A man gets diagnosed almost every 2 minutes with prostate cancer.
EDUCATION AND TESTING ARE VITAL TO DEFEATING THIS DISEASE.
PROSTATE CANCER 101
WHAT IS PROSTATE CANCER?

Prostate cancer is cancer that begins in the prostate. The prostate is a walnut-shaped gland in the male reproductive system located below the bladder and in front of the rectum. It surrounds the urethra and makes the fluid to nourish and protect sperm cells.

Cancer is a disease that begins in cells, which are the building blocks that make up all tissue and organs of the body, including the prostate. Normal cells grow, divide, and die on a regular schedule. Sometimes something goes wrong with this process and the cells don’t die as they should. Instead, they create a growth or tumor. Tumors can be benign (not cancerous) or malignant (cancerous).

Most prostate cancer grows slowly and stays in the prostate. Many men with prostate cancer die of other causes. While most prostate cancer is slow growing, others will be aggressive and can spread quickly.
WHO IS AT RISK?

Every 15 minutes another American man dies from prostate cancer. That is a little more than 93.5 deaths per day. A man’s risk of prostate cancer increases with age, and most prostate cancer is found in men over 50 years old. The greatest risk factors are family history, African American ancestry, exposure to Agent Orange, and increasing age. African American men are 1.8 times more likely to develop the disease and 2.2 times more likely to die from the disease than white men*. One in five U.S. veterans will develop prostate cancer in their lifetime.

*Cancer Facts & Figures 2020, American Cancer Society

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RISK FACTORS

- RACE
- FAMILY HISTORY
- AGING
- DIET
- GENE CHANGES
- CHEMICALS

RISK QUIZ

- Are you over the age of 65?
- Are you African-American?
- Were you exposed to Agent Orange or herbicides in the military?
- Did your father or brother have prostate cancer?

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* Cancer Facts & Figures 2020, American Cancer Society
BENEFITS OF EARLY DETECTION

All men are at risk of prostate cancer. Finding the disease early means the best chance of curing it. When found early, more than 98 percent of men will be alive five years later.

There are two early detection tests for prostate cancer:

- **Prostate Specific Antigen (PSA) Test** – Determines the level of PSA in the blood. Levels of PSA are commonly higher in men with prostate cancer than men without prostate cancer.

- **Digital Rectal Exam (DRE)** – A test that is done when a doctor or nurse inserts a gloved, lubricated finger into the rectum to estimate the size of the prostate and feel for lumps or other abnormalities.

Guidelines for Early Detection

The National Comprehensive Cancer Network® (NCCN®) and ZERO recommend a man should be educated about prostate cancer and understand his options for early detection. Talk with your doctor about your personal risk and the guidelines to make a plan for testing.
# PSA Screening Guidelines*

<table>
<thead>
<tr>
<th>If you are between ages 45 – 75</th>
<th>If your PSA is below 1 ng/mL and your DRE is normal, repeat testing every 2-4 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>If your PSA is between 1 and 3 ng/mL and your DRE is normal, repeat testing every 1-2 years</td>
</tr>
<tr>
<td></td>
<td>If your PSA is greater than 3 ng/mL or your DRE is suspicious, your doctor may suggest additional testing or a biopsy</td>
</tr>
<tr>
<td>If you are over 75</td>
<td>Decide together with your doctor if PSA/DRE testing is right for you</td>
</tr>
<tr>
<td></td>
<td>If you continue testing and your PSA is less than 4 ng/mL and your DRE is normal, repeat testing every 1-4 years</td>
</tr>
<tr>
<td></td>
<td>If your PSA is greater than or equal to 4 ng/mL or your DRE is suspicious, your doctor may suggest additional testing or a biopsy</td>
</tr>
</tbody>
</table>

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**IF YOU HAVE PROSTATE CANCER**

**YOU CAN BEAT IT.**

04 PROSTATE CANCER 101
Diagnosing Prostate Cancer

If cancer is suspected as a result of a PSA test, DRE, or other factors, a biopsy will most likely be performed. A prostate biopsy is the removal of samples of tissue from your prostate with a needle and the help of ultrasound.

