Complementary interventions in Menopause and Women’s Health

Dorothy (Dusti) Cleveland Pointer APRN, CNM
First of all…..

• First and for most – Over time, one cannot outpace the negative results of poor diet, exposure to toxins, stress, and lifestyle choices, which can contribute to common issues of menopause and gynecology. Whenever possible, also pursue root causes.

• I have no conflicts of interest to report. Any specific products mentioned are those mentioned from research studies, may be commonly used, or my personal opinion 2/2 to my thoughts concerning fewer added inert chemicals, and history and or reputation in the market place and usage by respected colleagues.
Objectives

• Upon completion of this session the nurse should--

• Understand some of the motivations among clients for the use of complementary therapies

• Understand classes of herbs used in complementary/alternative therapies

• Understand risks and benefits of discussed complementary substances

• Have and awareness of common delivery methods and common doses for alternative substances used in women’s health

• Find evidence based sources for herbal safety information

• Resources for additional provider and patient information
Globally, it is estimated that 70% of all health care is provided by traditional, NONconventional medicine.

50-80% of all Americans have used CAM therapies

Average USA CAM users are women 30-59, well educated with incomes>$50000/year

Desire prevention of chronic diseases via education, good nutrition, and safe nutritional supplements (also concerned with the safety of many pharmaceuticals)
Herbal substances classifications

- Herbs are classified differently than medications. Organizations such as the American Herbal Pharmacopoea (AHP or may be designated AHPA), the German Commission E, and the European Scientific Cooperative on Phytotherapy (ESCOP), and the World Health Organization (WHO) are respected organizations that evaluate herbal safety and produce monographs describing herbal safety.

- Classifications of herbs are based on the use of the herb itself being consumed (simple chart front of APH book). Use of these classifications still requires some knowledge, as to appropriate use in pregnancy and/or lactation, childhood, or specific disease processes.

- Note – herbals can often take longer to show results than a pharmaceutical product. Herbals are often “whole” products as opposed to isolating a particular compound which may block certain pathways to achieve the desired effect. This does not mean that herbs cannot have cautions or interfere with body processes or interact with medications. Ask patients what they are taking!
Herbal classifications

SAFETY AND INTERACTION CLASSIFICATIONS

Each of the herbs included in AHPA’s Botanical Safety Handbook, 2nd edition is classified into one or more Safety Class, and also into an Interaction Class. These classes are defined as described below. See pages xxiii–xxxvi for more information on these classifications, including lists of the criteria and considerations for inclusion in each particular class.

SAFETY CLASSES

Class 1. Herbs that can be safely consumed when used appropriately.
Class 2. Herbs for which the following use restrictions apply, unless otherwise directed by an expert qualified in the use of the described substance:
   - 2a: For external use only;
   - 2b: Not to be used during pregnancy;
   - 2c: Not to be used while nursing;
   - 2d: Other specific use restrictions as noted.
Class 3. Herbs to be used only under the supervision of a qualified expert. Specific labeling is recommended for Class 3 herbs (see page xxii).

INTERACTION CLASSES

Class A. Herbs for which no clinically relevant interactions are expected.
Class B. Herbs for which clinically relevant interactions are biologically plausible.
Class C. Herbs for which clinically relevant interactions are known to occur.
Important to remember

- Except for nourishing herbs (e.g., nettle, chamomile, yellow dock, dandelion, milk thistle, etc.), which may be consumed daily in reasonable proportions, medicinal herbs should be thought of as “medicine,”

- Herbs can interact with medications or other herbs and supplements and cause problems – even natural substances can cause problems

- Hemlock anyone?
Plan

- The goal of herbal medicines is symptomatic relief, help with bone repair, help prevent CVD, help prevent breast cancer, and help prevent incontinence and vaginal symptoms. This is most often accomplished by nourishing the body.

- TCM – Traditional Chinese Medicine supports the use of nourishing infusions to support the liver (related to sweats, hot flashes, insomnia, mood swings)
  Examples of nourishing herbs. Dandelion, yellow dock, burdock root, mother wort, dong quai.
Examples

- Phytoestrogens – weakly activate estrogen receptors examples legumes, roots, help prevent osteoporosis (caution with ER+ breast cancers)
- Nourishing teas and vinegars
Examples

- High Calcium tea infusion
  - 1 oz nettle
  - 1 oz red raspberry leaf
  - ½ oz alfalfa
  - 1/8 oz slippery elm
  - Place ¼ oz of the mix in 1 pint boiling water and steep for 1 hour. Sweeten to taste

- Nourishing vinegar Hi Ca
  - 1oz each nettle, RRL, alfalfa and place in qt jar
  - Add chopped dandelion greens, a spring of fresh rosemary and 2-4 cloves of chopped garlic.
  - Add 2 cups apple cider vinegar, making sure all the herbs are covered by at least on inch of vinegar.
  - Let sit for 2 weeks, shaking jar daily.
  - After two weeks, strain and bottle vinegar and keep in the fridge
  - Use as a dressing- 1 tbl per day
Menopause

- Impacts 25 million women worldwide each year with an estimated 1.2 billion women to be postmenopausal by 2030!
- The permanent end of menstruation and fertility, defined as occurring 12 months after your last menstrual cycle.
- Hormone response is different for each woman
- Age 45-60 years old. Average age in the US is 51.
- A woman may live half of her life without a menstrual period
- Cycling after the age of 55 increases a woman’s risk of breast cancer
Menopause

- Three phases: perimenopause, menopause, and postmenopause.

- Perimenopause refers to the period before the cessation of menses. This phase typically last 2-8 years, although some sources say 6-13 years. Cycles of regular ovulation and menses become irregular prior to terminating, which is a natural result of declining hormone levels. This phase lasts until one year after the cessation of menstruation.

- Menopause – the complete termination of menstrual bleeding in the absence of another cause of amenorrhea. This indicates that reproductive capabilities have ceased.

- Post menopause is the time after the complete cessation of menses
Perimenopause

- Peri-menopause can last 6-13 years
- Erratic cycles
- Time of emotional transition
- It can be difficult to distinguish the hormonally based symptoms of peri menopause from more general changes due to aging or common midlife events such as children leaving home, changes in relationships or careers, or the death or illness of parents.
- Affected by stress
- Affected by diet and lifestyle
- Women have different patterns of perimenopausal symptoms
• The joy of menopause is the world’s best-kept secret. Like venturing through the gateway to enter an ancient temple, in order to claim that joy a woman must be willing to pass beyond the monsters who guard its gate… as thousands as thousands of women from all cultures throughout history have whispered to each other, it is the most exciting passage a woman ever makes.
Peri>>>post menopause: Lifestyle and diet considerations:

- Regular exercise
- Stress management
- Weight management
- Dietary considerations:
  - Reduce intake of alcohol, caffeine, salt, sugar, refined carbohydrates, dairy and animal protein
  - Increase intake of fruits, vegetables, legumes, nuts, seeds, fish, and flax
Hot Flashes and Night Sweats (vasomotor symptoms)

- Frequency around the world. Women of different ethnic backgrounds or other countries may report fewer vasomotor symptoms. By race, black >>> white >>> Asian

- Risk factors for vasomotor symptoms
  - Stress
  - Sleep disturbances
  - Becomes a vicious circle
General survival tips

- Avoid triggers that may exacerbate hot flashes: alcohol, caffeine, sugar, spicy food, hot food. Some may find that reducing sugars or foods that have a higher glycemic load may reduce vasomotor symptoms, hot showers, smoking
- Dress in layers
- Wear natural, breathable fibers such as cotton
- Wear loose-fitting clothing
- Sip on cool beverages throughout the day
- Sleep in cotton sheets
- Moderate exercise may help diminish hot flashes. Vigorous may exacerbate
Why they happen

- Declining estrogen levels decrease serotonin receptor sensitivity, contributing to temperature regulation changes and hot flashes. This can partly explain why SSRIs may help alleviate hot flashes for women.
Interventions

• Many women are given prescriptions for HRT.
• Of those who receive Rx, 1/3 will not fill it.
• Of those who DO fill it, a majority will stop shortly 2/2 to side effects.
Progesterone
- women may purchase topical

- Functions -

- Some studies indicate it will promote sleep patterns (calming effect on the brain/GABA receptors) Reduces cholesterol, Inhibits coronary vasospasm. Protects against coronary hyper-reactivity, Diuretic, Promotes glucose utilization and improves insulin resistance, May support mood. Promotes osteoblasts. Promotes cell differentiation, Promotes normal cell death (apoptosis), reduces hot flashes
Progesterone availability

- OTC transdermal progesterone – not progestins (400mg progesterone USP/oz). 20 mg per day is a common dose.

