Exercise for Cancer Survivors

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Exercise is Medicine

- Avoid inactivity!
- Exercise can significantly reduce side effects of cancer treatment, as well as reduce risk of mortality
- Aim for a comprehensive exercise program including cardiovascular conditioning, strength training, stretching and balance exercises

**Exercise Goal:**
- 30 minutes 5x/week
- Total of 150 minutes per week at moderate pace
What We Will Cover

- Why is exercise so important for cancer survivors?
- How much should I be doing?
- What should I be doing?
- How can I stick with it?
- What resources are available to help me?
Why is Exercise So Important for Cancer Survivors?
Research on Exercise for Cancer Survivors

Much research has been conducted, mainly involving breast and colorectal cancers, and this has consistently shown that exercise:

- Significantly improves functioning and quality of life of cancer survivors
- May reduce mortality due to cancer and other causes
Exercise Improves Functioning of Breast Cancer Survivors

- **Study:** 717 breast cancer survivors in 14 randomized, controlled trials
- **Conclusion:** Physical activity led to significant improvements in:
  - Quality of life
  - Physical functioning
  - Peak oxygen requirements
  - Reduction in fatigue

Exercise Improves Functioning of Cancer Survivors

<table>
<thead>
<tr>
<th>Physical</th>
<th>Emotional</th>
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<tbody>
<tr>
<td>Improves cardiovascular fitness</td>
<td>Improves body self image</td>
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<tr>
<td>Builds muscle strength</td>
<td>Decreases depression and elevates mood</td>
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<td>Assists with weight loss</td>
<td>Boosts energy</td>
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<td>Improves balance</td>
<td>Improves sleep quality</td>
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<tr>
<td>Builds bone density</td>
<td>Helps with stress management</td>
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<td>Decreases lymphedema</td>
<td>Increases sense of control</td>
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<td>Decreases pain</td>
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<td>Improves cognition</td>
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Exercise May Reduce Mortality

- **Study**: Meta-analysis of 16 studies of breast cancer survivors and 7 studies of colorectal cancer survivors including 49,000 cancer survivors
- **Results**: 150 min. per week of moderate physical activity after cancer diagnosis was associated with:
  - 24% reduction in total mortality for breast cancer survivors
  - 28% reduction in total mortality for colorectal cancer survivors

Exercise May Reduce Mortality

**Study:** 2705 male health professional prostate cancer survivors

**Results:**
- Those who walked > 90 minutes per week at normal to very brisk pace had 46% decreased risk of all-cause mortality.
- Men with ≥ 3 hours per week of vigorous activity (biking, tennis, jogging or swimming) had 61% lower risk of dying from prostate cancer.

Physical Activity and Survival After Prostate Cancer Diagnosis in the Health Professionals Follow-Up Study. Kenfield SA et al, *Journal of Clinical Oncology* 29(6), 2011
Underlying Mechanisms

- Decreases inflammation
- Boosts immunity
- Lowers sex hormone levels (androgens and estrogens)
- Potential to reduce body fat
- ? Unknown mechanisms
How much is enough?
Historical Perspective

- 2002 American Cancer Society first issued exercise guidelines
- 2010 American College of Sports Medicine: Cancer Exercise Guidelines

• Exercise training is safe during and after cancer treatments

• Exercise can improve physical functioning, quality of life, and cancer-related fatigue in several cancer survivor groups

• Survivors should follow the 2008 Physical Activity Guidelines for Americans, with specific individualized exercise prescription based on their disease and treatment related side effects

• Avoid inactivity
US Dept of Health and Human Services: 2008 Physical Activity Guidelines for Americans

- 150 minutes (2.5 hours)/week of moderate intensity or 75 minutes (1 hour and 15 minutes)/week of vigorous intensity
- For additional and more extensive health benefits, should increase to 300 minutes (5 hours)/week of moderate intensity or 150 minutes (2.5 hours)/week of vigorous intensity
- 2x/week of strengthening of major muscle groups
- Any physical activity is better than none
- Older adults (above 65 years old) should do balance exercises if they are at risk for falling
What Should I Be Doing?

