

# Enhancing Survivorship with Exercise

**Celebrating a Second Chance at Life  
Survivorship Symposium**

May 3-9, 2025



**Nate Parker, PhD, MPH**  
**Moffitt Cancer Center**

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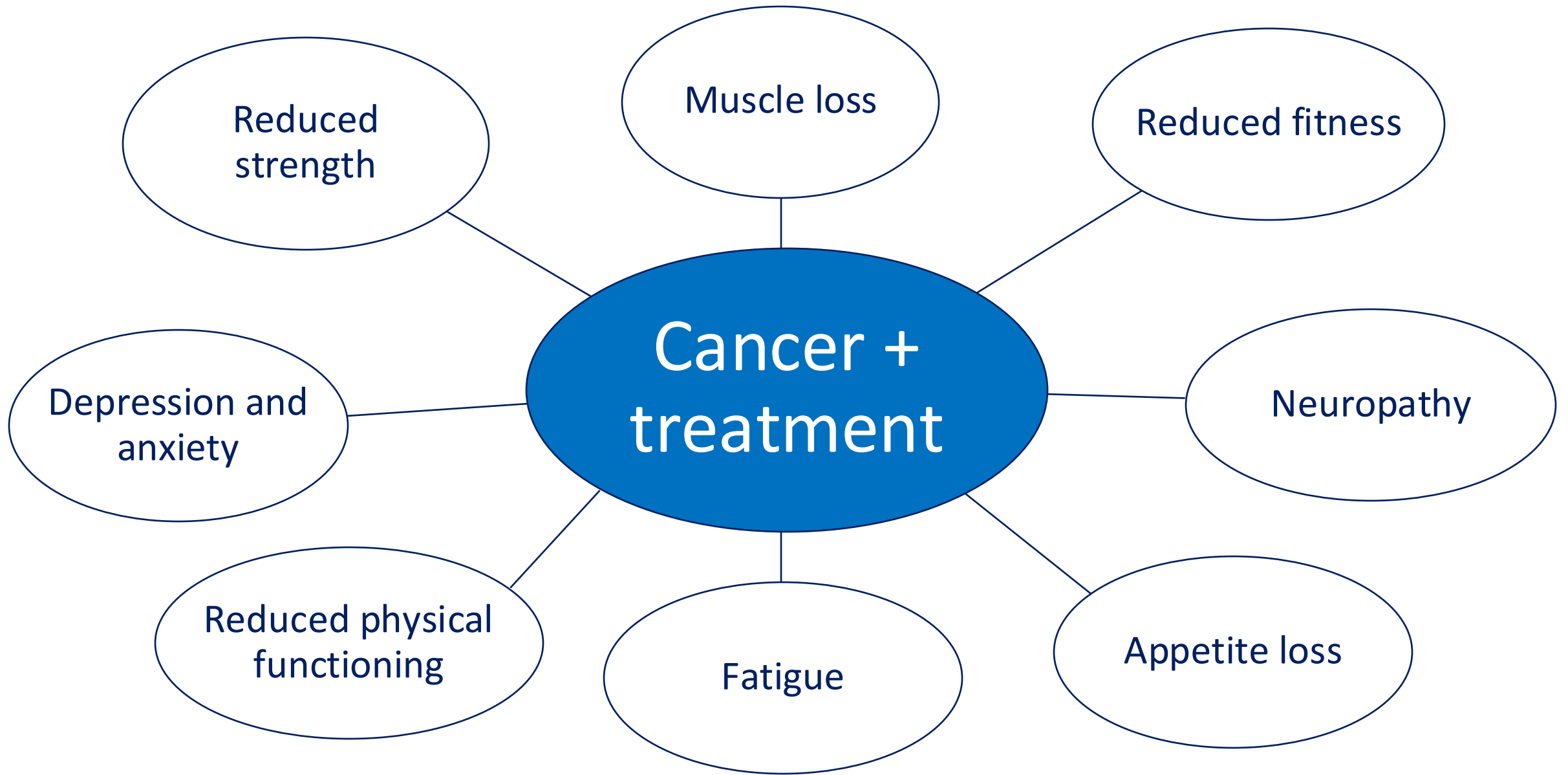


