Vitamins & Dietary Supplements – *Beyond Cancer to Wellness*

**NATUROPATHIC CANCER CARE**

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**Presentation Objectives**

Upon completion of this activity, participants will be able to:

- Describe the *role of dietary supplements* within the context of the comprehensive survivor care plan.
- Identify a variety of *supplements that may help* to mitigate numerous *common post-therapy symptoms*.
- Identify numerous indicators of health that may be evaluated and addressed in an effort to *promote wellness and reduce risk* of new or recurrent disease.
- **Identify resources** to develop a comprehensive, safe and dynamic wellness plan.
Presentation Outline

- Survivorship Care Plan – *Creating Context*
- Focus on Health – *Promoting Wellness*
- Vitamins & Dietary Supplements
  - Symptom Management – *Quality of Life*
- EVALUATING AND TREATING THE BIOLOGICAL TERRAIN
  - Risk Reduction – the Role of Supplements
  - Dietary Supplement Considerations

Survivorship Care Plan – *Creating Context*

- Medical Oncology Follow Up
  - Surveillance, evaluation and maintenance care
- Family/General Physician Care (PCP)
  - Screening for early intervention of other disease
  - Evaluation and treatment of injury and disease
- HEALTH, WELLNESS & QUALITY OF LIFE FOCUS
  - Promoting health/Preventing injury and disease
  - Addressing pertinent lifestyle factors
  - Dietary supplementation
Multi-Disciplinary / Integrative Approach

Wellness Care

General Physician

Oncology Follow-up

General Health & Wellness Promotion

- Nutrition
  - Vegetables, Fruits, Whole Grains, Herbs/Spices
  - Limiting alcohol consumption
- Physical Activity and Exercise – Intensity
  - Sweating & brief muscle soreness
- Healthy Weight Management – BMI < 25
- Sleep Management – 7-8 hours/night
- Stress Management & Psycho/Social Health
- Minimize/Eliminate Toxic Exposures
Promoting Wellness & Reducing Risk

1. Healthy weight
2. Physical Activity
3.-5. Nutrition x3
6. Alcohol
7. Processed/preserved foods
8. Dietary supplements

American Institute for Cancer Research

RECOMMENDATION B

DIETARY SUPPLEMENTS
Aim to meet nutritional needs through diet alone¹

PUBLIC HEALTH GOAL
Maximise the proportion of the population achieving nutritional adequacy without dietary supplements

PERSONAL RECOMMENDATION
Dietary supplements are not recommended for cancer prevention

¹ This may not always be feasible. In some situations of illness or dietary inadequacy, supplements may be valuable.
**Dietary Supplements – Beyond Cancer to Wellness**

**Multivitamins Vs Food – Nutrition**

From *Anticancer: A New Way of Life* – David Servan-Schreiber, MD

**Vitamins & Dietary Supplements**

*The research results are conflicting*

Headlines are confusing:

“Taking Vitamin E Puts Men at Greater Risk for Prostate Cancer”

“Vitamin D Can Decrease Cancer by Up To 80%”

“Vitamin C Kills Cancer Cells”

“Vitamin C Supplements May be Harmful”
Vitamins & Dietary Supplements

The research results are conflicting

The New York Times

Headlines are confusing:

“Regimens: No Cancer Benefits Seen in Supplements”

“Vitamin E Found to Cut Cancer Risk For Prostate”

“Vitamin A Found to Inhibit Cancer”

“Vitamin D Deficiency Linked to Breast Cancer”
Vitamins & Dietary Supplements

Use supplements as you would any medicine— for a targeted, therapeutic effect.

1. Symptom Management
2. Specific Health Promotion/
   Risk Reduction

Be conscious of the desired effects and potential risks

• Is the supplement safe for you?
• Is the supplement likely effective?
• Understand appropriate prioritization.
• Heed general cautions- allergic rxn, drug interactions

Common Post-Treatment Symptoms

Anemia
Cardiac toxicity
Constipation •
Depression
Diarrhea •
Esophageal reflux
Fatigue •
Hair loss
Hot flashes •
Infection/ immune system function

Joint pains
Liver toxicity/ elevated enzymes
Mental fogginess •
Nail changes
Peripheral neuropathy •
Sexual impairment
Skin rash
Taste changes
Vision changes
Many symptoms will resolve on their own... Eventually

Fatigue

Sleep • 7-8 hrs/n
Protein • 25g/meal
Hydration • 64oz/d

Whey Protein – choose a highly concentrated product; 90% Pure Protein

L-carnitine – 4-6g twice daily
well tolerated; odor, GI upset
Caution: thyroid medication
Common Post-Treatment Symptoms

Fatigue – What is the cause?

