INTERSTITIAL CYSTITIS

Dara D. Holder MD

Urology of Virginia

Interstitial Cystitis

Definition: Pain, pressure or discomfort perceived to be related to the urinary bladder, associated with lower urinary tract symptoms of more than 6 weeks duration, in the absence of infection or other identifiable causes

Lower urinary tract symptoms (frequency, nocturia, urgency)

+/- painful bladder filling

+/- painful urgency

Pain without LUTS → other sources of Pelvic Pain

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IC: Epidemiology

RAND Interstitial Cystitis Epidemiology (RICE) Study

Estimated prevalence

Adult women 2.7% to 6.5%,

Adult male 1.9% and 4.2%

Comorbid conditions:

- **Endometriosis**
- **Irritable bowel syndrome**
- **Vulvodynia,**
- **SLE**
- **Fibromyalgia or chronic fatigue syndrome**
- **Anxiety and pelvic floor dysfunction.**

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IC: Diagnosis of Exclusion

Urinary tract infection	**Overactive bladder**	**Urethral diverticulum**	**Bladder outlet obstruction**
Bladder outlet obstruction	**Bladder tumor**	**Endometriosis**	**Vulvodynia**
Pelvic inflammatory disease	**Herpes**	**Diverticulitis**	**Genitourinary syndrome of menopause**

