

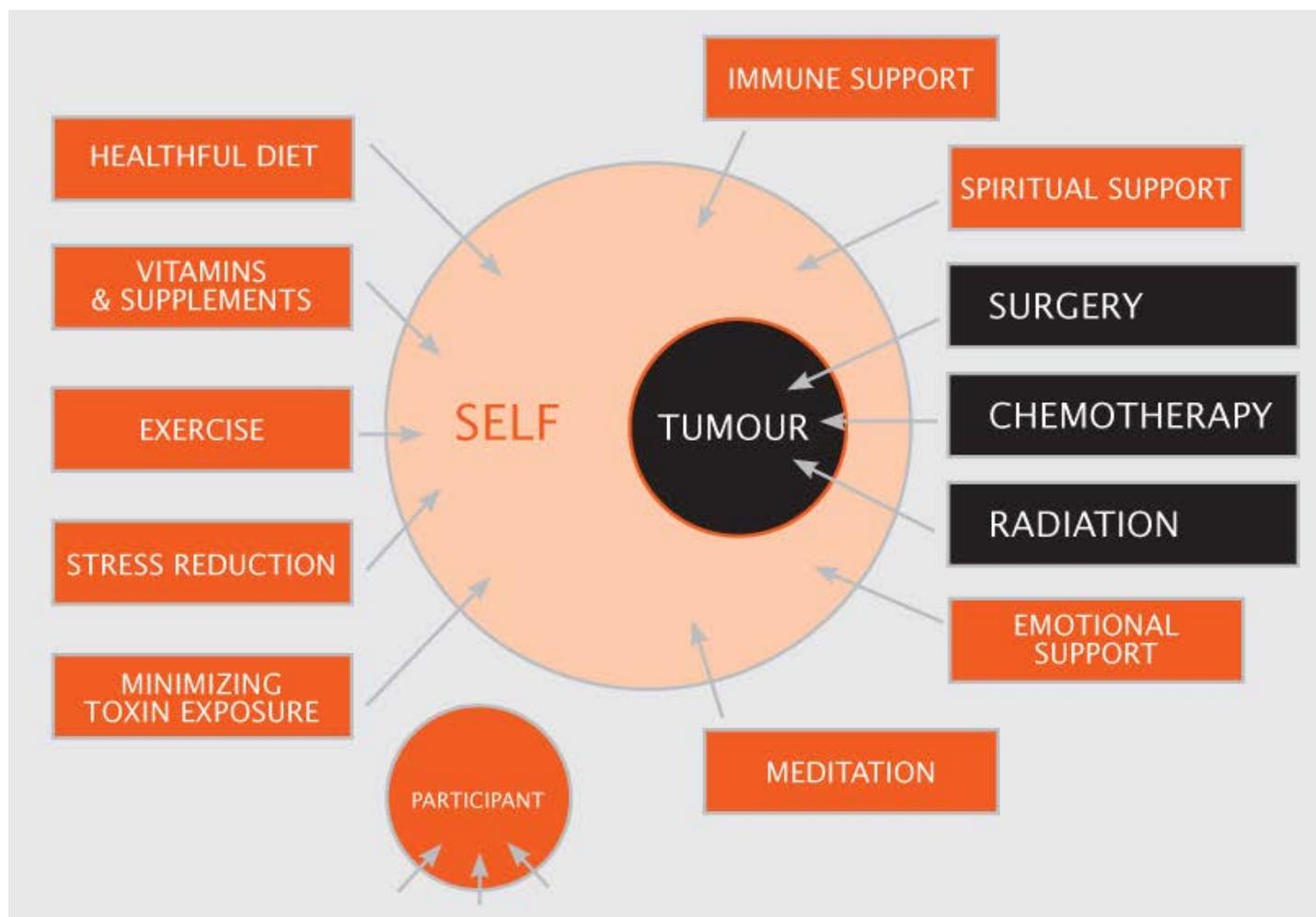
Katherine Neubauer, ND,
FABNO
DEFEAT Cancer
March 14, 2017

Feel Better
Naturally

Natural Solutions

- Neuropathy
- Fatigue
- Joint and bone pain
- Nausea
- Chemo brain
- Low blood counts
- Anxiety, depression, insomnia
- Osteoporosis
- Hot flashes, vaginal dryness
- Hair loss
- Cachexia, low appetite, and weight loss

Treating the Person Who Has Cancer



Naturopathic Oncology

- Naturopathic physicians board certified in oncology based on residency, practice in oncology, and passage of board examination.
- Specialize in evidence-based integrative cancer care
- Cultivate an anti-cancer body environment
- Natural solutions for symptoms
- Monitor for herb-nutrient-drug interactions
- Covered by most commercial insurance plans and some Medicaid plans. Working with Congress to add Medicare, VA, Tricare participation.

