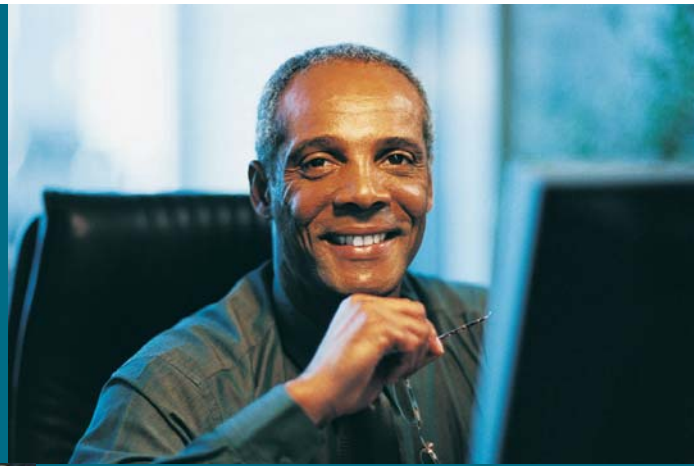


**PROSTATE
CANCER
SCREENING**



**Making an
Informed
Decision**

**EDUCATIONAL
BOOKLET**

- Lombardi Comprehensive Cancer Center
- Georgetown University Medical Center
- Georgetown University Hospital
- Howard University Cancer Center
- Howard University Hospital





Prostate Cancer Screening: Making an Informed Decision

Medical experts are not sure if all men should be screened for prostate cancer. Many doctors believe that finding and treating prostate cancer in its earliest stages will save men's lives. But, other doctors believe that we do not yet know whether screening will save lives. So they feel that it is too soon to recommend that all men get screened. Because of this debate, there is a lot of information that men need to understand before making their screening decision. This booklet will help you to make a fully informed decision about prostate cancer screening.

Reading this booklet will help you to:

- ▶ Understand why men make different decisions about prostate cancer screening. *See pages marked **Pros & Cons of Screening** (pages 2–4).*
- ▶ Understand how screening is done, how screening can help, how screening may cause problems, and the different ways prostate cancer can be treated. *See pages marked **Prostate Facts** (pages 5–15).*
- ▶ Think about questions you may have for your doctor. *See page marked **Questions to Ask My Doctor** (page 16).*
- ▶ Think about your own values so that you may make a decision that is best for you. *See the **Worksheet** (page 17).*
- ▶ Find out more about prostate cancer screening and treatment. *See pages marked **National Organizations** (page 18), **Glossary** for definitions of boldface words (pages 19–23), and **Selected References** for related articles (page 24).*

Because the field of medicine is always changing, tests and procedures are often used before we fully understand how they can help and how they may cause problems. This is the case for prostate cancer screening. Until the research is complete, we will continue to debate whether all men should be screened.

Knowing both sides of the debate will help you to make the best decision for yourself.

What does prostate cancer “screening” mean?

Screening means looking for signs of disease in people who have no symptoms. Screening for prostate cancer is looking for early-stage disease when treatment may have a better chance of working. The main screening tests for prostate cancer are the **digital rectal examination (DRE)** and the **prostate specific antigen (PSA)** test. The DRE and PSA test cannot tell if you have cancer; they can only let you know if you need to have further tests.

Is screening right for me?

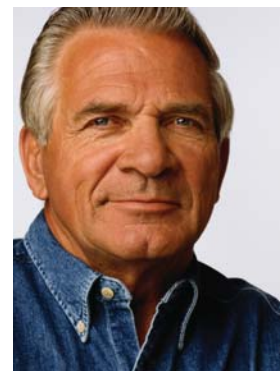
The choice is yours. Below are two examples of what men have said about prostate cancer screening. It is important to know that although they made different decisions, neither man has made a wrong decision. That is because their decisions are based on their personal values.

Some men who want to be screened have said the following:

“I will take the screening tests because they will give me peace of mind. It could mean finding a problem, taking further tests, and treating a potentially serious prostate cancer. And because there’s no way to tell if the prostate cancer will cause problems in the future, I want it found early when treatments might be more effective.”

