



[Home](#) → [Health Topics](#) → Prostate Cancer

URL of this page: <https://medlineplus.gov/prostatecancer.html>

Prostate Cancer

What is prostate cancer?

Cancer [<https://medlineplus.gov/cancer.html>] is a disease in which cells in the body grow out of control. Prostate cancer begins in the cells of the prostate. The prostate is a gland in the male reproductive system. It lies just below the bladder. It makes fluid that is part of semen.

Prostate cancer is one of the most common types of cancer. It often grows very slowly. If it does not spread to other parts of the body, it may not cause serious problems. But sometimes prostate cancer can grow quickly and spread to other parts of the body. This kind of prostate cancer is serious.

What causes prostate cancer?

Researchers don't know for sure what causes prostate cancer. They do know that it happens when there are changes in the genetic material [<https://medlineplus.gov/genetics/condition/prostate-cancer/>] (DNA).

Sometimes these genetic changes are inherited, meaning that you are born with them. There are also certain genetic changes that happen during your lifetime that can raise your risk of prostate cancer. But often the exact cause of these genetic changes is unknown.

Who is more likely to develop prostate cancer?

Anyone who has a prostate can develop prostate cancer. But certain factors can make you more likely to develop it:

- **Age.** Your chance of developing prostate cancer increases as you get older. Prostate cancer is rare in people under age 50.
- **Family health history.** Your risk of prostate cancer is higher if you have a parent, sibling, or child who has or has had prostate cancer.
- **Race.** African Americans are more likely to get prostate cancer. They're also more likely to:
 - Get prostate cancer at a younger age.
 - Have more serious prostate cancer.
 - Die from prostate cancer.

What are the symptoms of prostate cancer?

Prostate cancer doesn't always cause symptoms, especially at first. If it does cause symptoms, they may include:

- Problems urinating [<https://medlineplus.gov/urineandurination.html>] (peeing), such as:
 - A urine stream that's weak, hard to start, or starts and stops
 - Suddenly needing to urinate right away [<https://medlineplus.gov/urinaryincontinence.html>]
 - Urinating often, especially at night
 - Pain or burning when urinating
 - Blood in your urine or semen
- Pain in your lower back [<https://medlineplus.gov/backpain.html>] , hips, or pelvis [<https://medlineplus.gov/pelvicpain.html>] that does not go away

- Painful ejaculation (the release of semen through the penis during orgasm)

But many of these symptoms may be from other common prostate problems [<https://medlineplus.gov/prostatediseases.html>] that aren't cancer, such as an **enlarged prostate** [<https://medlineplus.gov/enlargedprostatebph.html>] .

You should discuss your prostate health with your health care provider if you:

- Have symptoms that could be prostate cancer
- Have a high risk for developing prostate cancer
- Had a **screening test** [<https://medlineplus.gov/prostatecancerscreening.html>] that suggests you could have prostate cancer

What are prostate tests and how is prostate cancer diagnosed?

Tests which check for prostate cancer include:

- **A digital rectal exam (DRE).** In this exam, your provider feels your prostate for lumps or anything unusual by inserting a lubricated, gloved finger into your rectum.
- **A prostate-specific antigen (PSA)** [<https://medlineplus.gov/lab-tests/prostate-specific-antigen-psa-test/>] **blood test.** A high PSA blood level may be a sign of prostate cancer. But many other things can cause high PSA levels, too.
- **Imaging tests.** These tests may use ultrasound [<https://medlineplus.gov/lab-tests/sonogram/>] or MRI [<https://medlineplus.gov/mriscans.html>] to make pictures of your prostate.

If these tests show that you might have prostate cancer, the next step is usually a prostate biopsy [<https://medlineplus.gov/biopsy.html>] . A biopsy is the only way to diagnose prostate cancer.

During a biopsy, a doctor uses a hollow needle to remove some prostate tissue. The tissue is studied under a microscope to look for cancer cells.