About Me

- 10 years naturopathic oncology practice
- Undergraduate: University of California, Berkeley
- Medical school: Southwest College of Naturopathic Medicine
- Hospital residency, fellowship: Southwestern Regional Medical Center
- Board certified in naturopathic oncology
- Love the science and craft of medicine. Married to an engineer, so my mind naturally bridges evidence-based practice and clinical art.
- First naturopathic physician to practice at BMC
- Live in Bend with my husband and toddler

About Our Conversation Tonight

- Personalize your care. Talk with your practitioner before starting any new therapies.
- All facts are from clinical trials unless I say otherwise. Doses are those used in clinical trials, not necessarily the recommended dose.
- Clinical experience notes: Experience of myself and my colleagues. May have mechanism from cell and animal studies. No clinical trials to support.
- References available on request. Questions at end.

Neuropathy, nerve pain, phantom limb

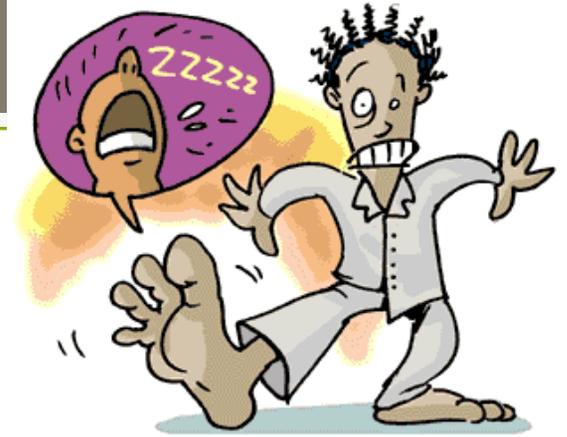
- Cause: chemotherapy (CIPN), diabetes, surgery, radiation, nerve entrapment
- Symptoms: pain, numb, “asleep”, “walking on broken glass”, balance change



Chemotherapy Induced Neuropathy (CIPN)

- You're not alone.
 - Meta-analysis 2014: 68% of patients within the first month of chemotherapy treatment, 60% at 3 months, and 30% at 6 months.
- Prevention:
 - Cisplatin: vitamin E 69% CIPN reduction with natural, mixed tocopherols
 - Bonus: reduced Cisplatin hearing loss too.
 - Synthetic vitamin E not effective.
 - Taxanes, Oxaliplatin: glutamine
 - Taxane, Cisplatin, Carboplatin: fish oil. Glutathione, alpha lipoic acid not effective
- Avoid acetyl-L-carnitine during Taxane chemo. Worsens neuropathy.

Regrowing Nerves



- Acupuncture
 - Diabetic neuropathy improved – pain and function
 - Improves neuropathy of unknown cause
 - Acupuncture possibly more beneficial for taxane CIPN treatment than prevention?
- Low level laser
 - Nerve entrapment (carpal tunnel, ulnar nerve)
 - Diabetic neuropathy
 - Chemo-induced, post-surgical: no published data, though see benefit
- Alpha lipoic acid, benfotiamine: improve diabetic neuropathy. Clinical experience in CIPN.
- Clinical experience: glutathione, pregnenolone

Neuropathy Pain Relief

- Burning pain, tingling: capsaicin
- KICKCAG topical
- Cannabis
 - Effective in diabetes and HIV neuropathies
 - Clinical experience: works well in other neuropathy pain types too, though no research
 - Strength of pain relief is similar to a moderate strength opioid. However, opioids not effective for neuropathic pain.
 - Chemo-induced, post-surgical: no published data, though I have seen benefit



Fatigue

- Affect 50-90% of cancer survivors
- Causes: steroids and adrenal fatigue, mitochondrial dysfunction, oxidative stress, low cell counts, anemia, inflammation
- Exercise: Improvement even after lung surgery. Too sick NOT to exercise.



