Thank you to Daniel Shoskes MD, MSc, FRCSC for STI content slides

Interstitial Cystitis/Painful Bladder Syndrome Sexually transmitted Infections

Anne P. Cameron MD FRCSC URPS
James Montie Legacy Chair of Urology
University of Michigan

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Disclosures

- AUA NGLUTD and OAB Guideline
- SUFU BOD
- SWIU BOD
- NIH funding- LURN
- gentamicin RCT- NIDDR

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Diagnosis and Treatment of Interstitial Cystitis/Bladder Pain Syndrome

Published 2011; Amended 2014; Amended 2022

Philip M. Hanno, David Allen Burks, J. Quentin Clemens, Roger R. Dmochowski, Deborah Erickson, Mary Pat FitzGerald, John B. Forrest, Barbara Gordon, Mikel Gray, Robert Dale Mayer, Robert Moldwin, Diane K. Newman, Leroy Nyberg Jr., Christopher K. Payne, Ursula Wesselmann, Martha M. Faraday; Norma Varela, PhD. H. Henry Lai

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Definition:

- AUA IC/BPS definition= SUFU definition
- 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
- Other definitions exist (NIDDK from 1980 was only for research, not clinical, ICS, EEISC…..)

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Why all the names/confusion

- The disease is not pathologically “interstitial” or “cystitis” unless Hunner’s lesions present
- Will also see painful bladder syndrome in literature
- IC is recognized for Social Security Disability (not PBS/BPS)
- The FDA has approved medication for “IC”

- PBS and BPS don’t’ sound like real diseases to patients
- Patient advocacy groups use “IC”

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I use IC when speaking to patients/patient groups and IC/PBS when publishing

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Prevalence and risk factors

- No racial/ethnic differences
- Increases with age (1.7% under 65, 4% over 65)
- As low as 0.45% up to 6% depending on the testing method
- Female:male ~ 2.5:1 (not 10:1)

- overlap between IC/BPS and chronic prostatitis/chronic pelvic pain syndrome in men (CP/CPPS) and if you considered CPP as a variant of PBS prevalence is ~equal

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Clinical presentation

- Most commonly diagnosed in 40s
- Antecedent UTI (culture +) seen in ~25% of women
- Symptom flares of hours to days/weeks common
- Can start with a single symptom then progress to multiple

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Specific symptoms

- #1 Pain in the bladder, urethra and vagina - character of pain as pressure, aching or burning
- Relieving factors: Urination decreased pain in most ~75%
- Exacerbation:
  - stress- 61% sex-50% tight clothes- 49%
  - acidic beverages-54%, coffee- 51%, spicy foods-46%
- Concomitant symptoms: urgency, frequency and nocturia very common
- Other urinary sx: difficulty starting flow- 47% difficulty emptying the bladder-51%
- Dyspareunia 50%
- Incontinence commonly reported but not part of sx complex

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Bogart Systematic review 2007

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Two phenotypes found (MAPP data 424 people)

- 25% reported pelvic pain only
- 75% reported pain beyond the pelvis, of whom 38% reported widespread pain.
- More pain locations= worse sleep, depression, anxiety, stress and worse quality of life (p ≤0.021).
- Urinary sx and pelvic pain severity similar.

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Lai MAPP 2017

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So how do we figure out clinically who has Hunner's lesions?

- Hunner's lesions:
  - Older patient
  - increased nocturia
  - higher Interstitial Cystitis Symptom and Problem Indexes
  - more likely to report "painful urgency"
- without HL:
  - more intense noneurologic pain
  - more pain outside the pelvis
  - greater numbers of comorbid chronic overlapping pain conditions (fibromyalgia, pain sensitization, migraines)
  - higher anxiety, perceived stress, and pain catastrophizing
- No differences in sex distribution, intensity of urologic pain

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Lai MAPP II 2021

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Coexisting conditions

- Multiple allergies #1
- Fibromyalgia
- irritable bowel syndrome
- chronic fatigue syndrome
- Sjogren's syndrome
- chronic headaches
- vulvodynia

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Pathophysiology- still unknowns

- Allergy
- Immune
- Common central sensitization pathogenesis
- part of the continuum of painful v. non-painful overactive bladder syndrome (OAB)

- Two phenotypes: MAPP bladder centric and pain beyond pelvis maybe two or three different causes/diseases (3 if you count HL vs non HL)

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Diagnosis

FYI Circles represent guidelines

- The basic assessment should include a careful history, physical examination, and laboratory examination to rule in symptoms that characterize IC/BPS and rule out other confusable disorders (1)
- Need to have pain for 6 weeks without a UTI
- Baseline voiding symptoms and pain levels should be obtained in order to measure subsequent treatment effects (2)
  - AUASI
  - Incontinence questionnaire of choice
  - Oleary-Sant Symptom and problem index
  - PELVIC PAIN AND URGENCY/FREQUENCY PATIENT SYMPTOM SCALE (PUF QUESTIONNAIRE)
  - GUPI (GenitoUrinary Pain Index)
  - RICE (RAND IC Epidemiology)

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Exclusions to diagnosis of IC/PBS

- Vaginitis, Vaginal cancer, genital herpes
- Pregnancy, ovarian/uterine cancer
- Radiation to pelvis (bladder, prostate, rectum, female repro organs)
- Urethritis, urethral diverticulum
- Tender prostate, chronic bacterial prostatitis
- Bladder: cystitis, bladder stone, foreign body, TB, cancer, CIS, cyclophosphamide exposure, retention
- Neurological dz: spinal cord injury, stroke, Parkinson's disease, multiple sclerosis, spina bifida
- Other explanations of pelvic pain that are not IC (but not exclusions): dysmenorrhea/endometriosis, IBD, anal pain, high tone pelvic floor, MSK-back/sacral pain

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IC/PBS in men

- Chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS)
- = pain in the perineum, suprapubic region, testicles or tip of the penis
- often exacerbated by urination or ejaculation
- Sense of incomplete bladder emptying & frequency are common, but pain is the primary defining characteristic of CP/CPPS.
- diagnosis of IC/BPS should be strongly considered in men whose pain is perceived to be related to the bladder. However, it is also quite clear that certain men have symptoms which meet criteria for both conditions (IC/BPS and CP/CPPS).

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Testing

- UA/culture ♡
- PVR ♡
- Uroflow ?
- Vaginal swab ?
- Special cultures (ureaplasma/mycoplasma) ?
- Cystoscopy
- UDS

3 Considered when diagnosis in doubt- not needed for uncomplicated presentation

- Potassium sensitivity test (26% of IC are negative and high false +) ✕

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Cystoscopy

- Value is excluding other conditions and identification of a Hunner's lesion (if clinically suspect).
- If you suspect : bladder cancer, vesical stones, urethral diverticula, intravesical foreign bodies, or Hunner's lesions, or microhematuria – do a scope
- No agreed-upon cystoscopic findings diagnostic for IC/BPS so a normal office cysto is expected
- Hunner's lesions are usually multiple inflammatory appearing lesions or ulcerations
  - acute phase (as an inflamed, friable, denuded area)
  - chronic phase (blanched, non-bleeding area)
- Glomerulations (pinpoint petechial hemorrhages) seen post hydrodistention can be:
  - IC/BPS
  - chronic undifferentiated pelvic pain
  - Endometriosis
  - Dialysis patients/no bladder function
  - Post bladder XRT
  - Bladder cancer
  - Post chemotherapy toxic drug exposure
  - Normal people

Hence presence or absence non diagnostic and not part of diagnostic workup

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UDS

- no agreed-upon urodynamic criteria diagnostic for IC/BPS.

- Most patients will have normal filling pressure and compliance.
- Detrusor overactivity 12-20% (not an exclusion)
- Pelvic floor muscle dysfunction=high resting urethral pressure, functional bladder outlet obstruction due to poor relaxation of the sphincter associated with pain-induced pelvic floor muscle
-
- Urodynamics are for concomitant voiding dysfunction not diagnosis

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- Treatment should go from more conservative therapies first with less conservative therapies employed if symptom control is inadequate for acceptable quality of life
- Surgical treatments (other than fulguration of Hunner's lesions) are generally appropriate only after other treatment alternatives have been exhausted or at any time in the rare instance when an end-stage small, fibrotic bladder has been confirmed and the patient's quality of life suggests a positive risk-benefit ratio for major surgery.

