patients treated with fulguration experienced complete pain relief and 70% reported reduced or normalized urinary frequency. Several more found that a large proportion of patients (75 to 86%) reported significant improvement in their symptom, lasting for almost two years. Triamcinolone injection showed similar success rates without the risk of bladder scarring. The AUA panel says the benefit of treatment outweighs the risks of therapy and recommended that lesion treatment be offered.
- **Botulinum toxin** may be injected into the bladder wall if other treatments have not provided an improvement in symptoms and quality of life. Studies show modest short term effects especially if combined with hydrodistention. Dosage is suggested at 100 units rather than 200 units, which is associated with significant adverse events. The AUA panel states that this should not be pursued by patients who cannot self catheterize and is contraindicated for patients with impaired bladder emptying.

- **Neuromodulation** may be considered if other treatments have not provided adequate symptom relief. *"Clinicians and patients should be cautioned that this is indicated for the treatment of frequency and urgency and is much less effective and potentially ineffective for pain."* Several types of neuromodulation are available. Sacral and pudendal nerve stimulation deliver an electronic pulse to the chosen nerve. A trial (surgical implantation of a lead at the nerves) is first performed and, if successful, a permanent device is implanted. While these are not FDA approved for the treatment of IC, studies with IC patients have shown modest success (72 to 80%) though the risk of adverse event is significant, including: device failure, pain at the lead sites, stimulation radiating to the leg, infection. The AUA panel states that this may only be effective in carefully selected patients and this decision should be left to the clinician and patient.

A less invasive form of neuromodulation, percutaneous tibial nerve stimulation (PTNS, Urgent PC), is performed at the ankle, requires no surgery and is administered with a tens unit and acupuncture needle. Research results are show minimal success.

Surgery

- **Major surgery (cystoplasty, cystectomy)** is rarely used as a treatment for IC/BPS and only in a very small, select group of patients who have exhausted all other therapies and whose symptoms are directly caused by the bladder. Neuropathic pain, pelvic floor muscle dysfunction will not improve with surgery. It is best reserved for patients with an end-stage fibrotic bladder (small, inflexible), a small bladder capacity under anesthesia and/or the presence of Hunner's lesions.
- Patients who are not good candidates for bladder surgery and/or are at higher risk of failure are:
 - Large capacity/volume under anesthesia
 - Absence of Hunner's Lesions
 - Lack of relief with an anesthetic instillation (lidocaine, etc.)
 - Pelvic muscle tension and tenderness
 - Genital hyperesthesia
 - Pain beyond the pelvis
 - Patients with multiple pain conditions
- Major bladder surgery should only be performed by surgeons with extensive experience in IC/BPS and who will be dedicated to the long-term care of the patient.

Treatments No Longer Recommended

- **Antibiotics** should not be offered to patients who have already been given antibiotics without effectiveness and who have a negative urine culture. This does NOT preclude the use of prophylactic antibiotics for patients struggling with recurring UTI's and symptoms of IC between infections.
- **Bacillus Calmette Guerin (BCG)**, an intravesical instillation used for the treatment of bladder cancer, is not recommended for the treatment of IC/BPS. Research studies show minimal success in the treatment of IC/BPS symptoms and have established a significant risk of serious, potentially life threatening adverse events.
- **High-pressure (80 to 100cm H₂O), long-duration (greater than 10 minutes) hydrodistention** should NOT be offered due to the risk of serious adverse events, including bladder rupture and necrosis. The panel concluded that the risk/burden outweighs the benefits.
- **Long-term systemic glucocorticoid therapy** should not be offered based upon studies which found minimal success in reducing symptoms and serious adverse events, including: diabetes, pneumonia with septic shock, increased blood pressure. The risk/burden outweighs the benefits.

Reference: Clemens JQ, Erickson DR, Varela NP et al: Diagnosis and treatment of interstitial cystitis/bladder pain syndrome. J Urol 2022; <https://doi.org/10.1097/JU.0000000000002756>.