Some men who do not want to be screened have said the following:

“I will not take the screening tests until medical experts agree that finding and treating prostate cancer in its early stages reduces the chance of dying from it. Screening tests could lead to further tests and treatment of a prostate cancer that may never cause problems. And treatment can have serious side effects.”



How screening may help, and how it may cause problems

The decision about **screening** is up to you. **At present, there is not a right or wrong choice that experts agree on.** To make an **informed decision** for yourself, you need to know what may put you at risk for prostate cancer and how screening may or may not help. You may also want to talk to your doctor and your family to make the best decision together (**shared decision-making**). Below is a summary of the ways in which screening may help or cause problems.

How Screening May Help	How Screening May Cause Problems
<p>If your results are normal— It can help you feel relieved and less worried to find that you do NOT have prostate cancer.</p>	<p>If your results are abnormal— You may NOT have cancer. But you may have to go through an uncomfortable test (biopsy) to find that out.</p>
<p>If your results find early prostate cancer— You may have more treatment options. Some of these options may have fewer side effects.</p>	<p>If your results find early prostate cancer— Treatment may cause you to have problems holding your urine and bowel movements (incontinence) and having sex (impotence).</p>
<p>If your results find early prostate cancer— Treatment may help you to live longer.</p>	<p>If your results find early prostate cancer— Treatment <u>may not</u> help you to live longer. We really still do not know for sure.</p>
<p>If your results find early prostate cancer— It may be a fast-growing (aggressive) cancer that needs to be treated right away.</p>	<p>If your results find early prostate cancer— You could end up getting treated for a slow-growing cancer that would have never caused you any problems and did not need to be treated.</p>

Will getting screened for prostate cancer be helpful to me?

Based upon current medical knowledge, there is no way to say how screening will affect your life. Medical experts agree that all men need balanced information on the pros and cons of prostate cancer screening to help them make an informed decision about screening.

Medical experts who think men ***SHOULD have*** regular screening:

- ▶ believe current scientific evidence shows that finding and treating prostate cancer early, when treatment might be more effective, may save lives.
- ▶ recommend that all men who are likely to live at least 10 years should be offered the PSA test and DRE every year beginning at age 50.
- ▶ recommend offering screening tests earlier to African-American men, and to men who have a father or brother with prostate cancer.

Medical experts who think men ***should NOT have*** regular screening:

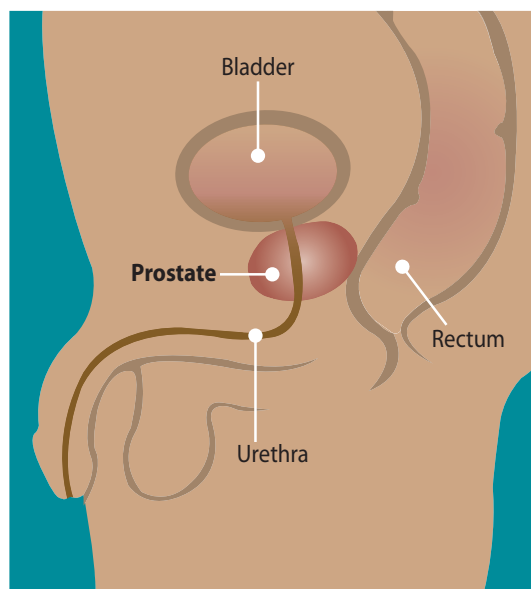
- ▶ want clear-cut evidence that finding and treating early-stage prostate cancer really does save lives.
- ▶ worry that screening may lead a man to get treated for a cancer that, if left alone, may never have affected his health. They worry that the treatment could cause him to have temporary or long-lasting problems with controlling his urine, bowels, and having sex.
- ▶ believe it is not clear what makes a man's day-to-day life better: 1) getting treated, *possibly* living longer, and having problems with controlling urine, bowels, and having sex or 2) not getting treated, risking death, but avoiding those day-to-day problems.

When will medical experts know more?

