Incorporating Weight Management and Physical Activity in Cancer Survivorship Care

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49 year old female

2008-Diagnosed with stage 1 ER/PR+, HER2- breast cancer

Found to be BRCA2 carrier

Treated with bilateral mastectomy and adjuvant aromatase inhibitor (AI)

Underwent prophylactic bilateral salpingo-oophorectomy and total abdominal hysterectomy

BMI 35 kg/m² at diagnosis

Followed according to guidelines until 5 years, then annually
Discussions regarding weight and lack of physical activity

- At diagnosis—”too stressed”
- On AI therapy—”the treatment is making me gain weight”
  - Maximum BMI 40 kg/m2
- Throughout annual follow-up—”I’ve tried; nothing works”

Diagnosed with pre-diabetes

Started Weight Watchers and working with trainer

- Regular encouragement from physicians
- Lost 20+ lbs, exercising regularly

February 2017: No longer prediabetic!
The Survivor Population

15.5 million as of 1/1/16

Percentage by Year from Diagnosis

Age of Survivors

Number of Survivors By Cancer Type

Top 10 Cancers in Men
- Prostate
- Colorectal
- Melanoma
- Urinary Bladder
- NHL
- Kidney
- Testis
- Lung
- Leukemia
- HNSCC

Top 10 Cancers in Women
- Breast
- Uterine
- Colorectal
- Thyroid
- Melanoma
- NHL
- Lung
- Cervix
- Ovary
- Kidney

Survivors’ Reality

- High comorbidity burden
  - Multiple comorbidities common
    - Musculoskeletal, cardiorespiratory
  - Poor health outcomes and need for help with ADLs

- High risk of death of non-cancer causes and second primary cancers
  - Risk of cardiovascular disease-related death increases with time since diagnosis
  - Majority of second primary cancer arise in separate organ system

Late and Long-term Effects

- **Late effects**: Unrecognized toxicities absent or subclinical at end of treatment and manifest at a later time point

- **Long-term effects**: Side effects or complications of treatment for which a patient must compensate, arising during treatment and persisting after treatment completion

- Include:
  - Impaired organ function/physical function
  - Psychosocial distress
  - Sexual dysfunction/Infertility
  - Cosmetic changes
  - Mobility limitations
  - Communication and cognitive issues
  - Practical and financial issues

Engaging in Healthy Behaviors

- Behavior Risk Factor Surveillance System and National Health and Nutrition Examination Survey data
  - 33.5% physically inactive
  - Likely to report sedentary behavior > 8 hours/day
  - 66.2% overweight/obese
  - 82.8% did not consume recommended servings of fruits or vegetables

# Health Behavior Guidelines for Cancer Survivors

<table>
<thead>
<tr>
<th>Health Behavior</th>
<th>ACS/NCCN Guidelines Recommendations</th>
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<tbody>
<tr>
<td>Weight</td>
<td>Achieve and maintain a healthy body weight</td>
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<tr>
<td>Diet</td>
<td>Consume a diet high in fruits, vegetables, and whole grains; and low in processed and red meats, sugars, and fat</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>• Avoid inactivity and engage in routine physical activity</td>
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<tr>
<td></td>
<td>• Aim for at least 150 minutes/week of moderate intensity</td>
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<tr>
<td></td>
<td>• Include both aerobic and strengthening exercises</td>
</tr>
<tr>
<td>Alcohol Consumption</td>
<td>Limit to 1 drink/day for women or 2 drinks/day for men</td>
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• UNC study of oncologists treating breast, prostate, or colorectal cancer:
  • 35% of encounters discussed physical activity
  • Higher rates of discussion in older patients or in those in “survivorship” phase
  • 7% after visit summaries included statements on physical activity

Providers’ Attitudes Toward Health Behavior Counseling: It’s Good, But...

