Melanoma Survivorship

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Cancer Survivor

- A “survivor” is anyone living with a history of cancer – from the moment of diagnosis through the remainder of life. (National Coalition for Cancer Survivorship)

- In 2009- estimated 1.5 million new cancer cases. (American Cancer Society, 2009)

- By 2030- worldwide: 27 million new cancer cases and 17 million cancer deaths will occur each year. (International Agency for Research on Cancer (IARC) http://www.iarc.fr/)
Cancer Survivors in the US

Based on November 2007 SEER data submission, posted to the SEER website, 2008.
In 2005, the Institute of Medicine jump-started cancer survivorship care:

- Increase the length and quality of life for those diagnosed with cancer
- Raise awareness
- Cancer survivorship = phase of cancer
- Survivorship Care Plan

Cancer Survivor Care

- Surveillance for recurrence
- Interventions for consequences of cancer & treatment
- Prevention & detection of new cancers
- Coordination of specialists & PCP for survivor’s health care needs

From Cancer Patient to Cancer Survivor: Lost in Transition

- Active treatment → Survivorship care
  - Treatment summary
    - Cancer type
    - Treatments
  - Follow-up plan

From Cancer Patient to Cancer Survivor: Lost in Transition

- Active treatment
- Treatment summary
  - Cancer type
  - Treatments
- Follow-up plan

The following is a recommended Melanoma Follow-up Program for the next 10 years:

<table>
<thead>
<tr>
<th>Year</th>
<th>Visit Duration</th>
<th>Department/Provider Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year 1:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 month visit</td>
<td>Dermatology</td>
</tr>
<tr>
<td></td>
<td>6 month visit</td>
<td>Surgical Oncology with Trish Long, MSN, FNP</td>
</tr>
<tr>
<td></td>
<td>9 month visit</td>
<td>Dermatology</td>
</tr>
<tr>
<td></td>
<td>12 month visit</td>
<td>Surgical Oncology with either Dr. Amos, Meyers, Ollila, Stitzenberg or Yeh.</td>
</tr>
<tr>
<td><strong>Year 2:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15 month visit</td>
<td>Dermatology</td>
</tr>
<tr>
<td></td>
<td>18 month visit</td>
<td>Surgical Oncology with Trish Long, MSN, FNP</td>
</tr>
<tr>
<td></td>
<td>21 month visit</td>
<td>Dermatology</td>
</tr>
<tr>
<td></td>
<td>24 month visit</td>
<td>Surgical Oncology with Trish Long, MSN, FNP</td>
</tr>
<tr>
<td><strong>Year 3 &amp; 4:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>30 month visit</td>
<td>Dermatology</td>
</tr>
<tr>
<td></td>
<td>36 month visit</td>
<td>Surgical Oncology with Trish Long, MSN, FNP</td>
</tr>
<tr>
<td></td>
<td>42 month visit</td>
<td>Dermatology</td>
</tr>
<tr>
<td></td>
<td>48 month visit</td>
<td>Surgical Oncology with Trish Long, MSN, FNP</td>
</tr>
<tr>
<td><strong>Year 5:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>54 month visit</td>
<td>Dermatology</td>
</tr>
<tr>
<td></td>
<td>60 month visit</td>
<td>Surgical Oncology with either Dr. Amos, Meyers, Ollila, Stitzenberg or Yeh.</td>
</tr>
<tr>
<td><strong>Year 6 – 10:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Continue to alternate visits every 6 months between Dermatology and Surgical Oncology.</td>
</tr>
</tbody>
</table>

Surgery Date:__________
Cancer Survivor Issues

- General areas of concern
  - Psychosocial
  - Physical
  - Spiritual
  - Emotional
  - Economic
Cost of Cancer

- **2008: Total Cost 228.1 billion**
  - Direct Medical Costs: $ 93.2 billion (total of all health expenditures)
  - Indirect Morbidity Costs: $ 18.8 billion (cost of lost productivity due to illness)
  - Indirect Mortality Costs: $116.1 billion (cost of lost productivity due to premature death)

(American Cancer Society, 2010)
Health Insurance in 2008

- 24% of Americans age 18-64
  - No Health Insurance for part of 2008
- 13% of Children
  - No health insurance for part of 2008