Medical experts are working on large research studies (**clinical trials**) to answer the main question about prostate cancer screening: **Do men who get screened each year have a lower chance of dying of prostate cancer compared to men who do not get screened?** Results are expected in 5 to 10 years. For further information on these trials, see *National Organizations* (page 18).

This booklet is meant to help you make the best decision for yourself.
To help you decide, let's begin with the basics.

The prostate and prostate cancer



What is the prostate?

The prostate is a walnut-sized **gland** in men that makes the fluid which carries sperm. It is located in front of the **rectum** and just below the **bladder**.

What is an enlarged prostate? (Called BPH or benign prostatic hyperplasia)

As men age, the prostate tends to increase in size. This can cause the **urethra** to narrow and decrease urine flow.

What is prostate cancer?

Prostate cancer is made up of cells that do not grow normally. The cells divide and create new cells that the body does not need, forming a mass of tissue called a **tumor**. These abnormal cells sometimes spread to other parts of the body, multiply, and cause death.

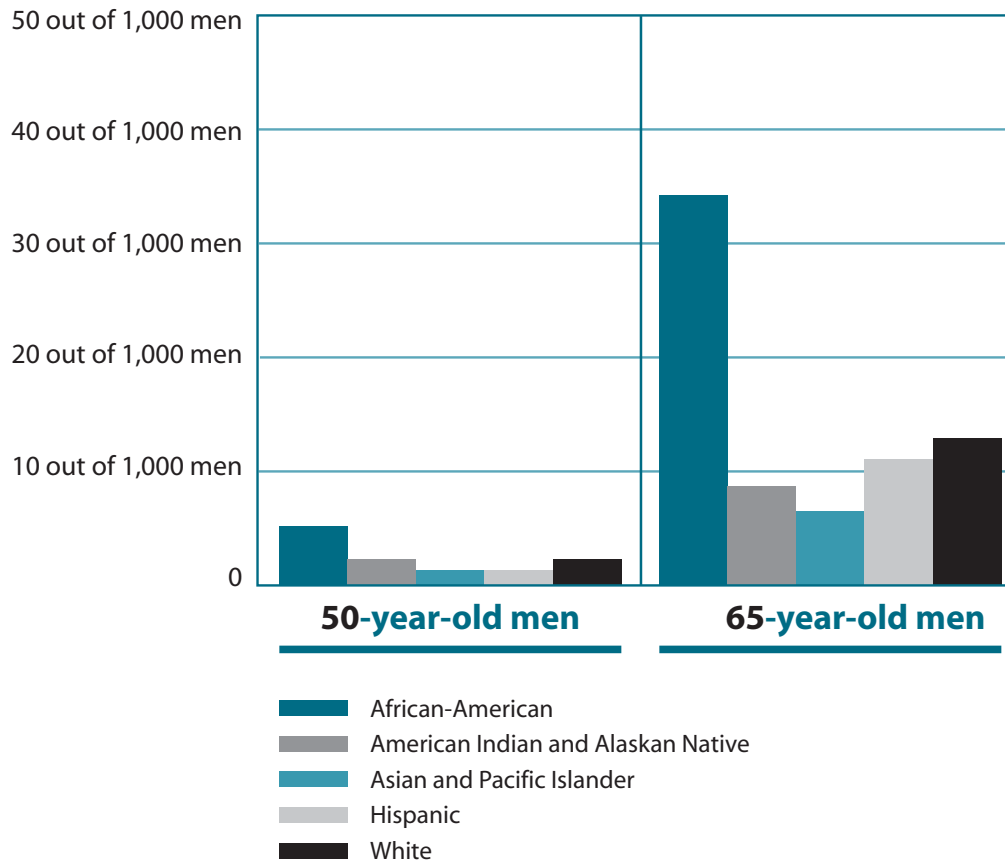
What increases my chances of being diagnosed with prostate cancer?

While all men are at risk for prostate cancer, some things increase one's chance of developing prostate cancer (These are called **risk factors**). Although there are many other factors currently under study (e.g., physical exercise, sexual activity), we have only listed those factors with evidence.