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IC: Patient education

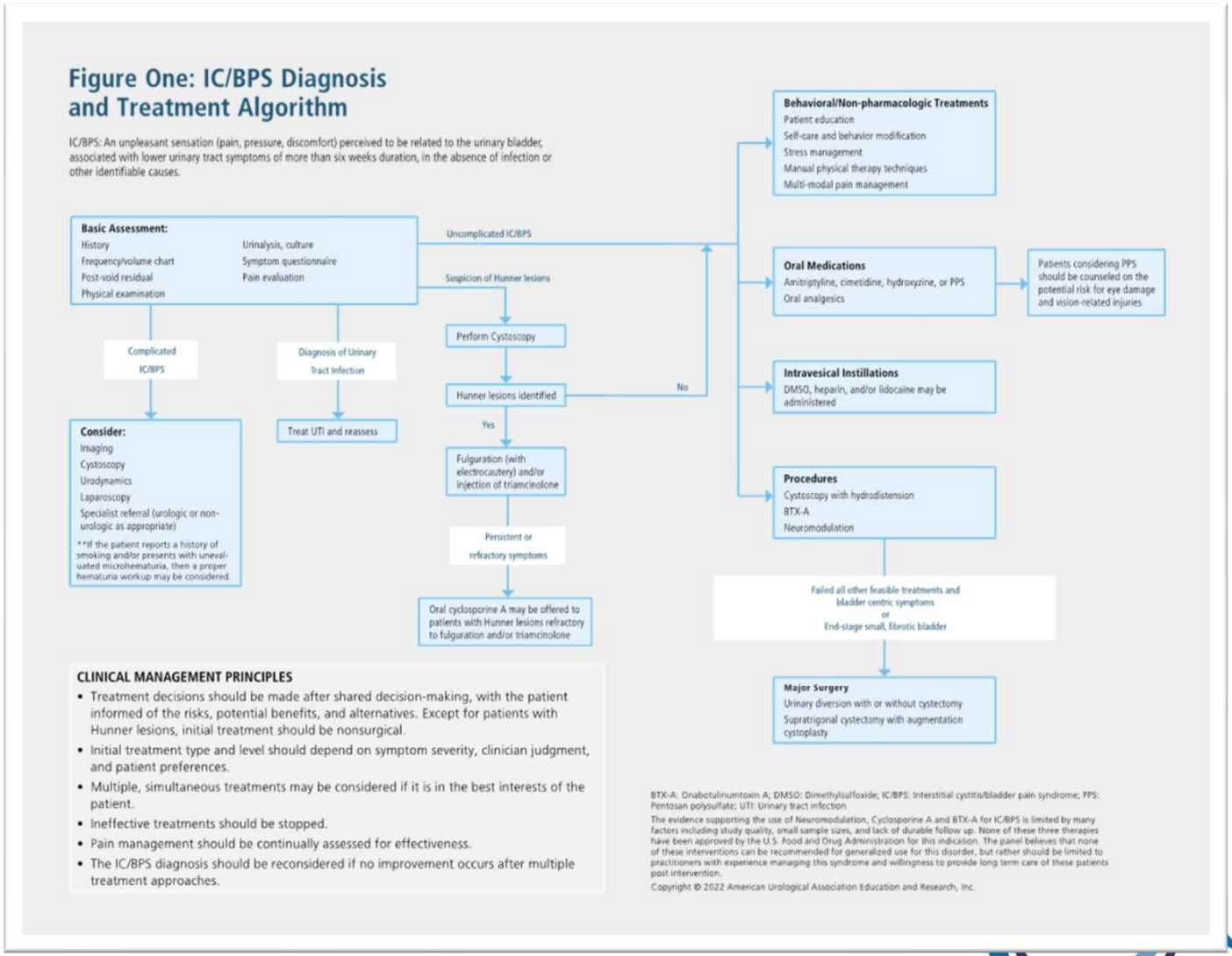

Figure One: IC/BPS Diagnosis and Treatment Algorithm

IC/BPS: An unpleasant sensation (pain, pressure, discomfort) perceived to be related to the urinary bladder, associated with lower urinary tract symptoms of more than six weeks duration, in the absence of infection or other identifiable causes.

Basic Assessment:
History
Frequency/volume chart
Post-void residual
Physical examination
Urinalysis, culture
Symptom questionnaire
Pain evaluation

Complicated IC/BPS

Consider:
Imaging
Cystoscopy
Urodynamics
Laparoscopy
Specialist referral (urologic or non-urologic as appropriate)

**If the patient reports a history of smoking and/or presents with unevaluated microhematuria, then a proper hematuria workup may be considered.

Diagnosis of Urinary Tract Infection

Treat UTI and reassess

Uncomplicated IC/BPS

Suspicion of Hunner lesions

Perform Cystoscopy

Hunner lesions identified

No

Yes

Fulguration (with electrocautery) and/or injection of triamcinolone

Persistent or refractory symptoms

Oral cyclosporine A may be offered to patients with Hunner lesions refractory to fulguration and/or triamcinolone

Behavioral/Non-pharmacologic Treatments
Patient education
Self-care and behavior modification
Stress management
Manual physical therapy techniques
Multi-modal pain management

Oral Medications
Amitriptyline, cimetidine, hydroxyzine, or PPS
Oral analgesics

Patients considering PPS should be counseled on the potential risk for eye damage and vision-related injuries

Intravesical Instillations
DMSO, heparin, and/or lidocaine may be administered

Procedures
Cystoscopy with hydrodistension
BTX-A
Neuromodulation

Failed all other feasible treatments and bladder centric symptoms
or
End-stage small, fibrotic bladder

Major Surgery
Urinary diversion with or without cystectomy
Supratrigonal cystectomy with augmentation cystoplasty

CLINICAL MANAGEMENT PRINCIPLES

- Treatment decisions should be made after shared decision-making, with the patient informed of the risks, potential benefits, and alternatives. Except for patients with Hunner lesions, initial treatment should be nonsurgical.
- Initial treatment type and level should depend on symptom severity, clinician judgment, and patient preferences.
- Multiple, simultaneous treatments may be considered if it is in the best interests of the patient.
- Ineffective treatments should be stopped.
- Pain management should be continually assessed for effectiveness.
- The IC/BPS diagnosis should be reconsidered if no improvement occurs after multiple treatment approaches.