Repair Cells' Power Plants

- Repair cell energy factories and cellular rust: fish oil, exercise, CoQ10, carnitine, royal jelly
- Strengthen adrenals and bone marrow: astragalus, ashwagandha, reishi
- Decrease inflammation: reishi, fish oil, exercise



Fish oil? During chemo?!

- The study that started the controversy
 - Fish oil metabolite ↓ platinum chemo effect **in rats**.
 - Humans in study took fish oil, made metabolite.
 - So, JAMA study said no fish oil with platinum chemo
- Yet: **humans are not rats**. Lots of rat studies don't work with humans.
- **Clinical trials** with fish oil and chemo:
 - Platinums: No change chemo response. Better energy, weight, appetite, quality of life
 - Improved survival or response with fish oil + 5-FU, epirubicin, Cytosine, Gemzar, vinorelbine

Herbs for Energy

- Astragalus
 - Lung cancer, platinum chemo
 - Also improves survival, blood counts, appetite
- Ashwagandha
 - 2 grams 3 times daily throughout chemo (AC-T, FEC)
 - Less fatigue. Improves sleep
- Reishi
 - 1 gram 3 times daily x 1 month vs placebo
improved fatigue, anxiety, depression, inflammation markers
- Royal jelly
 - Twice daily x 1 month, better fatigue during and after cancer treatment



Joint Pain

- Osteoarthritis and Fibromyalgia
 - Decrease inflammation and improve pain signalling: turmeric, boswellia, D L phenylalanine
 - Low dose naltrexone: clinical trial benefit for fibro, clinical experience for OA.
 - Repairs microglia, which manage pain signals in brain and spinal cord.
 - Cartilage has beta-endorphin receptors.
- Neulasta
 - Clinical experience: Traumeel injection
- Aromatase Inhibitors
 - Causes: Bone loss, estrogen numbs pain. Not inflammatory

Joint Pain: Aromatase Inhibitors

- Causes: Bone loss, estrogen numbs pain and maintains connective tissue. Not inflammatory.
- Pain relief without estrogen:
 - Acupuncture 2x weekly x 6 weeks vs sham
 - Long term tx frequency??
- Improve bone and connective tissue quality:
 - Glucosamine and chondroitin: moderate improvement in 6 months vs placebo
 - Exercise: 150 mins aerobic weekly + 2 weekly strength training improved joint pain and disability
 - Clinical experience: collagen, bioflavonoids, homeopathy
 - Vitamin D, calcium
 - D blood level of at least 40 reduces AI joint pain and slows AI-related bone loss

Metastatic Bone Pain

- Vitamin D: treating deficiency improves prostate cancer bone pain in clinical trial.
- Clinical experience: intravenous mistletoe. Lowered morphine pump dose in patient with advanced bone metastases.
- Clinical experience: combination of turmeric, boswellia, and D L phenylalanine lowered oxycodone dose in patient with bladder cancer metastatic to bone.

Nausea



- Rx: More effective for vomiting than nausea.
- Ginger
 - 3 days before chemo to 3 days after. $\frac{1}{4}$ - $\frac{1}{2}$ tsp dried ginger twice daily.
 - Don't combine with Emend,
- Sea Bands, acupuncture
- Fix constipation. Constipation worsens nausea.
- Some good news about proton pump inhibitors (omeprazole, etc).

