

# Exercise Recommendations for Prostate Cancer

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## Why is exercise important for men with prostate cancer?

Physical activity and structured exercise are associated with many positive benefits for men with prostate cancer, when preparing for, and recovering from, treatment. Studies have shown that prolonged exercise can improve cardiovascular health (1), increase muscular endurance and improve balance (2), reduce the side effects of androgen deprivation therapy (4), and can help to improve treatment associated fatigue (5).

The American College of Sports Medicine (ACSM) supports the U.S. Department of Health and Human Services Physical Activity Guidelines, which includes a minimum of **150 minutes of moderate-intensity exercise or 75 minutes of vigorous-intensity exercise per week**. Resistance training is recommended 2 or more days per week. It is important to note that when people with chronic conditions - such as cancer - are unable to meet these recommendations based on their health status, they should be as physically active as their abilities and conditions allow.

### Is it moderate or vigorous? Use the "talk test" to find out.

If you're breathing hard but can still have a conversation easily, it's **moderate-intensity** activity.

If you can only say a few words before you must take a breath, it's **vigorous-intensity** activity (3).

## Design Your Workout Routine and Build your Endurance

When designing your exercise routine, it is important to listen to your body. Find an exercise that is challenging and enjoyable. Your weekly workout routine should comprise a warm-up, strength or resistance component, an aerobic component, and a cool down or set of stretching exercises. There are no prostate cancer-specific contraindications for starting an exercise program, but it is important to understand that patients with bone metastases may need to alter their exercise program given increased risk for skeletal fractures. You should work with your doctor to understand your specific requirements and alter your exercises accordingly.

## Warm-up

It is important to warm up before exercising. A warm-up can be a simple movement to increase your heart-rate, such as walking, marching on the spot or jumping jacks.

Warm up time – at least 5 minutes



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## Aerobic Exercise

Aerobic exercise is any exercise that increases your heart-rate and your breathing, and is sustained over a period of time. It takes at least 5 minutes to build to a moderate level of intensity and it is best to try to continue and maintain your aerobic exercise for a longer duration.

The chart below describes an appropriate progression for a new aerobic exercise program for an individual performing **moderate intensity exercise** five days per week:

Week #	Total # of Exercise Sessions per Week	Minutes of Aerobic Exercise per Session	Total Minutes per Week
1	3	15	45
2	3	20	60
3	3	25	75
4	3	30	90
5	4	30	120
6	4	30	120
7	4	30	120
8+	5	30	150

## What Counts?

Whatever gets you moving!



Even things you have to do anyway



Even things that don't feel like exercise

Image credit: Centers for Disease Control and Prevention,  
[www.cdc.org/physicalactivity/basics/adults/index.htm](http://www.cdc.org/physicalactivity/basics/adults/index.htm)



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## Resistance Exercise/ Strength Training

Resistance training is purposeful strength related exercises that improve muscle strength and endurance. Resistance training should be completed 2-3 days per week and include exercises for all major muscle groups. Perform 8 to 10 exercises, 8 to 12 repetitions, and 2 to 3 sets of each exercise depending on your ability. Progress slowly and have a plan.

### How to do a straight arm plank:

#### Modified Plank – Level 1

Stand at a counter top with your weight supported through your hands on top. Keep your trunk straight using your abdominal muscles and keep your head in line with your body. Do not hold your breath.

**Repeat:** 8 times  
**Hold:** 1 second  
**Complete:** 2 sets

#### Modified Plank – Level 2 (pictured)

Support your body on your elbows. Keep your spine neutral, tuck tailbone and hold.

**Repeat:** 8 times  
**Hold:** 15 seconds  
**Complete:** 2 sets



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# How to do a push-up:

## Wall push-up - Level 1

Start with your hands at chest height and shoulder width apart on the wall. Lower yourself to the wall in a controlled manner and return to start position.

**Repeat:** 8 times  
**Hold:** 1 second  
**Complete:** 2 sets

## Counter push-up - Level 2

Perform at a slant using a kitchen or bathroom counter. Support yourself with hands on the counter shoulder width apart. Slowly lower yourself towards the counter keeping head and hips in line with body. Push yourself back up to starting position.

**Repeat:** 8 times  
**Hold:** 1 second  
**Complete:** 2 sets

## Chair push-up – Level 3 (pictured)

Keeping your body in a neutral position with proper core posturing, lower your body to chair performing a push-up. Return to starting position without a dip in your lower back.

**Repeat:** 8 times  
**Hold:** 1 second  
**Complete:** 2 sets



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## How to do a seated trunk twist:

### Seated trunk twist – Level 1

While sitting in a chair, place your palms hands together in front of your chest. Slowly, twist your torso from one side to the other to engage your core muscles.

**Repeat:** 8 times  
**Hold:** 1 second  
**Complete:** 2 sets



### Seated trunk twist - Level 2

Remaining seated in the same position as level 1, hold a waited object in your hands and twist your torso slowly from one side to the other.

**Repeat:** 8 times  
**Hold:** 1 second  
**Complete:** 2 sets



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## How to do a seated boat hold:

**Seated boat hold:** Sit at the edge of a sturdy chair and maintain good posture as you lean back. You will feel the weight shift behind your seat bones and your abdominal muscles working. Do not lean so far back that you feel your back aching. Hold for 3-5 breaths or until you feel adequately challenged. To progress lift one leg during the hold. For further progression lift both legs.

**Hold:** 10-20 seconds  
**Complete:** 2 sets



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## How to do a seated bicep curl:

**Seated bicep curl:** While in a seated position hold a dumbbell or weighted object in each hand, resting on your thigh. Lift both hands towards your chest, bending at the elbows. Lower weights back down and repeat.