Exciting research shows that using both MRI and ultrasound can help doctors pinpoint aggressive prostate tumors. Additionally, prostate-specific membrane antigen (PSMA) imaging is a new technology that uses positron emission tomography (PET) to screen for prostate cancer. Another clinical trial is now underway to further study the use of PSMA-PET imaging when screening for and diagnosing prostate cancer.

Other diagnostics include:

**Phi:** The Prostate Health Index combines three blood tests that give a “Phi Score,” which may help physicians more accurately determine the probability of finding cancer during a biopsy.

**4Kscore:** A blood test providing patient-specific probability of finding an aggressive form of prostate cancer during a biopsy. The test measures total PSA, free PSA, intact PSA and kallikrein enzymes. The company then uses this information and the patient’s age and physical exam to calculate the probability percentage of having aggressive disease.

**PCA3:** A urine test that may suggest the possibility of prostate cancer by examining the expression of PCA3, which is a gene specific to prostate cancer. The PCA3 score is used to determine the need for repeated biopsies.

**ExoDx Prostate:** A simple, non-invasive urine test to assess your risk of having clinically significant high-grade prostate cancer. The ExoDx Prostate Test does not require a digital rectal exam (DRE) and provides an individualized risk score that can help determine whether to proceed or defer a prostate biopsy.

**Genomic Testing**

Genomic testing is a type of specialized medical test done on cancerous tissue. These tests look at the makeup of the cancer and provide information about what treatments may be helpful against a given cancer, and may help physicians predict the aggressiveness of the cancer.
Grading and Staging

Once prostate cancer is confirmed, additional tests are done to learn the location (stage) and Gleason score (grade) of the tumor.

Staging is the process used to find out if the cancer has spread within the prostate or to other parts of the body.

PROSTATE CANCER STAGES

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I</td>
<td>The cancer is small and only in the prostate</td>
</tr>
<tr>
<td>Stage II</td>
<td>The cancer is larger and may be in both lobes of the prostate but is still confined to the prostate</td>
</tr>
<tr>
<td>Stage III</td>
<td>The cancer has spread beyond the prostate to nearby lymph glands or seminal vesicles</td>
</tr>
<tr>
<td>Stage IV</td>
<td>The cancer has spread to other organs such as the bone and is referred to as metastatic cancer. If prostate cancer spreads, or metastasizes, to the bone, you have prostate cancer cells in the bone, not bone cancer</td>
</tr>
</tbody>
</table>

Genomic Testing (Continuation)

The results from a genomic test can help with making a plan to manage prostate cancer. Commonly used genomic tests on biopsy specimen for localized prostate cancer include Decipher Biopsy®, Oncotype DX Genomic Prostate Score®, GPS™, PTEN, Prolaris®, Promark®. More than 50 percent of men newly diagnosed with prostate cancer have low-risk disease, which will likely not spread beyond the prostate to cause harm.
Grading, using the Gleason score, indicates how quickly the tumor will grow and spread. The grade is the description of the tumor based on how abnormal the cells look under the microscope. Scores go from 2 to 10. The higher the number the more abnormal the prostate tissue is compared to normal tissue. The two numbers are then added to get a score. Higher Gleason Scores mean the cancer is more likely to spread. Most scores range from 6 - 10.