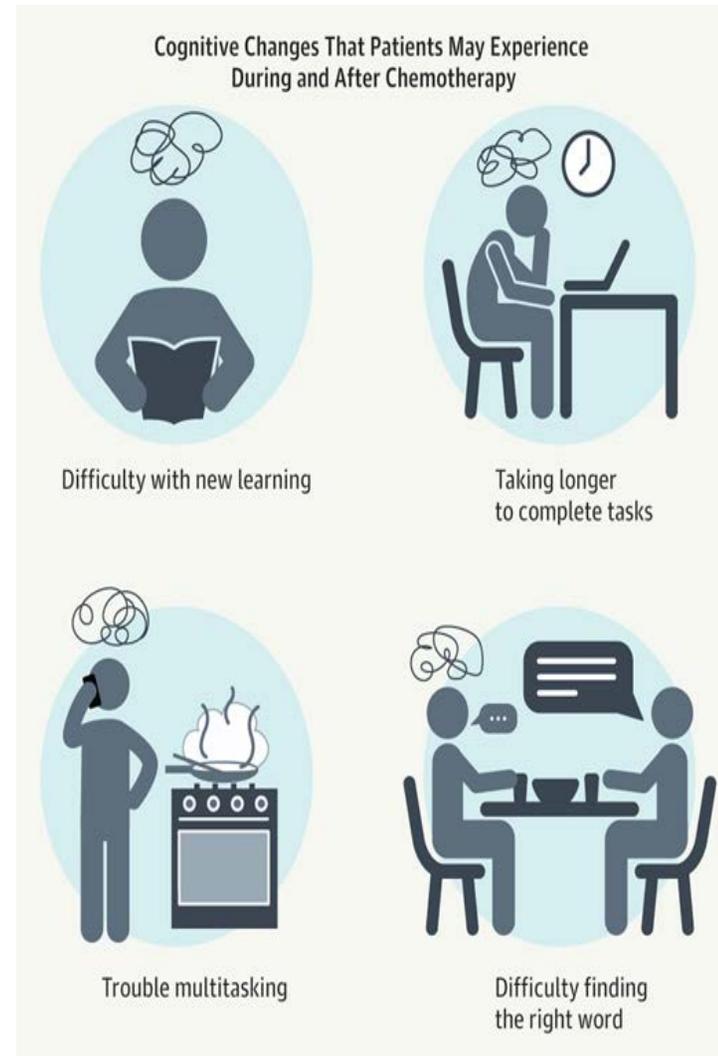
Constipation



- Prunes? Maybe not.
 - Increase IGF-1, a cell growth factor
 - Better choices: tart cherry juice, chia seed pudding, steamed greens
- Senna with less cramps: Smooth Move tea
- Nature's stool softeners: vitamin C, magnesium

Chemo Brain

- Causes:
 - Loss of brain cell repair protein: BDNF
 - Oxidative stress
 - Damage brain cell structure
 - Anxiety, depression, insomnia worsen chemo brain



Chemo Brain Therapies

- Lion's mane mushroom
 - Brain cell repair. Re-myelinates.
 - Improves cognitive function, anxiety, depression in healthy adults and post-menopausal women. Clinical use with chemo brain.
- Citcholine:
 - Improves concentration, short term memory, attention in healthy people.
 - Benefit in Alzheimer's, vascular dementia. Clinical use in chemo brain

Chemo Brain Therapies

- Meditation
 - Tibetan singing bowl meditation improves short term memory and word recall, as long as you continue to do it regularly.
 - Rewires brain function beneficially on functional MRI. As you think, so you create in brain wiring.
 - Improves the focus stealers: anxiety, depression, pain, insomnia
- Exercise:
 - Repairs brain cell microstructure after chemo
 - Increases brain blood flow
 - Improves concentration, attention, and short term memory in breast cancer survivors with chemo brain
 - Both aerobics and yoga effective in clinical trials

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Neutropenia and Low White Count

- Neulasta, Neupogen
 - More neutrophils, but immature & not fully effective.
- Maitake
 - Improves function of the cells you have. (Chemotaxis)
 - Clinical experience: Increases platelets, neutrophils during chemo
- Mistletoe
 - Supports blood cell counts and function
 - Improves energy, quality of life in multiple clinical trials
 - Improves survival in some cancer types
- Astragalus
 - Improves blood counts during platinum chemo

Foundations For Good Sleep, Mood

- Eat to nourish brain, balance blood sugar & hormones: whole foods diet, healthy fats, proteins, rainbow of produce
- Sleep improves anxiety and depression
- Sleep hygiene:
 - Bedroom dark, quiet, comfortable temperature
 - Wind down routine
 - No screen time within 1-2 hours before bed
 - Mindful with evening caffeine, alcohol. Calming herbal tea instead
 - Try a caffeine break to discover how caffeine affects you.
 - Alcohol: easier to fall asleep, steals restful (REM) sleep
 - Use bed for sleep and sex only. No work, eating, etc.
 - Be thoughtful about co-sleeping with pets and kids.