BTX-A: Onabotulinumtoxin A; DMSO: Dimethylsulfoxide; IC/BPS: Interstitial cystitis/bladder pain syndrome; PPS: Pentosan polysulfate; UTI: Urinary tract infection

The evidence supporting the use of Neuromodulation, Cyclosporine A and BTX-A for IC/BPS is limited by many factors including study quality, small sample sizes, and lack of durable follow up. None of these three therapies have been approved by the U.S. Food and Drug Administration for this indication. The panel believes that none of these interventions can be recommended for generalized use for this disorder, but rather should be limited to practitioners with experience managing this syndrome and willingness to provide long term care of these patients post intervention.

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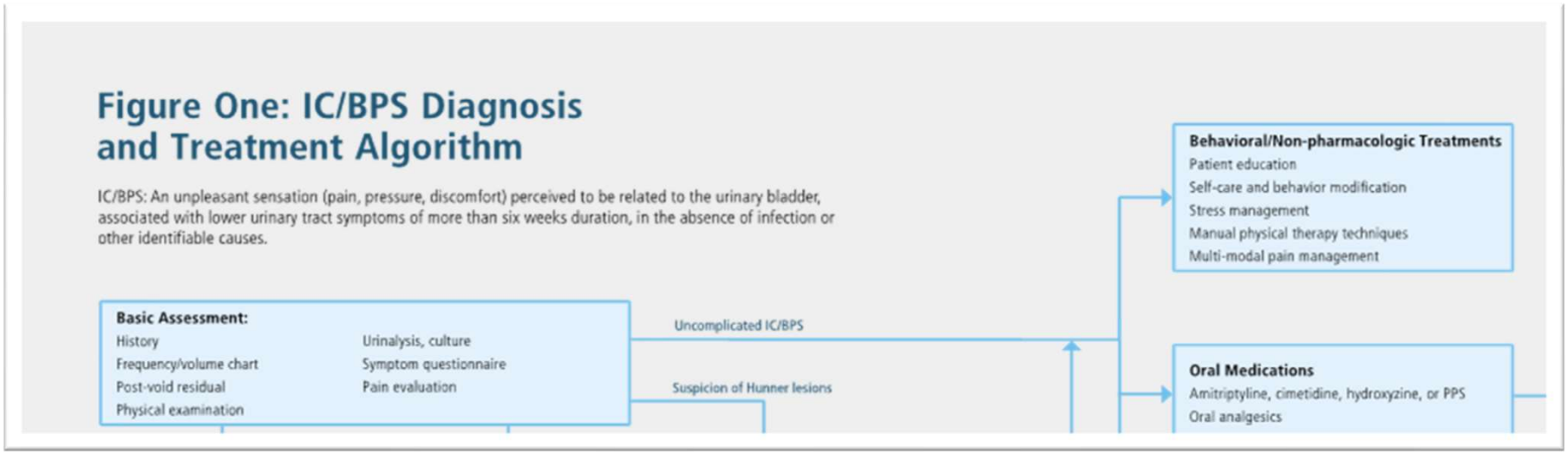
IC: Role of Primary Care