<table>
<thead>
<tr>
<th>Gleason Grade Group</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gleason X</td>
<td>Gleason score cannot be determined</td>
</tr>
<tr>
<td>Gleason 6 or less</td>
<td>The tumor tissue is well differentiated, less aggressive and likely to grow more slowly</td>
</tr>
<tr>
<td>Gleason 7</td>
<td>The tumor tissue is moderately differentiated, moderately aggressive and likely to grow but may not spread quickly</td>
</tr>
<tr>
<td>Gleason 8-10</td>
<td>The tumor tissue is poorly differentiated or undifferentiated, highly aggressive and likely to grow faster and spread</td>
</tr>
</tbody>
</table>

TREATMENT

Choosing a health care team is an important decision. Take the time to get educated on all available options and potential negative side effects to make the best treatment decision for you.

Early stage, also called localized, prostate cancer is cancer that has not moved outside of the prostate. Treatment is done to cure the cancer. Up to 40 percent of men treated with localized prostate cancer will experience a recurrence.

Advanced prostate cancer is cancer that has moved outside of the prostate. There are different types of advanced prostate cancer:

- **Locally Advanced**: Cancer has spread beyond the outer layer of the prostate into nearby tissues. Locally advanced prostate cancer is considered nonmetastatic.
- **Metastatic**: Cancer has spread to other parts of the body, such as the bones, lymph nodes, lungs,
or liver.

• **Castration-Sensitive Prostate Cancer (CSPC, also called Hormone-Sensitive Prostate Cancer):** A form of prostate cancer that still responds to testosterone suppression therapy. CSPC can be referred to as nmCSPC when there is no detectable metastases upon imaging, and as mCSPC when it has advanced to metastatic stage.

• **Castration-Resistant Prostate Cancer (CRPC):** Cancer that keeps growing even when the amount of testosterone in the body is reduced to very low levels. Many early-stage prostate cancers need normal levels of testosterone to grow, but castration-resistant prostate cancers do not. CRPC can be referred to as nmCRPC when there is no detectable metastases upon imaging, and as mCRPC when it has advanced to metastatic stage.

About 9 percent of men are diagnosed with metastatic disease.

The best treatment for one man may not be the best for another. The right treatment for you depends on many factors including:

- Age
- Gleason score (grade) of the tumor
- Symptoms
- General health
- Stage of prostate cancer

Prostate cancer is a disease that can be treated by several different types of medical specialists. And the treatment chosen may mean that the doctor who diagnosed your cancer is not the one doing the majority of your treatment. You may meet with many doctors before you make a final decision about treatment.

Consider a multidisciplinary team for the treatment of your prostate cancer. A multidisciplinary team is a group of health care professionals from different specialties that work together to suggest a treatment plan. If you cannot work with a multidisciplinary team, meeting with a medical oncologist will help you have a full picture of all treatment options available to you. This is especially important should your cancer return.
Specialists involved in the treatment of prostate cancer include:

**Physicians:**
- Urologist
- Radiation Oncologist
- Medical Oncologist

**Other Health Care Professionals:**
- Oncology Social Worker
- Physical Therapist
- Nutritionist
- Navigator

### TREATMENT OPTIONS

**Early Stage Prostate Cancer**

**Active Surveillance** is the close monitoring of the status of the prostate cancer through regular office visits and repeat medical tests. Prostate cancer can grow slowly, allowing time to evaluate options.

**Surgery,** known as a **radical prostatectomy,** is the removal of the entire prostate by a surgeon.

**Radiation therapy** uses radiation to destroy the cancer cells in the prostate while leaving the prostate in the body. It can be given in two ways, externally (from the outside) and internally (placed inside) to fight prostate cancer.

- **External Radiation Therapy, or External Beam Radiation Therapy (EBRT)** — Involves treating the prostate and the pelvic region with radiation in daily doses. Most EBRT is delivered using x-ray photons (with the exception of proton beam therapy). This radiation is the same kind used for an X-Ray or CT scan, except that the amount of energy used is much higher.
• **Internal Radiation Therapy** – Comes in two types: brachytherapy and radiopharmaceuticals. Although they both involve placing radioactive materials inside the body, they are very different options, used for different stages of the disease. Both low and high dose brachytherapy are used for localized prostate cancer, while radiopharmaceuticals are used exclusively for prostate cancer that has spread to the bone.