- Wild yam does cream does not contain progesterone, although progesterone can be manufactured from wild yam though a series of laboratory processes. If the product does not say progesterone USP, it isn’t there.
<table>
<thead>
<tr>
<th>Progesterone</th>
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<tbody>
<tr>
<td>• Available from essential oil companies as an oil</td>
</tr>
<tr>
<td>• Available in vaginal suppositories, one in combination with DHEA (similar to Intrarosa), called Happy Hoohoo!</td>
</tr>
<tr>
<td>• (I communicated with the Doctor who runs this practice who loves APRNs)</td>
</tr>
</tbody>
</table>
Herbal interventions

- Black cohosh (*actaea racemosa or cimicifuga racemosa*) [2B] (previously considered phytoestrogen – now believed to affect neurotransmitters, dopamine, and serotonin). German Commission E for premenstrual discomfort, dysmenohhea, climacteric neurovegetative complains.

- (Remifemin has been used in studies- 4 pills per day) Approved by the German Commission E

- Typical dose 40-80mg per day. Can go up higher temporarily. Not routinely used on a long term basis, 6-12 months typically. Some studies show black cohosh to be protective in breast cancer as well as reducing treatment induced menopausal symptoms. Of course, review with oncologist before using. Side effects – occasional GI,. Symptoms of overdose, vertigo, impaired vision.

- rare reports of hepatotoxicity, with persons also taking potential hepatotoxic medications. Not appropriate in pregnancy
Herbal interventions

- Dong quai (*angelica sinensis*) [1c] (serotonergic activity) for vasomotor complaints, breast pain. 5-15 ml tincture. caution – may inhibit platelet aggregation. Not appropriate in pregnancy.

- Red clover (*trifolium pratense*) [1A] (SERM, hot flashes) phytoestrogen. No changes to endometrial thickness. Increases in HDLC. May reduce CVD risk by increasing arterial elasticity. 3-5 grams per day divided (40-80mg isoflavones). Promensil used in some studies. Not appropriate in pregnancy 2/2 to estrogenic properties.

- Soy* (*glycine max*) (SERM). Many studies related to the benefits of soy are from the Orient in which FERMENTED soy – increased genistein (natto miso, tempeh) are consumed regularly and in modest quantities. It appears that a cup of soy milk is OK and does not present problems. Soy supplements are not associated with benefit (isolates, etc), just FOOD.
Herbal interventions

- Hops (*humulus lupulus*) [1a](SERM, hot flashes, additionally for restlessness and sleep disturbances) 120-300mg. Avoid in pregnancy 2/2 estrogenic activity.

- Maca (*maca peruvianum*). Eaten regularly as a food. Used in fertility. Action does not appear to be hormonal, but plant sterols may stimulate the HPA axis and there by affecting other glands. (so acts more like an adaptogen) May help improve general menopause symptoms. Gelatinized extract 1000mg BID or equivalent to 3500 dried maca root daily. Products by Femmenessence were used for one study.

- Sage(*Salvia officinalis*) [2b,2d](Estrogenic, anhidrotic, carminative/spasmolytic) For hot flashes. Can prepare a spritzer for aromatherapy or body mist. 3-12 g/day dried leaf prepared as a tea. Note: unsafe in pregnancy abortifacient except in small culinary doses, also inhibits lactation.
Herbal interventions

- Common adaptogens – might be the best overall herbs!

- Ashwagandha (*withania somnifera*) [L1] tincture/extract, capsules, 300-500mg with meals. Take at breakfast if taking all at once. Tonic, Anxiolytic, antidepressant, insomnia, fatigue, irritability, immune system support, anti-inflammatory, thyroid support, energy. May also have hematopoetic effects.

- Eluthero (*eleutherococcus senticosus*) [L1] (previously known as Siberian Ginseng) tincture/extract, capsules .5 -4 grams per day. Tonic, Anxiolytic, anti-inflammatory, antidepressant, sleep, fatigue, immune system support, energy

- Ginseng (*panax ginseng*) [L1/L2] 200-400mg, although as low as 40mg may be bioactive. Antidepressant, anxiolytic, thyroid support, immune support, energy
Nutrient interventions

- Vitamin C 1200mg + hesperidin 900 mg study at the end of 30 days hot flashes relieved in 53% and reduced in 34%
- Omega 3s – fish oils EPA+DHA 1-3 grams decreased hot flashes
Memory issues

Bacopa (*bacopa monnieri*) [1A] (depression, emotional stress, mental exhaustion, forgetfulness, anxiety) 4-7ml/day animal studies – large doses (250mg/kg) decreased sperm count and viability, reversed when stopped. Mild GI s/e

Ashwagandha

Rosemary (aromatherapy) increase alertness, decrease anxiety, increase cognition and memory
Memory issues

- Ginkgo Ginkgo (ginkgo biloba)\[1b\] (depression) Considered “safe and effective” by the German Commission E for treatment of cerebral insufficiency. May help those who have not responded to pharmaceutical therapy. Improves cognition
  - 40-80mg TID, standardized to 24% gingko flavonglycosides and 6% terpenoids.
  - General response in 2-3 weeks, but may take up to 3 months for full effects.
  - Caution- antiplatelet effect possible. Caution in those taking anticoagulant therapy. Discontinue 2 weeks before scheduled surgery. May interact with seizure medications. No developmental issues seen in animal studies, but is considered contraindicated in pregnancy, likely due to the antiplatelet potential
## Insomnia

<table>
<thead>
<tr>
<th>Sleep onset insomnia</th>
<th>Sleep maintenance insomnia</th>
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<tbody>
<tr>
<td>Anxiety/tension</td>
<td>Depression</td>
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<td>Environmental change</td>
<td>Environmental change</td>
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<tr>
<td>Emotional arousal</td>
<td>Sleep apnea</td>
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<tr>
<td>Fear of insomnia</td>
<td>Cramping</td>
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<td>Phobia of sleep</td>
<td>GERD</td>
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<td>Pain/discomfort</td>
<td>Hypoglycemia</td>
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<td>Caffeine</td>
<td>Parasomnias</td>
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<td>drugs</td>
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<td>ETOH</td>
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<td>nocturia</td>
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<tr>
<td>Medications that can interfere with deep or REM sleep</td>
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<td>-------------------------------------------------------</td>
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<td>- ETOH</td>
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<td>- Antiarrhythmics</td>
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<td>- Anticonvulsants</td>
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<td>- Antihistamines</td>
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<td>- Appetite suppressants</td>
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<td>- Benzodiazepines</td>
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<td>- Bronchodilators</td>
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<td>- Caffeine</td>
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<td>- Carbidopa/levodopa</td>
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<td>- Corticosteroids</td>
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<td>- Diuretics</td>
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<td>- Decongestants</td>
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<td>- Estrogen</td>
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<td>- Lipophilic beta blockers (propranolol, metopralol)</td>
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<td>- MAOIs</td>
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<tr>
<td>- Nicotine</td>
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<td>- Pseudoephedrine</td>
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<td>- SSRIs</td>
<td></td>
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<tr>
<td>- Sedatives</td>
<td></td>
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<tr>
<td>- Statins</td>
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</tbody>
</table>
Medications that can interfere with deep or REM sleep

