

In the past couple of years, updates to this guide have included everything from PSA screening, to active surveillance, to genetic testing, to new drug approvals for patients with advanced prostate cancer. No one could have predicted that our 2020 update would need to cover cancer care during a global pandemic.

There are currently several factors affecting the care of cancer patients. First, doctors are concerned about inviting patients to appointments and treatments in a healthcare setting where they may be exposed to the coronavirus. This goes double for patients whose immune system is weak for any reason, whether they have prostate cancer or not. Some of the biggest risk factors for COVID-19-related suffering often overlap with men who have prostate cancer, which include older age, male gender, having cancer, and comorbid conditions, such as high blood pressure, heart disease, diabetes, and obesity.

As if that wasn't enough, a shortage of personal protective equipment (PPE) for both doctors and patients compounds the issue. Medical centers have had to reallocate resources—from providers to PPE to hospital beds—to care for infected patients, resulting in delays of less-urgent care.

This situation has undoubtedly caused some anxiety for men with prostate cancer and their families. Depending on where you live in the country, everything from routine PSA screenings to advanced treatment may have been delayed. The Prostate Cancer Foundation (PCF) immediately adapted our patient materials and research priorities to help patients and doctors make the best choices possible in unusual times.

This Appendix addresses possible changes to your prostate cancer treatment during the pandemic. Please remember that these are general principles. Resource availability and the impact of COVID-19 on prostate cancer care may be highly variable depending on your location. Some medical offices and cancer centers may be open and relatively unaffected, while others are limiting procedures and in-person appointments. You should contact your doctor—by telephone or email, if an in-person appointment is not possible—to discuss your particular situation. As the situation is rapidly evolving, we suggest you also check back frequently at pcf.org/COVID-19 for updated resources as well as subscribing to our [newsletter](#) for breaking updates.

WHAT COVID-19 RESEARCH IS LEARNING FROM PROSTATE CANCER

Men are 2-3 times more likely to die of COVID-19 than women. A recent PCF-funded study found that men with prostate cancer who were taking ADT were 4 times less likely to be infected, and 5 times less likely to die. What's the connection? It may be a protein called TMPRSS2, which naturally occurs on the surface of cells in the prostate, lungs, and elsewhere. The virus uses this protein to help enter lung cells, leading to infection.

PCF has funded millions of dollars of research into TMPRSS2 and prostate cancer over the past 2 decades. Because of this work, we know that TMPRSS2 is regulated by male hormones such as testosterone, and that in about half of all prostate cancer patients, TMPRSS2 is a key factor that drives prostate cancer. Higher testosterone levels may lead to more TMPRSS2 on cells, leaving men at greater risk.

As the pandemic unfolded, PCF researchers began applying their years of collective knowledge about TMPRSS2 and collaborating with infectious disease experts. One strategy to combat the virus may be to give a single dose of ADT to men—without prostate cancer—who are infected with COVID-19. Temporarily lowering testosterone levels may decrease the amount of virus entering lung cells. Thanks in part to the longstanding partnership between PCF and the VA, clinical trials are quickly getting underway at VA hospitals in LA, Seattle, and New York City.

SCREENING AND DIAGNOSIS

In April, the National Comprehensive Cancer Network (NCCN) updated their guidelines to suggest avoiding routine prostate cancer screening in men with no symptoms. Routine screening includes a PSA blood test and digital rectal exam (DRE). Check with your doctor; he or she may recommend waiting several months until there is more public health coronavirus testing and the local risk of coronavirus transmission is lower. If your screening is postponed, don't forget to revisit this later—put a reminder on your calendar to call your doctor in a few months.

If your PSA is high or your DRE is abnormal, NCCN recommends postponing further testing for a few months. However, if your doctor suspects that your cancer is particularly aggressive, they may opt to continue with imaging and/or a biopsy, and you should follow that advice.

TREATMENT

NCCN also released guidelines on prostate cancer treatment that consider the risk of COVID-19 infection to patients as well as the new demands on healthcare systems. These guidelines are based on published studies and input from experts at many nationally-recognized cancer centers.

In a nutshell, guidelines say that a relatively brief delay (less than 4 months) in treatment is unlikely to make prostate cancer worse. Remember, in most cases, prostate cancer is slow-growing. Until there is more information about how to protect prostate cancer patients from infection, the safest thing to do may be to stay distant from health care facilities that are treating large volumes of COVID-19 patients.