**Advanced Prostate Cancer**

**Hormone Therapy**
Hormone therapy, also called androgen deprivation therapy (ADT), lowers the testosterone level in a man’s body. Because prostate cancer cells use testosterone as fuel, ADT starves the tumor cells. Hormone therapies do not directly kill prostate cancer cells, but cause many cells to starve to death and others to become dormant or inactive for a period of time. They can improve the quality of life and extend survival.

**Immunotherapy**
Immunotherapy stimulates the immune system to kill cancer cells in men with advanced prostate cancer. Immunotherapy is a cancer treatment that helps the immune system fight cancer. Several types of immunotherapies have been approved for cancer patients – these are also being explored as treatment options for prostate cancer. Immunotherapies can boost or change how the immune system works so it can find and attack cancer cells.

**Chemotherapy**
Chemotherapy uses anti-cancer drugs to kill cancer cells. Chemotherapy for prostate cancer is given into a vein (intravenously) with a needle and IV catheter. This treatment given in a doctor’s office.

**Radiation for Bone Metastases**
Frequently, prostate cancer travels to the bone and can cause pain, increased fractures, and other problems. There are several available treatments that use radiation.

External radiation can be used to treat individual areas of the bone where the prostate cancer has spread.
CLINICAL TRIALS

A clinical trial is an investigation of a treatment to see if it is safe and effective to use to treat a disease such as prostate cancer. In some cases, a clinical trial can be considered as a first-line treatment.

Many clinical trials consist of two groups:

- Patients who receive the experimental drug or treatment.
- Patients who are given either a standard treatment for the disease or a placebo which has no direct therapeutic effect. Placebo treatments are not given in situations in which a standard treatment is available.

Regardless of which group they are in, all patients receive the same level of medical attention, including blood work, imaging tests, and supportive care. In most clinical trials, the health of the participants is monitored both during and after the study period.

Clinical trials are highly controlled and regulated. They can be sponsored by pharmaceutical or biotech companies, the federal government, medical institutions, or private foundations. Learn more at zerocancer.org/clinical-trials

The use of placebos in cancer clinical trials is rare. If a placebo is used, it is usually combined with a standard, or approved, treatment.
Before starting treatment you should talk to your doctor about your options. You may want to seek a second opinion or even talk to several different doctors about all treatment options, their side effects, and the expected results.

**QUESTIONS TO ASK YOUR DOCTOR**

**QUESTIONS FOR THE DOC**

- What are my treatment options? Which do you recommend for me? Why?
- What are the expected benefits of each kind of treatment?
- What are the risks and possible side effects of each treatment? How can the side effects be managed?
- What can I do to prepare for treatment?
- Will I need to be hospitalized? If so, for how long?
- What is the cost of treatment? Will my insurance cover it?
- How will treatment affect my normal activities? Will it affect my sex life? Will I have urinary problems? Will I have bowel problems?
- Is a clinical trial an option for me?
SIDE EFFECTS OF TREATMENT

The side effects from treatment can range from temporary to long-term incontinence, trouble controlling your bladder, and erectile dysfunction, to other issues such as pain and depression.

Fortunately, side effects can be managed. Talk with your doctor to learn how potential side effects can be managed. Side effects may include:

- **Incontinence:** Prostatectomy and radiation therapy can cause muscle damage that disrupts the way the bladder holds and discharges urine. Treatment for this will depend on the severity of the condition.

- **Erectile Dysfunction:** Erectile dysfunction is a common side effect following prostatectomy and radiation therapy. Treatment includes medication and implants.

- **Pain:** Treatment ranges from over-the-counter pain killers and prescription narcotics to radiation treatment and acupuncture.

- **Depression:** Feelings of sadness, anger, and anxiety are common for people going through a major challenge like cancer. If you are having trouble coping, don’t be afraid to talk to your doctor.