- Most oncologists believe beneficial, important, and safe
- Spend 5 minutes discussing exercise
- 29% do not feel patients can exercise while on treatment

- Few survivors recall being asked or advised about health behaviors
  - Counseling on diet, exercise, and smoking decreases over time

Providers’ Recommendations Matters

- RCT of newly diagnosed breast cancer patients
- “...I recommend trying to exercise 20-30 minutes every day at a moderate intensity. Even less may be beneficial, but try to do something everyday. Exercises such as brisk walking will meet this requirements.”

- Increased physical activity engagement by 30 minutes/week
- 11% increase in those meeting guidelines

- 41% of patients incorrectly recalled whether recommendation had been made

Jones LW et al, Ann Behav Med 2004
In Survivors, More Might Be Needed

- RCT of breast and CRC survivors in Korea
- Usual care vs. MD recommendation vs. MD recommendation and motivation package
  - “Studies show that participation of moderate physical activity > 150 minutes/week could... reduce recurrence significantly. Therefore...highly recommended for breast and colorectal cancer survivors to participate in > 150 minutes of moderate level activity and twice weekly strength training.”
  - Motivation package: exercise DVD, pedometer, education, diary
- Addition of motivation package:
  - Increased moderate intensity exercise and total exercise
  - Improved role function
  - Reduced pain and diarrhea
- No benefit to MD recommendation alone

Park et al, Cancer 2015
### Barriers: Survivors and Providers

<table>
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<th>Survivors</th>
<th>Providers</th>
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<tbody>
<tr>
<td><strong>Lack of time</strong>/other responsibilities</td>
<td><strong>Lack of time</strong> during clinic encounter</td>
</tr>
</tbody>
</table>
| **Lack of access** to safe exercise facilities, healthy food options, nutritional expertise | **Lack of** supportive or coordinated *infrastructure*  
- Lack of referral options  
- Lack of efficacious strategies  
- Lack of reimbursement/funding for services  
- Documentation burden |
| **Lack of messaging** from providers  
Unrealistic demands from providers  
Too many changes recommended at once | **Lack of expertise/competency**  
- Very little training on how to do this  
- Unrealistic recommendations |
| **Treatment effects** burden | **Risk** to patients and survivors |
| **Lack of motivation**/dislike exercise/depression | **Lack of motivation** or feeling of need to “do more” |
| **Skepticism** about benefits | **Skepticism** about survivors’ ability to change behavior  
**Lack of knowledge** about benefits |
| Older age |  |
| Cultural barriers |  |
| Body image (“...look better with just a little more weight back on me”) |  |
| Unsupportive family/friends |  |

Competing Needs in Survivorship Care

Dx  1st Year  5th Year

**Acute Phase:**
- Treatment & Care Planning
- Rehabilitation
- Side Effect Management

**Extended Phase:**
- Periodic Assessments
- Psychosocial Support
- Surveillance
- Treatment Effect Management

**Permanent Phase:**
- Cancer Screening
- Late Effects Detection

Health Promotion (Nutrition/Physical Activity/Weight Management)

Comorbid Condition Management

Typical Clinic Visit

- 15-20 minutes long
- Agenda:
  - How are you feeling?
    - Assessment and management of treatment effects
  - What’s going on with your cancer?
    - Review any surveillance testing, physical exam, laboratory studies, vital signs, etc
  - How is your overall health?
    - Cancer screening studies/Vaccinations
    - Discuss non-oncology issues that arise
  - Plan for your next visit
    - Write orders
    - Describe next steps(review After Visit Summary)
- Do this 9-15 times in a half-day session, and possibly see a new patient too
Clinic Day Events

• Additional distractions during visit:
  • Pager going off—somebody needs you somewhere
  • Clinic staff has questions
  • Telephone triage nurses have questions
  • Trainees need to be taught

• Nurse’s responsibilities
  • Patient education
  • Management of orders
  • Scheduling questions
  • Infusion administration