(American Cancer Society, 2009)
Financial Cost of Cancer

- 25% used up all or most of savings
- 13% borrowed money from relatives
- 13% contacted by a collection agency
- 11% sought aid of a charity or public assistance
- 11% borrowed money/received a loan

USA Today/Kaiser Family Foundation/Harvard School of Public Health
American Cancer Society
North Carolina: 2008

- 42,451 new cases of cancer diagnosed
- 16,963 cancer deaths
## North Carolina Cancer Diagnosis Rate

### Table 1.1 - Top 10 Cancer Diagnoses in North Carolina in 2005

<table>
<thead>
<tr>
<th>Cancer</th>
<th>Incidence Rate*</th>
<th>Cancer</th>
<th>Incidence Rate*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Prostate</td>
<td>147.8</td>
<td>1. Breast</td>
<td>147.5</td>
</tr>
<tr>
<td>2. Lung/bronchus</td>
<td>102.0</td>
<td>2. Lung/bronchus</td>
<td>57.9</td>
</tr>
<tr>
<td>3. Colon/rectum</td>
<td>57.9</td>
<td>3. Colon/rectum</td>
<td>41.8</td>
</tr>
<tr>
<td>4. Bladder</td>
<td>34.7</td>
<td>Other cancers</td>
<td>25.9</td>
</tr>
<tr>
<td>Other cancers</td>
<td>33.5</td>
<td>4. Corpus uteri</td>
<td>20.5</td>
</tr>
<tr>
<td>5. Melanoma</td>
<td>24.2</td>
<td>5. Endocrine</td>
<td>16.7</td>
</tr>
<tr>
<td>8. Oral cavity</td>
<td>17.5</td>
<td>8. Non-Hodgkin’s Lymphoma</td>
<td>15.1</td>
</tr>
<tr>
<td>10. Leukemia</td>
<td>12.7</td>
<td>10. Kidney</td>
<td>11.3</td>
</tr>
</tbody>
</table>

*Per 100,000 population, age-adjusted to the 2000 US Census.
# North Carolina Cancer Death Rate

## Table 1.2 - Top 10 Causes of Cancer Death in North Carolina in 2006

<table>
<thead>
<tr>
<th>Men Cancer</th>
<th>Mortality Rate*</th>
<th>Women Cancer</th>
<th>Mortality Rate*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lung/bronchus</td>
<td>82.9</td>
<td>1. Lung/bronchus</td>
<td>43.1</td>
</tr>
<tr>
<td>2. Prostate</td>
<td>27.9</td>
<td>2. Breast</td>
<td>24.1</td>
</tr>
<tr>
<td>Other cancers</td>
<td>25.1</td>
<td>Other cancers</td>
<td>16.0</td>
</tr>
<tr>
<td>3. Colon/rectum</td>
<td>20.4</td>
<td>3. Colon/rectum</td>
<td>13.8</td>
</tr>
<tr>
<td>5. Leukemia</td>
<td>10.3</td>
<td>5. Ovarian</td>
<td>8.1</td>
</tr>
<tr>
<td>7. Esophagus</td>
<td>7.7</td>
<td>7. Leukemia</td>
<td>5.4</td>
</tr>
<tr>
<td>8. Liver</td>
<td>7.3</td>
<td>8. Corpus uteri</td>
<td>4.3</td>
</tr>
</tbody>
</table>

*Per 100,000 population, age-adjusted to the 2000 US Census.
Melanoma Incidence

2009 Statistics

- 68,720 new melanomas projected to be diagnosed in the United States (American Cancer Society)

- 8,650 people in the United States were expected to die of melanoma during 2009 (American Cancer Society)

- 1 in 53 men and women will be diagnosed with melanoma of the skin during their lifetime (http://seer.cancer.gov/statfacts/html/melan.html)
Median age at Diagnosis for Melanoma: 59 yrs (2002-2006)

Melanoma Staging

- **Stage 0 (Melanoma *in situ*)**
  - Does not reach below the surface of the skin.

- **Stage I**
  - Stage IA melanoma is less than one millimeter thick and has not ulcerated.
  - Stage IB melanoma also may be less than one millimeter thick but has ulcerated (pathologic finding).
Melanoma Staging

- **Stage II**

- Stage IIA melanoma is either one to two millimeters thick with ulceration or two to four millimeters thick with no ulceration.

- Stage IIB melanoma is either two to four millimeters thick with ulceration or more than four millimeters thick without ulceration.