CoEnzyme Q10 – 100mg twice daily
   well tolerated; GI upset
   caution: warfarin, some heart medications

Ashwagandha – 500mg twice daily
   well tolerated
   caution: pregnancy, hyperthyroidism

Common Post-Treatment Symptoms

Insomnia – sleep hygiene

Melatonin – 1-3mg at bedtime
   well tolerated; drowsiness, GI upset
   caution: nifedipine, sedatives, anti-depressants

Valerian root – 500mg at bedtime
   well tolerated; drowsiness, GI upset
   caution: prior liver toxicity, upcoming surgery
**Common Post-Treatment Symptoms**

**Mental Fogginess** — ‘Chemo Brain’

See **Fatigue** and **Insomnia**

Acetyl L-Carnitine – 1.5-3g twice daily
- GI upset, tart flavor (powder)
- caution: hemodialysis, attention deficit disorder

Rhodiola – 100mg 2-3x daily
- Irritability, insomnia, dry mouth
- caution: numerous potential drug interactions

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**Constipation**

High fiber foods • 30-40g/d
- Hydration • 64-96oz/day
- Physical activity • walking 30-45m/day

Fiber supplement – 5-15g in 8-12oz water at bedtime
- Pectin, inulin, psyllium, prune or beet powder
- well tolerated; gas, bloating, loose stool, urgency

Senna based tea – one cup 1-2x daily
- licorice, fennel, ginger, etc

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Photo credit – Michael Wolf @ wikipedia.com

Photo credit – Ahmad Fuad Morad @ flickr.com
Common Post-Treatment Symptoms

Diarrhea

Probiotics – one capsule/tablet daily
  use a high-potency product
  containing numerous strains:
    Lactobacilli & Bifidobacteria
  well tolerated; GI upset

L-glutamine – 5g 2-3x/day
  very well tolerated
  mix in warm water to dissolve

Hot flashes

Vitamin E – 400IU 2-3x/daily
  warning: bleeding, GI upset, rash
  caution: blood thinners

Hesperidin Methyl Chalcone – 500mg 2-3x daily
  well tolerated; GI upset, rash
  caution: blood thinners
Common Post-Treatment Symptoms

Peripheral neuropathy

Alpha-lipoic acid – 600mg 2-3x/daily
very well tolerated; GI upset, hypoglycemia

Factors of Health – Individualized Care

- Inflammation
- Oxidative stress
- Glucose / Insulin balance
- Nutrient status – deficiency and/or excess
- Coagulation – components of clotting/bleeding
- Hormone balance / Exposure
- Immune function
- Optimal/Adequate organ function
Evaluating the Biological Terrain

- Inflammation
  - Sedimentation Rate
  - C-reactive Protein
  - Interleukin-6

- Oxidative stress (hepatic)
  - Gamma-glutamyl Transferase

- Glucose / Insulin balance
  - Hemoglobin A1c/ Glycosylated Hemoglobin

- Nutrient status – deficiency and/or excess
  - Vitamin D
  - Essential fatty acid profile

Targeted Risk Reduction

- Fish oil – 2-5g daily
- Green tea – 500mg of EGCG 2-3x/d
- Curcumin – 3-6g daily; highly absorbable form
- Vitamin E succinate – 400IU daily
- Resveratrol – 175-200mg twice daily
- Vitamin D – 1,000-5,000IU daily as per results
- Coriolus mushroom – 600mg three times daily
Dietary Supplement Considerations

Quality & Purity is Important
Specific form of nutrients/botanicals matters

• Vitamin D₃ vs D₂
• Fish oil; cod liver oil vs whole fish vs concentrates
• Root, leaf, flower

Raw material and finished product source matters

• Purity, potency and microbial contamination

Of course “Natural” ≠ Safe or even effective
Just as Rx ≠ Safe

In the US medication errors have been rated as the fourth highest cause of death. Harm 1.5m annually (National Academies; incl. IOM)


Various Certifications

NSF The Public Health and Safety Company™

TGA

FDA U.S. Food and Drug Administration
Protecting and Promoting Your Health

GMP certified

Natural Products Association
GMP certified

USP

Recommended Resources

**Your Multidisciplinary Team:**
- Medical Oncologist
- Primary Care Physician/ Family Doctor
- Integrative Medicine/Wellness Team

**LIVESTRONG & Other Fitness Programs**

**Survivorship Programs**

**Support Organizations and Groups**
- Gilda’s Club, CancerLifeline and more

**Integrative Oncology Specialists**
- Oncology Association of Naturopathic Physicians

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**Recommended Resources**

**Five to Thrive: Your Cutting Edge-Cancer Prevention Plan**
- Lise N. Alschuler, ND & Karolyn A. Gazella

**Anticancer: A New Way of Life**
- David Servan-Schreiber, MD

**Life Over Cancer: Block Program Integrative Cancer Treatment**
- Keith I. Block, MD

**The Cancer Fighting Kitchen**
- Rebecca Katz

**The Journey Through Cancer**
- Jeremy R. Geffen, MD

**Integrative Medicine: About Herbs, Botanicals & More**

  "Memorial Sloan-Kettering Cancer Center website"

Naturopathic Breast Cancer Care

**Epidemiology**

Post-diagnosis dietary factors and survival after invasive breast cancer

Joannette M. Beasley · Polly A. Newcomb · Amy Trethose-Dietz · John M. Hampton · Andrew J. Burch · Michael N. Passarelli · Crystal N. Holick · Linda Titus-Ernstoff · Kathleen M. Egan · Michelle D. Holmes · Walter C. Willett

- 41% increased mortality due to high saturated fat (primarily animal products) consumption.
- 78% increased mortality due to high trans fat (processed/fried foods) intake.