Insomnia

melatonin, valerian,
sleep hygiene

GABA,
glycine,
magnesium
glycinate

lavender
(Silexin),
exercise,
meditation
and imagery,
black cohosh
(menopause),
magnolia
bark, CBT

Depression

turmeric, saffron,
citicoline, St John's
wort, SAM-e, vit D3

Anxiety

theanine,
phosphatidyl
serine

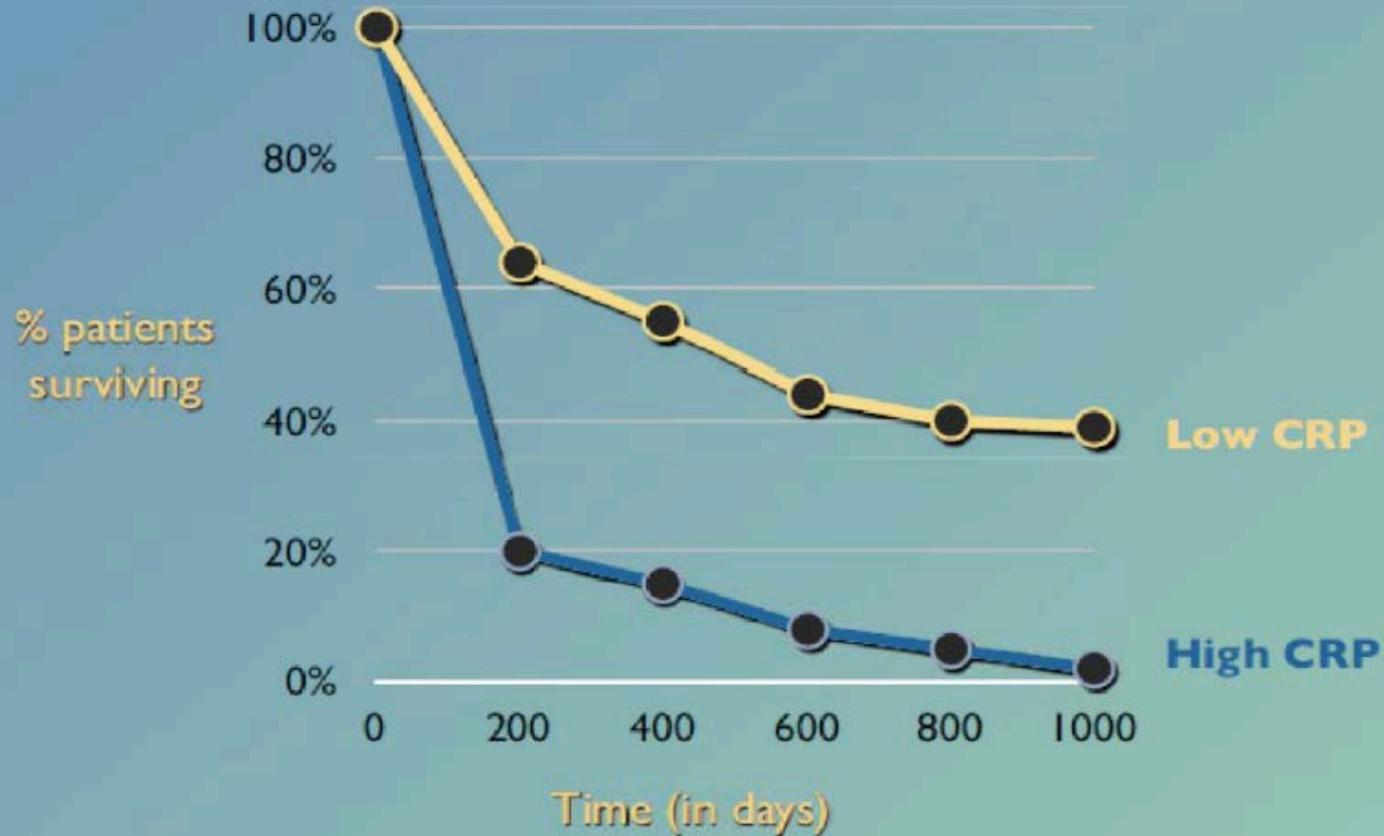
fish oil,
acupuncture

Brain cell repair (via BDNF):
broccoli family, Boswellia,
turmeric, CBD, magnolia,
acupuncture