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- Multiple, concurrent treatments may be considered if it is in the best interests of the patient; baseline symptom assessment and regular symptom level reassessment are essential to document efficacy of single and combined treatments.

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- Ineffective treatments should be stopped once a clinically-meaningful interval has elapsed.

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- Pain management should be continually assessed for effectiveness because of its importance to quality of life. If pain management is inadequate, then consideration should be given to a multidisciplinary approach and the patient referred appropriately

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- The IC/BPS diagnosis should be reconsidered if no improvement occurs after multiple treatment approaches.

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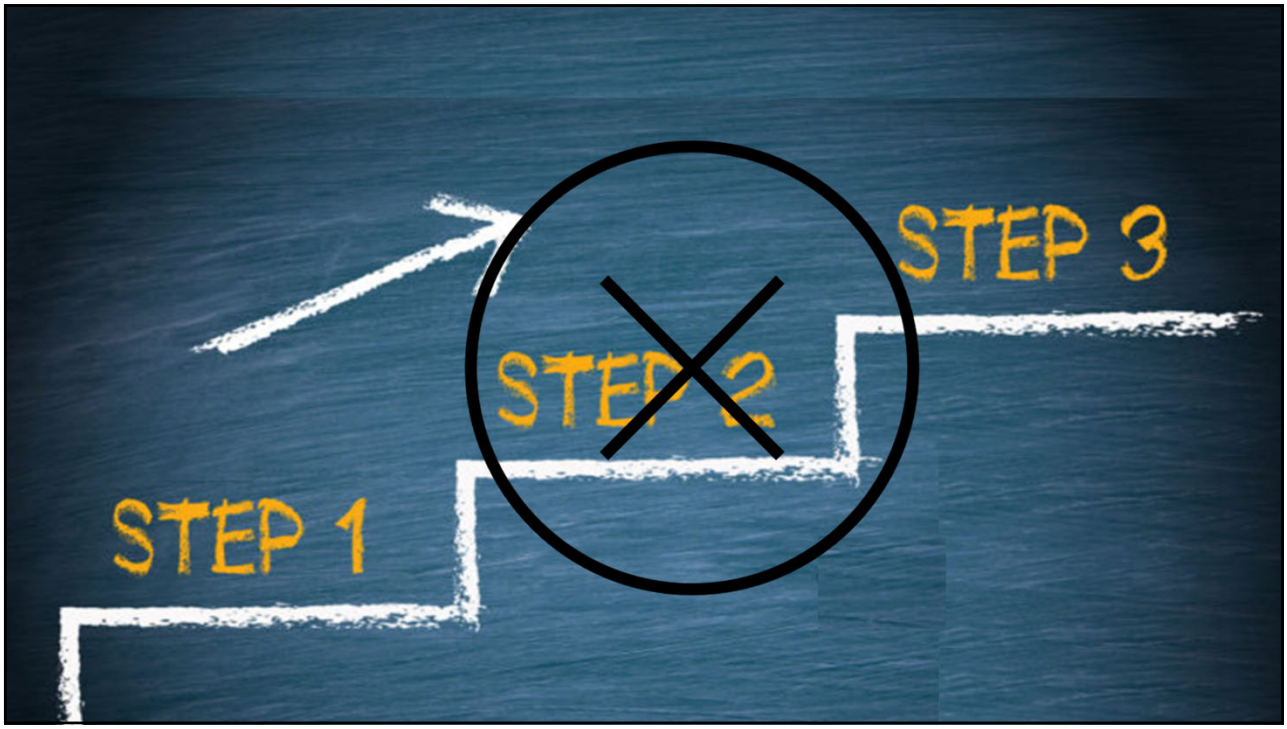

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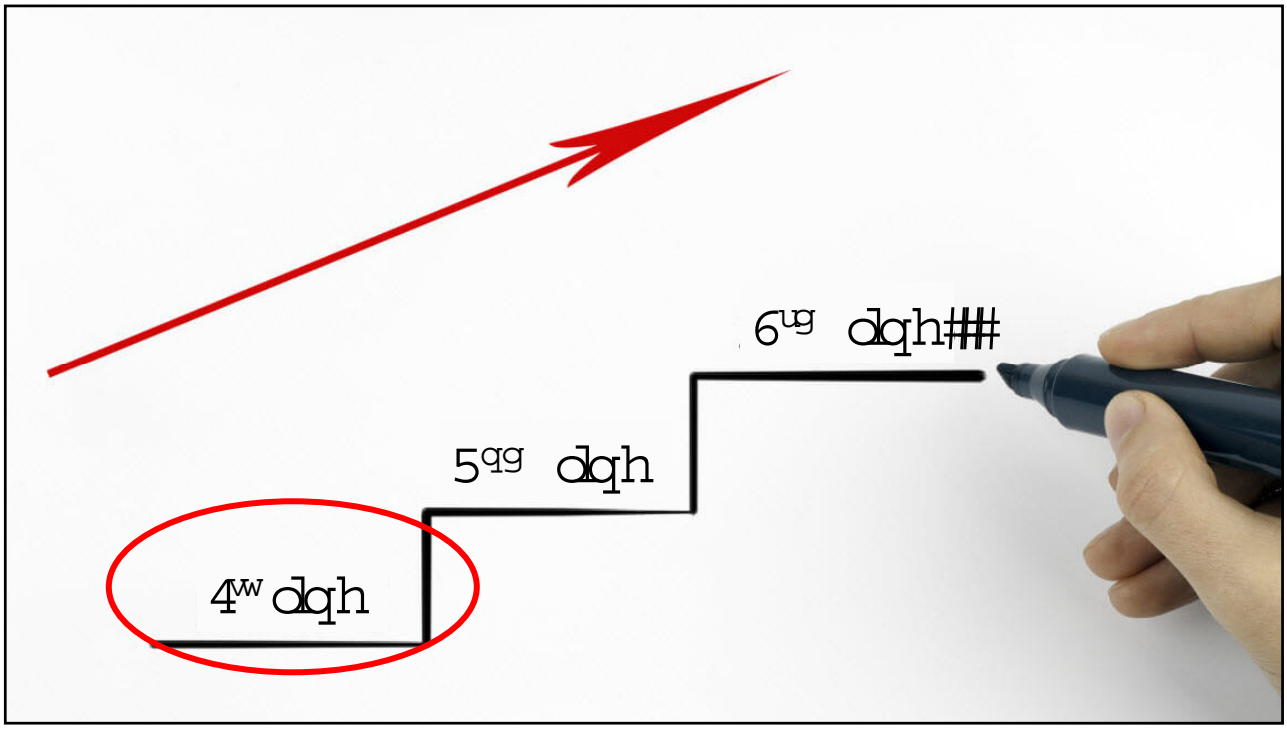

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First line treatment

- First-Line Treatments: all patients should be offered these treatments

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- Education:
  - normal bladder function
  - what is known and not known about IC/BPS
  - benefits v. risks/burdens of the available treatment
  - no single treatment has been found effective
  - acceptable symptom control may require trials of multiple therapeutic options (including combination therapy) before it is achieved.

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- Self-care practices and behavioral modifications -discussed and implemented
- can provide some sense of control in a disease process which can be a devastating ordeal.
- Examples:
  - Hydration/fluid restrict
  - Heat/cold
  - Food/beverage avoidance
  - neutraceuticals, calcium glycerophosphates, pyridium
  - meditation, imagery, yoga, stretching
  - pelvic floor muscle relaxation
  - bladder training with urge suppression
  - Avoid tight clothes/Kegels, constipation

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- Patients should be encouraged to implement stress management practices to improve coping techniques and manage stress-induced symptom exacerbations.