- Sympathomimetics (e.g., albuterol, salmeterol, epinephrine, phenylephrine)
- Tetrahydrozoline (eye drops, nasal sprays)
- Thyroid hormones
- Tricyclic antidepressants
OTC agents for insomnia

- Diphenhydramine 50mg (may have paradoxical reaction)
- Doxylamine 12.5-25mg q HS
- Side effects - daytime drowsiness, dry mouth, blurred vision, constipation and urinary retention and can interfere with sleep cycle
Melatonin

Synthesized from tryptophan via 5-HTP and serotonin. A neurohormone whose production is inhibited during the day by exposure to the blue wavelength of light. Production is disinhibited by dim light and darkness. Regulates circadian rhythms, mediates sleep and dreaming, decreases nocturnal body temperature and has anti-inflammatory, immune modulating and free-radical scavenging effects + oncostatic properties.

Production can be suppressed by common substances – nicotine, caffeine, beta blockers, calcium channel blockers, and OTC analgesics. (THC has been shown to increase endogenous melatonin by up to 400% -- perhaps this is what precipitates “the nods”) Extremely high doses 50mg can dramatically increase REM sleep and dreams

Beneficial effects -- improved sleep onset latency, total sleep time, and sleep efficiency (sleep efficiency = total time spent asleep / time spent in bed; lower than 85% is considered problematic).

Recommended dosages vary. Theoretically the body produces 0.3-0.5mg of endogenous melatonin. 2-5mg is typically recommended for exogenous melatonin. 20mg is a typical dosage recommended for those in cancer or post cancer therapy.

Sublingual doses avoid the 1st pass effect. Cautions - avoid in pregnancy 2/2 to estrogenic suppression
Herbal interventions

<table>
<thead>
<tr>
<th>HERB</th>
<th>RANK</th>
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</thead>
<tbody>
<tr>
<td>California poppy</td>
<td>1 to 3</td>
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<tr>
<td>Hops</td>
<td>2 to 5</td>
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<tr>
<td>Lavender</td>
<td>1</td>
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<tr>
<td>Chamomile</td>
<td>1</td>
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<tr>
<td>Lemon balm</td>
<td>1</td>
</tr>
<tr>
<td>Motherwort</td>
<td>1 to 3</td>
</tr>
<tr>
<td>Passion flower</td>
<td>1 to 4</td>
</tr>
<tr>
<td>Kava kava</td>
<td>2 to 5</td>
</tr>
<tr>
<td>Skullcap</td>
<td>1 to 3</td>
</tr>
<tr>
<td>Valerian</td>
<td>2 to 4</td>
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</tbody>
</table>

These herbs are ranked on a scale of 1 to 5. A 1 denotes general relaxation that facilitates sleep rather than sedation (tranquilization), whereas a 5 is a hypnotic. The range in between denotes sedation. A range suggests that the effects of the herb are dose dependent.
Herbal interventions

- Valerian (sedative, hypnotic, anxiolytic).[1b] May need repeated doses. Starting 1-2 hours before bed and reaching full benefit may take a few days to weeks.
- 300-900mg (standard extract 0.8% valerenic acid)
- Dried root (or as tea) – 2-3 g, steeped 10-20 min
- Tincture (1:5) – 4–6 ml (1–1.5 tsp), Fluid extract (1:1) – 1–2 ml (0.5–1 tsp)
- Cautions – caution in pregnancy and in those with a history of liver disease. Up to 10% may have paradoxical response
Insomnia Herbal interventions

- Lemon balm (*Melissa officinalis*) [1A] relaxant, antidepressant, cholagogue, supports the cardiovascular system, antiviral, antimicrobial) tea, capsules, tincture, extract. Theoretical concerns with TSH binding impairment. Studies lacking to show this. Caution in those with thyroid issues.

- Hops (*humulus lupulus*) [1a] (sedative, hypnotic, spasmolytic, estrogenic) German Commission E approved to treat insomnia. Can combine with other herbal sleep remedies. May also help with hot flashes. 0.5-2 grams/2-4x day, tincture 1-2ml/TID, extract 0.5-3ml/TID. Caution - Potential estrogenic activity (SERM) avoid in pregnancy. Made from barley. May wish to avoid if gluten issues.
Insomnia Herbal interventions

- Ashwagandha – *withanina somnifera*

- German chamomile (*matricaria chamomilla or recutita*)[1](#) (anti-inflammatory, spasmolytic, bitter, carminative, nervine relaxant, anxiolytic, uterine spasmolytic) typically taken as a tea, but may also be a tincture, or extract

- Kava (*piper methysticum*) [2](#) (use acutely) has been used to treat GAD in the USA and Europe. Action similar to benzodiazepines. Action may be via limbic system. 50-70 mg kavalactones TID. (extract 3-6ml per day) Reports of hepatotoxicity have caused concern. However, out of 70 million doses given per year in Germany 82 cases were reported, and after review, 12 of them were deemed likely probably. Excessive use may result in yellowing of the skin in those taking around 6 grams per day. Caution if taking other substances that affect the liver (ETOH, APA, etc), as well as benzodiazepines. Contraindicated in pregnancy.
Insomnia herbal interventions

Lifestyle

- Reduce body noise (other sleep issues, depression, chronic pain)
- Manage s/e of medication
- Manage ETOH and caffeine use
- Manage symptoms of women’s health issues
- Sleep hygiene
- Relaxation practices
- Monitor food/substance contributors
- Regulate circadian rhythms (dim lights in the evening, use blue blocker technology 1-2hr before sleep, sleep in dark room, exposure to morning light)
Heart Palpitations

• Common among otherwise healthy peri/postmenopausal women, although cardiac and thyroid issues should be ruled out

• Lemon Balm

• Motherwort

• Black cohosh

• Hawthorn (*crataegus spp*)[1A] (cardiotonic, antihypertensive, peripheral vasodilator) cardiac insufficiency, heart palpitations with anxiety, general nervousness, HTN, tachycardia, CHF, asthma. Tea 0.3-1g/TID, tincture 1-2ml/TID. No S/E with berries. Leaves: occasional GI, HA, dizziness, agitation
Depression

- Note: estrogen has a modulating effect on serotonin, dopamine, and possibly norepinephrine. As estrogen decreases, neurotransmitters may be affected
- Midlife changes can present new challenges
- As women age, they are more likely to have chronic issues. Nutritional and lifestyle issues likely contribute. Nutritional deficiencies can contribute
### Nutritional deficiencies/malabsorption

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>NT-proBNP (pg/mL)\protect\textsuperscript{x}</td>
<td>8</td>
<td>&gt; 449, 125 - 449, &lt; 125</td>
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<tr>
<td>25-hydroxy-Vitamin D (ng/mL)\protect\textsuperscript{y}</td>
<td>84</td>
<td>&lt; 20, 20 - 29, 30 - 100</td>
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<tr>
<td>TSH (μIU/mL)\protect\textsuperscript{y}</td>
<td>8.67</td>
<td>&lt; 0.27 or &gt; 4.20, 0.27 - 4.20</td>
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<tr>
<td>Homocysteine (μmol/L)\protect\textsuperscript{y}</td>
<td>11</td>
<td>&gt; 13, 11 - 13, &lt; 11</td>
</tr>
<tr>
<td>Vitamin B\textsubscript{12} (pg/mL)\protect\textsuperscript{z}</td>
<td>913</td>
<td>&lt; 232, 232 - 400, &gt; 400</td>
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<tr>
<td>RBC Folate (ng/mL)\protect\textsuperscript{y}</td>
<td>1421</td>
<td>&lt; 700, 700 - 750, &gt; 750</td>
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<tr>
<td>CoQ10 (μg/mL)\protect\textsuperscript{z}</td>
<td>2.97</td>
<td>&lt; 0.51, 0.51 - 0.73, &gt; 0.73</td>
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<tr>
<td>Cystatin C (mg/L)\protect\textsuperscript{y}</td>
<td>0.87</td>
<td>≥ 1.16, 1.05 - 1.15, ≤ 1.04</td>
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<tr>
<td>Creatinine, serum (mg/dL)\protect\textsuperscript{y}</td>
<td>1.3</td>
<td>&gt; 1.2, 0.7 - 1.2</td>
</tr>
</tbody>
</table>

