Cancer Survivors –
Hungry & in need of dietary change
Setting the table to promote changes that count

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Cancer Survivors are interested in undertaking dietary change


What Changes do They Make?

**Supplement-Use**

- No differences in supplement-use between 689 cancer survivors & 32,037 healthy controls National Health Interview Survey 1987-1992  
  McDavid et al. *Nutr Cancer*, 41:29, 2001

- Increased supplement-use among survivors
  - 81% Breast Cancer Survivors (N=435)  
  - 70% Breast & Prostate Cancer Survivors (N=988)  
  - 84% Hairy Cell Leukemia (N=34)  

- 41% Breast Cancer Survivors (N=250) started a new supplement  
  Maunsell et al. *JCO* 20:1017, 2002
- 48% of Survivors (126 Breast, 114 prostate, 116 colorectal) started a new supplement  
Supplement-Use Among US Males

NCHS 1999 Series 11, No. 244, 1999
What Needs to Be Done?

• Research to determine the benefits and risks of supplements on cancer (interactions with treatment & genotype) & health in general

• Public education
  (www.cancer.org)
More grassroots efforts to get the word out that reliance on unproven supplements is a lot like fishing.
### How do They Change What They Eat?

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample Size</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demark-Wahnefried et al. <em>Cancer</em> 88: 674, 2000</td>
<td>988 Breast &amp; Prostate CA</td>
<td>55% report &lt;5 daily servings of V&amp;F/day 69% report a low fat diet</td>
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<tr>
<td>Maskarinec et al. <em>Eur J Cancer Care</em> 10:12, 2001</td>
<td>143 Varied CA</td>
<td>48% changed their diets – increases in V&amp;F &amp; decreases in meat most common</td>
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<td>Tangney et al. <em>Breast Cancer Res Treat</em> 71:113, 2002</td>
<td>117 Breast CA</td>
<td>Compared to norms pts consume lower calorie diets with less variety (lower HEI)</td>
</tr>
<tr>
<td>Maunsell et al. <em>JCO</em> 20:1017, 2002</td>
<td>250 Breast CA</td>
<td>41% changed their diets – increase in V&amp;F &amp; decreases in meat most common</td>
</tr>
<tr>
<td>Thomson et al. <em>J Am Diet Assoc</em> 102(6):801-8, 2002</td>
<td>3,084 Breast CA</td>
<td>Higher V&amp;F and fiber-rich food intakes (58%, 60%, 38%, respectively) and lower intakes of high-fat foods</td>
</tr>
<tr>
<td>Patterson et al. <em>J Am Diet Assoc</em>, 103:323, 2003</td>
<td>126 Breast, 114 prostate, 116 colorectal CA</td>
<td>66.3% report dietary change 40% dietary change (V&amp;F, less fat, less meat)</td>
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</tbody>
</table>
### American Cancer Society Expert Committee Grading of Benefit vs. Harm

<table>
<thead>
<tr>
<th>Benefit Category</th>
<th>Possible Actions</th>
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<tr>
<td>Convincing Benefit</td>
<td>?</td>
</tr>
<tr>
<td>Probable Benefit</td>
<td>Striving for a Healthy Weight</td>
</tr>
<tr>
<td>Possible Benefit</td>
<td>Increasing Physical Activity, Limiting Saturated Fat, Increasing Vegetables &amp; Fruits</td>
</tr>
<tr>
<td>Insufficient Evidence of Benefit or Risk</td>
<td>Limiting Total Fat, Increasing Fiber, Increasing Omega-3 Fats, Consuming Soy Foods</td>
</tr>
</tbody>
</table>
Probable Benefit: Striving for a Healthy Weight
What is Known About Body Weight Status & Cancer

- Consensus that energy restriction reduces tumor burden & improves survival in animal models
- Overweight/Obesity consistently associated with increased risk of endometrium, breast (post-menopausal), colon, kidney & gall bladder cancers.
- Overweight/Obesity at time of diagnosis associated with poorer survival for breast, colon and prostate cancers.
Body Weight & Cancer Mortality