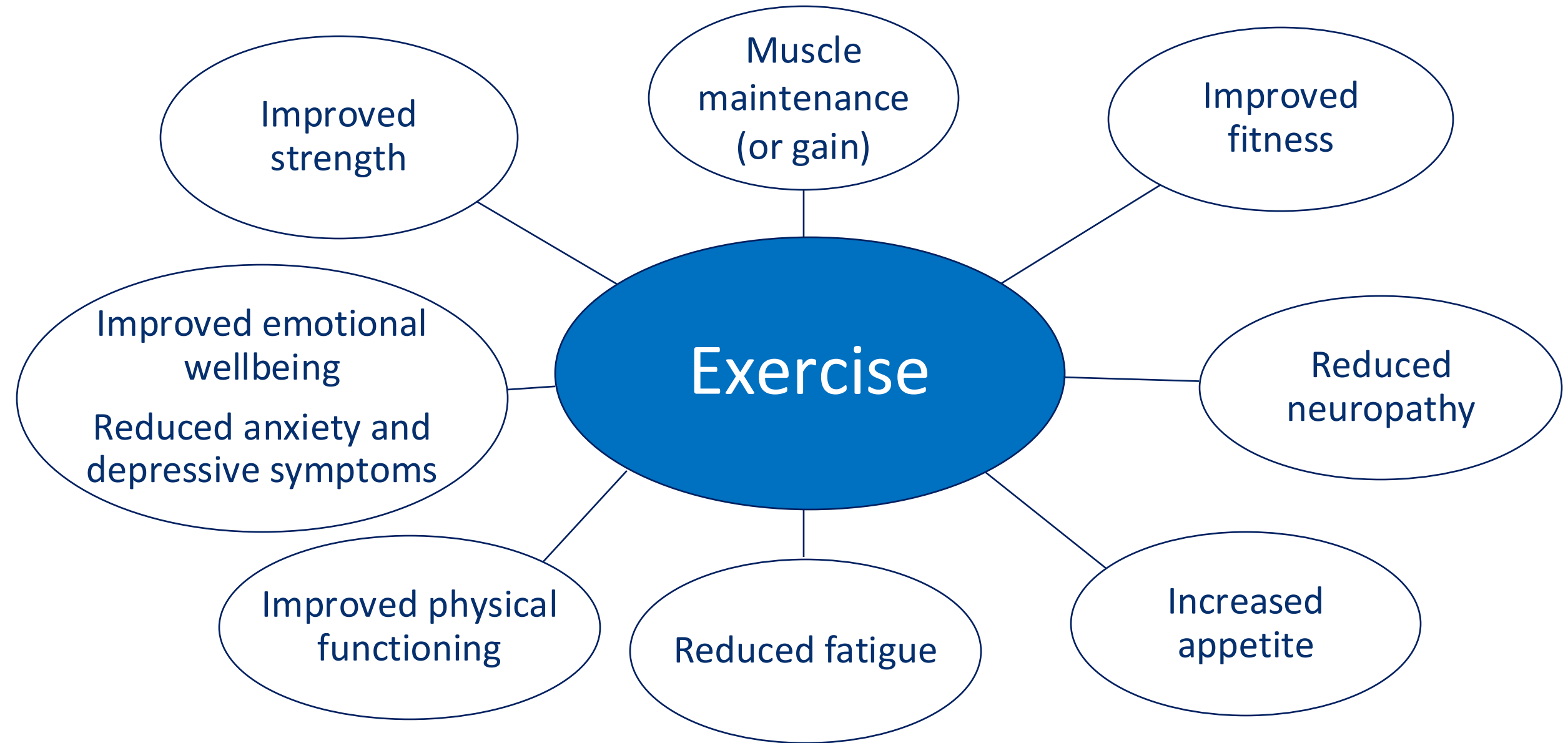
# Learning Objectives

**At the end of this workshop, attendees will understand...**

1. How exercise can increase stamina and strength in survivorship.
2. How exercise programs can be tailored to address individuals' needs.
3. Examples of exercises survivors can perform.
4. The roles of other factors, such as nutrition and energy conservation, in managing fatigue.