TSH is analyzed using reagents from Roche Diagnostics by electrochemiluminescence immunoassay. These values should not be used in conjunction with values from other reagent manufacturers or methods.
Nutrition malabsorption
### Patient B

<table>
<thead>
<tr>
<th>Metabolic</th>
<th>&lt; 0.01</th>
<th>&lt; 0.27 or &gt; 4.20</th>
<th>0.27 - 4.20</th>
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</thead>
<tbody>
<tr>
<td>Homocysteine (µmol/L)</td>
<td>7</td>
<td>&gt; 13</td>
<td>11 - 13</td>
</tr>
<tr>
<td>Vitamin B₁₂ (pg/mL)</td>
<td>&gt; 2000</td>
<td>&lt; 232</td>
<td>232 - 400</td>
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<td>RBC Folate (ng/mL)</td>
<td>&gt; 1578</td>
<td>&lt; 700</td>
<td>700 - 750</td>
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<tr>
<td>CoQ10 (µg/mL)</td>
<td>3.48</td>
<td>&lt; 0.51</td>
<td>0.51 - 0.73</td>
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</table>

<table>
<thead>
<tr>
<th>Renal</th>
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<tbody>
<tr>
<td>Cystatin C (mg/L)</td>
<td>0.82</td>
<td>≥ 1.16</td>
<td>1.05 - 1.15</td>
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<tr>
<td>Creatinine, serum (mg/dL)</td>
<td>0.7</td>
<td>&gt; 0.9</td>
<td>0.5 - 0.9</td>
</tr>
</tbody>
</table>

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Patient B

B Complex Vitamins

- Vitamin B1 (Thiamin)
- Vitamin B2 (Riboflavin)
- Vitamin B3 (Niacinamide)
- Vitamin B6 (Pyridoxine)
- Vitamin B12 (Cobalamin)
- Folate
- Pantothenate
- Biotin
Nutrient interventions
Omega 3s

Some suggest that if we adjust our omega3:omega 6 balance (which is often skewed with our western diets) depressive symptoms will improve.

EPA is a potent anti-inflammatory. EPA has shown to be more effective than DHA for mood. DHA contributes to fluidity of cell membranes. DHA plays a vital role in the structure and function of the brain and is a significant component of nerve cells and myelin.

1-6 grams per day. EPA+DHA = appropriate omega 3 count. Suggest at least 1 gram of EPA per day for mood support.

Plant sources – flax (freshly ground), chia, walnuts, brussel sprouts, hemp seeds, perilla oil (used in oriental cooking). Seaweeds, algal oil (only plant form of DHA/EPA). Note: plant sources of omega 3s typically are in the form of alpha linolenic acid. This must be converted by the body to EPA/DHA. The body isn’t very efficient at this, so may need much higher quantities, particularly for mood issues. In healthy young women, approximately 21% of dietary ALA is converted to EPA and 9% is converted to DHA. Better conversion assumed to be related to estrogen, so would likely lose this benefit as we age.

Higher doses above 3 grams may have blood thinning effects.
Nutritional interventions

• B vitamins -- important in manufacture of neurotransmitters. Decreased absorption as we age. B complex 100mg as treatment

• Folic acid – 800mcg (doses of 5-20mg have been used in studies) some concern with altered sleep patterns, GI disturbances, and increased cancer risk with high doses

• Selenium - needed for thyroid functioning. Can check RBC selenium for status. No more than 200mcg/d total unless monitoring closely. Doses above 800mcg/d over time can be very toxic

• Vitamin D – Not sure whether low vitamin D is contributing to depression or a result of depression, but it is a co factor for some neurotransmitter. Check levels when possible. Conservatively 1000-2000iu (25-50mcg). May need more depending on current level and body habitus.
# Common Medications Associated with Depression

- Muscle relaxers
- NSAIDS
- Ca Channel Blockers
- ACEIs
- Metformin
- Statins
- PPIs
- methotrexate
- Tamoxifen/reloxifene
- Vaccinations
- nexplanon
- Acyclovir
- ondansetron
Herbal interventions

• St John’s Wort – (*hypericum perforatum*) [2d] #1 medication prescribed in Germany for depression. Effective as many other medications for mild to moderate depression and better than placebo for major depression. 300mg TID, standardized to a minimum of 2-5% hyperforin or 0.3% hypericin. May also help decrease hot flashes.

• Side effects – typically less than pharmaceuticals, but can include GI upset, allergic reaction, fatigue, dry mouth, restlessness, constipation, sexual side effects.

• Caution – SJW can activate the CYP 450 3A4 detox system in the liver and so reduce the level of drugs metabolized by this pathway – examples -- antiretrovirals, warfarin, cyclosporine, and OCPs
Herbal interventions

- Black cohosh
- Gingko
- Rosemary, citrus aromatherapy
- Ashwagandah
- eleuthero
Supplemental interventions

- **SAMe** as effective as tricyclic antidepressants. Boosts neurotransmitters. More rapid onset of benefit than SSRIs. May be beneficial to SSRI non responders. Common dosage 400-1200mg per day. Suggested start to take 30 minutes before breakfast and lunch and titrate up needed from there, increasing every 3-5 days. Cautions - It is suggested to avoid taking with dinner to avoid possible sleep disturbances. Not appropriate for Bipolar patients. S/E GI, agitation, insomnia. Has been taken by pregnant women in the 3rd trimester for cholestasis. Studies show no harm to fetus or mother, but since most cases of cholestasis are not apparent until the third trimester, there is no safety data. (not as effective as ursodiol on its own for cholestasis, but together has synergistic effects)

- **5-HTP** (hydroxytryptophan) used for depression, anxiety and insomnia. Data are mixed. Concerns with the potential contaminant “peak X” causing symptoms similar to eosinophilia myalgia syndrome. Do not take with other serotonin agonists to avoid serotonin syndrome. For depression usual dosage 100-200mg TID, (enteric coated suggested), 20 minutes before meals.
Lifestyle

- Remove causative factors as much as possible
- Review current meds-supplements to determine if they could be contributing to symptoms.
- Whole foods-low processed foods diet (Mediterranean or autoimmune style) low in refined carbohydrates and alcohol, rich in omega 3s,
Anxiety

- Many interventions are similar to those for depression.
- Adequate Omega 3s, B vitamins (age, medications, and replacement estrogen may contribute to depletion), 5-HTP
- L-theanine - potential strength to relieve mental and physical stress, improve cognition, boost mood, provide relaxation. 200-400mg daily present in green tea
Lifestyle

- Maximize nutrition (whole foods diet, minimize processed carbs and caffeine, ETOH)
- Regular exercise
- Mind body exercise to enhance relaxation response
- Journal: keep a “feeling inventory” and enhance self awareness
- Limit electronic devices. Do not keep next to the bed. Some are sensitive to EMF
- Get enough sleep
Vaginal dryness

- A reduction in lubrication of the vagina
- Can occur at any age prevalence 13-31% and higher in postmenopausal women 50% and women treated for BC 63%
- Vaginal atrophy (atrophic vaginitis) is inflammation of the vagina and outer urinary tract, associated with thinning, shrinking, and decreased lubrication 43% of postmenopausal women have vaginal atrophy.
Physiology-

- Vaginal lubrication consists of ultra filtered blood – depends on healthy blood flow.