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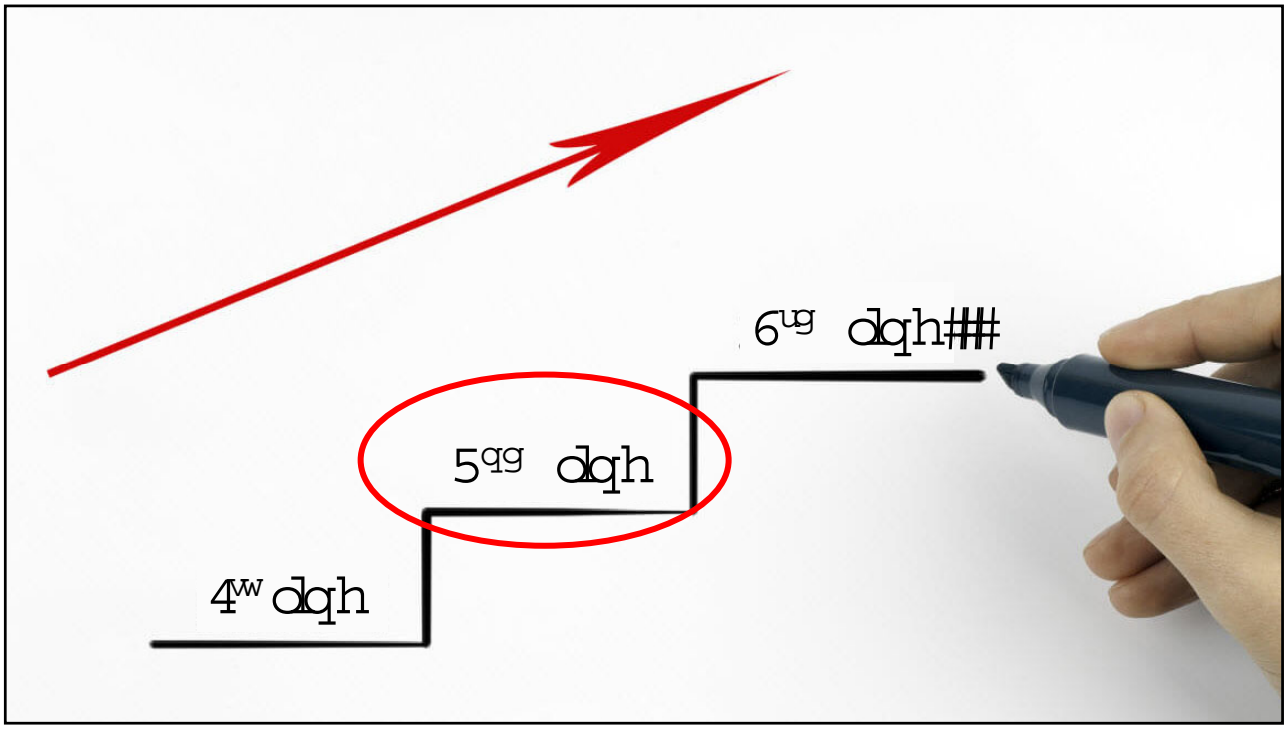

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Scenario-

- 45 y/o G0P0 female diagnosed with BPS/IC 8 months ago. No UTIs, UA clear. Bladder pain when full, dysuria and pain relief when empty. Gradual recurrence of pain with filling. Dyspareunia and constipation. On exam tender bladder and high tone pelvic floor. Has been tried on :
  - IC diet- helped a lot (especially acids and caffeine avoidance and increased fiber)
  - PT -faithfully attending but finds it painful and her symptoms have worsened

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- Why did PT not help?
- She is doing Kegels aggravating her high tone pelvic floor

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- Appropriate manual physical therapy techniques (e.g., maneuvers that resolve pelvic, abdominal and/or hip muscular trigger points, lengthen muscle contractures, and release painful scars and other connective tissue restrictions), should be offered to patients who present with pelvic floor tenderness.
- Pelvic floor strengthening exercises (e.g., Kegel exercises) should be avoided. [Clinical Principle] Standard Evidence Strength – Grade A
- It is not known whether those muscular abnormalities are usually primary pain generators (giving rise to associated secondary bladder pain) or are themselves secondary phenomena elicited by the primary bladder pain of IC/BPS

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- Amitriptyline, cimetidine, hydroxyzine, or pentosan polysulfate may be administered as second-line oral medications
- Amitriptyline (Evidence Strength – Grade B). One randomized controlled trial reported efficacy of oral amitriptyline (25 mg daily titrated over several weeks to 100 mg daily if tolerated) to be superior to placebo
- AEs were extremely common (up to 79% of patients) and, although not life-threatening, had substantial potential to compromise quality of life (e.g., sedation, drowsiness, nausea).

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*Antidepressant -discuss suicidal ideation

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- Cimetidine (Evidence Strength – Grade B). One randomized controlled trial reported efficacy of oral cimetidine (400 mg twice daily) to be statistically significantly superior to placebo in terms of total symptoms, pain, and nocturia after three months
- No AEs were reported. Given the possibility that cimetidine may benefit a subset of patients without significant AEs in the context of a small total sample exposed to the drug (40 patients, including the RCT), the lack of long-term follow-up data on sufficient numbers of patients, and its potential to interact with other drugs, oral cimetidine was designated as an Option.

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- Hydroxyzine (Evidence Strength – Grade C). One randomized controlled trial reported that more patients in the treatment group (23%) experienced clinically significant improvement compared to patients in the placebo group (13%) in response to oral hydroxyzine for six months (10 mg daily titrated to 50 mg daily over several weeks if tolerated); this difference was not statistically significant in this pilot study
- Especially helpful in those patients with systemic allergies

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- Pentosanpolysulfate (PPS; Evidence Strength – Grade B). PPS is by far the most-studied oral medication in use for IC/BPS. Because there were seven randomized trials reporting on more than 500 patients from which to draw evidence
- No RCT showed superiority over placebo and 1 study ended early
- Clinicians should counsel patients who are considering pentosan polysulfate about the potential risk for macular damage
- and vision-related injuries. Clinical Principle

- Recent association with retinal degeneration in patients who also had long-term PPS use
  - I have all my patients have annual ophthalmologist exam with PPS

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- DMSO, heparin, or lidocaine (alkalinized with bicarb) may be administered as second-line intravesical treatments weekly 6 weeks
- DMSO is often administered as a part of a “cocktail” that may include heparin, sodium bicarbonate, a local steroid, and/or a lidocaine preparation. DMSO increases absorption of other agents
- DMSO side effects= pain over 15-30 min, taste garlic

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Decision Making in Urology

Paternalistic

recommendations

Informed Decision Making

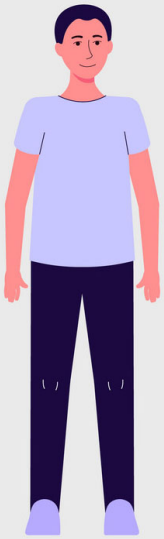
information

Shared Decision Making

info & recommendations

values & preferences

Patient dictation



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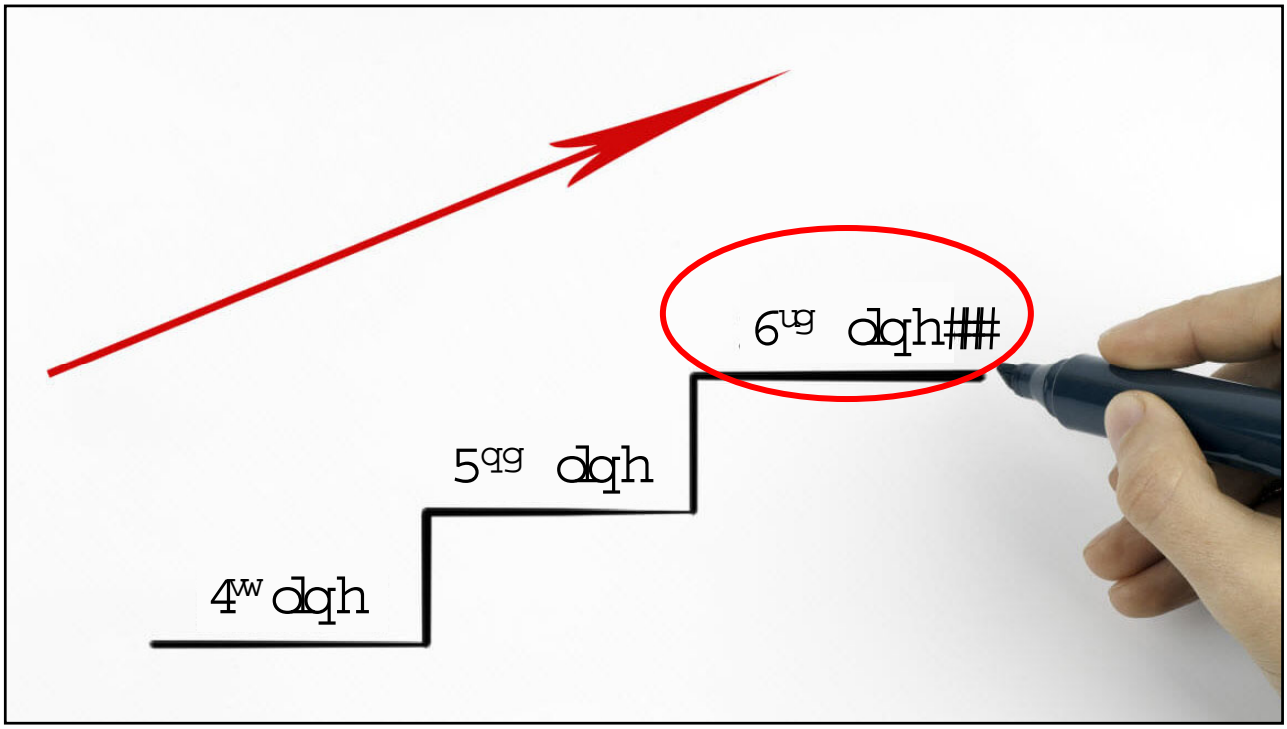