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**European Journal of Cancer Prevention:**
February 2008 - Volume 17 - Issue 1 - pp 39-47
doi: 10.1097/CEJ.0b013e3280b9c7dd
Research papers: Breast Cancer

**Meat consumption, N-acetyl transferase 1 and 2 polymorphism and risk of breast cancer in Danish postmenopausal women**

Egeberg, Rikke; Olsen, Anja; Aukrup, Hermann; Christensen, Janne; Stripu, Connie; Tesen, Inge; Overvad, Kimd; Tjønneland, Anne

- 9% increased risk for breast cancer with increased total meat consumption (25g/day increment)
- 15% increased risk of incidence for red meat consumption
- 23% increased incidence with processed meat consumption.

Conclusion:

Among survivors of early stage breast cancer, adoption of a diet that was very high in vegetables, fruit, and fiber and low in fat did not reduce additional breast cancer events or mortality during a 7.3-year follow-up period.


Conclusion:

A minority [30%] of breast cancer survivors follow a healthy lifestyle that includes both recommended intakes of vegetables-fruits [5+/d] and moderate levels of physical activity [30m walk, 6d/wk]. The strong protective effect observed [56% decreased mortality] suggests a need for additional investigation of the effect of the combined influence of diet and physical activity on breast cancer survival.

Benefits of nutrition

- Avoiding or minimizing alcohol

“Consuming 3-4 alcoholic drinks or more per week after a breast cancer diagnosis may increase risk of breast cancer recurrence [35%], particularly among postmenopausal [51%] and overweight/obese women [60%].”

51% increased mortality due to breast cancer with associated alcohol intake
Exercise after diagnosis of breast cancer in association with survival

Xiaoli Chen, Wei Lu, Wei Zheng, Kai Gu, Charles E Matthews, Zhi Chen, Ying Zheng, and Xiao-Ou Shu


Exercise during first 36 months post-diagnosis was inversely associated with:

- total mortality [30% reduced risk] and
- recurrence/disease-specific mortality [40% reduced risk]

Significant dose-response relationships... were observed.


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Effect of obesity on survival of women with breast cancer: systematic review and meta-analysis

Melinda Protani · Michael Coory · Jennifer H. Martin

- 33% increased risk of mortality for those that are obese; all-cause and breast cancer specific causes of death
- 47% increased risk for pre-menopausal women
- 22% increased risk for post-menopausal women

Naturopathic Breast Cancer Care

Benefits of adequate sleep
- QOL; insomnia, fatigue, depression, etc.
- Light at night (LAN) and increased incidence?

What is adequate sleep?
- 7-8 hours

Tools for improving sleep?
- Sleep hygiene
- Herbal teas; chamomile (benzodiazepine-like)
- Melatonin

19% of BrCA pts surveyed in 2001 had insomnia; 58% indicated due to cancer diagnosis

Conclusion:
“Due to its disruptive effects on circadian rhythms and sleep deprivation at night, shift-working is currently recognized as a risk factor for breast cancer (BC). As revealed by the present analysis based on a comparative case-control study of 1679 women, exposure to light-at-night (LAN) in the "sleeping habitat" is significantly associated with BC risk (odds ratio [OR] = 1.220, 95% confidence interval [CI] = 1.118-1.311; p < .001).”

Naturopathic Breast Cancer Care

Clinical significance of preoperative serum interleukin-6 and C-reactive protein level in breast cancer patients

Conclusion:
“Serum levels of IL-6 correlates well with the extent of tumor invasion, LN metastasis, distant metastasis and TNM staging thus enveloping all aspects of breast cancer.”


Naturopathic Breast Cancer Care

Assessing the biological terrain with biomarkers

- Vitamin D; decreased incidence (14-45%), recurrence, symptoms
- C reactive protein; decreased survival (>16.4mg/L, HR: 3.58)
- Sedimentation rate, IL-6 & Fibrinogen
- GGT; increased incidence (2x), almost 5x in premenopausal
- IGF-1 / insulin / c-peptide; stimulating ER and tumor cell growth, 80-270% increased risk of incidence for insulin users
- Hgb A1c; 33% increased risk of recurrence
- Cholesterol; may increase incidence and aggressiveness
- Thyroid studies; hypothyroid incidence rising (up to 3x)
- Zinc & copper; angiogenesis and aggressive disease
- VEGF (PDGF); prognosis, angiogenesis and aggressive disease
- LDH; may correlate with treatment response