

Moving Beyond Cancer: Tips for Getting and Staying Physically Active

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Survive & Thrive
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Benefits of Physical Activity (PA) During for Cancer Patients and Survivors

During Treatment

- ↑ fitness, physical functioning, self-esteem
- ↓ nausea and vomiting, pain, fatigue, % body fat
- May result in fewer chemotherapy dose adjustments and improve disease free survival

Post-Treatment

- Improved:
 - Psychological well-being and quality of life
 - Muscle mass and bone density
 - Physical and cognitive functioning
- Decreased:
 - Chronic disease risk
 - Negative treatment-related side effects
- For breast, colorectal, prostate and ovarian cancers, individuals who are more active live longer and have lower chance of cancer coming back



Effects of Exercise on Health-Related Outcomes in Those with Cancer

What can exercise do?









- **Prevention of 7 common cancers***
Dose: 2018 Physical Activity Guidelines for Americans: 150-300 min/week moderate or 75-150 min/week vigorous aerobic exercise
 - **Survival of 3 common cancers****
Dose: Exact dose of physical activity needed to reduce cancer-specific or all-cause mortality is not yet known. Overall more activity appears to lead to better risk reduction
- *bladder, breast, colon, endometrial, esophageal, kidney and stomach cancers
**breast, colon and prostate cancers

Aim to achieve:

- 150 min/week aerobic exercise
- 2x/week strength training

Only takes as little as 3x/week of moderate intensity PA!

Overall, avoid inactivity, and to improve general health, aim to achieve the current physical activity guidelines for health (150 min/week aerobic exercise and 2x/week strength training).

Outcome	Aerobic Only	Resistance Only	Combination (Aerobic + Resistance)
Strong Evidence	Dose	Dose	Dose
 Cancer-related fatigue	3x/week for 30 min per session of moderate intensity	2x/week of 2 sets of 12-15 reps for major muscle groups at moderate intensity	3x/week for 30 min per session of moderate aerobic exercise, plus 2x/week of resistance training 2 sets of 12-15 reps for major muscle groups at moderate intensity
 Health-related quality of life	2-3x/week for 30-60 min per session of moderate to vigorous	2x/week of 2 sets of 8-15 reps for major muscle groups at a moderate to vigorous intensity	2-3x/week for 20-30 min per session of moderate aerobic exercise plus 2x/week of resistance training 2 sets of 8-15 reps for major muscle groups at moderate to vigorous intensity
 Physical Function	3x/week for 30-60 min per session of moderate to vigorous	2-3x/week of 2 sets of 8-12 reps for major muscle groups at moderate to vigorous intensity	3x/week for 20-40 min per session of moderate to vigorous aerobic exercise, plus 2-3x/week of resistance training 2 sets of 8-12 reps for major muscle group at moderate to vigorous intensity
 Anxiety	3x/week for 30-60 min per session of moderate to vigorous	Insufficient evidence	2-3x/week for 20-40 min of moderate to vigorous aerobic exercise plus 2x/week of resistance training of 2 sets, 8-12 reps for major muscle groups at moderate to vigorous intensity
 Depression	3x/week for 30-60 min per session of moderate to vigorous	Insufficient evidence	2-3x/week for 20-40 min of moderate to vigorous aerobic exercise plus 2x/week of resistance training of 2 sets, 8-12 reps for major muscle groups at moderate to vigorous intensity
 Lymphedema	Insufficient evidence	2-3x/week of progressive, supervised, program for major muscle groups does not exacerbate lymphedema	Insufficient evidence
Moderate Evidence			
 Bone health	Insufficient evidence	2-3x/week of moderate to vigorous resistance training plus high impact training (sufficient to generate ground reaction force of 3-4 time body weight) for at least 12 months	Insufficient evidence
 Sleep	3-4x/week for 30-40 min per session of moderate intensity	Insufficient evidence	Insufficient evidence

Citation: bit.ly/cancer_exercise_guidelines

Moderate intensity (40%-59% heart rate reserve or VO_{2R}) to vigorous intensity (60%-89% heart rate reserve or VO_{2R}) is recommended.



How do I get my Moderate and Vigorous PA?

Moderate PA Examples



Brisk Walking



Water Aerobics



Biking (<10 mph)



Tennis (doubles)



Ballroom Dancing

Vigorous PA Examples



Race walking, jogging or running



Swimming Laps



Tennis (Singles)



Aerobic Dancing



Bicycling (10 mph+)



Jumping Rope



Hiking

MVPA: The Basics

Moderate and Vigorous Intensity Physical Activity

What is it?

- Any rhythmic continuous activity!
- Increases heart rate and breathing

How much should I do?

- 150 minutes of moderate activity OR 75 minutes of vigorous activity/ week

How hard should I work?