**Repeat:** 8 times  
**Hold:** 1 second  
**Complete:** 2 sets



## How to do a single arm row:

**Single arm row:** In a seated position, start with a dumbbell or weighted household object in your right hand. Place your right leg out straight in front of you. Sit up tall, keeping good posture, and hinge forward at the waist. Extend arm down the side of your body close to your hip. Bring elbow towards the ceiling and back down the side of your body close to your hip. Inhale as you draw back your elbow, exhale as you extend your arm. Alternate arms to complete a set.

**Repeat:** 8 times  
**Hold:** 1 second  
**Complete:** 2 sets



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## How to do a single leg press and chair stand:

### Single leg press – Level 1

Sit on a chair and maintain good posture. Extend one leg out and then bring it back in towards your chest. Alternate legs to complete a set.

**Repeat:** 8 times  
**Hold:** 1 second  
**Complete:** 2 sets

### Single leg press – Level 2 (pictured)

Rest a weight on your thigh as you sit on a chair and maintain good posture. Extend one leg out and then bring it back in towards your chest. Alternate legs to complete a set.

**Repeat:** 8 times  
**Hold:** 1 second  
**Complete:** 2 sets

### Chair stand – Level 3

Sitting on your chair, cross your arms over your chest, engaging your core. Keeping your weight on your heels, stand up and then sit all the way back down.

**Repeat:** 8 times  
**Hold:** 1 second  
**Complete:** 2 sets



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## How to do a standing calf raise:

**Standing calf raise - Level 1** – Stand with your feet together, hands on your hips. Raise your heels a few inches until you are on your tiptoes. Hold this position and then lower your heels, feeling a stretch in your calf muscles. For additional balance you can hold onto a person or sturdy object as you repeat this movement.

**Repeat:** 8 times  
**Hold:** 1 second  
**Complete:** 2 sets



**Advanced standing calf raise - Level 2** – Stand at the edge of a step with your hands on your hips. Raise your heels a few inches off the step so you are on your tiptoes. Hold this position and then lower your heels. As you lower, your heels will hang on the edge of the step providing a stretch in your calf muscles. For additional balance you can hold onto a person or sturdy object as you repeat this movement.

**Repeat:** 8 times  
**Hold:** 1 second  
**Complete:** 2 sets



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## How to do a side box squat:

### Side box squat – Level 1

Place your left foot on the center of a box or step and your right foot on the floor. Step up onto the box with your right foot and then step back down. Alternate feet to complete set.

**Repeat:** 8 times  
**Hold:** 1 second  
**Complete:** 2 sets



### Side box squat – Level 2

Place your left foot on the center of the box or step and your right foot on the floor, shoulder width apart. Slightly squat down and use your right foot to step up on the box and then back down. Alternate feet to complete set.

**Repeat:** 8 times  
**Hold:** 1 second  
**Complete:** 2 sets



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## Cool Down and Stretching

It is important to cool down and stretch after exercising. Your muscles will be warm and stretching after exercising can help to prevent exercise related muscle strain or pain.

### How to do stretching exercises:

All stretches should be held for 30-60 seconds. Each stretch should be taken to the point at which mild tension is felt but not to the point of pain. Hold each stretch stationary (no bouncing) and remember to breathe while holding each stretch.

**Calf stretch** - Back leg heel should be flat, with your toes pointing forward. Bring your hips forward towards a wall.

**Hamstring stretch** – Keep your back straight and bend at your hips

**Shoulder stretch** – Pull your elbow across your body

**Tricep stretch** – Reach over your head and pull your elbow back

**Neck Stretch** – Rotate your head side to side and forward only

**Quadricep stretch** – Pull your foot/ankle towards your behind. Keep your leg in line with your body



Hamstring stretch



Quadricep stretch

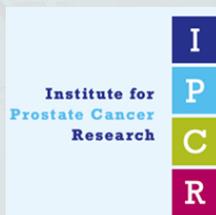


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## Scientific References

1. Perner CH, Fall K, Rider JR, Markt SC, Adami HO, Andersson SO, et al. A Walking Intervention Among Men With Prostate Cancer: A Pilot Study. *Clinical genitourinary cancer*. 2017;15(6):e1021-e8.
2. Galvao DA, Taaffe DR, Spry N, Joseph D, Newton RU. Combined resistance and aerobic exercise program reverses muscle loss in men undergoing androgen suppression therapy for prostate cancer without bone metastases: a randomized controlled trial. *Journal of clinical oncology : official journal of the American Society of Clinical Oncology*. 2010;28(2):340-7.
3. CDC. Physical Activity: How much physical activity do adults need? 2020 [cited 2020. Available from: <https://www.cdc.gov/physicalactivity/basics/adults/index.htm>.
4. Cormie P, Galvao DA, Spry N, Joseph D, Chee R, Taaffe DR, et al. Can supervised exercise prevent treatment toxicity in patients with prostate cancer initiating androgen-deprivation therapy: a randomised controlled trial. *BJU international*. 2015;115(2):256-66.
5. Taaffe DR, Newton RU, Spry N, Joseph D, Chambers SK, Gardiner RA, et al. Effects of Different Exercise Modalities on Fatigue in Prostate Cancer Patients Undergoing Androgen Deprivation Therapy: A Year-long Randomised Controlled Trial. *European urology*. 2017;72(2):293-9.

Thank you to all of the prostate cancer survivors and their families who dedicated their time to help create this content.



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