What are the treatments for prostate cancer?

Your treatment options usually depend on your age, your general health, and how serious the cancer is. Your treatment may include one or more options:

- **Observation**, which is mostly used if you are older, your prostate cancer isn't likely to grow quickly, and you don't have symptoms or you have other medical conditions. Your doctor will keep checking on your cancer over time so to see whether you will need to start treatment for the cancer. There are two types of observation:
 - **Watchful waiting** means having little or no testing. If symptoms begin or change, you will get treatment to relieve them, but not to treat the cancer.
 - **Active surveillance** means having regular tests to see if your prostate cancer has changed. If the tests show the cancer is starting to grow or if you develop symptoms, then you will have treatment to try to cure the cancer.
- **Surgery** to remove your prostate gland may be an option if your cancer hasn't spread outside of your prostate.
- **Radiation therapy** [<https://medlineplus.gov/radiationtherapy.html>] uses high energy to kill cancer cells or prevent them from growing.
- **Hormone therapy** blocks cancer cells from getting the hormones [<https://medlineplus.gov/hormones.html>] they need to grow. It may include taking medicines or having surgery to remove the testicles.
- **Chemotherapy** [<https://medlineplus.gov/cancerchemotherapy.html>] uses medicines to kill cancer cells, slow their growth, or stop them from spreading. You might take the drugs by mouth, as an injection (shot), as a cream, or intravenously (by IV).
- **Targeted therapy** uses drugs or other substances that attack specific cancer cells. This treatment causes less harm to healthy cells than radiation therapy or chemotherapy.
- **Immunotherapy** [<https://medlineplus.gov/cancerimmunotherapy.html>] helps your own immune system to fight cancer.


Can prostate cancer be prevented?

Making healthy lifestyle changes may help to prevent some prostate cancers. These changes include:

- Being at a healthy weight [<https://medlineplus.gov/weightcontrol.html>]
- Quitting smoking [<https://medlineplus.gov/quittingsmoking.html>]
- Getting enough exercise [<https://medlineplus.gov/howmuchexercisedoneed.html>]
- Eating healthy foods

NIH: National Cancer Institute

Start Here

- General Information about Prostate Cancer [https://www.cancer.gov/types/prostate/patient/prostate-treatment-pdq#_102]  (National Cancer Institute)
Also in Spanish [https://www.cancer.gov/espanol/tipos/prostata/paciente/tratamiento-prostata-pdq#_102]
- Prostate Cancer [<https://www.mayoclinic.org/diseases-conditions/prostate-cancer/symptoms-causes/syc-20353087?p=1>] (Mayo Foundation for Medical Education and Research)
- Prostate Cancer Symptoms, Tests, and Treatment [<https://www.fda.gov/consumers/consumer-updates/prostate-cancer-symptoms-tests-and-treatments>] (Food and Drug Administration)
Also in Spanish [<https://www.fda.gov/consumers/articulos-para-el-consumidor-en-espanol/cancer-de-prostata-sintomas-pruebas-y-tratamientos>]
- What is Prostate Cancer? [<https://www.cancer.org/cancer/types/prostate-cancer/about/what-is-prostate-cancer.html>] (American Cancer Society)
Also in Spanish [<https://www.cancer.org/es/cancer/tipos/cancer-de-prostata/acerca/que-es-cancer-de-prostata.html>]

Symptoms

- Prostate Cancer Symptoms [<https://www.pcf.org/prostate-cancer-symptoms/>] (Prostate Cancer Foundation)