- Anywhere from fairly light to somewhat hard!

How much?

- Start with a few minutes. Gradually build up to 30-60 minutes over they day.

Example Aerobic Progression

Week	Weekly Goal (Mins)	# Sessions Per Week	Session Duration (Mins)	Session RPE	Session Target Heart Rate (% Max HR)
1	30	2-3	10-15	10-12	50-60%
2	45	2-3	15-20	10-12	50-60%
3	60	3	20	10-12	50-60%
4	75	3	25	10-12	50-60%
5	90	3	30	10-12	50-60%
6	105	3	35	10-12	50-60%
7	120	3-4	30-40	10-12	50-60%
8	135	3-4	30-45	13-15	60-75%
9	150+	3-5	30-60	13-15	60-75%
10	150+	3-5	30-60	13-15	60-75%
11	150+	3-5	30-60	13-15	60-75%
12	150+	3-5	30-60	13-15	60-75%
13-24	150+	3-5	30-60	13-15	60-75%

Strength training: The Basics

What is it?

- Hand weights
- Resistance Bands
- Weight Machines
- Body Weight (ex. push-ups, chair squats)

Why should I do it?

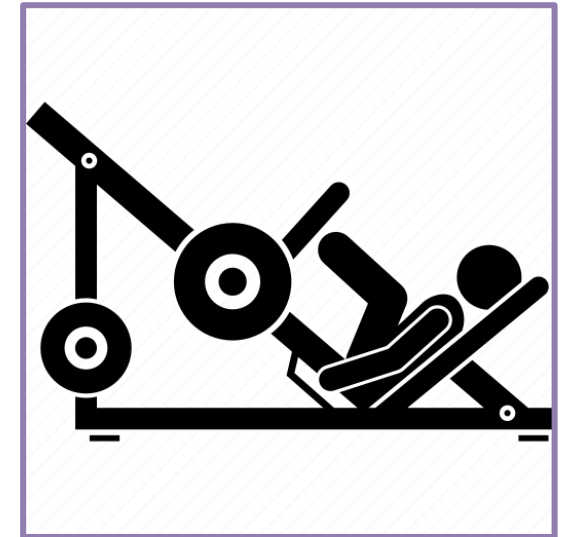
- Builds muscle which can help with balance fatigue and quality of life
- May also be important for processing chemotherapy drugs
- Can make everyday activities easier!

How much should I do?

- 6-15 repetitions for each major muscle group
- 2-3 days/week with rest days in between

How hard should I work?

- Start with light effort and build up to medium or hard effort



Example Strength Progression

Week	# Sessions/Wk)	# of Exercises	# Sets	# of Reps	Resistance	RPE
1	2	8-10	2	8-10	Light	10-12
2	2	8-10	2	10-12	Light	10-12
3	2	8-10	3	8-12	Light/Moderate	10-12
4	2	8-10	3	10-12	Light/Moderate	10-12
5	2-3	8-12	2	8-12	Moderate	10-12
6	2-3	8-12	2	8-12	Moderate	10-12
7	2-3	8-12	3	10-12	Moderate	10-12
8	2-3	8-12	2-3	8-10	Moderate/Heavy	13-15
9	2-3	8-12	2-3	8-10	Moderate/Heavy	13-15
10	2-3	10-12	2-3	8-12	Moderate/Heavy	13-15
11	2-3	10-12	2-3	8-12	Moderate/Heavy	13-15
12	2-3	10-12	2-3	8-12	Moderate/Heavy	13-15
13-24	150+	10-12	2-3	8-12	Moderate/Heavy	13-15 ⁸

Safety

General Safety Precautions

- Gradually increase intensity and time of exercise sessions.
- Choose exercise level that is right for you; it should feel **challenging but never painful**.
- **Warm-up** for 5-10 minutes to get your body prepared for exercise
- **Monitor your intensity** throughout your exercise session.
- If needed, **take breaks** during your exercise sessions or do short bouts throughout the day to accumulate minutes
- **Cool down** for 5-10 minutes to get your body prepared for exercise
- To avoid overuse injuries, **vary your routine**
- Stay **hydrated!**
- Wear **proper attire**
- Keep a **phone** nearby in case of emergency.