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Hydrodistention

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- Under anesthetic, low-pressure (60 to 80 cm H20), short duration (less than 10 minutes) hydrodistension may be undertaken.
  - Gives a chance to check for other diseases or ulcers
  - Hydrodistension is therapeutic
  - Allows staging of anatomic bladder capacity (ie due to fibrosis) <300cc is worrisome
  - If you find a Hunner's lesion don't hydrodistend- fulgurate it!

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Hunner's lesions

- If Hunner's lesions are present, then fulguration (with laser or electrocautery) and/or injection of triamcinolone should be performed. 18
- diathermy reported at follow-up intervals ranging from two to 42 months that 100% of patients experienced complete pain relief and 70% experienced reduced or normalized frequency
- submucosal injections of a corticosteroid (10 ml of triamcinolone acetonide, 40 mg/ml, injected in 0.5 ml aliquots into the submucosal space of the center and periphery of ulcers using an endoscopic needle); this procedure resulted in 70% of patients reporting improvement with an average improvement duration of seven to 12 months

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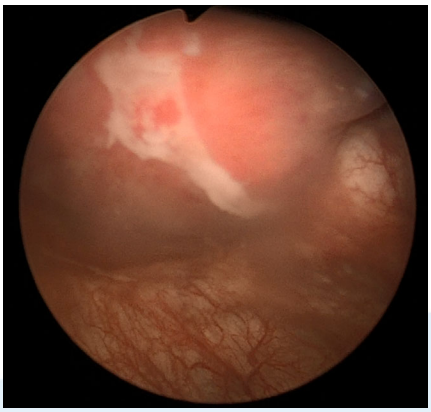
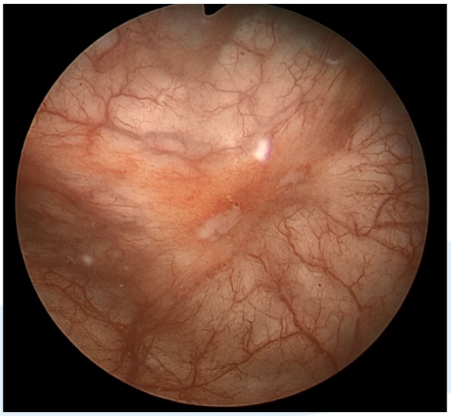
83 y/o bad ulcers no tx





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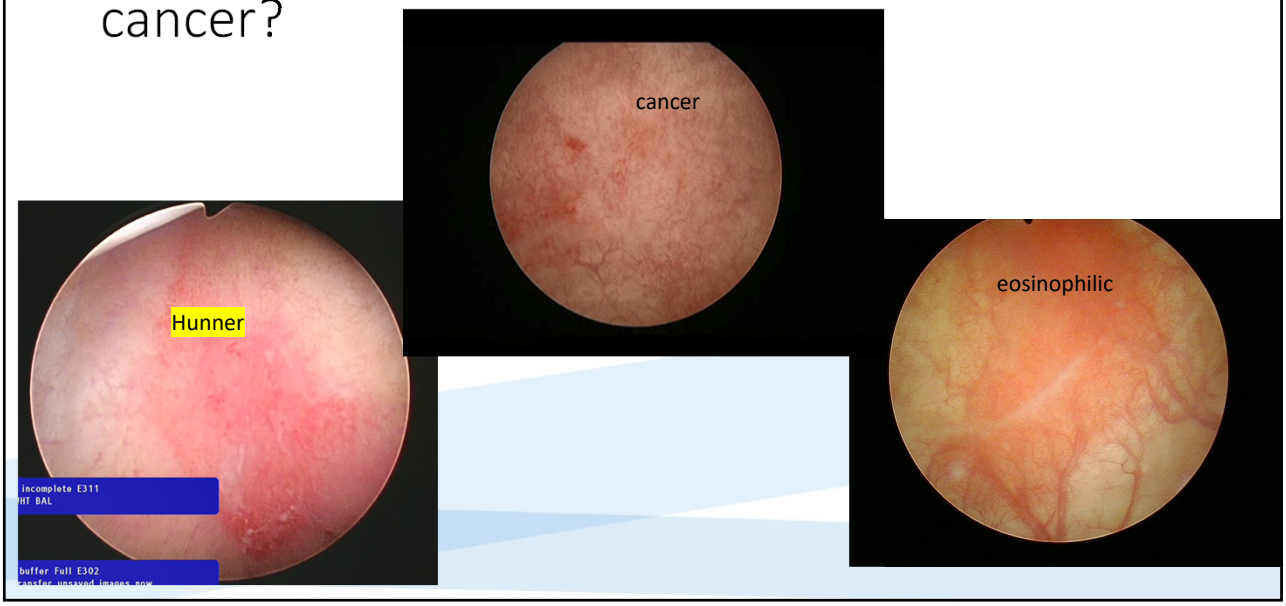
Which of these is eosinophilic cystitis/IC and cancer?



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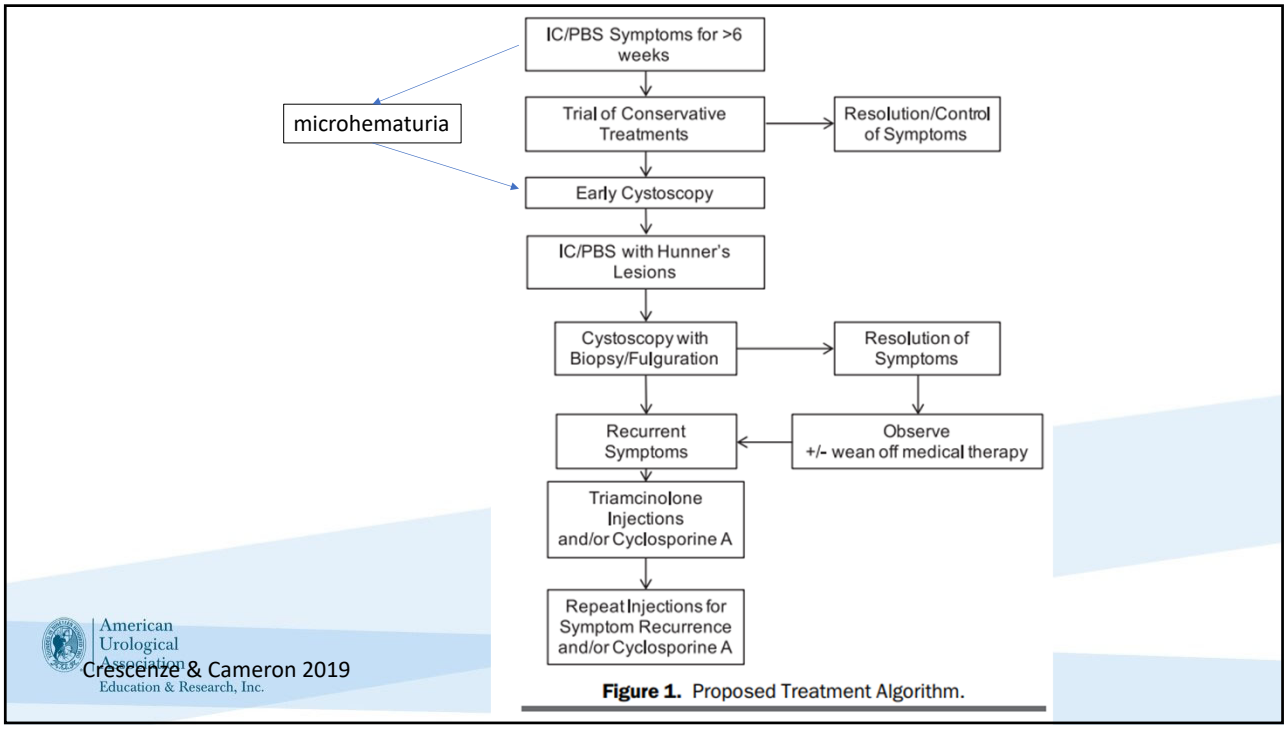