Diagnosis and Tests

- Can Prostate Cancer Be Found Early? [<https://www.cancer.org/cancer/types/prostate-cancer/detection-diagnosis-staging/detection.html>] (American Cancer Society)
Also in Spanish [<https://www.cancer.org/es/cancer/tipos/cancer-de-prostata/deteccion-diagnostico-clasificacion-por-etapas/deteccion.html>]
- CEA Test [<https://medlineplus.gov/lab-tests/cea-test/>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/prueba-de-ace/>]
- Prostate Cancer Screening: MedlinePlus Health Topic [<https://medlineplus.gov/prostatecancerscreening.html>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/prostatecancerscreening.html>]
- Prostate MRI (Magnetic Resonance Imaging) [https://www.radiologyinfo.org/en/info/mr_prostate] (American College of Radiology; Radiological Society of North America)
Also in Spanish [https://www.radiologyinfo.org/es/info/mr_prostate]
- Prostate Tests [<https://www.niddk.nih.gov/health-information/diagnostic-tests/prostate>]  (National Institute of Diabetes and Digestive and Kidney Diseases)
- Prostate-Specific Antigen (PSA) Test [<https://medlineplus.gov/lab-tests/prostate-specific-antigen-psa-test/>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/prueba-de-psa-antigeno-prostatico-especifico/>]
- Screening Tests for Prostate Cancer [<https://www.cancer.org/cancer/types/prostate-cancer/detection-diagnosis-staging/tests.html>] (American Cancer Society)
Also in Spanish [<https://www.cancer.org/es/cancer/tipos/cancer-de-prostata/deteccion-diagnostico-clasificacion-por-etapas/pruebas-de-deteccion-para-el-cancer-de-prostata.html>]
- Stages of Prostate Cancer [https://www.cancer.gov/types/prostate/patient/prostate-treatment-pdq#_120]  (National Cancer Institute)
Also in Spanish [https://www.cancer.gov/espanol/tipos/prostata/paciente/tratamiento-prostata-pdq#_120]
- Tumor Marker Tests [<https://medlineplus.gov/lab-tests/tumor-marker-tests/>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/marcadores-tumorales/>]

Ultrasound -- Prostate [<https://www.radiologyinfo.org/en/info/us-prostate>]

 (American College of Radiology; Radiological Society of North America)

Also in Spanish [<https://www.radiologyinfo.org/es/info/us-prostate>]

- Ultrasound- and MRI-Guided Prostate Biopsy [<https://www.radiologyinfo.org/en/info/prostate-biopsy>]

(American College of Radiology; Radiological Society of North America)

Also in Spanish [<https://www.radiologyinfo.org/es/info/prostate-biopsy>]

- When You're Newly Diagnosed [<https://www.pcf.org/patient-support/diagnosis/newly-diagnosed/>] (Prostate Cancer Foundation)

Prevention and Risk Factors

- Prostate Cancer Prevention [<https://www.cancer.gov/types/prostate/patient/prostate-prevention-pdq>]

 (National Cancer Institute)

Also in Spanish [<https://www.cancer.gov/espanol/tipos/prostata/paciente/prevencion-prostata-pdq>]

- Prostate Cancer Risk Factors [<https://www.cancer.org/cancer/types/prostate-cancer/causes-risks-prevention/risk-factors.html>] (American Cancer Society)

Also in Spanish [<https://www.cancer.org/es/cancer/tipos/cancer-de-prostata/causas-riesgos-prevencion/factores-de-riesgo.html>]

- What Causes Prostate Cancer? [<https://www.cancer.org/cancer/types/prostate-cancer/causes-risks-prevention/what-causes.html>] (American Cancer Society)

Also in Spanish [<https://www.cancer.org/es/cancer/tipos/cancer-de-prostata/causas-riesgos-prevencion/que-lo-causea.html>]

Treatments and Therapies

- Drugs Approved for Prostate Cancer [<https://www.cancer.gov/about-cancer/treatment/drugs/prostate>]

 (National Cancer Institute)

- Hormone Therapy for Prostate Cancer [<https://www.cancer.gov/types/prostate/prostate-hormone-therapy-fact-sheet>]

 (National Cancer Institute)

Also in Spanish [<https://www.cancer.gov/espanol/tipos/prostata/hoja-informativa-terapia-hormonal>]