- ▶ **Age.** The chance of having prostate cancer increases with age, particularly after age 50. More than 70% of all prostate cancers are diagnosed in men over 65.
- ▶ **Family history.** Men with a father or brother who has had prostate cancer are at greater risk for developing it themselves. The younger a man is when he has prostate cancer, the greater the risk for his male family members. Prostate cancer risk also appears to be slightly higher for men whose mothers or sisters have breast cancer.
- ▶ **Race.** Prostate cancer is more common in some racial and ethnic groups than in others, but medical experts do not know why. Prostate cancer is more common in African-American men than in white men. It is less common in Hispanic, Asian, Pacific Islander, and Native American men than in white men.
- ▶ **Diet.** Some evidence suggests that a diet high in fat may increase the risk of prostate cancer. But not all experts agree on this. Researchers are studying several factors that may lower a man's chance of developing the disease, such as a diet high in fruits, vegetables, and soy, and the use of nutritional supplements (e.g., selenium, vitamin E).
- ▶ **Hormones.** Studies are ongoing to test whether **finasteride** (a drug used to lower testosterone in the body) may help to prevent prostate cancer.



Out of 1,000 men, this chart shows the chance of dying from prostate cancer in the next 15 years — for a 50-year-old man and for a 65-year-old man.



- ▶ The **left side** of the chart shows that, for a 50 year old man, his chance of dying from prostate cancer in the next 15 years is fairly low (5 or fewer in 1000 men).
- ▶ The **right side** of the chart shows that, for a 65 year old man, the chance of dying from prostate cancer in the next 15 years rises. This is particularly true for African American men.
- ▶ Even though your chance of dying from prostate cancer increases with age, it remains relatively low overall. About 3% of all men (across all age groups) will die of prostate cancer.
- ▶ We have not shown this information for a 40-year-old man, because the chance of dying from prostate cancer in this age group is extremely small.

What are the symptoms of prostate cancer?

Most men who are diagnosed with prostate cancer have **no** symptoms. However, symptoms that might be a sign of prostate cancer (particularly for advanced disease) can include:

- ▶ blood in the urine
- ▶ the need to urinate frequently, especially at night
- ▶ weak or interrupted urine flow
- ▶ pain or burning feeling while urinating
- ▶ the inability to urinate
- ▶ constant pain in the lower back, pelvis, or upper thighs

Keep in mind that these symptoms can also be caused by other prostate problems that are not cancer, such as an infection or an enlarged prostate. Other medical conditions or certain medications can also cause these symptoms. If you have any of these symptoms, see your doctor as soon as possible.

How common is prostate cancer?

For the general population,

- ▶ about 1 out of every 6 (**16%**) men will be **diagnosed** with prostate cancer.
- ▶ about 1 out of every 33 (**3%**) men will **die** from prostate cancer.