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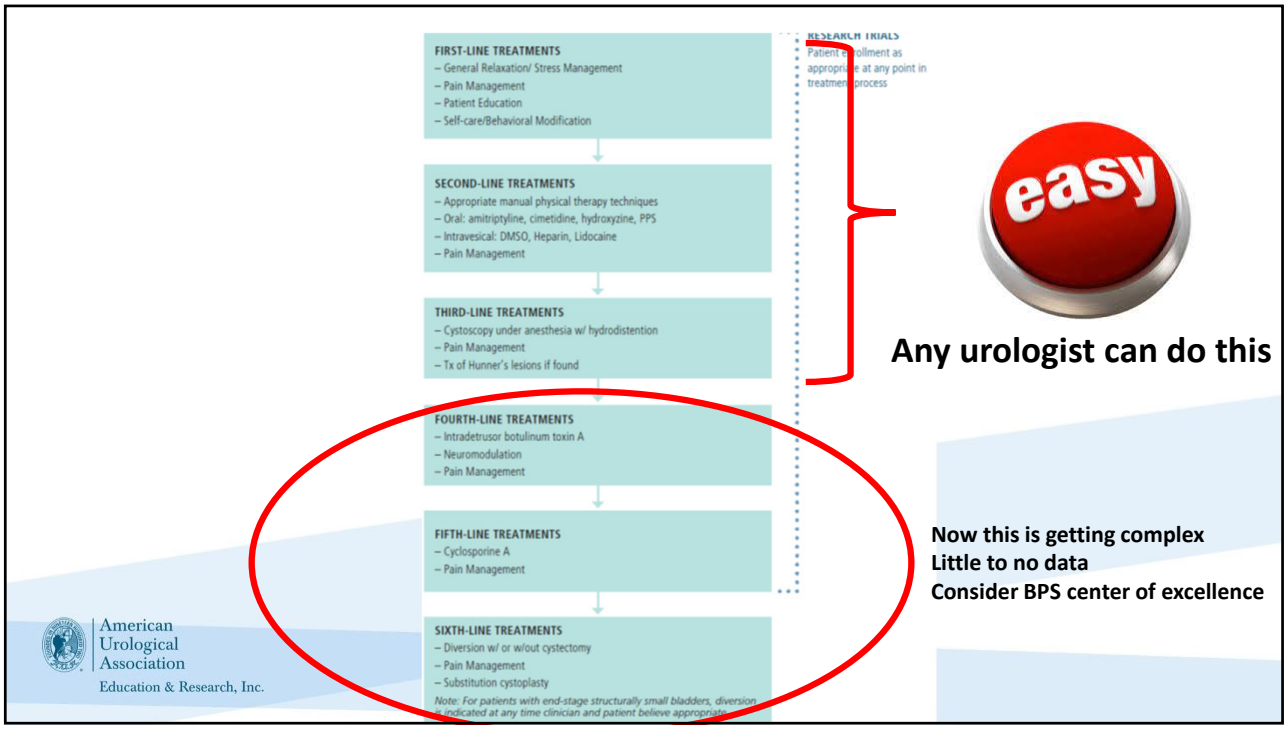

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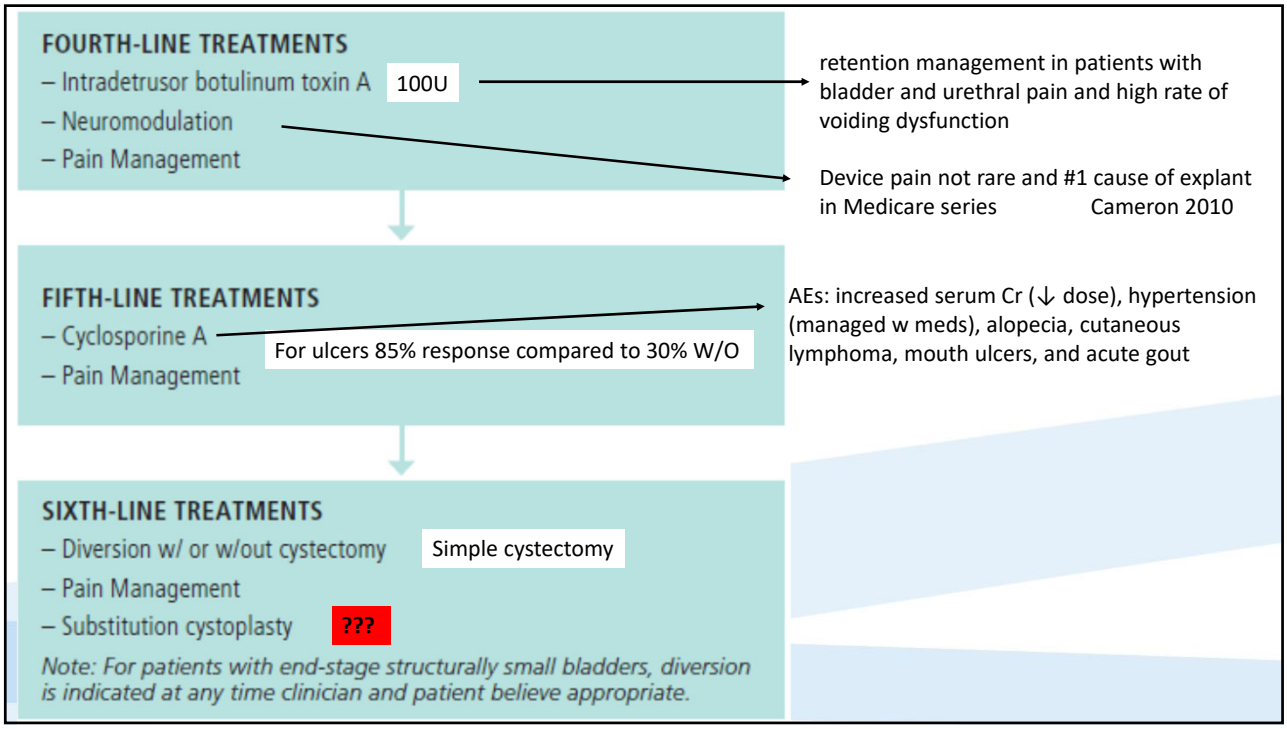

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Do not do…… i.e. fail your test

- Each are their OWN guideline statement:
- 23: Long-term oral antibiotic administration.(Grade B)
- 24: Intravesical instillation of bacillus Calmette-Guerin (BCG) should not be offered outside of investigational study settings. (Grade B)
- 25: High-pressure, long-duration hydrodistension. (grade C)
- 26: Systemic (oral) long-term glucocorticoid administration (Grade C)

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https://www.cdc.gov/STD/

30-40% reduction in STI diagnoses during pandemic
Symptomatic diseases and congenital diagnoses UP

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Urologic Manifestations of AIDS

- Opportunistic infections of GU tract
  - Examples: TB, fungi, herpes, viral cystitis
  - Severe infections (e.g. abscess, Fournier's)
- Increased incidence of malignancies
  - Kaposi's sarcoma may involve genitalia
  - Squamous genital cancers
  - Testis cancer (germ cell tumors & lymphomas)
  - Renal cancer