- Immunotherapy for Prostate Cancer [<https://www.cancer.org/cancer/types/prostate-cancer/treating/vaccine-treatment.html>]

(American Cancer Society)

Also in Spanish [<https://www.cancer.org/es/cancer/tipos/cancer-de-prostata/tratamiento/tratamiento-con-vacunas.html>]

- Observation or Active Surveillance for Prostate Cancer [<https://www.cancer.org/cancer/types/prostate-cancer/treating/watchful-waiting.html>] (American Cancer Society)

Also in Spanish [<https://www.cancer.org/es/cancer/tipos/cancer-de-prostata/tratamiento/espera-en-observacion.html>]

- Prostate Cancer Treatment [<https://www.cancer.gov/types/prostate/patient/prostate-treatment-pdq>]

 (National Cancer Institute)

- Prostate Cancer Treatment [https://www.radiologyinfo.org/en/info/pros_cancer]

(American College of Radiology; Radiological Society of North America)

Also in Spanish [https://www.radiologyinfo.org/es/info/pros_cancer]

- Prostatectomy - Series [https://medlineplus.gov/ency/presentations/100046_1.htm] (Medical Encyclopedia)


Also in Spanish [https://medlineplus.gov/spanish/ency/esp_presentations/100046_1.htm]

- Treating Prostate Cancer That Doesn't Go Away or Comes Back after Treatment

[<https://www.cancer.org/cancer/types/prostate-cancer/treating/recurrence.html>] (American Cancer Society)

Also in Spanish [<https://www.cancer.org/es/cancer/tipos/cancer-de-prostata/tratamiento/recurrencia.html>]

- Treatment Option Overview (Prostate Cancer) [https://www.cancer.gov/types/prostate/patient/prostate-treatment-pdq#_142]

 (National Cancer Institute)

Also in Spanish [https://www.cancer.gov/espanol/tipos/prostata/paciente/tratamiento-prostata-pdq#_142]

Living With

- Hormone Therapy Side Effects [<https://www.pcf.org/patient-support/side-effects/hormone-therapy/>]

(Prostate Cancer Foundation)

- Sexual Health Changes Following Treatment [<https://www.pcf.org/patient-support/side-effects/sexual-health/>]


(Prostate Cancer Foundation)

Treatments for Prostate Cancer Spread to Bones [<https://www.cancer.org/cancer/types/prostate-cancer/treating/treating-pain.html>] (American Cancer Society)
Also in Spanish [<https://www.cancer.org/es/cancer/tipos/cancer-de-prostata/tratamiento/tratamiento-del-dolor.html>]

Related Issues

- After Treatment: Living as a Prostate Cancer Survivor [<https://www.cancer.org/cancer/types/prostate-cancer/after-treatment.html>] (American Cancer Society)
Also in Spanish [<https://www.cancer.org/es/cancer/tipos/cancer-de-prostata/despues-del-tratamiento.html>]
- Bowel Dysfunction After Prostate Cancer Treatment [<https://www.hopkinsmedicine.org/health/treatment-tests-and-therapies/bowel-dysfunction-after-prostate-cancer-treatment>] (Johns Hopkins Medicine)
- Fertility Problems [<https://www.cancer.org/cancer/managing-cancer/side-effects/fertility.html>] (American Cancer Society)
Also in Spanish [<https://www.cancer.org/es/cancer/como-sobrellevar-el-cancer/efectos-secundarios/efectos-secundarios-sobre-la-fertilidad-y-la-sexualidad.html>]
- Urinary Dysfunction After Prostate Cancer Treatment [<https://www.hopkinsmedicine.org/health/treatment-tests-and-therapies/urinary-dysfunction-after-prostate-cancer-treatment>] (Johns Hopkins Medicine)

Genetics

- Prostate cancer: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/prostate-cancer>]  (National Library of Medicine)