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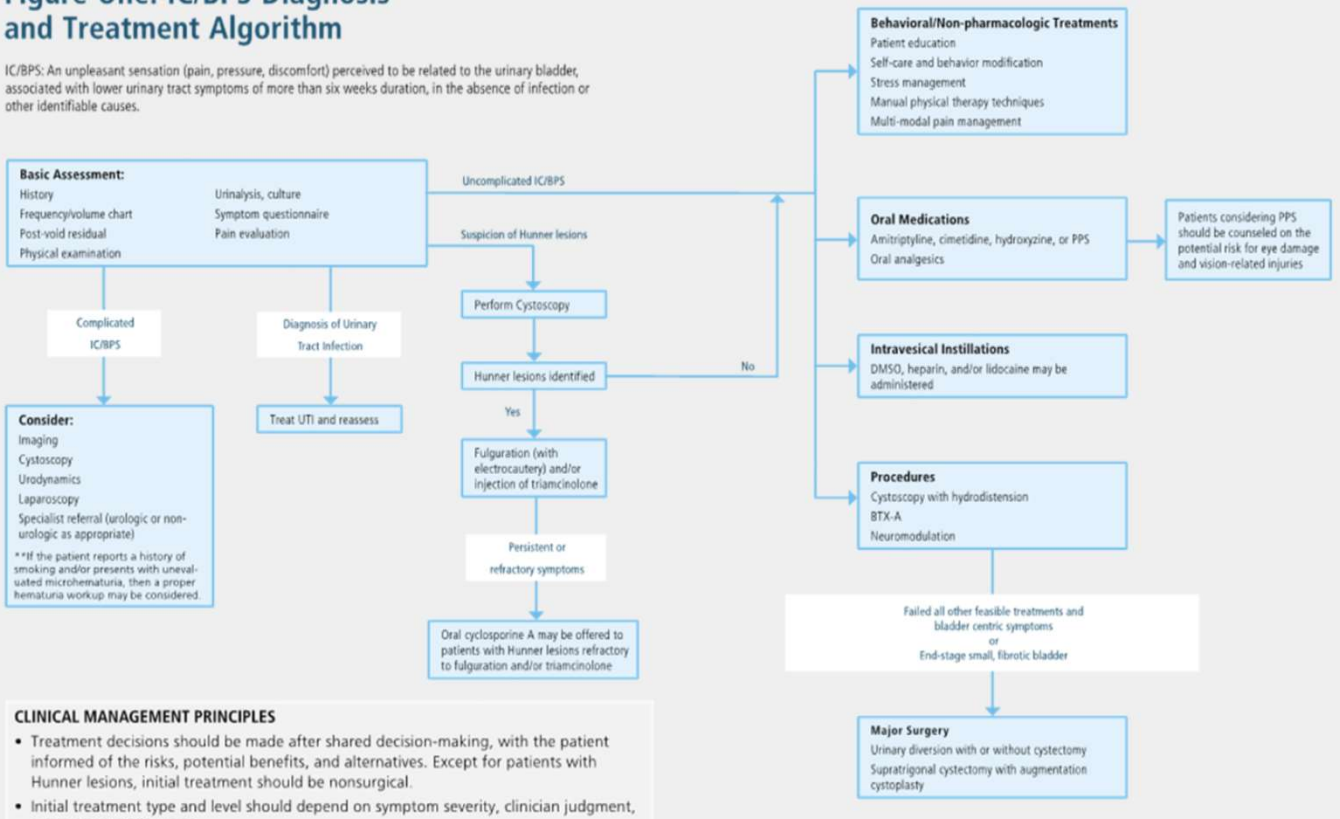

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IC: The First Line

Behavioral / non-pharmacological

Self-Care: yoga, acupuncture, meditation

Behavioral therapy: Diet

Stress management and coping strategies

Pelvic floor physical therapy

Appropriate specialist. MPT>> GTM

IC/BPS is a chronic disorder likely requiring continued treatment.

Marked by flares and remission

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IC: Second line of Defense

Oral Options include:

Tricyclic antidepressants (amitriptyline, nortriptyline)

Antihistamines (hydroxyzine, cimetidine)

Pentosan polysulfate (Elmiron™) – SE: pigmentary maculopathy

(1) Detailed ophthalmological history prior to start

(2) Pre-existing ophthalmological conditions: retinal exam

(3) Retinal examination within 6 months of start

Cyclosporin A.