- The vagina has no glands.

- Blood pressure pushes fluid from the capillaries through the intercellular gap junctions between vaginal epithelial cells, is composed mostly of water and small proteins that combine at the vaginal surface with dead epithelial cells.

- Sufficient blood flow depends on the availability of nitric oxide (NO), which is produced in the capillary endothelia in response to increased blood flow. The process of producing NO is enhanced by steroid hormones, estrogen in particular. Metabolic conditions of low inflammation also support the bioavailability of NO in facilitating vaginal lubrication.

- Decreased estrogen results in decreased cellular renewal, decreased collagen, and tighter intercellular junctions and decreased repair capacity.

- Mature vaginal epithelial cells produce glycogen, which provides nutrition for the lactobacillus spp, which release H2O2. With fewer epithelial cells there is less glycogen produced so fewer lactobacilli and vaginal pH increases.

- Note: Exercise helps get blood flow to the area!!!!!
Risk factors

• Reduced estrogen – postpartum/breastfeeding, menopause, premature ovarian failure

• Oophorectomy, pelvic radiotherapy

• Other medical conditions – untreated HTN, DM, metabolic syndrome, pituitary disorders, neuropathies, dermatoses (psoriasis, lichen sclerosis, Sjogren syndrome – note these are all autoimmune diseases and are highly inflammatory)

• Medications – antihistamines, decongestants, antidepressants, antiestrogen therapy for chemoprophylaxis, endometriosis, fibroids, chemotherapy, diuretics, progesterone dominant OCPs

• Behaviors – dehydration, ETOH use, douches, extremely hot baths, strong detergents and dehydrating soaps, use of highly absorbent tampons, condom use with insufficient external lubricant, lack of sufficient arousal before vaginal penetration, smoking
Topical lubrication

- Topical lubricants – goal is to increase moisture content and seal moisture in
- OTCs that do both – KY- Silk E, Liquid Silk, Maximus, Pink (Victoria’s Secret), Replens, Sliquid Organics Silk (organic botanicals, paraben free)
- DHEA/progesterone suppositories – Happy hoohoo, Rx Prasterone. No increase in endometrial thickness or elevated estrogen levels
Herbals

- Topicals -
- ST Johns wort (topical vulnerary, emollient)
- Calendula (topical vulnerary, emollient)
- Lavender (topical vulnerary, emollient)
<table>
<thead>
<tr>
<th>Herbals consumed</th>
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<tbody>
<tr>
<td>Black cohosh</td>
</tr>
<tr>
<td>Dong qui</td>
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<tr>
<td>Red clover</td>
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<tr>
<td>Wild yam</td>
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<td>Ginseng</td>
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<td>Gingko Biloba</td>
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<tr>
<td>Soy</td>
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<tr>
<td>Hops</td>
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<tr>
<td>Flax seeds</td>
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</tbody>
</table>
Nutritive

Vitamin E (emollient, antiinflammatory) Vitamin E – 400-800IU per day (most may use higher dose for awhile, but should reduce to 400IU per day when symptoms improve) to decrease inflammation

Vitamin D (helps with NO production and bioavailability) 2000IU (50mcg) – may need more depending on level – aim for 60ng/mL for post menopausal women (may need cofactors – cal/mag/k for synergy)

Calcium citrate (extracellular calcium to support NO production) 250mg

Omega 3s – (assist in absorption of D and calcium, anti-inflammatory) 2-4 grams per day (high doses potential for anticoagulant activity)

Essential fatty acids – Flax seeds (ground) 45 grams,, GLA from EPO 2000-4000mg. These decrease inflammation and promote tissue integrity

Vitamin A – 3000-10000 per day. Reduce to 3000-5000 when symptoms improve) Note. Carotenes from foods (or supplements are NOT vitamin A. One cannot overdose on carotenes. They are precursors. The body must convert. Many not efficient at this process, so higher amounts are needed. Isolated beta carotene as a supplement can have adverse effects over time. Opt for mixed carotenes if supplementing. Better yet, eat real food!! Examples - Sweet potatoes, carrots, peppers
Heavy Bleeding (perimenopause)

- 50% of DUB occur in women 40-59
- anovulation -- likely scenario active follicles do not secrete sufficient estrogen to trigger LH surge and corpus luteum formation.
- Other common reasons for anovulation excessive estrogen xenoestrogens, hyper prolactinemia, PCOS, thyroid abnormalities, prostaglandin metabolism
- Structural issues – fibroids, polyps
- Vitamin K (low intake, impaired absorption, antimicrobial inhibition of gut bacteria that synthesize vitamin K)
Herbal interventions

Chaste tree (*vitex agnus castus*) [1A] (hormone modulation) works on the hypothalamus and pituitary. Encourages LH production. not fast acting. Also helps with mastalgia. May take 2-4 cycles to see results. 175-500 mg daily or 2-4 ml extract.

Black cohosh

Dong quai

Ginger - inhibit prostaglandin synthase, anti-inflammatory

Ashwagandha (adaptogen, improve HPA axis function, nutritive)
<table>
<thead>
<tr>
<th>herbals</th>
<th>Yarrow (astringent, antihemorrhagic antispasmodic). Not appropriate internally in pregnancy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Shepherd’s purse (astringent, antihemorrhagic) not appropriate internally in pregnancy</td>
</tr>
</tbody>
</table>
Nutritive support

- Vitamin C – helps with capillary fragility, especially when combined with bioflavonoids 1200-1500, bioflavonoids 900-1000.
- Vitamin E – antioxidant, anti-inflammatory, affects prostaglandin metabolism
- 400IU d alpha tocopherol (mixed tocopherols OK, too)
- B complex – correlation between B deficiencies and menorrhagia (liver unable to inactivate estrogen) b complex 100mg
- Chlorophyll 1-2 Tbl daily if low ferritin
- EFAs – menorrhagia associated with increased arachidonic acid in the uterus. Dietary omega 6s contribute.
Dysmenorrhea

- May affect as many as 80% of women, with 11-57% reporting moderate to severe pain, interfering with QOL.

- Pathogenesis of primary dysmenorrhea seems to involve elevated levels of prostaglandins in the response to the rise and fall of progesterone after ovulation. Elevated prostaglandins lead to uterine hypercontractility, painful cramping, as well as other prostaglandin related symptoms of nausea, vomiting, and diarrhea. Contractions decrease blood flow to the uterus and cause ischemia, which further contributes to further contractility.
Acupressure to reduce pain

SP 6

LI 4
Herbs

- Black cohosh (analgesic)

- wild yam \((\textit{dioscorea villosa})\) 1A (analgesic, spasmolytic for hollow organs)

- Jamaican dogwood \((\textit{piscidea erythrina or piscipula})\) (analgesic)
  Tincture 2-4mL/d. Do not exceed recommended dose. Rotenone is a component of plant, so can overdose. Best supervised use

- Crampbark/black haw \((\textit{viburnum opulus/viburnum prunifolium})\) [1A] (analgesic, spasmolytic). 4-18 ml extract 3-4x daily, or 1 TBL bark simmered in 12 oz for 15 min and drinking 1/3 cup q 2-3 hr prn. Caution – black haw is high in oxalates and should be avoided in those with a history of kidney stones or ASA allergy.

