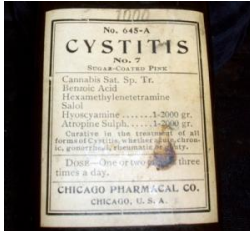


A Bridge over Troubled Waters (Cystitis Relief)

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AHG Conference Oct 16-19, 2015



This educational information is not meant to replace medical advice. Please consult your health care provider before self diagnosis or self treatment.

Class Overview:

- Bladder physiology / anatomy
- The role exercise; retraining bladder
- Preventive measures
- Herbal treatments
- Essential oil protocol

Cystitis is most prevalent in females

- Affects 20% of women
- More than 20% who develop infections have three or more recurrences per year
- Female infections more common due to a shorter urethra
 - allows *E coli* a shorter route to infection
- 80 percent of bladder infections are caused by the bacteria, *Escherichia coli*

UTI Causes

- Frequent sexual intercourse
- Antibiotic use
- Drinking large amounts of coffee, soda, carbonated/cafeinated beverages
- Excessive alcohol use
- Dehydration
- Pregnancy

Symptoms

- Burning with urination
- Frequent urges to urinate
- Unable to urinate w/urge
- Lower abdominal pain
- Smelly urine
- Cloudy urine

It is easy to mistake this for a yeast infection in the beginning stages

Severe Symptoms

- fever, chills
- low back pain
- blood in urine

Could be a kidney infection!

NOTE: incontinence is the 2nd leading cause of nursing home placement (behind dementia)

Interstitial Cystitis

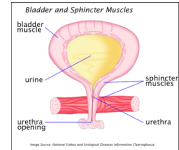
- New terms: Pelvic Pain Syndromes, Painful Bladder Syndrome, Pelvic Floor Dysfunction, etc.
- No known etiology - theories: autoimmune; injury, mast cell activation, bladder lining issues
- Use anti-inflammatory and mucilaginous herbs; avoid dietary irritants: citrus, tomatoes, alcohol, sugar, chocolate, coffee, carbonated drinks, etc.
- http://www.emedicinehealth.com/interstitial_cystitis/page2_em.htm
- <http://instituteofwomenshealth.com/wp-content/uploads/2013/01/Hudson-Challenging-Cases-IC-PCOS-Endom.pdf>

Bladder Physiology

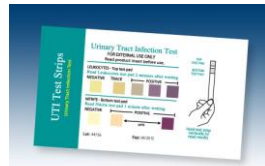
- 2 layers of pelvic floor muscles (urogenital and pelvic diaphragm) support the uterus, rectum and bladder
 - Consist of fast twitch fibers – squeeze and release; slow twitch fibers hold and maintain support.
- Volume capacity: 13-18 oz
- Urethra - estrogen dependent tissue
- Normal frequency: pee 5-8 x day
- Length of void: 10-13 seconds

Bladder anatomy

- Inhibition reflex – we have 1-2 reflexes for not peeing and 15 processes to enable urination
- Ureters: attach to bottom and back of bladder
- Urethra: no sphincter allowing bacterial entry; coaptation tissue opens and closes tube
- Trigone: most enervated area
- Detrusor: muscular layer in bladder – needs retraining



UTI Test Kits



Available at most drug stores

Types of incontinence

- Stress: Kegels will help 80% with bladder leakage
- Urge: spasms (drink more water)
- Overflow: full bladder with no message to pee
- True: no control; urine is released as it is made
- Detrusor instability: disease or trauma related to muscular issue (diabetes, MS, Parkinson's, etc.)

Prevention / good muscle tone are crucial with aging



Aging bladder

- Bladder capacity is diminished
- Quantity of urine that remains in the bladder is increased
- Bladder contractions become uninhibited
- Urge to urinate is delayed (most urine production occurs at rest)
- Overactive bladder syndrome causes the urgent need to urinate due to the spastic contraction of the smooth muscle which surrounds the bladder. This muscle —the detrusor muscle — contracts causing high bladder pressure and a strong urgency to urinate.

Kegel exercises

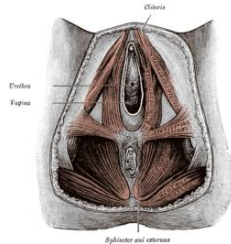
- Used to improve muscle tone by strengthening the pubococcygeus muscles of the pelvic floor
- Prevents pelvic prolapse and urinary incontinence
- Includes rectus abdominis muscles

4 Must-Know Facts about Kegel Exercises



Muscles of the female perineum (Urogenital triangle)

The trigone is the most enervated area of the bladder



- Exercise to fatigue
- Don't over do; hypertonic muscle can't relax
- Control exertion and relaxation
- Practice kegels in an elevator style; going down is just as important and going up
- Maintenance of muscle tone: daily practice

Exercise is Important

- Thigh master (uses adductor, abductor)
- Ball between thighs - squeeze
- When standing, lift from your pelvic floor
- Pilates / Yoga
- Glute lifts