Best for pts with Hunner's Ulcers

IC: Third line of Action

6 weekly installations

DMSO

Heparin

Lidocaine/Bupivacine

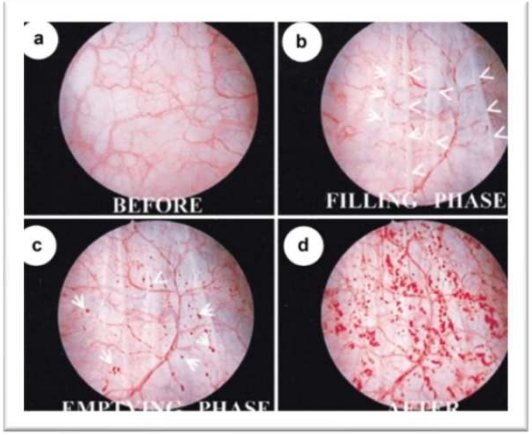
Hyaluronic Acid

Pentosan polysulfate

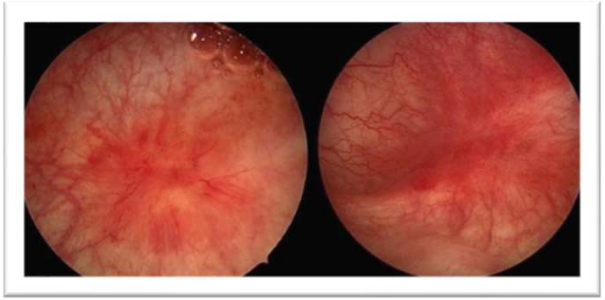
Triamcinolone acetonide

IC: Procedural Options

Cystoscopy with hydrodistension



Cystoscopy with fulguration of Hunner's ulcers

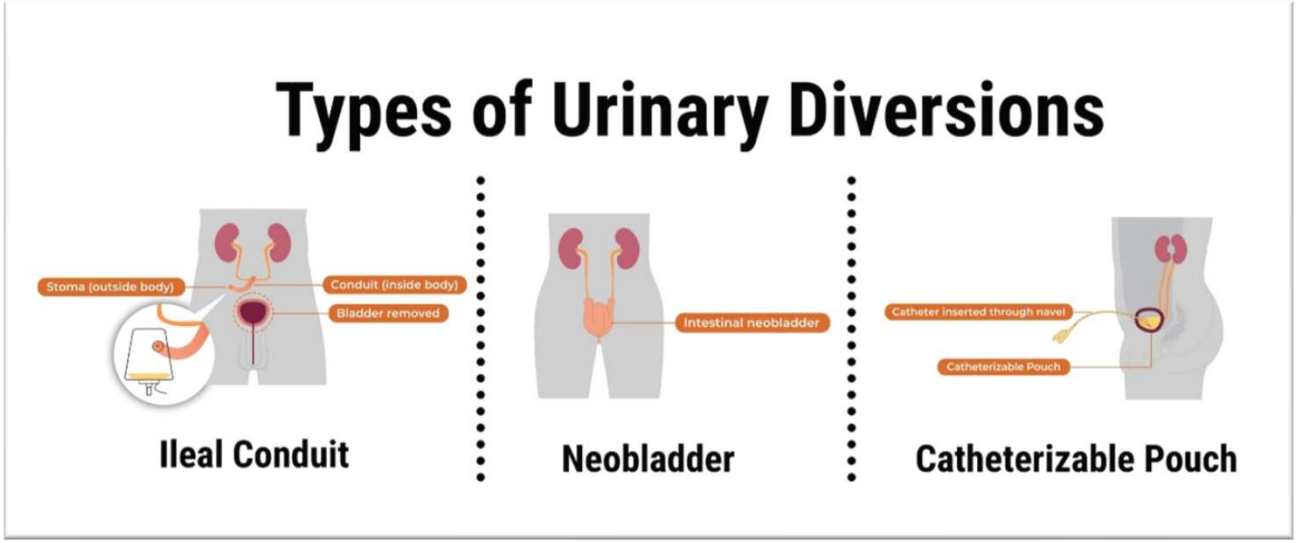


Cystoscopy with onabotulinumtoxin A

Sacral Neuromodulation

IC: The last resort

Urinary diversion with or without cystectomy



Ideal candidate: end-stage, low-capacity bladder with refractory urinary frequency

Poor candidate: non-ulcerative IC/BPS and normal bladder capacities → pain disorder associated with fibromyalgia and irritable bowel disease.