- **Fatigue:** Cancer-related fatigue is an extreme feeling of tiredness or lack of energy, similar to exhaustion.
An overall wellness plan of healthy living is critical when it comes to prostate health and fighting prostate cancer. A growing list of studies show a strong connection between fighting cancer and important choices in diet, physical activity, and lifestyle.

Tips for Healthy Living

- Eat a healthy, plant-based diet and limit animal products
- Be physically active
- Seek to maintain a healthy weight
- Limit the amount of alcohol you drink
- If you use tobacco, stop; and if you don’t, do not start
- Protect your skin from UV radiation
- Have regular physical exams and talk with your doctor about your risk for prostate and other cancers
The ZERO Prostate Cancer Run/Walk is the largest men’s health event series in America with more than 45 cities nationwide. The series brings together patients, survivors, family members, friends, colleagues, athletes, and medical professionals to end prostate cancer. These events encourage men to take an active role in their health and raise more than $4M annually for prostate cancer research, advocacy, patient education, and support. Join us as a walker, runner, or volunteer for this family-friendly event in a city near you! Register at: www.zerocancer.run
RESOURCES

Life with prostate cancer can bring profound changes and challenges. Understanding the disease and how to manage it can increase your confidence in making changes to improve and maintain your health. At ZERO, we are dedicated to helping you live your best life possible. Learn more about the resources available on our website at zerocancer.org/learn.

ZERO360: Comprehensive Patient Support – No man should face prostate cancer alone. Now men don’t have to. We offer a free service to help patients make treatment decisions, access financial resources to cover treatment and other needs, and find emotional support. Our team of experienced case managers is ready to help you and your family through your personal prostate cancer journey.

Contact us toll-free at 1-844-244-1309 or zerocancer.org/zero360.

Educational Webinars – Hear directly from experts in the prostate cancer community on various topics from the comfort of your home. Our live webinar programs are taped and available for you to listen to at any time on our website.

Education Video Library – We are pleased to offer some of our information in patient education videos featuring physicians, patients, survivors, and loved ones.

Fact Sheets, Worksheets, and Questions to Ask Your Doctor – Download one of our fact sheets today to learn more about prostate cancer. We also provide worksheets to track your disease and questions to ask your doctor.

For Families – If someone you love has been diagnosed with prostate cancer, you are not alone. Read our tips for coping and taking care of your loved one.

Social Media – Like and follow ZERO on social media, where we share helpful educational resources.

facebook.com/zerocancer
twitter.com/zerocancer
instagram.com/zeroprostatecancer
MENtor Program – The MENtor program provides support to newly diagnosed men living with prostate cancer, as well as men who have experienced a recurrence. Our trained, volunteer MENtors represent many different prostate cancer journeys and have a wealth of insights to share based on their experiences. Learn more at zerocancer.org/mentor.

Caregiver Connector - The Caregiver Connector Program allows us to connect prostate cancer caregivers with the ongoing one-on-one support from a Caregiver Mentor. Caregivers include spouse/partners, child, sibling, other supportive relationships. Learn more at zerocancer.org/caregiver-connector.

ZERO Connect - Our online support group where those affected by prostate cancer can share their stories, ask questions, get advice, and connect with one another on their prostate cancer journey. Search ZERO Connect on Facebook to join.

ABOUT ZERO - THE END OF PROSTATE CANCER

ZERO — The End of Prostate Cancer is the leading national nonprofit with the mission to end prostate cancer. ZERO advances research, improves the lives of men and families, and inspires action. We’re building Generation ZERO, the first generation of men free from prostate cancer, through our national run/walk series, education and patient support programs, and grassroots advocacy. ZERO is a 501(c)(3) philanthropic organization, accredited by the Better Business Bureau, with regional chapters across the country. We dedicate 85 cents of every dollar to research and programs. For more information, visit www.zerocancer.org.