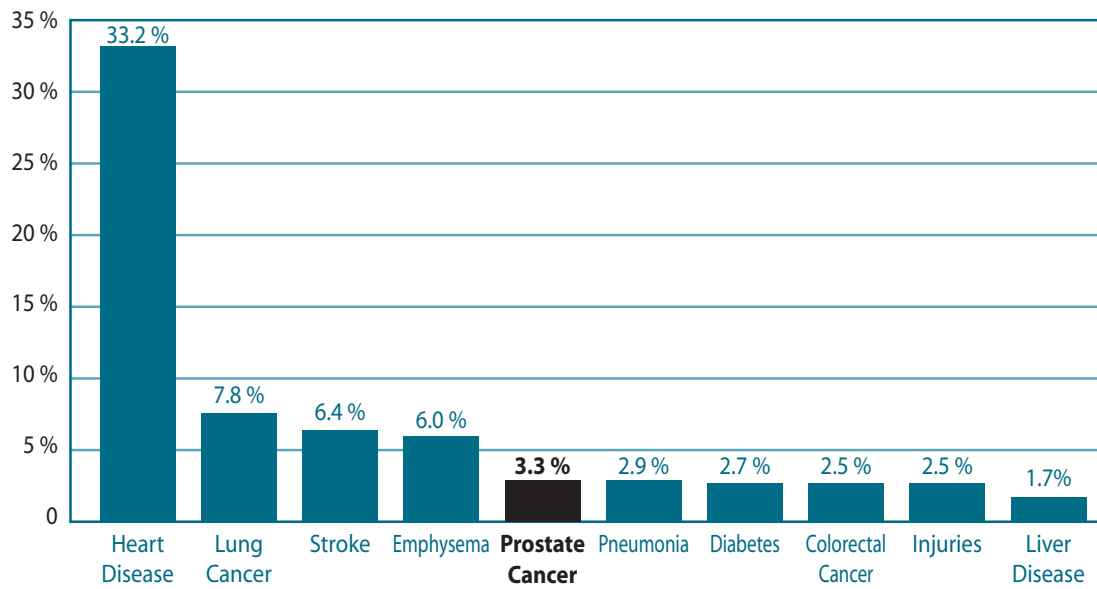


Is prostate cancer serious?

Some prostate cancers become a serious health problem by growing quickly, spreading beyond the prostate, and causing death. Other prostate cancers grow slowly and never become a serious health problem or cause death. This means that in many cases, the cancer would not have caused any symptoms or death if it had not been found. As a result, many men with prostate cancer end up dying of illnesses other than prostate cancer. This is why experts sometimes say, "More men die with prostate cancer than of prostate cancer." Prostate cancer often grows slowly among men over 75, which suggests that men in this age group may not benefit from screening.

The figure below gives the top ten causes of death in a group of 100 men over 45 in the U.S. **Prostate cancer ranks fifth**, behind heart disease, lung cancer, stroke, and emphysema.

Top ten causes of death in men over age 45



Prostate cancer screening

What is the DRE?

The DRE or digital (finger) rectal examination is a quick exam for checking the health of the prostate. For this test, a doctor inserts a gloved and lubricated finger into the rectum. This allows the doctor to feel the back portion of the prostate for its size and any irregular or abnormally firm areas. The DRE is a brief procedure which can cause some discomfort.

What is the PSA test?

PSA stands for "prostate specific antigen." PSA is a substance produced by cells from the prostate gland and released into the blood. The PSA test measures the PSA level in the blood. A small amount of blood is drawn from the arm. The doctor checks the blood to see if the PSA level is normal. The doctor may also use this test to check for any increase in your PSA level compared to your last PSA test. As a rule, the higher the PSA level in the blood, the more likely a prostate problem is present. But many factors, such as age and race, can affect PSA levels. Some prostate glands produce more PSA than others.

What is the normal range for a PSA test?

Most men have PSA levels under 4. A PSA level under 4 has been considered a normal PSA level by most doctors. But some research has suggested that what is considered normal should be lower than 4. Doctors are also researching whether what is considered to be a normal PSA level should depend on a man's age or race. PSA levels naturally go up as men get older. Some studies have shown that African American men tend to have higher levels, compared to white men.



PSA levels can also be affected by:

- ▶ **benign prostatic hyperplasia (BPH)**; an enlarged prostate).
- ▶ prostate inflammation or infection (**prostatitis**).
- ▶ certain medical procedures such as **cystoscopy** or **catheterization**.

Because many factors can affect PSA levels, your doctor is the best person to interpret your PSA test results.

How accurate are the screening tests?

No test is right all the time and that is true of the PSA test and DRE. The PSA test is better at finding small cancers, especially those toward the front or sides of the prostate gland, or deep within it. But the DRE can sometimes help find cancers in men with normal PSA levels. That is why both tests are usually performed.

The numbers below are **estimates** of what will happen to **100 men** over age 50 who get screened for prostate cancer:

- ▶ 85 will have a normal PSA (defined as less than 4.0), although up to 15 of these men may have a cancer that was missed by the PSA test—called a **false negative** screening result.
- ▶ 15 will have a higher than normal PSA and require further tests.

For these 15 men, further tests (**biopsy, TRUS**) will show

- ▶ 12 do not have prostate cancer (i.e., they had a **false positive** screening result).
- ▶ 3 have prostate cancer.

What if my screening results are abnormal?

The next section in this booklet describes what happens if you have an abnormal prostate cancer screening result. This will help men know a little more about prostate cancer treatment before they make a screening decision.