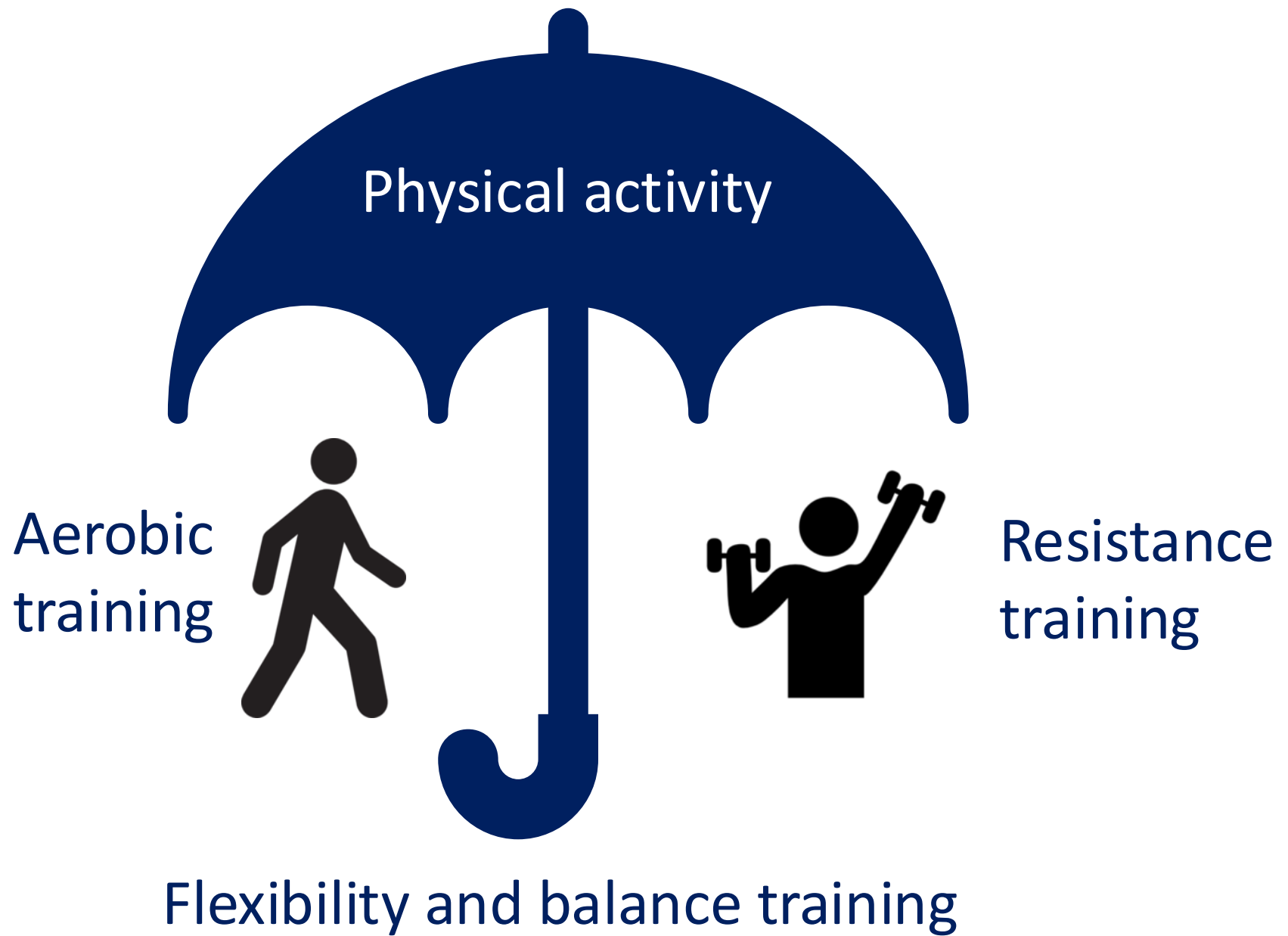


**“If exercise could be packaged in a pill, it would be the single most widely prescribed and beneficial medicine in the nation.”**