In the following sections we break down these recommendations based on the stage of your cancer journey.

Localized/Locally Advanced Prostate Cancer

If you have been diagnosed with localized or locally advanced prostate cancer (cancer that has not spread outside the prostate or the region around it), your risk of infection with COVID-19 is not higher. Risks at this stage of prostate cancer are the same as they are for the general population.

Treatment options for localized prostate cancer include:

- ▶ Active surveillance (scheduled monitoring, with treatment only if the cancer starts to progress)
- ▶ Surgery
- ▶ Radiation therapy
- ▶ Androgen deprivation therapy (ADT, also known as hormone therapy)
- ▶ A combination of these methods

The choice of therapy often depends on your risk group, which ranges from very low to very high risk. At this time, for low, very low, and favorable intermediate-risk patients, NCCN recommends deferring further staging, monitoring, active surveillance, or treatment. Studies have not shown a risk in delaying treatment for this patient population, to date. As mentioned, prostate cancer is generally slow growing but it is *possible* for prostate cancer cells to become more aggressive, start to grow, and spread more quickly.

If you and your doctor decide to delay treatment, talk to them about any warning signs to look out for. This might include pain in your lower back or legs, pain or pressure in the rectum, difficulty urinating, blood in the urine, or new difficulty getting an erection. Make a plan for how to contact your doctor if you notice new or concerning symptoms. If possible, make it a *proactive* plan: request to have regularly scheduled telemedicine check-in appointments with your doctor or nurse about any symptoms you may be experiencing.

Active Surveillance

Under normal circumstances, active surveillance is appropriate for many very low-, low-, and certain favorable-intermediate risk patients who qualify. This may be an even more attractive option now, in an effort to minimize health care visits. If you are already scheduled for surgery or radiation, check with your doctor about whether active surveillance is an option.

Active surveillance involves using PSA checks—usually done once or twice per year—to monitor your cancer. If you are in a COVID-19 hotspot, some health care centers may also be deferring PSA testing, depending on volume of emergencies.

If you are already on active surveillance, and you and your doctor decide that you should continue monitoring, the procedures for getting your PSA test may change. Whereas before you might have had your blood drawn at a medical center and returned to discuss the results with your doctor, now you may get blood drawn at a local lab and have a scheduled follow-up appointment with your doctor only by phone or video call. Discuss the timing of any scheduled MRI or biopsy with your provider. In some situations, it is clinically appropriate to stretch out time between MRI tests but keep routinely checking the PSA on schedule.

Surgery

Depending on the volume of COVID-19 in your local community, surgery to treat prostate cancer may be delayed. During this time of national emergency, some non-essential surgeries are being postponed to minimize exposing patients to the virus and to reserve healthcare resources—providers, PPE, hospital beds, ventilators—for the sickest patients. Luckily, in prostate cancer, this is unlikely to cause significant harm. Research has shown that delaying surgery even in high-risk patients is unlikely to affect long-term outcomes. Importantly, data has shown that patients who undergo surgery are at increased risk of contracting COVID-19, likely given the increased exposure to the healthcare environment. This must be weighed against the benefit of alternative treatment options (such as radiation therapy, discussed in the next section).

Follow-up visits after surgery may occur through telehealth or a home nurse visit to avoid bringing you into the clinic. If you are recovering from recent surgery, be sure to check in with your doctor about any possible changes to your follow-up plan. And if you are having new or severe pain, bleeding, changes in urination, fever, or other warning signs, call your doctor's emergency number.

Radiation Therapy

Radiation therapy is a very common treatment for localized prostate cancer, and the pandemic may affect this care option as well. In general, most radiotherapy facilities have been less impacted (as compared to surgery) given that radiation does not require intubation, hospitalization, and substantial PPE use.

A team of experts, led by PCF-funded investigator Dr. Dan Spratt, has developed a framework for doctors to consider how and when to modify radiation treatments during COVID-19. The goal is to help doctors safely care for their

patients—balancing concerns of prostate cancer with COVID-19 infection risk—while conserving healthcare resources. This new framework is called RADS (which, coincidentally, is also a pun: it is the term used to describe a “dose” of radiation therapy). It stands for:

R = Remote Visits. Use phone or video instead of in-person visits.