Safety Considerations for Cancer Survivors

- Wait until cleared after surgery to begin exercise
- Delay activity until anemia (low red blood cell count) is better
- Avoid public gyms if white blood cell count is low/weakened immune system
- If undergoing radiation, avoid chlorine because it can irritate skin
- Do low impact exercises if experiencing joint pain or have bone health concerns
- Exercise on smooth surfaces with good athletic shoes to avoid falls



Monitoring Intensity

Rating of Perceived Exertion (RPE)

- **Check in with yourself throughout your session to determine if you need to vary intensity**
 - Increase intensity by speeding up or adding resistance (i.e. increasing tension on bicycle, adding wrist weights)
 - Decrease intensity by slowing down or decreasing or removing any resistance.
- **RPE scale asks: how hard do you feel like you are working?**
 - Reflects total amount of physical stress, effort and fatigue
 - Try not to focus on any specific factor (ex. Leg pain, shortness of breath, etc.)
 - Some days you may feel better than others so your RPE may vary

Rating of Perceived Exertion (RPE) “How hard does it feel like you are working?”	
6	
7	Very, Very Light
8	
9	Very Light
10	
11	Fairly Light
12	
13	Somewhat Hard
14	
15	Hard
16	
17	Very Hard
18	
19	
20	Very, Very Hard

Monitoring Intensity

Talk Test and Heart Rate

- **Talk Test**

- Ask yourself if you could hold a conversation

Exercise Intensity	Talk Test
Light	Able to sing
Moderate	Can carry conversation but could not sing
Vigorous	Too out of breath to speak

- **Monitoring Heart Rate**

- Measurable/exact option
- Determined by heart rate monitors or pulse

Target Heart Rate Calculation

$$\text{Target HR} = \text{Max HR} \times \text{Target \%}$$

$$\text{Max HR} = 220 - \text{age}$$

Strategies to Help You Move More

Self-monitoring

- Raises awareness of PA and accomplishment of goals
 - Activity trackers
 - Apps
 - Built-in smartphone accelerometer



SMAART Goal-Setting

Specific: what, where, when, why, how

Measurable: allows for progress evaluation

How often, how long, and how intensely

Addjustable: flexible to accommodate unexpected challenges

Action-oriented: focused on personal action

Realistic: set according to abilities

Time-based: clear end-point (short- & long-term)

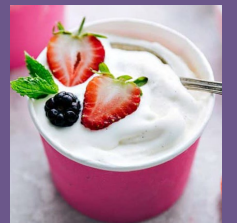
Find Someone to Support You

- Let others in your life know your goals are so they can cheer you on and hold you accountable
- Go for a walk rather than meeting for coffee
- Take a workout class with a friend
- Join social physical activity apps, groups, etc.



Reward Yourself

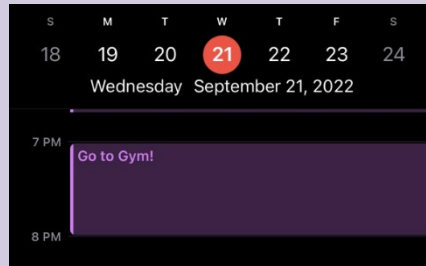
- Celebrate your progress and reward yourself for accomplishing goals!
- For example:
 - Buy a new workout outfit, workout equipment or healthy cookbook
 - Treat yourself to a manicure or spa day
 - Eat a delicious and health snack



Strategies to Help You Move More

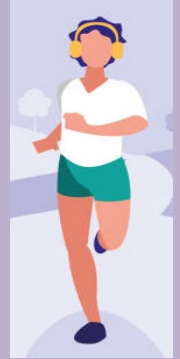
Cues to Action

- Laying out exercise clothes
- Schedules PA in calendar



Find Activities You Enjoy

- Regularly switch up your activities or walking route
- Listen to music or a podcast as you walk or work out to give yourself something to look forward to



Increase Your Confidence

- Gradually progress to increases chances of success
- Pay attention to and celebrate small successes
- Remember there are many others out there trying to do the same thing
- Celebrate what your body is capable of big or small

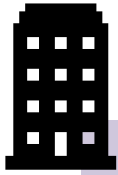


Have a Plan

- Identify situations that put you at risk for being less active
- Plan to avoid or cope with these situations
- Don't have an "all or nothing" attitude
- Do activities you enjoy
- Remember a little bit is better than none!



Sit Less and Move More



Work

- Get up every 30 minutes and stretch or walk around
- Stand or walk during calls
- Get up and go chat with co-workers instead of emailing
- Do walking Meetings



Commuting

- Stand instead of sitting if you are able
- Park further away
- Get off one stop earlier and walk
- Walk or bike if you can

Home & Elsewhere

- Get up during commercial breaks and do active chore
- Use stairs whenever you can
- Reduce TV, computer and video game time
- If you can't walk or stand, try seated knee lifts, kicks, foot slides, punches or arm circles
- Start a neighborhood walking group
- Go for an early morning, lunch or post-dinner walk
- Walk your dog



Start where you are. Use what you have. Do what you can.

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“Integrate more exercise into your daily routine. Instead of taking the elevator, climb up the side of the building. When you pass a coworker in the hall, insist on a game of leap-frog. Use kick boxing to post messages on your bulletin board. Stir your coffee with your toes. Arm wrestle your clients...”

Questions?

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