**-Dr. Robert Butler, Founding Director of the National Institute on Aging**

# Exercise and the cancer continuum





# Physical activity vs. exercise

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## Physical activity

Any movement of the body that uses energy

## Examples

Chores, yard work, walking for transportation, grocery shopping, even simply standing

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## Exercise

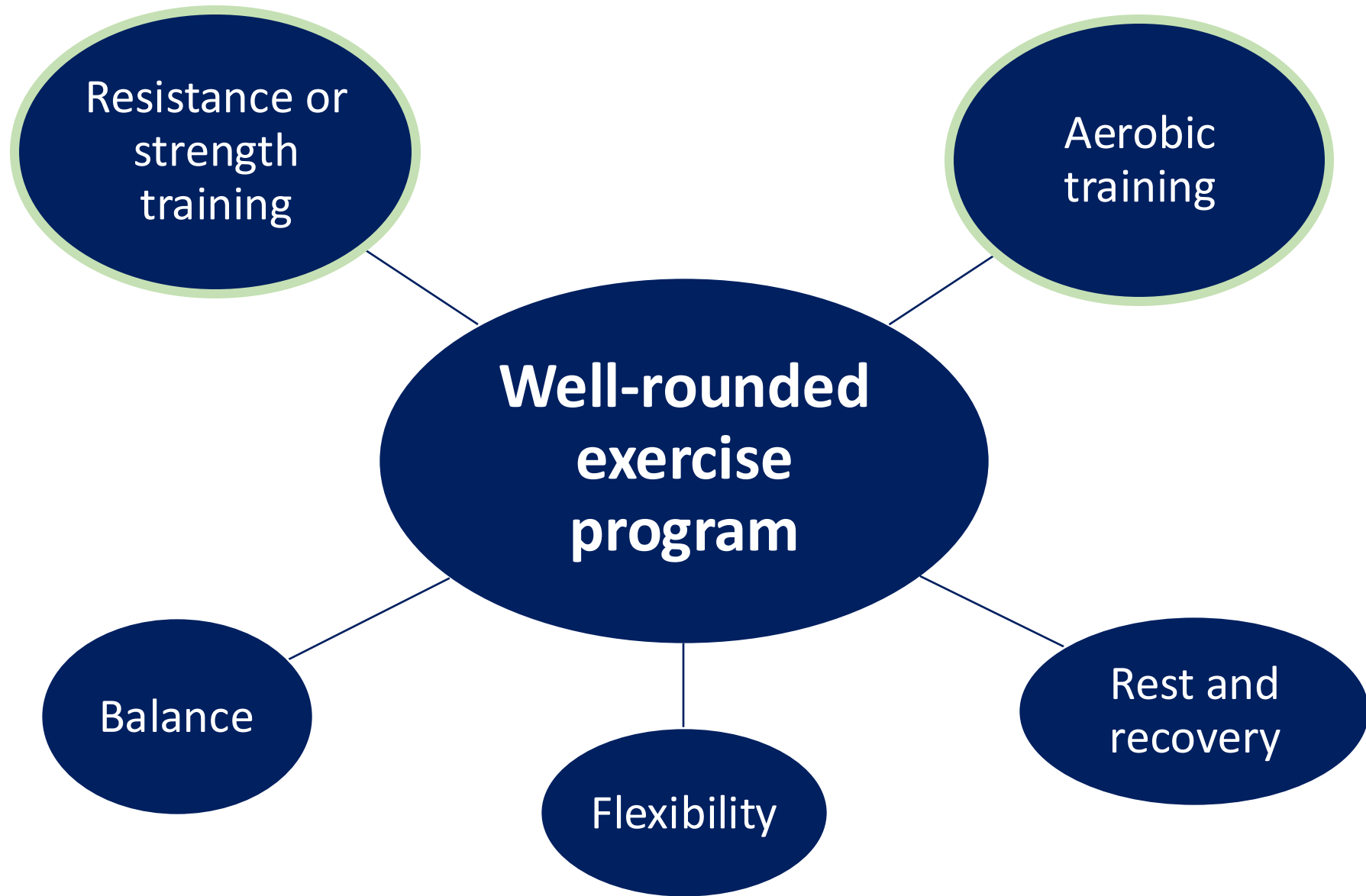
Types of physical activity that are planned, controlled, and usually repeated to maintain or improve fitness