- Lavender \((\textit{lavandula agustafolia})\) [1a] (aromatherapy) inhaled shown to reduce pain scores, can be combined with rose and clary sage.
herbs

- Motherwort (analgesic, uterine astringent/vascular decongestant, spasmolytic, sedative)
- Red raspberry (uterine astringent/vascular decongestant)
- Dong quai (analgesic, circulatory stimulant, antiinflammatory)
- Ginger (circulatory stimulant, antiinflammatory)
- Dandelion root (hepatic alterative, support liver detox/elimination of hormones, relieve constipation)
- Lavender (lavandula agustafolia) [1a] (aromatherapy) inhaled shown to reduce pain scores, can be combined with rose and clary sage
Thyme

(*thymus vulgarus*) equal to ibuprofen for pain in one study. 5ml tincture 5x daily (not appropriate in pregnancy)
• Magnesium – may be related to its effect on intracellular calcium concentration, a reduction in prostaglandin synthesis, or muscle relaxant properties. 200-600 mg per day (RDA for women is 320). Some women need more. Forms less likely to cause loose stools – glycinate, gluconate, chloride, threonate.

• B6 – Combined with magnesium showed reduced pain scores and use of NSAIDs – action believed to be related to B6 role increasing the influx of magnesium into the cell. 100mg daily. Monitor if using higher doses. (some call for 100 BID)

• B1 –thiamine study double blind placebo study in adolescents showed that 30 days taking 100mg B1, resulted in a 90% cure of dysmenorrhea. However, the symptoms of thiamine deficiency can include decreased pain tolerance, muscle cramping and fatigue. Dose 100mg daily x 90 days.

• Vitamin E – anti-inflammatory and induction of beta endorphins. Studies ranged from 100iu-500iu daily starting 2-10 days before and 3-4 days after onset of menses. 400IU d-alpha tocopherol starting a few days before anticipated menses and to day 3-4 of cycle.

• Omega 3s  - anti-inflammatory, help balance Omega 6 (inflammatory):Omega 3 (anti-inflammatory) ratio and help reduce pain. 1500-2000 DHA+EPA or 3 servings of cold water fish each day
Prevention

- Healthy weight
- Anti-inflammatory diet
- Regular exercise
- Avoid tobacco
- Avoid ETOH in excess
- Stress management techniques
UTI

- Half of all women have experienced a UTI by age 32.
- At least 50% of UTIs in women in the community setting are caused by *E Coli*. Other pathogens include *S saprophyticus*, up to 15%. Also *Enterobacter, pseudomonas, and Proteus mirabilis* (note – hx of UTI from proteus is being cited as a potential factor in RA)
- PS don’t rule out candida as a cause for recurrent UTI symptoms with no bacteria cultured
Risk Factors

**Younger women**
- higher frequency of intercourse
- Hx UTI as a child
- Condom use
- Spermicide use
- Diaphragm use
- Pregnancy
- Delayed voiding
- Lack of voiding after intercourse
- Decreased fluid intake

**Older women**
- Diabetes
- Hx premenopausal UTI
- Urge incontinence
- Sexual activity
- Incomplete bladder emptying
- Cystocele
- Decreased fluid intake
Herbals

• Uva ursi (*arctostaphylos uva-ursi*) [1A] (antimicrobial) active ingredient thought to be arbutin, which is converted into hydroquinone. Treatment is recommended 3-12 g daily in divided doses as dried herb or infusion. Many experts recommend limiting use to one week and no more than 5x per year. Some suggest that urine must be alkaline for it to work properly (can take a little NaHCO₃). Others disagree. Cautions – may turn urine greenish brown. Prolonged use can result in toxicity from hydroquinone.

• Echinacea (*Echinacea augustifolia*) (antimicrobial, immunomodulator) [1A] not studied in UTI. 1-3g/TID

• Goldenseal (*hydrastis Canadensis*) [2b] berberine component -- in vitro studies show activity against urinary pathogens. Affects CYP3A4 and CYP2D6 and may slow drug metabolism. Not for use in pregnancy – berberines are potential uterine stimulants 0.5-1g TID
Herbals

• Lavender *lavandula spp*[1A] (mild antimicrobial, anti-inflammatory, nerve) topical and internal.
  Antimicrobial properties. reduce swelling and irritation

• Thyme (antimicrobial) PO not appropriate in pregnancy, except in culinary doses

• Yarrow (antimicrobial, antispasmotic) PO not appropriate in pregnancy

• Crampbark/black haw (antispasmotic) OK in pregnancy

• Marshmallow root (demulcent). OK in pregnancy
**herbals**

- Kava - Anesthetic properties, diuretic and used for the treatment of chronic cystitis, for hyper active bladder

- Cranberry [1A] (*Vaccinium macrocarpon*) (discourage bacterial adherence to bladder) 250ml TID or 400-800mg tables Shown to reduce risk of recurrence by 30%.
  Prevention 16oz unsweetened cranberry juice daily or 400-800mg 1-2x daily
  Caution – possible interaction with warfarin

- Nourishing herbs –

  - Nettles (*urtica dioica*)[1A](nutritive, mild diuretic), marshmallow root (*althea officinalis*)[1A] (demulcent), slippery elm (*ulmus rubra*) [1A](demulcent), dandelion leaf (*taraxacum officinale*) [1A] (nutritive, mild diuretic). All ok in pregnancy. Dandelion leaf in culinary portions.
Nutritives

• D-Mannose - Simple sugar found in fruits. It is not broken down in the blood stream and is concentrated in the bladder, where it prevents bacterial adherence to the receptors of uroepithelial cells. Study showed 2 grams daily as effective as 50mg nitrofurantoin in preventing rUTI. ¾ -1 tsp 1-2x daily for prevention, ¾-1 tsp TID for treatment

• Potential S/E bloating, loose stools. One source said high doses over a prolonged period of time could potentially be nephrotoxic, but no dosage was given and no evidence cited and did not find any studies indicating this

• Vitamin C – may help prevent UTI. One study showed even taking 100mg daily reduced recurrence by 50%. Optimal dose unknown. Consider 100mg daily as a supplement. Some people may be sensitive to high doses.
A word on probiotics
Probiotics

- Probiotics- L Rhamnosus GR-1 and L Reuteri RC-14 (previously fermentum) shown to help prevent UTI recurrence. In addition to improving vaginal and intestinal flora, may reduce pathogen’s adhesion to bladder cells.

- At least 1 billion CFU Lactobacillus GG less effective. OK in pregnancy
Lifestyle

- Food – more plant based whole foods diet with garlic and onions (allicin activity against common UTI pathogens)
- Fluids – non caffeinated, especially + frequent voiding + fully emptying the bladder
- Monitor stress and adequate rest
- Consider changing contraceptive method if UTIs occur after spermicide, diaphragm, or condom use
- Urination after intercourse
Vaginal infections

- Risks—Poor nutrition (sweets, foods rich in simple carbs, increased caloric intake with daily carb intake greater than 223g, and certain fibers)

- Contraception - OCPs (higher risk with high estrogen content), diaphragm, IUD, spermicide, sponge

- Sexual behavior – receiving orogenital sex more than twice in two weeks, anal intercourse, female masturbation with saliva, age at first intercourse, high number of lifetime partners, intercourse during menses, frequency of intercourse (conflicting data)

- Male factors - male masturbating with saliva in past month and lower age at first intercourse ( uncircumcised male patients have higher risk than do circumcised men)
Risk factors

- Hygiene factors  Douching
- Host factors  Immunosuppression (includes HIV) Diabetes Impaired glucose tolerance (AIC, insulin level), High BMI Race black > white > Asian, Antibiotic use (colonized women more at risk), Noncompliance with medications during previous infection, Prior dx of VVC in the previous year, Pregnancy state (higher concentration of hormones)
- Psychosocial factors
- High stress and psychosocial factors
- Smoking
- Decreased satisfaction with life
- Poor self esteem
Herbals

- Garlic (topical antibacterial, antifungal)
- Can use garlic clove PV nightly x 2 weeks. Other options (crush 2-3 gloves and wrap in gauze and place PV).
- PO – add fresh garlic and onions to diet regularly. The allicin is typically beneficial to gut flora, which may in turn help perineal flora. Can also use 500mg allicin or garlic extract PO 2-3x daily

- Goldenseal (C albicans, C topicales, T mentagrophytes). High berberine content. Use internally or topically Golden seal is not appropriate in pregnancy. Stains if used topically

- Thyme topical (thymus vulgaris) [2b](antifungal, antibacterial, antiviral) Topical use as part of a vaginal suppository (EO or undiluted tincture). PO may use in culinary amounts in pregnancy. Diluted tincture can be used in peri-washes and sitz baths.