• Don’t forget to document!
My Quest for Local Cancer Survivorship Resources

- Small number of cancer-trained personal trainers
  - 20+ trainers at my gym, none ACSM cancer certified
- Few health and wellness centers with programs for cancer survivors
  - Typically associated with health systems and in suburbia
- LIVESTRONG at the YMCA and other programs at locations nearby
  - Hard to know who lives where and whether program in area
  - Smaller gyms/communities may not have anything
- Little knowledge of needs of survivors at local commercial gyms
**NCCN Guidelines Version 2.2016**  
**Physical Activity**

### PHYSICAL ACTIVITY ASSESSMENT

**Focused clinical evaluation**
- Weight/BMI
- Blood pressure
- Functional status/performance status
- Assess baseline level of activity prior to diagnosis and current level of activity
- Barriers to physical activity as assessed by survivor
  - Environmental (home, gym access, outdoor space)
  - Financial
  - Physical limits
  - Time/competing demands
  - Social support
  - Stress
  - Review of systems
  - Disease status
  - Nutritional status

**Assessment of treatable contributing factors**
- Pain
- Fatigue
- Emotional distress
- Nutritional deficits/imbalance
- Medications/side effects

**Assessment of comorbidities and treatment effects as appropriate:**
- Cardiovascular disease (including cardiomyopathy)
- Pulmonary disease
- Arthritis/musculoskeletal issues
- Lymphedema
- Peripheral neuropathy
- Bone health/bone strength (including presence of bone metastases)
- Incontinence
- Presence of stoma or ostomy
- Fall risk assessment
- Need for assistive devices (cane, walker, brace, etc.)
- History or presence of anemia/thrombocytopenia
- Steroid myopathy

**Determine risk level for exercise-induced adverse events**
(See SPA-3)

### RISK ASSESSMENT FOR PHYSICAL ACTIVITY-INDUCED ADVERSE EVENTS

- No significant comorbidities
  - General recommendations for physical activity for cancer survivors
- **Peripheral neuropathy**
- Arthritis/musculoskeletal issues
- Poor bone health
- Lymphedema
- History of lung surgery or major abdominal surgery
- Ostomy
- Cardiopulmonary comorbidities (i.e., COPD, CHF, CAD, cardiomyopathy)
- Extreme fatigue
- Ataxia
- Severe nutritional deficiencies
  (i.e., lymphedema exacerbation)
- Worsening/changing physical condition
  (i.e., lymphedema exacerbation)

**General recommendations for cancer survivors with modifications based on assessment**
- Consider medical evaluation prior to initiation of exercise program
- Consider referral to trained personnel

**Considerations for specific populations**
(See SPA-A)

**Medical clearance by physician**
- Refer to trained personnel

**Implementation of physical activity recommendations**
(See SPA-4)
**NCCN Guidelines Version 2.2016**

**Physical Activity**

**IMPLEMENTATION OF RECOMMENDATIONS**

- Meeting Guideline recommendations
  - Current or prior exercise behavior:
    - Frequency
    - Intensity
    - Type
    - Time

- Not meeting Guideline recommendations and/or patients with comorbidities (See SPA-3)

- Develop incremental short- and long-term goals regarding physical activity participation.
  - Suggested initial prescription:
    - Frequency: 1–3 d/wk
    - Intensity: Light to moderate
    - Type: Brisk walking and/or resistance prescription
    - Time goal: 20 min/session

- Periodic reassessment, positive reinforcement with review of benefits of exercise, and encouragement to maintain activity level
- Discuss and review possible side effects of exercise (eg, pain)

- If tolerating

- Progression:
  - Incremental increases in time spent in physical activity or in intensity of activity
STRATEGIES TO INCREASE PHYSICAL ACTIVITY

- Physician and/or fitness expert recommendation
- Supervised exercise program or classes
- Telephone counseling
- Motivational counseling
- Evaluate readiness to change, importance of change, self-efficacy
- Cancer survivor-specific print materials (See SURV-B 2 of 2)
- Set short- and long-term goals
- Consider use of pedometer or wearable fitness tracker to monitor activity goals (e.g., obtain 10,000 steps per day)
- Encourage social support (exercise buddy, group)