- Cardiovascular Training
- Strength Training
- Stretching
- Balance Exercises
Cardiovascular Training

• Goal is at least 150 minutes of moderate intensity exercise per week
  • 30-60 minutes
  • 5 times per week
• One continuous session or multiple shorter sessions
• Include warm-up and cool-down
• Monitor intensity through target heart rate zone or RPE (Rating of Perceived Exertion)
Strength Training

- 2-3 times per week
- Working all major muscle groups
  - Legs, hips, back, abdomen, chest, shoulders, arms
- Slow, gradual progression
- For each exercise: 10 – 20 repetitions, 2 – 3 sets.
- If you have lymphedema risk:
  - Start slowly and gradually. Use lighter weights and more repetitions initially.
Stretching

- Do at least 2 times per week
- Should feel stretch, not pain
- Hold 15 – 30 seconds, 3 repetitions
- Yoga
Balance Exercises

- Do at least 2 times per week
- Perform safely to minimize fall risk
- Yoga, Tai chi
Medical Precautions

- Always consult with your MD or other practitioner to clear you for exercise
- Monitor blood lab values (Platelets, Hematocrit/Hemoglobin)
- Seek advice from an Oncology Physical Therapist, particularly if you have:
  - Chronic orthopedic injuries
  - Bone metastases
  - Heart conditions
  - Risk of lymphedema
  - Neuropathy
General Exercise Considerations

- Gradually increase time and intensity
- Heed warning signs of injury
- Ensure proper hydration and rest
- Consider cross training
- Dress properly
- Wear compression garments during exercise if you have lymphedema
How do I stick with it?
Challenges Along The Way

- Immediate and late effects of chemotherapy, radiation, surgery and hormonal changes
- Disease specific barriers
- Lack of time, enjoyment and social support
- Filling multiple roles, caretaking
- Changes in physical appearance
- Concerns about safety, financial or socioeconomic
Strategies to Increase Compliance

- Get an exercise buddy/join a team
- Choose a form of exercise that you enjoy and is convenient
- Schedule exercise into your day!
- Keep an exercise log
- Set behavioral as well as outcome goals
- Reward yourself along the way
Resources
Physical Therapy can help!

- Get consultation as soon as possible after diagnosis
- Receive individually tailored exercise program, including:
  - Education on proper alignment to protect spine and joints
  - Information on how to progress your exercises safely
  - Manual therapy (stretching, scar tissue mobility, etc.)
  - Strategies for managing fatigue and improving endurance

- Cancer survivors may need more assistance sticking with exercise program due to long-term effects of treatment
Seattle Area Exercise Programs

- YMCA Exercise and Thrive
  - www.seattleymca.org

- Team Survivor Northwest
  - www.teamsurvivornw.org

- Cancer Lifeline
  - www.cancerlifeline.org

- Gilda’s Club
  - www.gildasclubseattle.org
YMCA
Exercise and Thrive

• Program for cancer survivors at local YMCAs
• Meets 2x/week, 90 minute sessions, 12 weeks
• Assessment pre and post class
• Set individual goals with help of nationally certified personal trainers
• Focuses on cardio, strengthening, ROM, support
Team Survivor Northwest
www.teamsurvivornw.org

- Weekly workouts at 6 clinics in Seattle area
- Twice weekly walks
- Hiking
- Biking
- Dragon boating
- Swimming
- Annual fitness retreat
- Annual mountain climb
Summary

• Avoid inactivity!
• Exercise can significantly reduce side effects of cancer treatment, as well as reduce risk of mortality
• Aim for a comprehensive exercise program including cardio, strength training and stretching, as well as balance

Exercise goal:
• 30 minutes, 5x per week
• Total of 150 minutes per week at moderate pace
References

- American College of Sports Medicine Roundtable on Exercise Guidelines for Cancer Survivors; Schmitz et. al; Medicine & Science in Sports & Exercise 2010.

- Kenfield, SA, Stampfer, MJ, Giovannucci, E and Chan, JM. Physical Activity and Survival After Prostate Cancer Diagnosis in the Health Professionals Follow-up Study. *Journal of Clinical Oncology.* February 2011; 29(6); 726-732


- US Department of Health and Human Services: 2008 Physical Activity Guidelines for Americans
Thank you!

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