- Stage IIC melanoma is more than four millimeters thick with ulceration.
Melanoma Staging

- **Stage III**

  Stage III melanoma has spread to the lymph system or directly into the lymph nodes near the cancer, and may also have spread directly from the original tumor to areas more than two centimeters away (in-transit disease).
Melanoma Staging

- **Stage IV**
  - Stage IV melanoma has metastasized to more distant lymph nodes and/or to other organs.
# Melanoma Survival

<table>
<thead>
<tr>
<th>Stage</th>
<th>5-Year Survival</th>
<th>10-Year Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>IA</td>
<td>99%</td>
<td>97%</td>
</tr>
<tr>
<td>IB</td>
<td>92%</td>
<td>86%</td>
</tr>
<tr>
<td>IIA</td>
<td>78%</td>
<td>66%</td>
</tr>
<tr>
<td>IIB</td>
<td>68%</td>
<td>59%</td>
</tr>
<tr>
<td>IIC</td>
<td>56%</td>
<td>48%</td>
</tr>
<tr>
<td>IIIA</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>IIIB</td>
<td>50%-68%</td>
<td>44% to 60%</td>
</tr>
<tr>
<td>IIIC</td>
<td>27%-52%</td>
<td>22%-37%</td>
</tr>
<tr>
<td>IV</td>
<td>18%</td>
<td>14%</td>
</tr>
</tbody>
</table>

(American Cancer Society, Inc. Last Revised: 05/06/2009)
Melanoma Survivor Issues

- Risk of Recurrence
- Risk of new primary melanoma
- Finances of Surveillance
- Lymphedema
- Behavior modification
- Sunscreen
- Vitamin D
Melanoma Recurrence

- Risk of recurrence
  - Overall risk 30%
    - Local, satellite, in transit, lymph node, blood-borne mets
  - 80% in the first 2-3 years (Nieweg et al., Surg Onc Clinics 2006; 15:319-330)
  - Early detection = early treatment
Recurrence

- Approximately 70% of cancer patients worry that there cancer will come back (ACS 2008)

- Surveillance visits
  - Surgical Oncology
  - Dermatology
  - Medical Oncology
Melanoma Recurrence

- Pyschosocial/Emotional/Economic
  - Anxiety of visit
  - Waiting room stories
  - Time off work/school
  - Arranging schedules
Risk of new primary melanoma

- Risk of new primary melanoma
  - 4%-8% (Nieweg et al., Surg Onc Clinics 2006; 15:319-330)
  - 4x more likely to be melanoma in situ (Dicker et al., Br J Derm 1999; 140:249-54)

- Importance of patient education

- Multiple studies - patient self-detection
Finances of Melanoma Survival

- **Treatment associated costs**
  - Adjuvant treatment
  - Lymphedema

- **Melanoma follow-up**
  - CXR, Labs, Staging studies
    - BCBS denials of PET
  - Annual dermatology exams for life

- **Cost of recurrence**
  - Recurrence treatment
  - Second primary melanoma
Finances of Melanoma Survival

- Health Insurance Coverage
  - Pre-existing condition
    - Denials
    - Higher Premium
    - Lack of coverage of treatment
    - PET scans-BCBS

- Life Insurance
  - Pre-existing condition
    - Denials
    - Higher Premium
Lymphedema

- Development
  - Definition
  - Physical impact
    - Treatment
      - Garments
  - Emotional impact
Lymphedema

- Risk reduction strategies
  - Skin care
  - Activity/Lifestyle
  - Avoid limb constriction
Behavior Modification

- Sun modifying behaviors
  - Patient
  - Family/children

- Tanning beds
  - Current regulations in NC
    - Warning signs posted
    - Age 18 or parental signature
Sunscreen

- **AAD Recommendations**
  - SPF 15 or greater 30 minutes before going outside
  - Broad Spectrum
    - UV-A & UV-B coverage
  - Re-apply every 2 hours
Sunscreen

**Does sunscreen cause melanoma?**
- Not proven in the literature

**Sunscreen = Carcinogen?**

**Skin Cancer Foundation Statement:**
- Unnecessary confusion and cause people to stop using sunscreen. (Skin Cancer Foundation)
Vitamin D

- Aids in the absorption of calcium
  - Bone growth

- Sun exposure
  - 5-30 minutes between 10am-3pm twice a week
  - 10 minutes mid-day sun in the summer
    (US News & World Report, June 23, 2008)
    - North of 42-degrees latitude (Northern California to Boston)
      - November –February supplement in the winter
Factors Affecting Vitamin D Levels

- Location and Season
  - UV-B
    - Late fall-early Spring
- Amount of sun
- Skin color
- Age
- Weight
Vitamin D Deficiency

- Development Rickets in children
- Development of Osteomalacia in adults
Vitamin D Deficiency
Other Symptoms?