The role of the brain in urination

- Neuroplasticity –urgency is a trained behavior that begins in the brain; retrain by extending time between toilet visits
- Behavioral training must be consistent and disciplined; if you can't pee for 8-10 seconds (at least 8 oz), it is a false urge
- Sleep resets the parasympathetic NS
- Stress management – high cortisol levels can damage tissue

Prevention

- NOTE: drink more water! Hypotonic bladder tissue is worsened with dehydration which promotes tissue atrophy and increases false urges
- Avoid douching and feminine hygiene sprays
- Avoid bar soap (alkaline) – liquid soaps are more likely to be pH balanced
- Practice good hygiene (wipe from front to back)
- Urinate before and after sex
- Avoid tight clothing
- Wear breathable, cotton underwear
- Take showers instead of baths



- No tampons - use pads
- Avoid citrus and acid foods, a better host for bacteria
- Avoid sodas, caffeine, alcohol
- Practice Super-Kegels
- Note – some allergic reactions and vaginal yeast infections may mimic symptoms; be sure you are treating properly
- Moxa to the kidney meridian (inner thigh to inside heel)



D-alpha-Mannose

- Bacterial adherence to mucosa allows a urinary tract infection to flourish
- D-Mannose has a high affinity to the bacteria lectins (glycoproteins) that are used to adhere to the urinary tract lining.
- This soluble sugar blocks the adhesion of the bacteria to the binding cells, discouraging colonization.
- 10 x more effective than cranberry

D-Mannose

- not metabolized like other carbs or sugars
- rapidly excreted by the kidneys
- doesn't kill friendly bacteria
- non toxic; bacteria won't become resistant
- safe for extended use for chronic sufferers
- safe for kids and pregnant women



Supporting Foods

cranberry
blueberry
parsley
garlic, onions
pumpkin seeds
celery
asparagus
melons, okra
burdock root
walnuts, flax



Fortifying Herbs

Wild greens; mushrooms, ginger, garlic, adaptogens



Aquaretics vs Diuretics

- Diuretics can lead to sodium loss through the urine, affecting electrolyte levels.
- Aquaretics increase blood flow to kidneys while retaining sodium and electrolytes.
- Aquaretics have the fluid draining benefit of a diuretic without risk.

http://www.academia.edu/1445140/Botanical_medicines_for_the_urinary_tract/
by Eric Yarnell

Herbal Support

Aquaretics

- Golden rod, lovage, parsley, horsetail, cleavers, dandelion leaf

Antimicrobials

- buchu, pipsissewa, uva ursi, juniper, echinacea, golden seal, Oregon grape

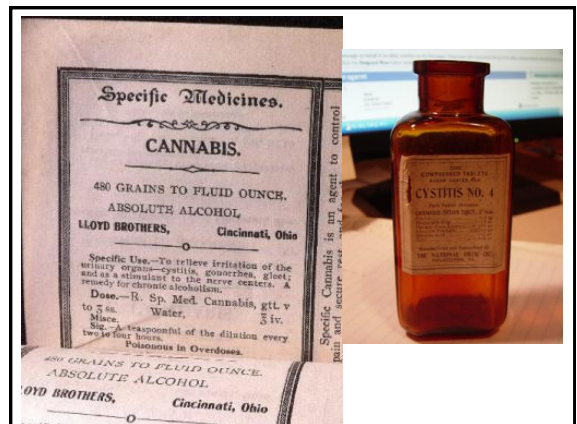
Antispasmodics

- kava

Demulcents

- hydrangea, nettle, sage, corn silk; licorice (DGL?), slippery elm, marshmallow, plantain

Infusion/decoction
drink 1 qt. per day (1/4 cup dried herb)



Tea blend, Tinctures, Juice

- Dandelion If
- Pipsessewa
- Cleavers
- Nettle
- Corn silk
- Marshmallow

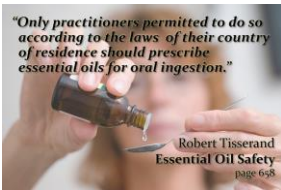


Supplements

- **Vitamin C** –1000 mg 4x per day (calcium or magnesium ascorbate is preferred over ascorbic acid) builds collagen, fascia and muscle fiber
- **Beta-carotene** - 25,000 IU per day (promotes tissue repair & immune function)
- **Zinc** - 30mg per day (tissue repair)
- **Bromelain** - 500mg, 3 times a day between meals (anti inflammatory; breaks down scar tissue)
- **Probiotics** (provides friendly bacteria)
- **Cranberry & Mannose** (prevent adhesion of bacteria to wall of ureter)

Oral Use of EO

- The oral use of essential oils is controversial
- EO quality is of utmost importance
- Dosage is critical
- Self medication requires extensive self education; seek expert advice



Toxicity and Safety issues

CONSIDER:

- ☐ Heroic or homeopathic doses and applications
 - ☐ Compress vs Live Embalming?
- ☐ Allergies; age; sensitivities, stressors
- ☐ Aromatherapy with antibiotics or other meds?