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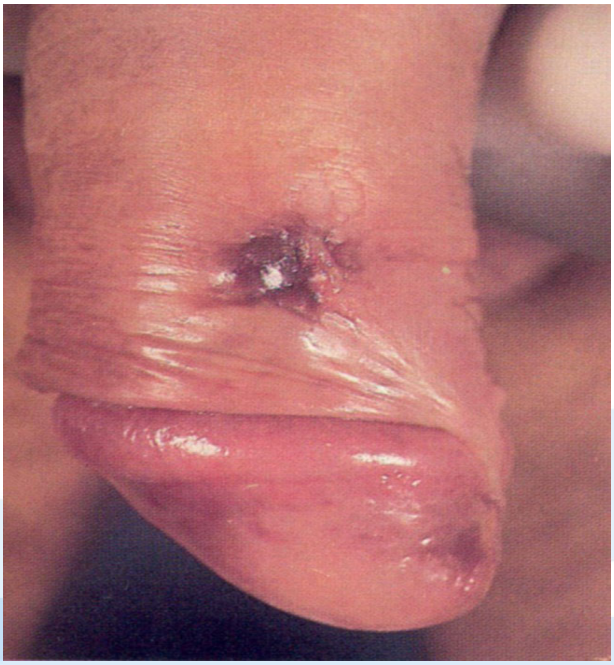

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Urologic Manifestations of AIDS (2)

- Hypogonadism: testosterone replacement is recommended for patients with weight loss
- Adrenal insufficiency; may need stress steroids
- Neurogenic bladder (any type)

  *Combined bladder + bowel dysfunction with back pain/sciatica: consider CMV polyradiculopathy, may be reversible if treated early

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Which STIs are Reportable?

- Reportable in every state:
  - Syphilis
  - Gonorrhea
  - Chlamydia
  - Chancroid
  - HIV infection and AIDS
- Other STIs: reporting requirements vary by state

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Chlamydia

- Male urethritis, in women: no sx, increase in female discharge, untreated 15% women PID
- Still rely on female screening during well woman exam (women < 25 annually, or those >25 w new partners/risk)
- Can swab oropharynx, rectum or vagina/cervix- patient collected= clinic
- Urine PCR easy and noninvasive i.e. more compliance

- Recommended: Doxycycline 100 mg orally 2 times/day for 7 days
- Alternative:
  - Azithromycin 1 g orally in a single dose or
  - Levofloxacin 500 mg orally once daily for 7 days

- No test of cure needed, and most treatment failures are reinfection with untreated partner
- Sex partners should be referred for evaluation, testing, and presumptive treatment or
- Expedited partner treatment: CDC web site http://www.cdc.gov/std/ept/legal/default.htm
- Infection in kids should be a red flag for sexual abuse (perinatal infection can persist 2 y)

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Gonorrhea

- Much more symptomatic: more urethral DC and more female sx/PID
- Arthritis-dermatitis syndrome
- Meningitis and endocarditis possible
- Consequences: strictures and infertility
- Same screening and testing as chlamydia except:
  - Gram stain of urethral discharge or secretions that demonstrate polymorphonuclear leukocytes with intracellular gram-negative diplococci can be considered diagnostic for infection with N. gonorrhoeae among symptomatic men. (not asymptomatic men and not other sites)
- Treatment:
  - Ceftriaxone 500 mg* IM in a single dose for persons weighing <150 kg
  - If chlamydial infection has not been excluded, treat for chlamydia with doxycycline 100 mg orally 2 times/day for 7 days.
- Pharygeal GC needs test of cure since it is tough to treat
- Antibiotic resistance RISING to cephalosporins which are the ONLY antibiotics it is susceptible to (all other antibiotics have substantial to total resistance)

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Male Urethritis

- Symptoms: dysuria, itch, discharge

- Most common organisms:
  - Gonorrhea
  - Chlamydia
  - Others (Mycoplasma, Ureaplasma, Gardnerella)
- Diagnosis: Urine nucleic acid test for NG and Chlamydia

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Genital Ulcers differential DX

Non-Infectious

Carcinoma
Erythema multiforme
Fixed drug eruption
Bechet's disease
Lichen planus

Infectious

Painful	Painless
Chancroid	Syphilis (#1)
Herpes	Granuloma inguinale
	Lymphogranuloma venereum (ulcer usually resolves inguinal adenopathy)

Rare
Granuloma in name
Tx doxycycline 3 weeks

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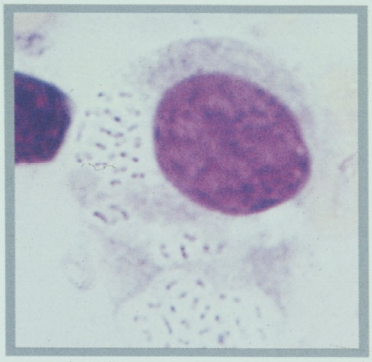
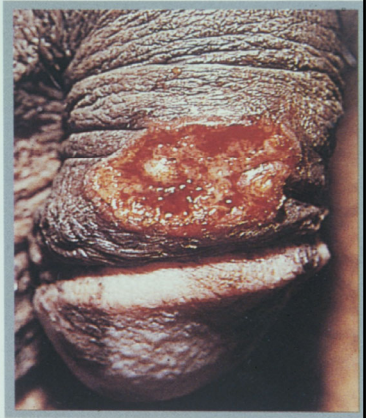
Granuloma Inguinale

Common in tropics
No culture just bx
Klebsiella granulomatis
Donovan bodies on crush prep
Ulcer beefy red, bleeds
Doxy ≥ 3 weeks until gone



↑ **184 Photomicrograph of tissue smear showing *Calymmatobacterium granulomatis***
Note the deeper staining at the poles of the organism ('safety pin').



↑ **185 Granuloma inguinale**
Lesion on penile shaft.

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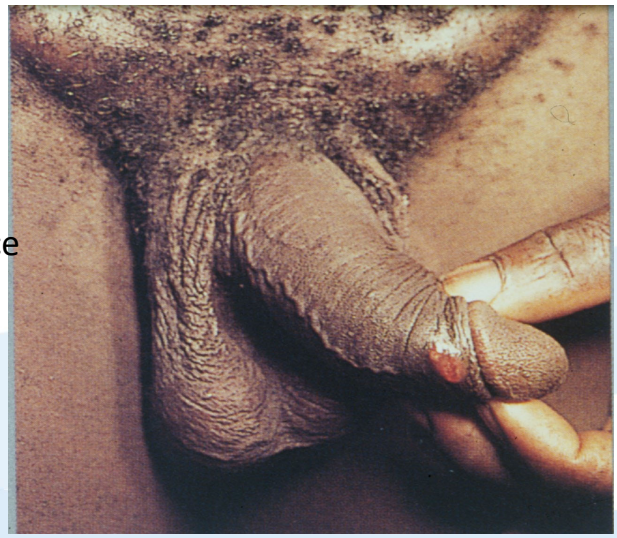
Lymphogranuloma venereum- small ulcers (heals fast) bilateral bubos

Chlamydia trachomatis L1-3 strains
Rectally=proctocolitis/stricture/fistula
Large suppurative nodes

Dx : swab lesion or aspirate nodes
Culture/nucleic acid/immunofluorescence

Might need I&D of nodes

Doxy 100mg BID x 3 weeks
Partner 1 g azithromycin x1



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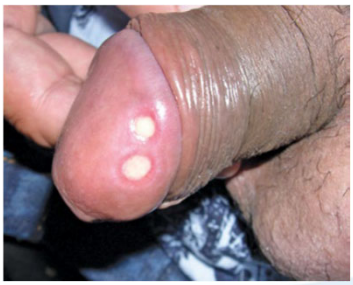
Syphilis (Treponema pallidum)

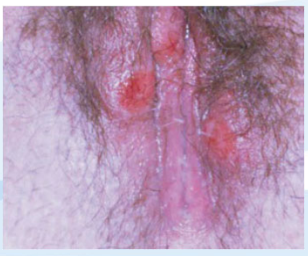
1º: painless ulcer (chancre) lasts 2-6 weeks

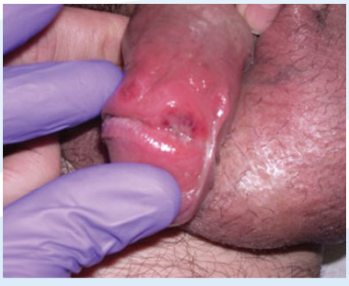
2º: nongenital skin lesions, adenopathy

3º: cardiac, neuro, eye, ear, etc.