- muscle pain
- Alzheimer's
- Allergies
- Several types of cancers
- Daytime sleepiness
- Depression
- Diabetes, Type 1 and 2
- Fatigue
- Heart disease, hypertension, stroke
- Infertility
- Misaligned teeth and cavities, periodontal disease

- Multiple sclerosis
- Muscle weakness
- Parkinson's disease
- Psoriasis
- Schizophrenia
- Sleep irregularities
- Weaker bones, bone pain and frequent fractures
- Weaker immune system becomes weak
- Vision problem
<table>
<thead>
<tr>
<th>ng/mL**</th>
<th>Health status</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;11</td>
<td>Associated with vitamin D deficiency and rickets in infants and young children</td>
</tr>
<tr>
<td>&lt;10-15</td>
<td>Generally considered inadequate for bone and overall health in healthy individuals</td>
</tr>
<tr>
<td>≥30</td>
<td>Proposed by some as desirable for overall health and disease prevention, although a recent government-sponsored expert panel concluded that insufficient data are available to support these higher levels</td>
</tr>
<tr>
<td>Consistently &gt;200</td>
<td>Considered potentially toxic, leading to hypercalcemia and hyperphosphatemia, although human data are limited. In an animal model, concentrations ≤400 ng/mL (≤1,000 nmol/L) demonstrated no toxicity</td>
</tr>
</tbody>
</table>

*Table 1: Serum 25-Hydroxyvitamin D [25(OH)D] Concentrations and Health*
Vitamin D Levels

- Serum measures
  - 25(OH)D is the best indicator of vitamin D status
  - serum 25(OH)D levels do not indicate the amount of vitamin D stored in other body tissues

- Optimal levels of Vitamin D
  - No consensus
    - levels below 20 ng/ml (50 nmol/L) considered insufficient
## Adequate Intakes (AIs) Vitamin D

<table>
<thead>
<tr>
<th>Age</th>
<th>Children</th>
<th>Men</th>
<th>Women</th>
<th>Pregnancy</th>
<th>Lactation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth to 13 years</td>
<td>400 IU</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-18 years</td>
<td></td>
<td>200 IU</td>
<td>200 IU</td>
<td>200 IU</td>
<td>200 IU</td>
</tr>
<tr>
<td>19-50 years</td>
<td></td>
<td>200 IU</td>
<td>200 IU</td>
<td>200 IU</td>
<td>200 IU</td>
</tr>
<tr>
<td>51-70 years</td>
<td></td>
<td>400 IU</td>
<td>400 IU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>71+ years</td>
<td></td>
<td>600 IU</td>
<td>600 IU</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Sources of Vitamin D

<table>
<thead>
<tr>
<th>FOOD</th>
<th>IU per serving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooked Salmon - 3 ounces</td>
<td>794</td>
</tr>
<tr>
<td>Cooked Mackarel – 3 ounces</td>
<td>388</td>
</tr>
<tr>
<td>Canned Tuna - 3 ounces</td>
<td>154</td>
</tr>
<tr>
<td>Milk, nonfat, reduced fat, and whole, vitamin D-fortified, 1 cup</td>
<td>115-124</td>
</tr>
<tr>
<td>Orange juice fortified with vitamin D, 1 cup</td>
<td>100</td>
</tr>
<tr>
<td>Yogurt, fortified with 20% of the DV for vitamin D, 6 ounces</td>
<td>80</td>
</tr>
<tr>
<td>Ready-to-eat cereal, fortified with 10% of the DV for vitamin D, 0.75-1 cup</td>
<td>40</td>
</tr>
</tbody>
</table>
Summary

- Melanoma Survivors
  - Recurrence
  - New Melanoma diagnosis
  - Finances of being a survivor
  - Effects of melanoma treatment
    - Lymphedema
Summary

- Media mixed messages
  - Sunscreen use
  - Vitamin D deficiency
  - Sun exposure
  - Tanning beds