## Examples

Brisk walking, jogging, bicycling, swimming, aerobics, strength training/weights, flexibility and balance training

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**Remember: Both are important and beneficial!**



# Common questions

- When should you start an exercise program?
- How should you start an exercise program?
- How much exercise should you do?
- How hard should you exercise?
- How should you progress your exercise program?
- What specific exercises or types of exercise should you do?
- How can you make exercise convenient and fun?
- What safety tips should you consider?
- Are there programs or resources available to help you?

# When should you start an exercise program?

- As soon as possible, but ensuring safety
- Speak with your clinicians/care team about safety
- You may need to get a medical exam or meet with an exercise specialist to make sure your plans are safe

## Health concerns to keep in mind:

- Issues with balance or gait
- Anemia (low red blood cells)
- Severe fatigue
- Infection
- Severe nutritional issues
- Low bone density or bone metastases
- Musculoskeletal injuries
- Severe neuropathy
- Heart or lung disease
- Recent procedures or surgeries
- Lymphedema (swelling) in limbs

# How should you start an exercise program?

Pay close attention to platelet counts.

Platelet counts	Exercise recommendations
Below 10,000/ $\mu$ L	Limit activity; consult with medical team.
10,000-20,000/ $\mu$ L	Proceed with light aerobic exercise and gentle stretching; avoid added resistance or weight.
20,000-50,000/ $\mu$ L	Proceed with walking briskly; use weights, resistance bands, or body weight for light strengthening exercises.
50,000-80,000/ $\mu$ L	Proceed with moderate intensity aerobic and resistance exercise as tolerable.
Above 80,000/ $\mu$ L	Proceed with moderate-to-vigorous intensity aerobic and resistance exercise as tolerable.



# How much aerobic exercise should you do?

## During treatment – moderate intensity

- At least 30 minutes per day on at least 3 days per week
- Work up to 150 minutes per week as you increase tolerance and fitness



## Following treatment

- Work up to 150 minutes per week as you increase tolerance and fitness
- Less time if you're able to push into more vigorous exercise intensity



Campbell et al., *Medicine and Science in Sports and Exercise*, 2019.

# How much resistance exercise should you do?

## Resistance/strengthening exercise

- Train major muscle groups at least 2 times per week.
- Rest muscle groups for at least 1 day between training sessions.
- Perform at least 2 sets of 8-15 repetitions each time you train a muscle group, resting between sets.
  - Repetition = doing an exercise 1 time (example: 1 biceps curl)
  - Set = a group of repetitions (example: 8-15 biceps curls)



Campbell et al., *Medicine and Science in Sports and Exercise*, 2019.

# How hard should your aerobic exercise be?

- **Start with moderate intensity**
  - Heart rate and breathing increase
  - Maintain a conversation speaking in short sentences
  - Not exhausting – could maintain for an hour or longer
- **If possible/desired, progress to vigorous intensity**
  - Higher heart rate, deeper and faster breathing
  - Difficult to talk
  - Difficult to maintain for longer than 20-30 minutes



Campbell et al., *Medicine and Science in Sports and Exercise*, 2019.