- Otherwise, avoid internal use. Avoid EO in pregnancy
**herbals**

- **Licorice** extract (*glycyrrhiza glabra*)[2b, 2d](antiinflammatory, demulcent, effective against *E coli, Candida, Trichomoniasis*) – inactivates HSV 1 virus.

- Typical therapeutic dose is 1-4 grams licorice root BID. (short term use, as prescribed, less than a week has not been problematic in pregnancy). (2mg/kg (approx. 6 grams per day for 12 weeks glycyrrhizin daily is considered the NOAEL (no observed adverse effect level)

- Studies have shown a higher risk of PTB and lower IQ with heavy consumption of licorice (>500mg per week), 50 grams licorice candy is equivalent to 100 mg glycyrrhizin.

- Heavy use also associated with hormonal and electrolyte imbalance 2/2 mineralcorticoid effects. Adverse effects reported with consumption of >35grams per day for a prolonged period of time, although no adverse affects reported under 50g (licorice) per day. Licorice root should contain a minimum of 4% glycyrrhizin and many commercial products are standardized to 12%
Herbals

- Oregano (*origanum vulgare*) [1a] (antibacterial, antiviral) EOs can be added to suppositories. Diluted tincture can be used in peri-washes and sitz baths.

- Tea Tree (*melaleuca alternifolia*) (antibacterial, antifungal, anti-inflammatory, antifungal *C albicans, T vaginalis*). Topical use only. Dilute to 5-10% (5 drops EO in 5ml carrier oil -10drops/5ml). apply with swab or place 1-2 drops in capsule with a carrier oil and place PV x 6 nights (calendula oil and coconut oil do have some anti fungal properties)

- Calendula (calendula officinalis) [1A] (inflammation, aid in wound healing) theoretical concerns as calendula is a uterotonic, so no internal use in pregnancy. Can be taken as a tea. Example : 1 Tbl tincture in ¼ cup of water or tea in a peri bottle.

- Lavender (*lavandula spp*)[1A] (topical, mild antimicrobial, anti-inflammatory, nervine) reduce swelling and irritation (teas, tinctures, a few drops of EO added to peri rinse, sitz bath, suppositories). Topical OK in pregnancy. No issues with reasonable ingestion of teas in pregnancy

- Marshmallow root (*althea officinalis*)[1A] (demulcent, vulnerary, anti-inflammatory). Topical use as a peri rinse to heal and repair tissue. 2-5g/TID (prepared as a tea) or 2-5 ml tincture. Caution – internal. Due to demulcent properties, may reduce absorption of certain medications. Take 2 hours before/after medications
Gentian violet

- Gentian violet (candida) – a coal tar derivative. Effective against *C. albicans* and . Was a very common treatment in gyn offices in the 1960s. Mostly available in 1% or 2% solutions. 5mg (ml) PV via tampon or paint the vagina. Leave for 4 hours or overnight x 14 days. This STAINS EVERYTHING, which is why it is not a favorite of most women, but it works. Can dilute to a 0.25 -.5% solution from a 1% for less likelihood of irritation. There is no pregnancy drug classification for Gentian violet (USA or Australia)

- For an interesting blog post on the “how to” see [https://drjengunter.wordpress.com/2013/10/17/how-to-use-gentian-violet-for-a-vaginal-yeast-infection/](https://drjengunter.wordpress.com/2013/10/17/how-to-use-gentian-violet-for-a-vaginal-yeast-infection/)
Boric acid

• Boric acid (candida) 98% response in those previously treated with antifungals

• 600 mg PV q HS x 14 days. Then, twice weekly. 70% of those with history of recurrent *C glabrata* cured. A small percentage may be sensitive to the boric acid. Not appropriate in pregnancy. NEVER USE BORIC ACID PO!!!
Probiotics

• Probiotics to decrease vaginal pH and encourage normal flora (lactobacillus spp produce H2O2, which helps reduce other bacteria/yeasts. Difficult to find prepared vaginal probiotics in the USA. Most do not recommend probiotics PV in pregnancy.

• PO – L acidophilus 8oz yogurt with active cultures decreased colonization and candida infection, another study using 150ml yogurt, increased colonization, but did not decreased incidence of VVC. No contraindication of probiotics in pregnancy.

• L Rhamnsus GR1 + L Reuteri RC-14 have the ability to inhibit and kill yeast. 1 billion CFU appears to be the optimal dosage

• L rhamnosus GG, L gasseri, L vaginalis do produce H2O2, and may help prevent, but the evidence is not as strong. Use at least 1 billion CFU

• Can be used PV, applied via tampon. L Crispatus, L Jensenii, L Rhamnosus, L reuteri

• Check for species when possible. Check company’s web site, If they are using specific strains, they are usually proud of it and will have data on their web sites. Brands with specific strains – Femdophillus Jarrow – two products
Immune system support

• Medicinal mushrooms - Reishi and Maitaki appropriate for pregnancy

• zinc – immune system support. Consider 25-30mg per day (would divide does, as zinc can cause nausea) antimicrobial activity. High levels of zinc toxic to trich and chlamydia

• Vitamin C has been shown to reduce recurrence of vaginal infections when used PV. 250mg nightly (hard to find a good brand in the USA - Vitannica Vaginal Rephresh has around this much. Said it was proprietary but said it was a little higher)
Prevention

- Avoid receiving oral sex for recurrent infections
- Practice unhurried intercourse with extra lubrication to avoid trauma to vaginal mucosa
- Wear well-ventilated clothing (lose the thong)
- Consider change from high estrogen OCPs
- Achieve optimal glucose control in diabetes
- Reduce simple sugars, processed carbs
- Follow whole foods diet and exercise program (especially useful with high BMI and impaired glucose tolerance for prevention
- Stop smoking
- Treat depression
- Stress management
- Daily yogurt with acidophilus or probiotics with multiple strains of lactobacillus
- Daily garlic intake
- Avoid douching – higher risk of RBV
- Avoid public hot tubs
HPV

- Garlic topical (antiviral, reduce viral inflection)
- Echinacea (antiviral effects via production of interferon by macrophages)
- Lemon Balm (topically virostatic)
- Oregano/thyme topical EOs (DILUTED) (antiviral activity on enveloped DNA/RNA)
Herpes

- 90% of HSV2 carriers are unaware and at least 50% of these may attribute symptoms to other causes (vaginitis, dryness, shaving burns, irritation from tight clothing, bicycle seats, etc., hemorrhoids, reactions to personal care products and routines, etc.)

- HSV1 more causative for genital lesions now. In a study of college students with genital lesions, 78% were HSV1.

- HSV travels along the peripheral nerve axons to the nerve cell bodies in the dorsal root ganglia and can exist indefinitely, sometimes in a completely inactive state. Can be reactivated and begin replicating in response to stress, anxiety, trauma to mucosa, fever, sun exposure, hormonal changes of the cycle, poor sleep, spicy foods, food allergies, immunodeficiency and????
Herbals

- Reishi (*ganoderma lucidum*) [1A] (adaptogenic, immunomodulator, viracidal). No contraindications in pregnancy/lactation. However, no formal testing done in humans. Some sources say 6-12g/day as a treatment, with 2-3 grams per day as an adaptogenic support.

