

Prostate Cancer

Functional Foods

1. Brassica (Cruciferous) family vegetables
 - a. Includes bok choy, Brussel sprouts, broccoli, broccoli sprouts, cabbage, kale, rapini, cauliflower, collard and mustard greens, radish, turnip, watercress, kohlrabi, arugula, rutabaga.
 - b. Contains glucosinolates such as sulforaphane and indole-3-carbinol (I3C), which can promote cancer cell death, block tumour growth, increase anti-cancer immunity, and may help reduce the risk of cancer progression.
 - c. **Recommendation:** Consume at least 1-2 servings from this family daily, cooked or raw.
 - i. A serving is ½ cup except for raw leafy greens where a serving is 1 cup.
 - ii. To maximize the glucosinolate content enjoy raw or briefly steam or stir-fry. When preparing Brassicas for long cooking, chop them up and let them sit at room temperature for about 40 minutes so that the sulforaphane can be activated and then cook.
 - iii. Best eaten fresh, as frozen Brassicas do not have the ability to form sulforaphane.
2. Unprocessed Soy
 - a. Includes edamame, tofu, tempeh, miso, tamari, and soy milk. Organic soy is best.
 - b. Contains isoflavones which may slow growth & spread of prostate cancer cells and lower PSA.
 - c. **Recommendation:** Consume at least 1-2 servings per day, for example, 1 cup soy milk, ½ cup cooked soy beans or edamame, ⅓ cup of tofu, or 1 ounce of soy nuts is considered a serving.
3. Ground Flaxseed
 - a. Contains lignans, which act as phytoestrogens and may slow the growth of prostate tumours.
 - b. Buy ground flaxseed or grind yourself as the whole seeds will pass through your digestive tract undigested. Store ground flax seeds in the fridge or freezer to maintain freshness longer.
 - c. **Recommendation:** Consume 2 tablespoons daily mixed in smoothies, salads, oatmeal, soups, yogurt, oatmeal, etc.
4. Green Tea
 - a. Contains strong antioxidants such as EGCG which blocks tumour growth and invasion and may reduce risk of prostate cancer progression.
 - b. **Recommendation:** Consume 3-5 cups per day of organic green tea. You can mix powdered green tea into warm water, oatmeal, smoothie, etc.
5. White Button Mushrooms
 - a. Regular consumption of white button mushrooms has been shown to reduce PSA levels and may help to enhance anti-cancer immunity.
 - b. **Recommendation:** Consume at least one cup of mushrooms (about 250 grams) per week or about 2 mushrooms a day, cooked.
6. Cooked tomatoes and other lycopene-rich foods i.e. watermelon, pink grapefruit, guava, papaya
 - a. Lycopene may reduce the risk of prostate cancer as well as reduce PSA levels.
 - b. Heat processing of tomato products (i.e. tomato sauce) enhances the bioavailability of lycopene.
 - c. **Recommendation:** Consume 1 cup of cooked tomatoes, tomato sauce or tomato juice, or ¼ cup of tomato paste daily. Supplement this by eating other lycopene-rich foods.
7. Pomegranate
 - a. Contains ellagic acid and polyphenols which may interfere with growth of prostate cancer cells.
 - b. **Recommendation:** Consume 1 teaspoon of pomegranate powder or 1 cup of unsweetened pomegranate juice daily.
8. Allium family vegetables
 - a. Includes vegetables such as garlic, onion, leeks, shallots, chives
 - b. Contains sulfur compounds which may prevent the growth of prostate cancer cells.
 - c. **Recommendation:** Let chopped garlic sit for 20-30 minutes to help activate the healthy compounds before incorporating into your cooking. Consume at least 1 clove daily.

Foods to avoid:

- Eggs:
 - Men with prostate cancer who ate 5-6 eggs per week may have double the risk of recurrence or progression compared to men who ate 1 egg or less per week.
 - Eggs contain very high amounts of choline, which may promote growth of prostate cancer cells.
- Poultry with skin:
 - Consuming poultry skin may increase the risk of prostate cancer recurrence and progression.
 - Cooked poultry skin contains high amounts of heterocyclic amines (HCA) which are compounds known to promote cancer.
- Whole milk and other high fat dairy products:
 - Population-based studies have found that men who consume whole milk more than 4 times per week have a greater risk of prostate cancer recurrence and reduced longevity compared to those who consume whole milk less than 3 times per month
 - Given this research, it is likely best to also limit other high-fat dairy products e.g. cheese, yogurt.

Foods to limit:

- Foods with high saturated fat content (5% or more in each serving):
 - May be associated with higher recurrence & reduced longevity in men with prostate cancer.
 - This includes packaged foods (chocolate, cake, pudding, biscuits, etc), processed meats (sausage, burgers, bacon, cold cuts), fatty meats (i.e. lamb chops).

Exercise:

- Gaining weight after prostate cancer diagnosis is linked to increased recurrence and reduced longevity.
- Physical activity can also play a powerful role in improving prostate cancer outcomes. Vigorous exercises such as jogging, biking or swimming for at least 3 hours per week improved longevity compared to exercising for less than 1 hour per week. Even going on a brisk walk for 30 minutes every day can reduce the risk of recurrence by nearly 60%.
- **Recommendation:** 30 minutes of exercise, 5-7 days of the week (150 minutes total each week) where heart rate and breathing are elevated. This can be divided into shorter intervals. Monitor your recovery period, which should be shorter than the duration of the activity itself. Speak with your naturopathic doctor about specific exercise recommendations for you.
- If your goal is to gain muscle mass, add some resistance training at least twice per week and for at least 30 minutes each session.

Lifestyle

- Smoking increases prostate cancer aggressiveness, risk of progression, recurrence, and distant spread. Therefore, if you smoke, stopping can help to improve prostate cancer outcomes.
- Chronic stress can lead to an overproduction of cortisol and adrenaline, which can cause poor blood sugar management and increase body fat.
- The following are tools that can help you feel calmer and better manage your stress:
 - Gratitude journaling, meditation, prayer, volunteer work, hobbies
 - Spending time in nature – gardening, walking/hiking, even just sitting
 - Mindfulness-Based Stress Reduction (MBSR) programs have been shown to reduce markers of stress and inflammation, such as cortisol, in cancer survivors
 - Laughter, even forced laughter, reduces stress!

Additional Resources

- Environmental Working Group: The Dirty Dozen List of Endocrine Disruptors (and how to avoid them)
- Skin Deep is a useful site for choosing clean personal care products