- Cohort >900,000
- Risk of Death
  - Men: 1.52 (1.13-2.05)
  - Women: 1.62 (1.40-1.87)
Changes in Body Composition the Year Following Diagnosis Among Breast Cancer Patients Receiving Adjuvant Chemotherapy

Demark-Wahnefried, et al. JCO 2001
Increased Mortality from Non-Cancer Causes Among Survivors

- Study of 1.2 M SEER cases
  \[\text{Brown et al JNCI 1993}\]
- Overall HR for non-cancer related death = 1.37
- CVD major cause of death, DM and 2\textsuperscript{nd} primaries also are factors
- “The evidence that cancer patients die of non-cancer causes at a higher rate than persons in the general population is overwhelming”
% with Limitations:
Survivors vs. General Population

Effect of Weight Change on Physical Function

Women <65

Women >65

Fine et al. JAMA. 282:2136, 1999
Current Studies Testing the Impact of Diet Modification on Disease-Free or Overall Survival – Results after 2006

• Women’s Intervention Nutrition Study (WINS)
  - 2,500 post-menopausal within 12 mths of surgery
  - dietary fat restriction (<15% energy from fat)

• Women’s Healthy Eating Lifestyle (WHEL)
  - 3,088 pre-& post-menopausal after completion of initial therapy and within 4 yrs of dx
  - 5 veg & 3 fruit svg, 16 oz veg juice, 15-20% fat & 30 g fiber
• RCT (CA81191) to improve diet (fruit & vegetable, low fat-saturated fat) & exercise behaviors of breast & prostate cancer survivors dx’d w/ early stage disease within 9 months

• N=530

• Distance Medicine Approach – mailed materials over 10 months

• Randomized to Tailored vs. Untailored Arms

Project LEAD: Leading the Way in Education Against Disease

- RCT (AG11268) aimed at improving physical functioning among breast & prostate cancer survivors age 65+
- Distance Medicine Approach – mailed materials + telephone counseling over 6 months
- Randomized to General Health Counseling (Control) or Diet-Exercise Arms
Behavioral Interventions to Improve Body Composition

Findings:
- Dietary intake not increased
- Physical activity decreased
- Body composition changes at 1 yr equivalent to 10 yrs normal aging
- Clinic-based diet & exercise program effective, but not reaching women most in need

RCT testing a mailed materials/telephone counseling intervention via CCOP’s CA92468
Conclusions:

A substantial proportion of cancer survivors report undertaking dietary change, but the majority pursue changes that are not evidence-based

- More research is necessary to determine diets or nutrients that influence neoplasia.

- More research is necessary to determine interactions between diet (nutrients), treatment and genetic factors for specific cancers.

- Until more is known, more efforts are needed to convey the message to health care providers & survivors that some forms of dietary change may not be beneficial & may be harmful.
Conclusions:

Given extant data on sequelae, comorbidity and the link with other metabolic (syndrome X) disorders – the promotion of some dietary changes appear appropriate

- Achieving a healthful body weight
- Reliance on foods with high nutrient densities (i.e., vegetables, whole grains).
- Limiting foods that are associated with higher risk of other cancers, CVD or DM (i.e., red meat, saturated fat)
Collaborators

**STRENGTH (CA92468)**
- Edward Shaw, MD
- Doug Case, PhD
- William Kraus, MD
- Anne Kenyon, MS
- Ann Skye, MS, RN
- Pam Eberle, MS, RD
- Mary Beth Reardon, MS, RD

**Project LEAD (AG11268)**
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- Carl Pieper, PhD
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- Richard Sloane, MS

**FRESH START (CA81191)**
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- David Lobach, MD, PhD
- Denise Snyder, MS, RD
- Richard Sloane, MS
- Jennifer Arbanas, MS
- Sreenivas Algoli, MS
- Sonya Green, MPH

All participants on the trials
Thank you!