Range of Aromatherapy Practices

- US - palliative care
- Britain – massage
- Germany - phyto-pharmaceuticals
- France – MD/aromatherapists
- Access to oral aromatics
- Prescription medications



Routes of Application for EOs

- External
- Inhalation
- Vaginal
- Rectal
- Oral



Then



Now



Urinary comfort: 2 capsules three times daily with meals for 3 to 5 days.
With essential oils of: Moroccan Oregano, Greek Oregano, Basil, Peppermint, Winter Savory, Cinnamon.

CYSTITIS BLEND

Latin name	common	%	purpose
<i>Satureja montana</i>	winter savory	25	antiinflammatory
<i>Rosmarinus officianalis</i>	CT verbenone	25	liver cleansing
<i>Melaleuca alternifolia</i>	tea tree	15	immune modulating
<i>Salvia officinalis</i>	sage	10	anti bacterial
<i>Eucalyptus citriodora</i>	lemon euc	10	anti inflammatory
<i>Citrus aurantium</i> var. <i>amara</i> (leaf)	petitgrain	10	decongestant
<i>Mentha piperita</i>	peppermint	5	liver cleansing

Easy capping



Encapsulate

- fill empty capsule half (corn or gelatin) with carrier oil (olive, flax, *Nigella sativa*, etc.)
- add 2 drops of the EO blend; cap top
- store in a dry glass jar in fridge or freezer
- Individual drops may also be taken mixed with vegetable oil on spoon
- do not take EOs undiluted; don't take in water
- do not exceed recommended dosing

Dosage

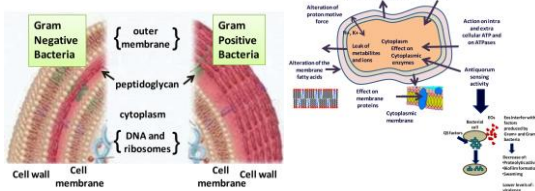
- GENERAL - Take 2 drops TID for the first 3 days. Take 2 drops BID for the next 7 days.
- CHRONIC - take 2 drops BID for 10 days (one capsule w 2 drops morning and night). One week break from use. Continue this dose for one week a month for 3 months.

Stress Resiliency

- Aromatic baths
- Meditation
- Quiet time
- Exercise/kegels
- No caffeine
- Uterine massage
- Acupuncture
- Bolus
- Electric stimulation
- Weights/jade eggs
- Biofeedback
- Fascia tissue release

Effectiveness of EOs on bacteria

Filomena Nazzaro, et al. Effect of Essential Oils on Pathogenic Bacteria. *Pharmaceuticals* **2013**, 6(12), 1451-1474.



<http://www.mdpi.com/1424-8247/6/12/1451/html>

Bactericidal efficacy of EOs

Gram Positive Bacteria

- more sensitive due to composition of cell envelope, mostly made of peptidoglycan allowing penetration of the cytoplasmic membrane, causing leakage of cytoplasm and coagulation
- inhibits synthesis of DNA, RNA, proteins in fungal and bacterial cells

Gram Negative Bacteria

- more resistant to penetrations from eos due to hydrophilic surface of outer membrane
- phenolic compounds (thymol, carvacrol) cause membrane damage
- Lemongrass, eucalyptus for *E. coli*

Essential Oil Bearing Grasses: The genus *Cymbopogon*
pp 168-180 Anand Akhila, ed. 2010. NY, CRC Press.

Antibiotic Resistant Bacteria

- Methicillin resistant *Staphylococcus aureus* (MRSA), *Shigella*, *E. Coli*

Essential oils have been clinically tested against these unresponsive bugs

Eucalyptus spp.

- Chemical composition of 8 eucalyptus species' essential oils and the evaluation of their antibacterial, antifungal and antiviral activities. [Elaissi A](#), et al. *BMC Complement Altern Med*. 2012 Jun 28;12:81. doi: 10.1186/1472-6882-12-81.

Ultrasonic diffusion - the most prophylactic health measure from a low dose delivery system; restores balance to the microbial population in your indoor environment

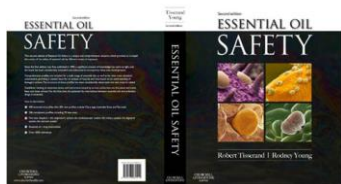
http://www.plantextractsinc.com/diffuser_about.php



Vaporizing EOs

Essential oil (EO) vapours have been known for their antimicrobial properties since the 4th century B.C.; however, it was not until the early 1960s that research into the potential of these volatile oils was explored. More recently, the use of EOs such as tea tree, bergamot, lavender and eucalyptus in vapour form has been shown to have antimicrobial effects against both bacteria and fungi, with range of methods being developed for dispersal and efficacy testing. Laird K., Phillips C. Vapour phase: a potential future use for essential oils as antimicrobials? *Letters in Applied Microbiology*. 54(3):169-74, 2012 Mar.

Toxicity and Safety Reference



Essential Oils Safety, a guide for health care professionals
by Robert Tisserand and Rodney Young

Book Resources

- Overcoming Bladder Disorders - Chalker, et al.
- Pelvic Power - Eric Franklin
- Beyond Kegels - Janet Hulme