# How hard should your resistance exercise be?

- Moderate intensity based on the amount of weight or resistance used
- The last few repetitions in a set of 8-15 should feel hard, but you can complete them with proper form.
- When you complete a set of 8-15 repetitions, you should feel like you had a few repetitions “left in the tank.”

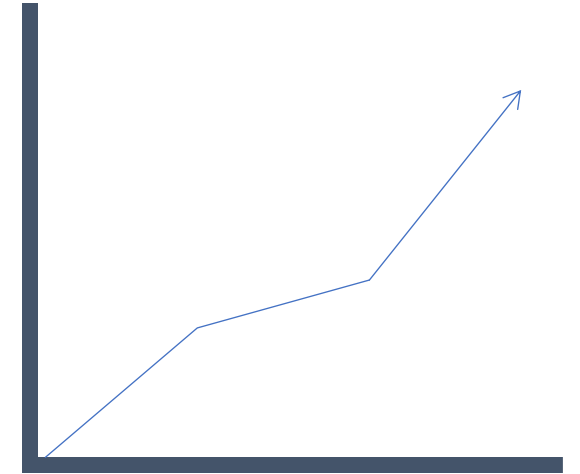


Campbell et al., *Medicine and Science in Sports and Exercise*, 2019.

# How should you progress your exercise program?

## Aerobic exercise: gradually increase...

- How often you exercise (frequency)
- How long you exercise (duration)
- How hard you exercise (intensity)



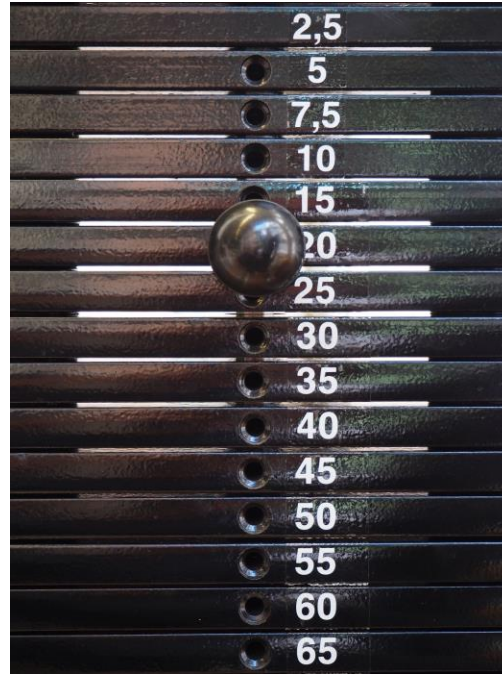
## Resistance/strengthening exercise: gradually increase...

- The number of exercises you perform for muscle groups
- The resistance or weight you are lifting

# What types of aerobic exercise should you do?



# What types of resistance exercise should you do?



# Resistance training can be simple!

## Body weight exercises



Squats or chair stands  
(legs and glutes)



Wall or counter  
push ups  
(chest and arms)



Seated knee raises  
(hips and abdominals)

# More simple resistance training exercises

## Can or jug exercises

Press  
(shoulders)



Bent over row  
(back)



Arm curls  
(biceps)



Arm extensions  
(triceps)