A = Avoid Radiation. Do not treat with radiation therapy where there may be little or no benefit based on clinical trials.

D = Defer Radiation. Defer the start of treatment to maintain safety.

S = Shorten Radiation. If radiation is used, use the shortest safe form possible.

How will this affect you if you were considering radiation therapy? If you are newly diagnosed, your first visit may be delayed weeks to months, depending on your risk level and whether you live in a COVID-19 hotspot. Men with very low- and low-risk prostate cancer (see Table below) may be advised to delay until the risk of COVID-19 is low in your area. If delay is not possible (e.g., with high-risk, high-Gleason grade tumors), your provider will consider how to give safe and effective radiation therapy with the fewest possible number of visits. It is important to make COVID-19 prevention a top priority from when you arrive at the clinic to when you return home. Fortunately, hormone therapy is often combined with radiation as part of the standard of care, and hormone therapy can safely be used to delay the start of radiation by up to 6 months without any jeopardy in long-term outcomes.

If you have already had a prostatectomy and are planning radiation afterwards, you and your provider may consider following your PSA (via telehealth as much as possible) and starting radiation only if your PSA starts to rise.

In general, the more treatments you have, the more exposure you will have to the healthcare environment, which may increase your risk of contracting COVID-19. Thus, the shortest-course treatment is preferred, which often can be done in as few as 5 treatments, termed SBRT.

Risk Groups for Localized Prostate Cancer

Risk Group	Criteria
Very Low	All of the following: T1c stage, Grade group 1, PSA < 10 ng/mL, PSA density <0.15, fewer than 3 biopsy cores are positive, and <=50% of any core is involved with cancer
Low	All of the following: T1-T2a stage, Grade group 1, PSA <10 ng/mL
Intermediate - Favorable	Any one of the following risk factors: T2b/c stage, Grade group 2, PSA 10-20, Also must have >50% of your biopsy cores negative for cancer
Intermediate - Unfavorable	Grade group 3 - or - Any two of the following risk factors: T2b/c stage, Grade group 2, PSA 10-20, >=50% of your biopsy positive for cancer
High	Any one of the following risk factors: Grade group 4 or 5, T3a stage, PSA >20
Very High	Any one of the following risk factors: T3b-T4 stage, Primary Gleason pattern 5, >4 cores with Grade Group 4 or 5, or at least 2 high-risk features

See the Prostate Cancer Patient Guide, Chapter 2, “Detection, Diagnosis, and Staging” for more details on how risk groups are defined.

Talk to your doctor about when and how to proceed with radiation therapy to ensure that you have the best cancer outcome possible, while minimizing your risk of COVID-19.

Hormone Therapy (ADT)

Hormone therapy does not put men at additional risk of infection with COVID-19. In fact, clinical trials are beginning to test whether a very short course of ADT may actually be beneficial in men (without prostate cancer!) who are already infected with COVID-19. However, there is no data to recommend starting ADT in men with prostate cancer as a way to prevent COVID-19.

If you have unfavorable intermediate, high, or very-high risk prostate cancer and are planning to have radiation therapy as your primary treatment, you and your doctor may choose to begin ADT in order to delay radiation for 4-6 months. A major advantage of ADT is that it can be given as a long-acting injection, minimizing the number of clinic visits.

Advanced or Metastatic Prostate Cancer

Men with advanced disease may be especially worried about delays or changes in their treatment plan. In general, cancer centers are continuing to treat patients with advanced cancer during the pandemic, and patients who need chemotherapy can still come in for infusions, using COVID-19 prevention protocols for patient flow door-to-door. Many clinics are screening patients for COVID-19 symptoms upon arrival, ensuring that patients and staff wear masks and other PPE, and limiting visitors. Soon, centers may begin doing nose, throat, or saliva testing for coronavirus prior to commencing treatment.

Taxane chemotherapy (for example, docetaxel) is part of the standard of care for metastatic prostate cancer. However, it is important to know that, in general, chemotherapy weakens the immune system—it lowers your white blood cell count and reduce your body's ability to fight off infections. For some men, the risk of prostate cancer progression outweighs any increased risk of COVID-19 infection while on chemotherapy. Another option may be to increase the time between infusions to allow your immune system to more fully recover. If you are currently undergoing chemotherapy, or are scheduled to begin, call your doctor and make a plan for how you will be protected during your infusion—starting from the time you get out of your car to when you return home.