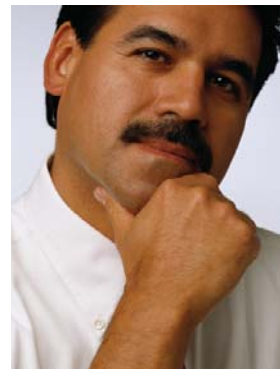
Most men who have an abnormal screening result and need further testing do NOT have cancer. But, if your PSA test or DRE suggests a problem, your doctor will suggest a repeat PSA test to see if the first test was accurate. If it is still high, your doctor will refer you to a **urologist** (a doctor who has special training in prostate-related problems). More testing is needed to find out if the problem is cancer or something else.

The urologist may perform a **transrectal ultrasound (TRUS)** — A small probe is inserted into the rectum. The probe has sound waves that bounce off the prostate. This, in turn, creates an image you can see on a video screen. If the urologist suspects cancer, tiny samples of the prostate may be removed with a needle during the TRUS procedure. This is called a **biopsy**. A biopsy is usually performed in the urologist's office. The samples are examined under a microscope to determine if cancer cells are present.

What happens if prostate cancer is found?

No two men with prostate cancer are the same. Many factors affect the decision whether to treat the disease, and also how to treat the disease: 1) the patient's age, 2) whether the cancer has spread, 3) the presence of other medical conditions, and 4) the patient's overall health.

When prostate cancer is found at an early stage and has not spread beyond the prostate, a doctor and his patient may decide upon one or more treatments. These are described on the next page. What we still do not know is this: whether receiving **active treatment** will lengthen a man's life, compared to **watchful waiting**.



Current treatment options for early stage prostate cancer

► **Watchful Waiting**

monitoring the patient's prostate cancer by performing the PSA test and DRE regularly, and treating it only if and when the prostate cancer causes symptoms or shows signs of growing

► **Active Treatment**

- **surgery (radical prostatectomy):** removing the prostate
- **external radiation therapy:** destroying cancer cells by directing radiation at the prostate
- **internal radiation therapy (brachytherapy):** having surgery to place small radioactive pellets inside or near the cancer to destroy cancer cells
- **hormone therapy:** giving or removing certain hormones to keep prostate cancer cells from growing
- **cryotherapy:** placing a special probe inside or near the prostate cancer to freeze and destroy the cancer cells

More advanced prostate cancers that have spread beyond the prostate can be complex to treat and are often incurable. Patients should discuss with their doctor the best course of action.

Do these treatments have side effects?

Side effects from prostate cancer treatment depend mainly on 1) the type of treatment, 2) the patient's age, and 3) his overall health. Men can experience pain, discomfort, and other mild to severe side effects, including impotence and incontinence, which may be temporary or may last a long time. When a doctor explains the treatment choices, he or she can discuss how mild or severe the side effects might be, and how long they might last. Also, a doctor may be able to perform surgery or prescribe medicine to relieve some side effects, including impotence.

How many men report having these problems *one to two* years following treatment?

The information below shows the percentage of men who continue to experience certain side effects one to two years after they have completed surgical or radiation treatment. As shown by the wide range of percentages, we can't say for sure how many men will experience side effects, or how long they will last. Also, it is important to know that these problems can occur in men who have prostate cancer but who don't receive an active treatment (Watchful Waiting). Finally, men without prostate cancer can develop these symptoms because of getting older or due to other illnesses. It is important to note that it is uncertain at this time whether any particular treatment leads to fewer deaths due to prostate cancer.

Men who are treated for early-stage prostate cancer may experience the following side effects:

	Surgery (general & nerve-sparing)*	Radiation*
Problems with sexual function	20% – 70%	20% – 45%
Problems with urination	15% – 50%	2% – 16%
Problems with bowel movements	3% – 20%	6% – 25%

References for these percentages are located at the end of this booklet.

* We show this information to give you an idea of the side effects men may face when they are treated for prostate cancer. However, in the event you are diagnosed with prostate cancer, this is not enough information to choose the best treatment for you. Together, you and your doctor would consider many factors in deciding what treatment is best.