Treat the Cause: Anxiety, Insomnia, Depression

- When sleep foundations, exercise, stress relief, and natural therapies don't help, rule out:
 - Thyroid imbalance
 - Low DHEA, testosterone
 - Snore and wake tired? Check sleep apnea.
 - Inflammation: 1/3 of all depressed people have
 - Anxiety, PTSD: higher inflammatory proteins (hsCRP)
 - 1/4 women have PTSD after breast cancer diagnosis
 - Survivors with elevated CRP: elevated recurrence risk

Inflammation & Cancer Survival



SOURCE: McMillan DC, et al: Measurement of the systemic inflammatory response predicts cancer-specific and non-cancer survival in patients with cancer. *Nutr Cancer*, 2001;41(1-2):64-9.

Treat the Cause: Anxiety, Insomnia, Depression

- Cortisol rhythm imbalance
 - Abnormal rhythms:
 - Flat: tired after a good sleep, then tired all day
 - Flipped: tired in morning and wired at night
 - Flat curve increases cancer death risk in lung, metastatic breast, and renal cell cancers.
 - **Good news:** stress relief program improved cortisol rhythm, 45% ↓ 10 yr recurrence risk early breast ca.

Osteoporosis, Osteopenia

- Causes: hormonal therapy, menopause, chemo
- Bone density vs fracture risk: need both!
- Rx therapies: Better with bone density than structure quality. Don't build dynamic balance. Mixed results
↓ fracture risk, varying by drug and fracture type.
- Evaluation
 - DEXA and FRAX score
 - Bone resorption: urine n-telo peptide, serum c-telo peptide
 - Bone building: serum P1NP
 - Thyroid: excess breaks down bone
 - Vitamin D: typical goal serum level 40-80
 - Diet: soda, pH balance, leafy greens, dairy(?)
 - Medications: SSRIs, some antacids ↑ fracture risk

Osteoporosis, Osteopenia Therapies

- Exercise
 - Weight bearing
 - Dynamic balance: ski, pickleball, bosu, skate, stand one foot
- Calcium, magnesium, D
 - Typical dose calcium 1200 mg, magnesium 600 mg
 - Vit D improves balance, decreases fall risk in frail elders. Improves muscle strength in prostate cancer survivors with bone metastases.
- Strontium
 - Decrease fracture risk, increase density
 - DEXA. 50% of density increase is real.
 - Citrate. Studies use ranelate – cardiac toxicity.
 - Take away from other minerals. Can upset stomach.

Osteoporosis, Osteopenia Therapies

- Boron: Increase bone density. Stimulates bone estrogen receptor. Avoid in estrogen-fed cancers
- Vitamin K
 - MK-4 from fermented soy: ↓ fracture risk, ↑ bone density 8 clinical trials
 - MK-7 from leafy greens: Improves bone structure quality
- Fish oil: ↓ bone loss, women on aromatase inhibitors
- Melatonin
 - 3 mg x 1 year vs placebo, post-menopausal women, 2.3% ↑ femoral neck density. Is 1/3 of increase from bisphosphonate.
- Soy: 90 mg daily ↓ bone resorption in post-menopausal women. Probably no benefit pre-menopause.

Soy? In breast cancer?!

- Little clinical evidence to suggest that soy increases breast cancer risk in healthy women or worsens breast cancer prognosis
- Much evidence for decreased recurrence risk and improved survival
- No evidence that soy increases breast tissue density in pre- or postmenopausal women
- BRCA mutation: soy eaters get less breast cancer
- No evidence that soy increases breast cell proliferation in postmenopausal women with or without history of breast cancer.