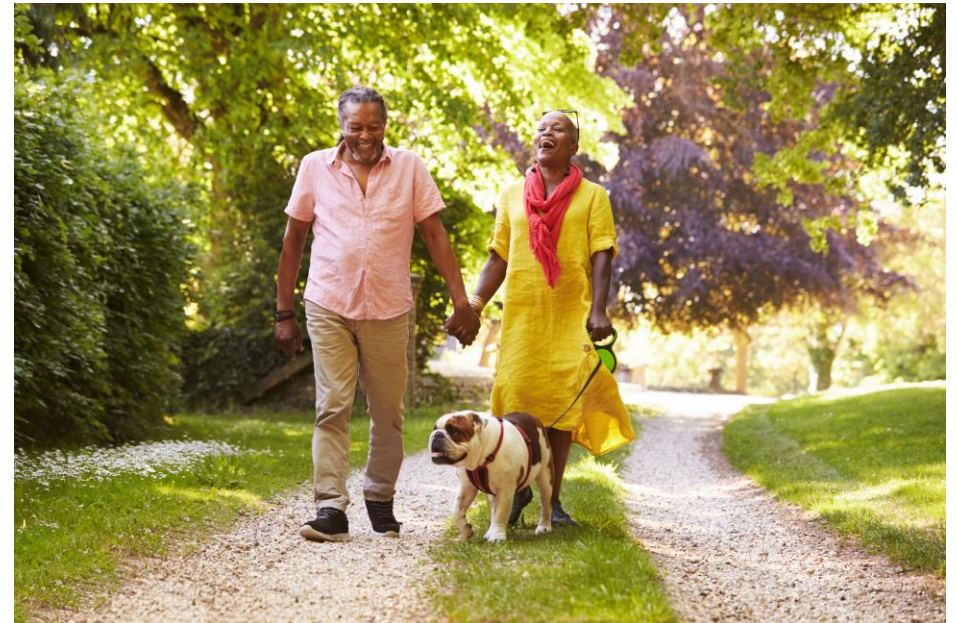
# What safety tips should you consider?

- Stay well-hydrated (before, during, and after exercise)
- Eat well-balanced, nutritious meals so your body has fuel
- Wear comfortable clothing and athletic shoes



# Safety tips (continued)

- Gradually progress your program
- Exercise with a partner or with a trusted person close by in case of emergency
- If exercising outdoors, avoid excessive heat by getting out in the morning or evening



# Safety tips (continued)

- Protect your skin from sun exposure when exercising outdoors
- Find safe walking routes with sidewalks, protected paths, trails, or tracks
- Avoid crowded indoor environments when possible
- **“Listen to your body!”**



# How can you make exercise convenient and fun?

- Identify types of exercise and physical activity that you enjoy
- Exercise with a friend or family member
- Choose places to exercise that are fun, entertaining, or pleasing



# Making exercise convenient and fun (continued)

- Plan ahead
- Pack athletic shoes, change of clothes, and water bottle for work
- Work with a certified personal trainer
- Find group exercise classes or recreational sports

