



## Possible Late or Long-Term Side Effects of Cancer Treatment

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Chemotherapy	Radiation	Surgery
<ul style="list-style-type: none"> <li>Bone and joint problems</li> <li>Dental problems</li> <li>Digestion issues</li> <li>Early menopause</li> <li>Fatigue</li> <li>Hearing loss</li> <li>Heart problems</li> <li>Infertility</li> <li>Kidney and urinary problems</li> <li>Liver damage</li> <li>Loss of taste</li> <li>Lung disease</li> <li>Nerve damage (neuropathy)</li> <li>Osteoporosis</li> <li>Reduced lung capacity</li> <li>Risk of other cancers</li> <li>Secondary cancers</li> </ul>	<ul style="list-style-type: none"> <li>Bone growth issues (in children)</li> <li>Cavities and tooth decay</li> <li>Cognitive challenges</li> <li>Digestion issues</li> <li>Dry mouth</li> <li>Early menopause</li> <li>Fatigue</li> <li>Heart and vascular problems</li> <li>Hypothyroidism</li> <li>Infertility</li> <li>Intestinal problems</li> <li>Lung disease</li> <li>Lymphedema</li> <li>Memory problems</li> <li>Osteoporosis</li> <li>Permanent hair loss</li> <li>Risk of stroke</li> <li>Secondary cancers</li> <li>Skin sensitivity</li> <li>Thyroid/adrenal gland problems</li> </ul>	<ul style="list-style-type: none"> <li>Chronic pain</li> <li>Lymphedema</li> <li>Phantom pain</li> <li>Scarring</li> </ul>
		Hormone Therapy
		<ul style="list-style-type: none"> <li>Blood clots</li> <li>Hot flashes</li> <li>Menopausal symptoms</li> <li>Osteoporosis</li> <li>Risk of other cancers</li> <li>Sexual side effects</li> </ul>
		Immunotherapy
		<ul style="list-style-type: none"> <li>Late effects unknown yet</li> </ul>
		Targeted Therapy
		<ul style="list-style-type: none"> <li>Late effects unknown yet</li> </ul>



# Wellness Plan After Cancer Treatment

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## References:

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- Demark-Wahnefreid W, Jones LW. Promoting a healthy lifestyle among cancer survivors. *Hematol Oncol Clin N Am.* 2008;22:319-342.
- Avishai E, Yeghiazaryan K, Golubnitschaja O. Impaired wound healing: facts and hypotheses for multi-professional considerations in predictive, preventive and personalized medicine. *EPMA J.* 2017;8(1):23-33.
- [www.cancer.net/survivorship/long-term-side-effects-cancer-treatment](http://www.cancer.net/survivorship/long-term-side-effects-cancer-treatment), accessed 8/30/2018.
- Ligibel J. Lifestyle factors in cancer survivorship. *J Clin Oncol.* 2012;30:3697-3704.

## Appendix A: Guidance for Resistance Training

From: NCCN Guidelines Version 1.2018 Physical Activity.

- Health benefits of resistance training include improvement in muscle strength and endurance, 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: 2-3x/week; survivors should wait at least 48 hrs between training sessions
  - Intensity: 2-3 sets of 10-15 reps/set; consider weight when 3 sets/10-15 reps becomes easy
  - Rest: 2- to 3-minute rest period between sets and exercises
- Utilize weight amount that would allow for performance of 10-15 repetitions
- Survivors with or at risk for lymphedema should take additional precautions



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### **Appendix B: Examples of Physical Activity**

From: NCCN Guidelines Version 1.2018 Physical Activity.

Light Exercise (No noticeable change in breathing pattern)

- Leisurely biking <5 mph
- Activity-promoting video game
- Light housework (light sweeping, dusting)
- Bowling
- Playing Catch
- Slow walking
- Child care
- Yoga
- Tai chi

Moderate Exercise (Can talk, but not sing)

- Ballroom/Line dancing
- Biking on level ground or with few hills
- General gardening
- Baseball, softball, volleyball
- Doubles tennis
- Using a manual wheelchair
- Brisk walking
- Water aerobics
- Yoga

Vigorous Exercise (Can say a few words without stopping to catch a breath)

- Aerobic/Fast dancing
- Biking >10 mph
- Heavy gardening
- Hiking uphill
- Jumping rope
- Martial arts
- Race walking, jogging, running
- Running sports (basketball, hockey, soccer)
- Swimming (fast pace or laps)
- Singles tennis
- Stair climbing
- High-intensity yoga