Latent: no symptoms







NY city department of health
Management and prevention of syphilis

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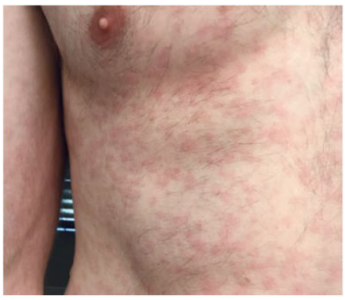

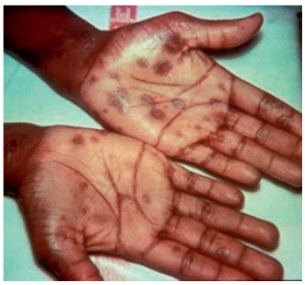

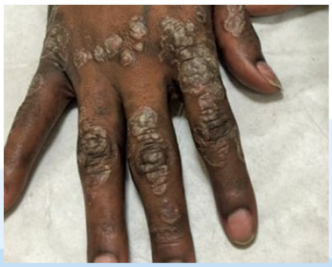

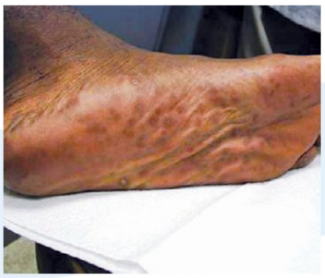

Mild sx
No itch or pain
Constitutional sx
lymphadenopathy
The great imitator

So serum screen:
MSM
Pregnant
Taking Prep
HIV+
High risk behaviour

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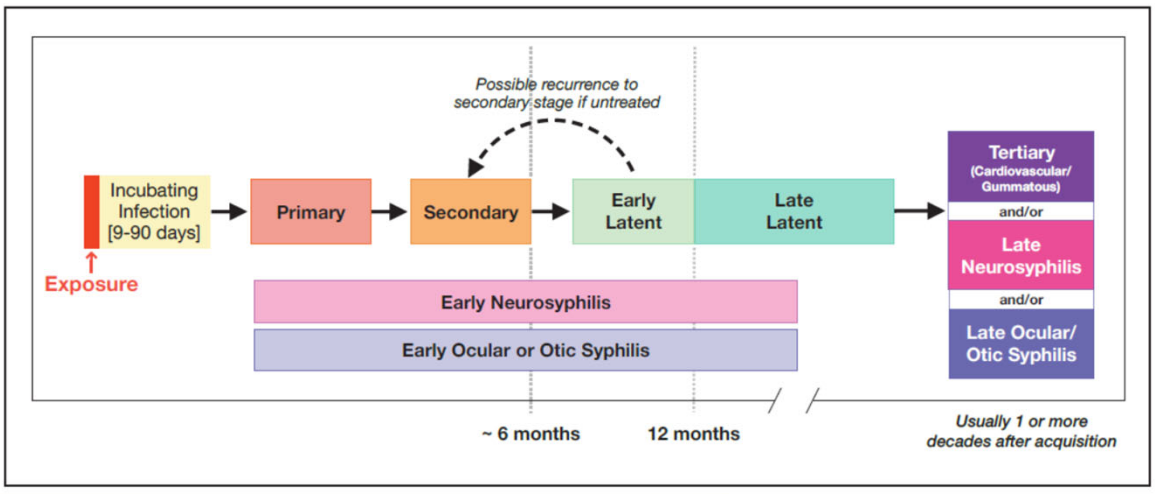
Figure 2. The Natural History of Untreated Syphilis



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Primary, secondary early latent: Benzathine penicillin G 2.4 million units IM x1
Late latent Weekly x3

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Syphilis Diagnosis

- Scrape base of ulcer, look for spirochetes by dark-field microscope or fluorescent antibody or PCR
  - Best test for primary syphilis
  - Many docs lack equipment
- Serum antibody tests
  - Nontreponemal (anti-cardiolipin antibodies)- screening test (disappears with tx)
  - Treponemal (antibodies against Treponema)- done if above + (stays + for life)

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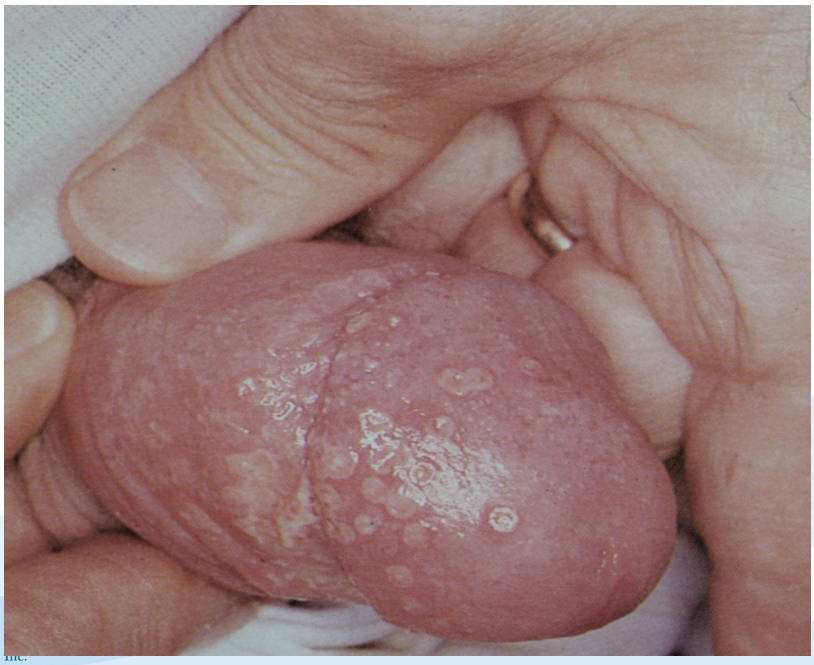

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What is the diagnosis- correct answer genital herpes?

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Genital Herpes: Diagnosis

A group of vesicles on erythematous base that does not follow a neural distribution: pathognomonic*

virologic testing from the lesion by NAAT or culture

Type-specific serologic tests can be used to aid in the diagnosis of HSV infection in the absence of genital lesions.

All patients with diagnosis should be screened for HIV- 3X risk

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First clinical episode treatment

- Supportive care/education
- 1% hydrocortisone on bothersome lesions
- antivirals x 7-10 days
- Suppressive therapy with antivirals only if second breakout

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First Clinical Episode of Genital Herpes

- Fdq fdxvh d surorqjhg fdqlfdolkqhvv0vhyhuh jhqlwdoxcfhudwlrqv dqg qhxurorjlf lqyroyhp hqw1
- Hyhq shuvrqv z lwk p log iluvwlhslvrgh fdq h{shulhqfh vhyhuh ru surorqjhg v|p swrp vgxulqj uhfxuuhqwlqihfwlrq1Wkhuhiruh/dco sdwlhqwv z lwk iluvwhslvrghv rijhqlwdokhushv vkrxog uhfhlyh dqwlyludo wkhuds|1
- Recommended Regimens*
- Acyclovir† 400 mg orally 3 times/day for 7–10 days

OR

- Famciclovir 250 mg orally 3 times/day for 7–10 days

OR

- Valacyclovir 1 gm orally 2 times/day for 7–10 days

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Supression

- Suppressive therapy reduces frequency of genital herpes recurrences by 70%–80%
- Acyclovir 400 mg orally 2 times/day

OR

- Valacyclovir 500 mg orally once a day*(least effective)

