A Bridge over Troubled Waters
(Cystitis Relief)
Mindy Green
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 \textit{E coli} a shorter route to infection
• 80 percent of bladder infections are cased by the bacteria, \textit{Escherichia coli}

UTI Causes
• Frequent sexual intercourse
• Antibiotic use
• Drinking large amounts of coffee, soda, carbonated/caffeinated 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.
• \url{http://www.emedicinehealth.com/interstitial_cystitis/page2_em.htm}
• \url{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.)

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
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

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

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-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 lf
- Pipsissewa
- 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

- 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

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**CYSTITIS BLEND**

<table>
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<tr>
<th>Latin name</th>
<th>common</th>
<th>%</th>
<th>purpose</th>
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<tbody>
<tr>
<td><em>Satureja montana</em></td>
<td>winter savory</td>
<td>25</td>
<td>antiinflammatory</td>
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<tr>
<td><em>Rosmarinus officinalis</em></td>
<td>CT verbenaone</td>
<td>25</td>
<td>liver cleansing</td>
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<td><em>Melaleuca alternifolia</em></td>
<td>tea tree</td>
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<td><em>Salvia officinalis</em></td>
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<td><em>Eucalyptus citriodora</em></td>
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<td>anti inflammatory</td>
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<tr>
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<td>petitgrain</td>
<td>10</td>
<td>decongestant</td>
</tr>
<tr>
<td><em>Mentha piperita</em></td>
<td>peppermint</td>
<td>5</td>
<td>liver cleansing</td>
</tr>
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**Easy Capping**

- 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

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**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.

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**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


http://www.mdpi.com/1424-8247/6/12/1451/htm

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

Antibiotic Resistant Bacteria

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

Essential oils have been clinically tested against these unresponsive bugs

Eucalyptus spp.


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

Thank you