- Eleuthero (*eleutherococcus senticosus*) [1A] (adaptogen, antiviral) used to be called Siberian Ginseng PO as capsules, tinctures. 0.6-3 grams daily. Caution – those with heart conditions (although adverse reports have shown the product used to be adulterated with a different herb that was cardio active), and severe BP. No adverse reports in animal studies during pregnancy, but no human studies or traditional use in pregnancy, so not recommended.

- Jamaican dogwood (*piscidea erythrina or piscipula*) (analgesic) primary outbreak Tincture 2-4mL/d. Do not exceed recommended dose. Not recommended in pregnancy except under the guidance of a qualified practitioner for short periods. Not in first trimester.

- Crampbark/black haw (analgesic) primary outbreak
Herbals

- Echinacea (antiviral) PO 250-1000 mg qd. This is OK in pregnancy, but obviously antivirals are preferred for outbreaks. Can take as an immune system modulator.

- Lemonbalm (*Melissa officinalis*)[1A] ("the gladdening herb" (stress, anxiety, antiviral) ointment (200ug/mL) inhibits replication of HSV2. Applied QID x 5 days (cream/ointment) resulted in reduced pain and faster healing time. PO in times of stress. Topical OK in pregnancy. Short term PO in pregnancy OK. Theoretical concern that it may inhibit TSH from binding to receptors. Not seen in human studies.

- Cautions – theoretical concerns for those on anticoagulant/antiplatelet medications. No reports, but isolated compounds do have anticoagulant activity. Caution in those taking immunosuppressant medications. Possible reduction in postprandial blood sugar (mixed results)

- Licorice (antiviral, antiherpetic, anti-inflammatory, immunomodulator). Topical and PO. Topical OK in pregnancy. Do not want DGL for this purpose.
Herbals

- **ST John’s wort** (antiviral, topical/internal) HSV 1/2 300mg TID x 90 days, Outbreaks 600mg TID. Avoid PO during pregnancy 2/2 to lack of testing. Topical OK

- **Tee tree** (topical antiviral, antimicrobial). Dilute essential oils (can emulsify with witch hazel, vinegar, liquid castile soap, aloe). Apply 5x per day. No expected resistance. Evidence not as strong

- **Witch hazel** (*hamamelis virginiana*) [1A] (astringent, anti-inflammatory) ESCOP and German Commission E for treatment of skin/mucosal inflammation. Apply to lesions. Safe topically in pregnancy

- **Aloe topical** (reduce viral replication) [2b, 2c, 2d PO, 1A topically] shortens healing time. Apply TID as gel or hydrophilic cream
Herbals

- Plantain (*plantago lancelota* or *plantago major*)[1A] (topical anti-inflammatory, astringent) ESCOP and German Commission E for treatment of skin/mucosal inflammation. Apply to lesions. Safe topically in pregnancy
Nutrients

• Lysine (reduce arginine) during outbreaks and as preventing recurrence. -- 1000mg/daily to prevent (although some find 500mg quite adequate, even QOD. may be related to lysine/arginine foods intake. Each person has to find their magic number)

• Zinc (prevent replication) assists with suppression of outbreaks, stimulates cell-mediated immunity, decreases frequency and severity. PO 25-50 mg daily (note: long term zinc supplementation may require a copper supplement) suggested to take with 250mg vitamin C (study lasted 6 weeks)

• Topical - Zinc sulfate in solution or cream. Apply TID

• Vitamin C with bioflavonoids – reduce blister healing time (from 10 to 4.4 compared to placebo)1000mg daily in prodromal phase, 5000mg x 3 days divided, in outbreak phase. (pregnancy – limit to 4000mg daily total for duration of outbreak)

• Vitamin E (shortens healing time by 2-4 days) use oil 20K-28K per ounce d-alpha tocopherol applied to a cotton ball or open capsule and apply contents with a cotton swab TID x 3 days (another study applied q4 hr)
<table>
<thead>
<tr>
<th>Lifestyle</th>
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</thead>
<tbody>
<tr>
<td>- Observe safe sex and hygienic safety practices to reduce transmission</td>
</tr>
<tr>
<td>- Reduce exposure to common stressors that trigger outbreaks</td>
</tr>
<tr>
<td>- Minimize unavoidable chronic stress (practice yoga, mindfulness, meditation, etc)</td>
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<tr>
<td>- Regulate hormones and reduce stressors related to menses if outbreaks cyclically related</td>
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<tr>
<td>- Use adaptogens and nerviness for improving immune and stress response</td>
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<tr>
<td>- Use antivirals internally and topically to prevent recurrence and reduce outbreak frequency</td>
</tr>
<tr>
<td>- Use topical anti-inflammatories, analgesics and vitamin E to speed healing and reduce pain</td>
</tr>
<tr>
<td>- Reduce dietary arginine and increase lysine</td>
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<tr>
<td>- Reduce – chocolate, peanuts, almonds, cashews, sunflower seeds, gelatin</td>
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<tr>
<td>- Increase – vegetables, beans, fish, turkey, chicken</td>
</tr>
<tr>
<td>- Reduce refined carbohydrates - (consumption depresses cell-mediated immune function within an hour of consuming them)</td>
</tr>
</tbody>
</table>
Good resources

- [www.ars-grin.gov/duke](http://www.ars-grin.gov/duke) Dr Duke’s phytochemical and ethnobotanical database
- [www.examine.com](http://www.examine.com) research on supplements and some herbs
- [www.consumerlab.com](http://www.consumerlab.com) tests supplements and compares stated and actual ingredients. Subscription service. Very reasonable
- [www.penstatehershey.adam.com](http://www.penstatehershey.adam.com) lots of great integrative medicine info – ADAM may also be used by other schools
Helpful resources

- [www.swsbm.com/despensatory/USD-1918-complete.pdf](http://www.swsbm.com/despensatory/USD-1918-complete.pdf) historical data from 1920 and medicinal herbal use

- [https://www.fammed.wisc.edu/integrative/resources/](https://www.fammed.wisc.edu/integrative/resources/) U Wisconsin Center for integrative medicine. LOTS of useful info and handouts!!!!!

- [https://naturalmedicines.therapeuticresearch.com](https://naturalmedicines.therapeuticresearch.com) lots of great up to date info. Subscription service
Brands I like

- OTC Supplements – Pure Encapsulations (gluten free, non-GMO, hypoallergenic)
- Now - gets good reviews on consumerlab.com
- Jarrow –Reasonably priced. Do use some gelatin in some products. good reviews on consumerlab.com.
- Mercola – good reviews on consumerlab.com. Generally higher priced, but different delivery – ex. Liposomal vitamin C.
- Vitannica – women’s herbal, homeopathic, supplements (Tori Hudson ND- women’s health)
- See also consumerlab website for “approved” products
More brands I like

• Well respected herbal brands
• Gaia (herbs)- typically encapsulated glycerites,
• Herb Pharm (tinctures/extracts)
• Medi-Herb (tablets, extracts, tinctures) (Kerry Bone)
• Loose herbs – Mountain Rose herbs.
• Wise Woman Herbs (has some solid extracts)
• Essential Oils -- Mountain Rose Herbs, Eden’s Garden, Young Living, DoTerra seemed to be the favored choices among fellow integrative practitioners.
Thank You!!!
• Dorothy (Dusti) Cleveland Pointer APRN, CNM
• [www.vintagewisdomwomenshealth.com](http://www.vintagewisdomwomenshealth.com) or [www.vwwhok.com](http://www.vwwhok.com)
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References