OR

- Valacyclovir 1 gm orally once a day

OR

- Famciclovir 250 mg orally 2 times/day

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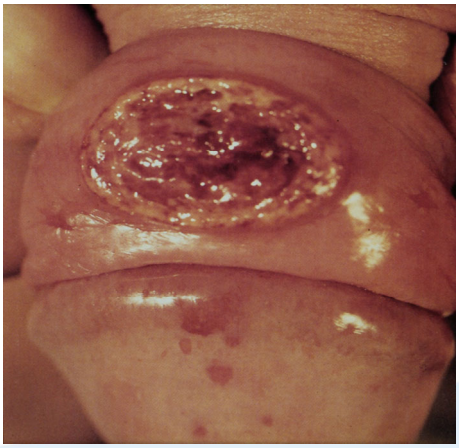
Chancroid (Haemophilus ducreyi)



- One or more painful ulcers
- 1/3 painful or suppurative nodes
- rare

- No culture (PCR?)
- Rule out herpes and syphilis then treat empirically
- Azythromycin 1g once

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Genital ulcers 101

Painful

- Typical HSV appearance- treat
- Chancroid vs infected syphilis
  - Serum or lesion test syphilis
  - Empirically treat w azithromycin
- Screen for HIV in all

Painless

- Syphilis until proven otherwise
  - Blood tests/ulcer scrape bx early
  - Donovan bodies seen in granuloma inguinale
  - Noninfectious diagnosed w bx too
- Check for lymph nodes
- Screen for HIV in all

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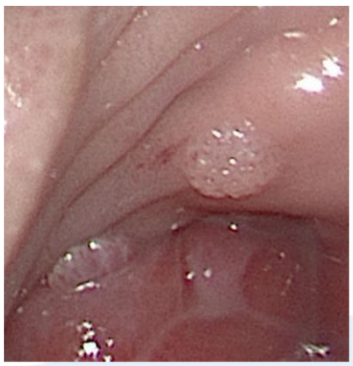
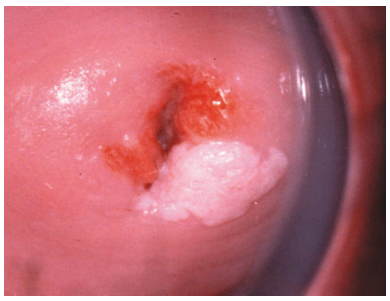
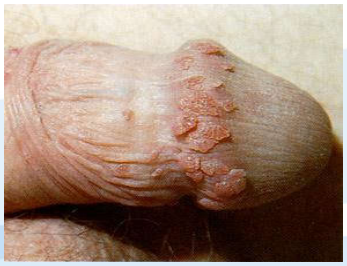
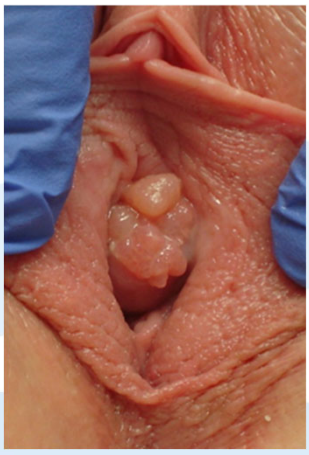
HPV Lesions









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HPV

- #1 STI in USA
- Among 15- to 59-year-olds 40% have HPV
- No sx →small bumps → large cauliflower lesions
- 90% disappear (virus –ve) in 2 years
- Screening only done on cervical swabs in women over 30 (no throat/anus/urethral/urine test)
- HPV 6 &11 cause 90% of warts and 16 and 18 oncogenic (cervix, penis, vagina, oropharynx, anal)
- Prevention: condoms/monogamy
- In the United States, the HPV vaccination recommendation is for:
- All preteens (including boys and girls) at age 11 or 12 years (or can start at age 9 years)
- Everyone through age 26 years, if not vaccinated already

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Summary of Genital Wart Therapy

- Patient-Applied
  - Podofilox 0.5% solution or gel
  - Imiquimod 5% cream
  - Sinecatechins 15% ointment
- Provider–Administered
  - Cryotherapy with liquid nitrogen or cryoprobe. Repeat applications every 1–2 weeks.
  - Podophyllin resin 10%–25%
  - Surgical removal either by tangential scissor excision, tangential shave excision, curettage, or electrosurgery.

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Q1:The following risk factor for IC/PBS is:

- White race
- Age over 65
- male gender
- Increased parity

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Q2:The following patient with bladder pain that is at highest probability of having a Hunner's lesion is:

- 30 y/o with high bladder pain scores and fibromyalgia
- 30 y/o with painful urgency and no pain beyond the bladder
- 70 y/o with high bladder pain scores and fibromyalgia
- 70 y/o with painful urgency and no pain beyond the pelvis

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Q3:Which of the following medical conditions often coexist with IC/PBS?

- Hypertension
- Bladder cancer
- Multiple allergies
- Plantar fasciitis
- Dupuytren's contractures
- Malar rash

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Q4: Which of the following patients with 6 weeks of classic bladder pain cannot have IC/PBS ?

- Woman with laparoscopy proven endometriosis
- Man with herniated L5/S1 disk and sciatica
- Man post radiation for prostate cancer
- Woman with ulcerative colitis

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Q5: Which of the following tests are needed on top of a history of physical?

- UA with reflex culture
- PVR
- Uroflow
- Special cultures (ureaplasma/mycoplasma)
- Cystoscopy
- Urodynamics
- Potassium sensitivity test

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Q6: The most common appearance of the bladder on office cystoscopy in a patient with IC/PBS is:

- Increased vascularity
- Glomerulations
- Erythema
- Areas of old scar
- Trabeculation
- Normal mucosa

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Q7:

Same woman visits a dedicated pelvic floor PT and now noted improvement in her dyspareunia. Not getting enough pain relief with Pyridium, yoga, IC diet maintenance, stress management.

The oral prescription agent with the best evidence for efficacy is:

- amitriptyline
- Hydroxizine
- Pentosan polysulfate
- Oral steroids
- cyclosporine

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Q8: Patient ultimately choses pentosan polysulfate for treatment. The side effects that she needs to be counselled on is:

- Dry eyes
- Anemia
- Macular degeneration
- Renal damage

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Q9: This same woman fails oral therapy and choses hydrodistention. The best technique is:

- 4 minutes at 70 cm H2O
- 12 minutes at 70 cm H2O
- 4 minutes at 120 cm H2O
- 12 minutes at 120 cm H2O

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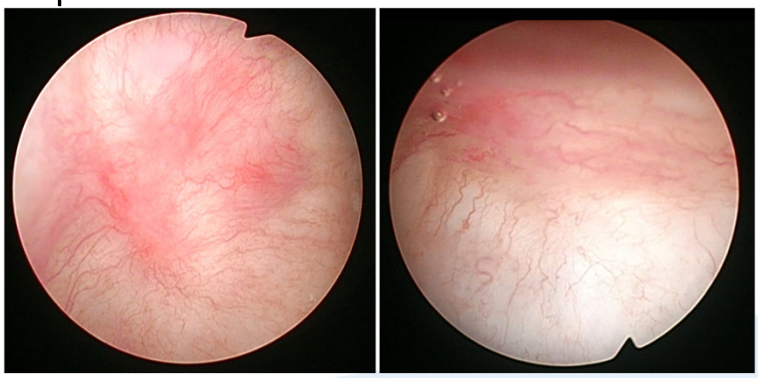
Q10: On cystoscopy you see this. The next best step is:



- Hydrodistend as planned
- Biopsy and fulgurate
- Inject with triamcinolone
- Cancel procedure and start cyclosporine

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Q11: The following acceptable advanced treatment of IC/PBS refractory to 3rd line is:

- BCG instillation of bladder
- Botulinum toxin injection of bladder
- Higher pressure hydrodistention
- Long term oral corticosteroids
- Long term oral antibiotics

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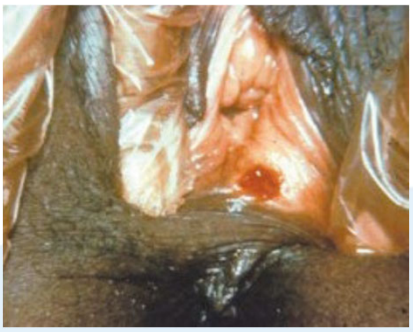
Q12: During pelvic exam you note an ulcer on the labia minora of a healthy 35 y/o female who was not aware of the lesion. The most likely diagnosis is:

- Granuloma Inguinale
- Chancroid
- Bechet's Disease
- Herpes
- Syphilis



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