If you are on docetaxel, your doctor will have given you a list of warning signs of infection, such as fever or inability to keep food and drink down. Especially during this pandemic, be vigilant about these symptoms and call right away if you notice them. More research is needed to show how chemotherapy directly affects prostate cancer patients' risk of COVID-19 infection.

Your provider may also consider treatments that do not weaken your immune system in the same way as chemotherapy. For example, 2nd-generation anti-androgen medications such as enzalutamide, apalutamide, darolutamide, or abiraterone may be appropriate for treating advanced or metastatic disease, and do not affect your infection-fighting cells. However, abiraterone is given with prednisone, which can cause immunosuppression. Abiraterone also requires more frequent lab tests when starting therapy. Your doctor may consider these factors when choosing among the 2nd-generation anti-androgens. To monitor your labs, your doctor may have you go to a local lab to get blood drawn and then follow up with you by phone or email.

If you have been newly diagnosed with low-volume metastatic or oligometastatic prostate cancer, radiation therapy may be part of your treatment plan. As mentioned above, your doctor may recommend that ADT be used to safely

delay starting radiation for 4-6 months. However, longer delays of radiation therapy for men with advanced disease and excessive use of ADT are not recommended.

Under normal circumstances, clinical trials are an important option for men with advanced disease. However, be aware that many clinical trials are on hold or are enrolling fewer patients during the pandemic.

Post-Treatment: Prostate Cancer Survivors

Men who have completed their prostate cancer treatment are not thought to be at higher risk of infection with COVID-19, but more information is needed. If you had surgery or radiation therapy several months ago, and you are feeling well, you're probably at the same risk as any man of your same age and with the same other health conditions who's never been diagnosed with prostate cancer. But if you are over age 60 and being treated for conditions such as diabetes, coronary artery disease, high blood pressure, or lung disease, take extra precautions to maintain your health. It's especially important to follow any local public health recommendations to stay home, wear a face covering when going out, and continue to wash your hands and disinfect surfaces in your home. Check out pcf.org/COVID-19 for updates.

Your doctor may postpone any post-treatment monitoring until it is deemed safe for you to come to the clinic, or you and your doctor may choose to do this via telehealth.

WHAT YOU CAN DO: KEEP YOURSELF AND YOUR LOVED ONES HEALTHY

It may be frustrating to read that all you can do is “hurry up and wait.” But there is a LOT you can—and must—do for yourself now to keep yourself and your family well and to prepare for any treatment that you may have in the future. **It is important that you keep yourself and your caregivers well.** COVID-19 is an immediate threat for everyone, regardless of prostate cancer, and if you or someone you live with becomes infected, this may put you at risk for severe illness. Rather than stress about delays or changes in treatment, use this time to ensure that you are in the best shape possible for when you do begin treatment. Being sick with COVID-19 could set you back and even endanger your life.

1. The basics: Wash your hands frequently with soap and especially after being outside or touching surfaces that others have touched such as packages, takeout containers, or groceries. Keep your fingers away from your face. Clean surfaces in your home. Check the CDC website for more details.
2. Follow local public health guidelines for “social distancing.” Many communities are urged to stay at home as much as possible and to wear cloth face protection when going on necessary errands. It is important that you adhere to local guidelines. This will change over time, so check reliable local sources of information, such as your public health department website. You may be able to sign up for alerts on your smartphone from your local government.
3. Maintain your wellness to be in the best shape possible for treatment. This includes physical (diet, exercise) and mental (engaged mind, virtual social connections). [PCF.org](#) has a [blog](#) with suggestions, and this [article](#) notes how losing weight before surgery, if that applies to you, may improve surgical outcomes.

4. Plan for your every move to and from treatment. You may have already arranged who will help you after surgery or who will drive you to your appointments. Check back with those family and friends, as they may have been impacted by COVID-19 in terms of health, finances, or living situation. Wash your hands frequently before, during, and after your clinic visit.

5. Be physically distant but socially present. While this may not be a great time to see friends and family in person, it's a critical time to stay connected. Research suggests that people's amount of social connection is related to health outcomes, including cancer. Use videoconferencing to stay in touch; replace in-person card games with online apps that allow you to play with friends and family that you can't meet out; take a walk with neighbors, maintaining 6-10 feet of social distance between households, and respecting local government requirements.