Test Your Knowledge

- Prostate Cancer Myths & Facts Quiz [https://medlineplus.gov/ency/quiz/000380_21.htm] (Medical Encyclopedia)
Also in Spanish [https://medlineplus.gov/spanish/ency/quiz/000380_81.htm]

Statistics and Research

- Advances in Prostate Cancer Research [<https://www.cancer.gov/types/prostate/research>]  (National Cancer Institute)
- Cancer Stat Facts: Prostate Cancer [<https://seer.cancer.gov/statfacts/html/prost.html>]  (National Cancer Institute)
- Comparing Side Effects of Prostate Cancer Treatments [<https://newsinhealth.nih.gov/2024/04/comparing-side-effects-prostate-cancer-treatments>]  (National Institutes of Health)
Also in Spanish [<https://salud.nih.gov/recursos-de-salud/nih-noticias-de-salud/comparacion-de-los-efectos-secundarios-de-los-tratamientos>]
- Key Statistics for Prostate Cancer [<https://www.cancer.org/cancer/types/prostate-cancer/about/key-statistics.html>] (American Cancer Society)
Also in Spanish [<https://www.cancer.org/es/cancer/tipos/cancer-de-prostata/acerca/estadisticas-clave.html>]
- Prostate Cancer FAQs [https://www.pcf.org/faq_category/prostate-cancer-faqs/] (Prostate Cancer Foundation)
- Prostate Cancer Statistics [<https://www.cdc.gov/prostate-cancer/statistics/>] (Centers for Disease Control and Prevention)
Also in Spanish [<https://www.cdc.gov/prostate-cancer/es/statistics/index.html>]
- What's New in Prostate Cancer Research and Treatment? [<https://www.cancer.org/cancer/types/prostate-cancer/about/new-research.html>] (American Cancer Society)
Also in Spanish [<https://www.cancer.org/es/cancer/tipos/cancer-de-prostata/acerca/nuevas-investigaciones.html>]

Clinical Trials

- ClinicalTrials.gov: Prostatic Neoplasms [<https://clinicaltrials.gov/search?cond=%22Prostatic+Neoplasms%22&aggFilters=status:not%20rec>]  (National Institutes of Health)

Journal Articles

References and abstracts from MEDLINE/PubMed (National Library of Medicine)



- Article: Low Testosterone Level and Mortality Risk in Patients With Prostate Cancer:... [<https://www.ncbi.nlm.nih.gov/pubmed/40747769>]

Article: Study of the effectiveness of different pelvic floor muscle training methods...

[<https://www.ncbi.nlm.nih.gov/pubmed/40642816>]

- Article: Metformin for patients with metastatic prostate cancer starting androgen deprivation therapy:... [<https://www.ncbi.nlm.nih.gov/pubmed/40639383>]
- Prostate Cancer -- see more articles [<https://pubmed.ncbi.nlm.nih.gov/?term=%22Prostatic+Neoplasms%22%5Bmajr%3Anoexp%5D+AND+humans%5Bmh%5D+AND+english%5Bla%5D+AND+%22last+1+Year%22+%5Bedat%5D+AND+%28patient+education+handout%5Bpt%5D+OR+guideline%5Bpt%5D+OR+clinical+trial%5Bpt%5D%29++NOT+%28letter%5Bpt%5D+OR+case+reports%5Bpt%5D+OR+editorial%5Bpt%5D+OR+comment%5Bpt%5D%29+AND+free+full+text%5Bsb%5D+>]

Find an Expert

- American Cancer Society [<https://www.cancer.org/>]
- Choosing a Cancer Doctor [<https://www.cancer.org/cancer/managing-cancer/finding-care/where-to-find-cancer-care/choosing-a-cancer-doctor.html>] (American Cancer Society)
Also in Spanish [<https://www.cancer.org/es/cancer/como-sobrellevar-el-cancer/encontrar-tratamiento/como-elegir-un-medico-y-un-hospital/como-seleccionar-a-un-medico.html>]
- National Cancer Institute [<https://www.cancer.gov/>] 
Also in Spanish [<https://www.cancer.gov/espanol>]
- Organizations that Offer Cancer Support Services [<https://supportorgs.cancer.gov/home.aspx>]  (National Cancer Institute)
Also in Spanish [<https://supportorgs.cancer.gov/home.aspx?lang=2>]