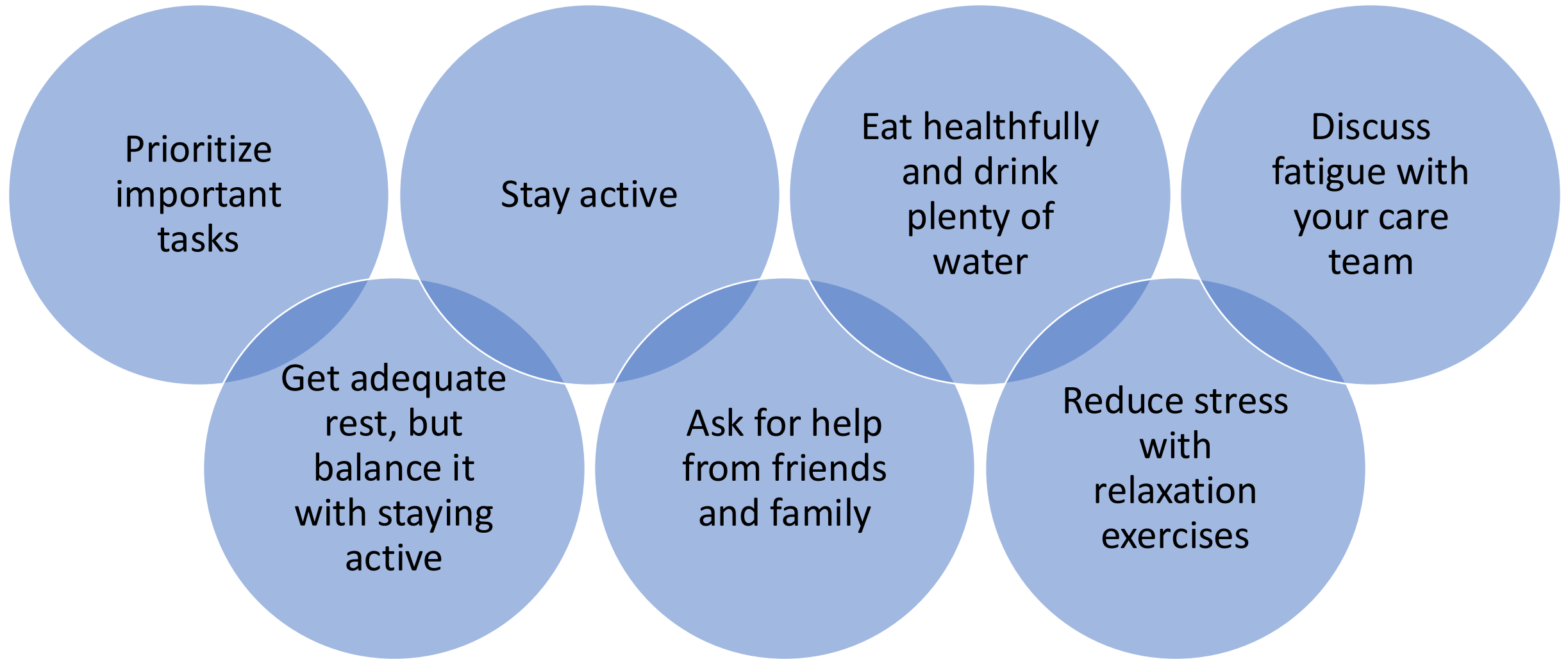


# Making exercise convenient and fun (continued)

- Set short-term and long-term goals, and **monitor** and **celebrate** your progress
- Use smartphone apps and fitness trackers (like Fitbits) to self-monitor, set and achieve goals, and add some friendly competition
- “Mix it up!”



# Fighting fatigue



# Addressing common barriers to exercise

Barrier	Tips
“I have not been active in a very long time.”	Start at a comfortable level. Your body will adapt and allow you to do more over time.
“I do not have time.”	Start with short sessions a few days a week. Find ways to combine otherwise sedentary activities with exercise.
“It costs too much.”	You don’t need a gym membership or expensive equipment. Your home, neighborhood, or a safe public park near home or work can provide everything you need.
“I am too tired.”	Start slowly. Over time, you will gain energy from exercise.
“Exercise makes me sore.”	Some soreness is normal, especially as you start out. Starting slowly and moving your body through soreness early in your program can help you overcome it.



# Additional resources

- **LIVESTRONG®** at the YMCA
  - 12-week small group, evidence-based exercise program for cancer survivors
  - Offered at 791 YMCA locations nationwide
  - Learn more at <https://www.ymca.org/what-we-do/healthy-living/fitness/livestrong>
- Online resources
  - Cancer Exercise smartphone app: <http://www.cancerexerciseapp.com>
  - Maple Tree Cancer Alliance: <https://www.mapletreecanceralliance.org/>
  - Moving Through Cancer Exercise Program Directory: <https://www.exerciseismedicine.org/eim-in-action/moving-through-cancer-directory/>



# Summary

- Physical activity and exercise are important for improving health and well-being during and following treatment.
- A well-rounded and effective exercise program includes...
  - Aerobic training
  - Resistance or strength training
  - Training for flexibility and balance
  - Rest and recovery

# Summary (continued)

- Be safe and consult with your medical team before starting a rigorous exercise program.
- Plan your exercise program to start where you can and make gradual progress.



# Questions?



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# Let Us Know How We Can Help You

**Visit our website:** [bmtinfonet.org](http://bmtinfonet.org)

**Email us:** [help@bmtinfonet.org](mailto:help@bmtinfonet.org)

**Phone:** 888-597-7674 or 847-433-3313