Soy Benefits in Breast Cancer

- Reduce recurrence risk, increase survival in:
 - *prospective epidemiologic study, over 11,000 women from US, China: postdiagnosis soy intake statistically significantly reduces recurrence and improves survival.*
- US WHEL study: 54% ↓ risk of cancer death with > 16 mg isoflavones daily.
- US Breast Cancer Family Registry: 21% ↓ mortality
- JAMA: soy decreases risk of breast cancer recurrence and death
- No Tamoxifen interference. ↑ aromatase inhibitor effect.
- Quality soy: organic, non-GMO, traditional, ideally fermented

Cooling the Fire

- Black cohosh
 - As effective as low-dose transdermal estradiol for hot flashes, anxiety, and depression
 - Improve hot flashes 26%: meta-analysis of 6 trials.
 - Improves menopausal joint aches, insomnia, anxiety, depression
 - Safety in cancer survivors?
 - Dec breast cancer risk 61%
 - No estrogenic effects in animal or cell studies. Appears to work on serotonin and dopamine, which explains antidepressant effect

More Hot Flash Therapies

- Magnesium
 - 400 mg x 1 month, then 800 mg if no improvement. Hot flashes milder and less frequent. Breast ca.
 - Benefits for muscle cramps, bone density, constipation, sleep too
- Soy: 1 serving daily or 54 mg isoflavones with at least 19 mg genistein x 6 weeks: ↓ hot flash frequency 20% in post menopausal women
- Siberian rhubarb
 - 250 mg x 3 months effective
 - Stimulates estrogen receptor beta. Appears to be anti-cancer receptor, but data limited. Caution.
 - I use only in severe hot flashes.

More Hot Flash Options

- Fish oil
 - 30%↓ Hot flash frequency vs placebo, postmenopausal women. 1050/150 mg EPA/DHA
 - 6.5 daily hot flash ↓ at 2 grams daily
 - One study: needs exercise to work
 - Extra benefit if have dry eye, depression, pre-diabetes, cardiovascular risk, breast cancer
 - Dry eye improves in 63% patients
 - 25% decrease breast cancer recurrence
- Men? Little data. Trial in progress. Soy, venlafaxine not effective. Clinical experience: grape seed extract, exercise, homeopathy, acupuncture

Menopausal Vaginitis

- Symptoms: dryness, painful intimacy, bleeding
- ACOG: vaginal estrogen ok in ER+ cancer survivors, but try non-estrogen tx first
- Vaginal hyaluronate as effective as vaginal estrogen. 85% improvement in 10 days tx. Rx.
- Pelvic PT, vaginal laser therapy
- Lubricants, moisturizers, ingredients:
 - Irritants, damage cells, feed yeast: propylene glycol, glycerin, hyperosmolar formulas. In Replens, Hyalogyn, KY, Astroglide
 - Parabens: estrogenic. Used as preservative.
- Better lubes: coconut oil (if no latex), Good Clean Love

Hair Loss

- Aromatase inhibitors
 - Hair needs estrogen -- pregnancy
 - Rx: minoxidil topical
 - Vit B6, C ↑ estrogen's effect on hair follicles and scalp blood vessels.
- Female pattern hair loss
 - Omega 3,6 + antioxidants x 6 mos. Less hair loss, thicker hair, more hairs in growth phase.
 - Melatonin cream ↑ hairs in growth phase

Hair Loss

- Regrowing thick hair after chemo:
 - Clinical experience: biotin, gelatin and silica or bone broth, topical rosemary oil
 - Many hair supplements contain copper. Copper feeds tumor blood vessel formation. Avoid.

Unintended Weight Loss

- Loss of muscle mass: from androgen blockade, inactivity
- Loss of muscle, fat, and appetite: cachexia
- Goal: gain muscle. Stabilize fat.
- Rx: Megace, steroids, Marinol, high calorie diet. Better at gaining fat, water than muscle.

Cachexia Therapies

- Cancer ↑inflammatory signals, →→break down tissue to feed cancer. More calories alone not very effective.
- Fish oil for weight gain during chemo
 - Lean body mass inc 8lb during chemo, advanced lung cancer
 - 2.2 gms fish oil x 10 weeks, 69% kept or gained weight, muscle mass. Placebo: lost 5 lb average, lost muscle.
- L-carnitine: ↑Lean body mass and overall survival in pancreatic cancer. 4 gms x 12 weeks during chemo.

Conclusion

- Natural therapies can relieve many of the common symptoms that affect cancer survivors.
- Some of these therapies also improve cancer treatment effectiveness or overall survival.
- Thank you for the opportunity to speak with you today.
- Questions?
- Contact: Dr Katherine Neubauer,
Cascade Cancer Care, 541 323 3833