Patient Handouts

- Cryotherapy for prostate cancer [<https://medlineplus.gov/ency/patientinstructions/000907.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000907.htm>]
- Digital rectal exam [<https://medlineplus.gov/ency/article/007069.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/007069.htm>]
- Gleason grading system [<https://medlineplus.gov/ency/patientinstructions/000920.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000920.htm>]
- Hormone therapy for prostate cancer [<https://medlineplus.gov/ency/patientinstructions/000908.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000908.htm>]
- Pelvic radiation - discharge [<https://medlineplus.gov/ency/patientinstructions/000059.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000059.htm>]
- Prostate brachytherapy [<https://medlineplus.gov/ency/article/007385.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/007385.htm>]
- Prostate cancer [<https://medlineplus.gov/ency/article/000380.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000380.htm>]
- Prostate cancer staging [<https://medlineplus.gov/ency/patientinstructions/000397.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000397.htm>]
- Prostate cancer treatment [<https://medlineplus.gov/ency/patientinstructions/000403.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000403.htm>]
- Understanding your prostate cancer risk [<https://medlineplus.gov/ency/patientinstructions/000931.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/patientinstructions/000931.htm>]



MEDICAL ENCYCLOPEDIA

After chemotherapy - discharge [<https://medlineplus.gov/ency/patientinstructions/000012.htm>]

Cryotherapy for prostate cancer [<https://medlineplus.gov/ency/patientinstructions/000907.htm>]

Digital rectal exam [<https://medlineplus.gov/ency/article/007069.htm>]

Gleason grading system [<https://medlineplus.gov/ency/patientinstructions/000920.htm>]

Hormone therapy for prostate cancer [<https://medlineplus.gov/ency/patientinstructions/000908.htm>]

Pelvic CT scan [<https://medlineplus.gov/ency/article/007362.htm>]

Pelvic radiation - discharge [<https://medlineplus.gov/ency/patientinstructions/000059.htm>]

Pelvis MRI scan [<https://medlineplus.gov/ency/article/007355.htm>]

Prostate brachytherapy [<https://medlineplus.gov/ency/article/007385.htm>]

Prostate brachytherapy - discharge [<https://medlineplus.gov/ency/patientinstructions/000162.htm>]

Prostate cancer [<https://medlineplus.gov/ency/article/000380.htm>]

Prostate cancer staging [<https://medlineplus.gov/ency/patientinstructions/000397.htm>]

Prostate cancer treatment [<https://medlineplus.gov/ency/patientinstructions/000403.htm>]

Prostate radiation - discharge [<https://medlineplus.gov/ency/patientinstructions/000399.htm>]

Prostatectomy - Series [https://medlineplus.gov/ency/presentations/100046_1.htm]

Radical prostatectomy [<https://medlineplus.gov/ency/article/007300.htm>]

Radical prostatectomy - discharge [<https://medlineplus.gov/ency/patientinstructions/000301.htm>]

Understanding your prostate cancer risk [<https://medlineplus.gov/ency/patientinstructions/000931.htm>]

Related Health Topics

Prostate Cancer Screening [<https://medlineplus.gov/prostatecancerscreening.html>]

Prostate Diseases [<https://medlineplus.gov/prostatediseases.html>]

National Institutes of Health

The primary NIH organization for research on *Prostate Cancer* is the National Cancer Institute [<http://www.cancer.gov/>]

Other Languages

Find health information in languages other than English [<https://medlineplus.gov/languages/prostatecancer.html>] on *Prostate Cancer*

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