GUIDANCE FOR RESISTANCE TRAINING RECOMMENDATIONS

- Health benefits of resistance training include improvement in muscle strength and endurance, improvements in functional status, and maintenance/improvement in bone density
- Multi-joint exercises are recommended over exercises focused on a single joint
- All major muscle groups (chest, shoulders, arms, back, abdomen, and legs) should be incorporated into a resistance training program
- Larger muscle groups (legs, back, and chest) should be worked before smaller muscle groups (arms and shoulders)
- Resistance training prescription
  - Frequency: 2–3 times/week
  - Intensity: 2–3 sets of 10–15 repetitions per set; consider increasing weight amount as tolerated when 3 sets of 10–15 repetitions becomes easy
  - Time: 20 minutes per session
  - Rest: 2- to 3-minute rest period between sets and exercises
- For survivors who do not currently do resistance training: Start with one set of each exercise and progress up to 2–3 sets as tolerated
- Utilize weight amount that would allow for performance of 10–15 repetitions
- Survivors at risk for or with lymphedema should utilize compression garments when engaging in resistance training
## Facilitators of Health Behavior Changes

<table>
<thead>
<tr>
<th>Survivors</th>
<th>Providers</th>
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<tbody>
<tr>
<td><strong>Positive perception</strong> of health behavior change</td>
<td><strong>Benefit</strong> to cancer outcomes or overall health/well-being/comorbidities</td>
</tr>
<tr>
<td>Small, <strong>achievable goals</strong></td>
<td>Recommend small, <strong>achievable changes</strong></td>
</tr>
<tr>
<td><strong>Easy access</strong> to exercise facilities, healthy food, weight loss services</td>
<td><strong>Referral resources available</strong> for exercise, nutrition/dietician</td>
</tr>
<tr>
<td><strong>Supportive providers</strong>, family, friends</td>
<td><strong>Positive</strong> patient-provider relationship</td>
</tr>
<tr>
<td>Hearing messages from multiple providers</td>
<td>Messaging from multiple providers</td>
</tr>
<tr>
<td><strong>Fear of recurrence</strong></td>
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<tr>
<td>Younger age</td>
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<tr>
<td>Self-motivation/readiness to change</td>
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<tr>
<td>Workout partner (<strong>accountability</strong>)</td>
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Resources for the Clinician

- **American Cancer Society**: Survivorship Guidelines
- **American Institute for Cancer Research**: Survivorship-oriented health behavior information
- **American Society of Clinical Oncology**: Survivorship Compendium and Obesity Toolkit
- **LIVESTRONG**: Health behaviors tools; LIVESTRONG at the YMCA
- **National Cancer Institute**: Facing Forward series
- **National Comprehensive Cancer Network**: Disease-specific and Survivorship Guidelines
- **National Heart, Lung, and Blood Institute**: Weight management resources
- **Cancer Nutrition Consortium**: Nutrition Guidance
- **American College of Sports Medicine**: Exercise professionals
- **Silver Sneakers**: Older adult activity
...Back to My Patient

- **Barriers:**
  - Belief she could not do it
  - Side effects of treatment
  - Failure to fully commit
  - Lack of time during visit to explore what was going on
  - Lack of knowledge regarding alternative resources
  - Annual visits after 5 years

- **Facilitators:**
  - Messaging from both oncologist and primary care physician
  - Fear of consequences
  - Accountability (Weight Watchers, trainer)
  - Support from providers and family/friends
Conclusions

• Getting cancer survivors engaged in health behavior change is not easy
• Multiple levels of barriers exist for both survivor and provider
  • Time, motivation, efficacy, generalizability, access
• Research needed on overcome barriers at both survivor and provider side
  • How to overcome lack of time???
• Guidelines and resources exist but may be hard to identify or access
Thank You!

- National Comprehensive Cancer Network Foundation
  - National Comprehensive Cancer Network
    - My patients and colleagues
    - My trainers over the years
      - You