Why do I need to know about prostate cancer *treatments* when I am making a decision about *screening*?

A decision about screening can be just the beginning of even more decisions to make about your prostate-related health. It can be helpful to have information ahead of time, before you need to make decisions later on.

A large part of the debate about whether screening saves lives concerns the fact that it is not yet known whether the treatment of early-stage prostate cancer will reduce prostate cancer death, compared to not having any treatment. The research to answer this question is still being done. Therefore, before being screened, men should:

- ▶ Understand that doctors are not sure how effective the treatments are at reducing deaths due to prostate cancer.
- ▶ Talk with their doctors ahead of time about what they will do about prostate cancer if it is found.

Whether or not you get screened for prostate cancer depends on how you balance the pros and cons we have discussed throughout this booklet. What follows are some of the questions that men need to think about before deciding whether or not to be screened. These can be hard questions to answer and may require some time to answer.

- ▶ Would you feel better *knowing* OR *not knowing* whether you have prostate cancer?
- ▶ What will you do if your screening result is abnormal? (i.e., will you choose to undergo a biopsy or not to undergo a biopsy?)
- ▶ What will you do if you are diagnosed with cancer? (i.e., will you decide to undergo an active treatment or choose watchful waiting?)

To help you answer these questions, please consider the *Questions to Ask My Doctor* and complete the *Worksheet for Making My Screening Decision* on the following two pages.



Questions to Ask My Doctor

Although the information in this booklet will help, it cannot replace the conversations you have with your doctor. Talking with your doctor is perhaps the most important step in making health decisions. To decide whether screening is right for you, discuss how screening may or may not help with your doctor and the people important in your life. We have listed some questions you might want to discuss with your own doctor or health professional. We have also left space for you to write in your own questions.

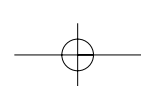
QUESTIONS TO ASK MY DOCTOR

1. Can you explain why I should consider getting screened for prostate cancer, and also why I should consider not getting screened?
2. If I am screened for prostate cancer, and then diagnosed with prostate cancer, can you tell me about some of the treatments I will need to consider?
3. I have learned that doctors disagree on whether men who do NOT have symptoms should be screened for prostate cancer. Can you tell me your views on this debate? And what you would recommend in my particular case?

4. _____

5. _____

6. _____



Worksheet for Making My Screening Decision

Below are issues to think about when making a decision about prostate cancer screening. **Please read the following sentences and check Yes or No for each one, depending on whether the sentence sounds like you or not.** Then, look at all the sentences that you checked yes to see whether you lean more toward getting screened or more toward not getting screened.

If the statements below sound like you, you might think about <u>getting screened</u> for prostate cancer:	Does this sound like you?	
	YES	NO
I am worried about prostate cancer and screening may give me peace of mind.		
I am prepared to accept the chance that screening might find prostate cancer that may not have caused me any problems. I would rather know if I have cancer.		
Screening will help me feel like I am doing everything I can do for my health.		
Screening is not yet proven to save lives. But in the future we may find out that it does. I think it's better to be "safe than sorry."		
If I am diagnosed with prostate cancer, EITHER I will be prepared to accept the side effects of treatment, OR I will be prepared to accept living with untreated cancer.		
If the statements below sound like you, you might think about <u>not getting screened</u> for prostate cancer:	Does this sound like you?	
	YES	NO
I do not want to risk finding out I have cancer when it may never bother me.		
If I do not get screened, I am prepared to accept the possibility that researchers may later find out that screening lowers the chance of dying from prostate cancer.		
Screening may give an abnormal result when no cancer is present or a normal result when cancer is present. I want the test to be more accurate before I use it.		
Screening may cause me to have a prostate biopsy that turns out to be unnecessary if cancer is not found. I want the test to be more accurate before I use it.		
Screening is not yet proven to save lives. I do not want to risk a good quality of life for a possible but unproven chance of a longer life.		

Adapted from Gattellari, M. & Ward, J.E. (2003).

National Organizations

For more information on prostate cancer screening, treatments, and studies, please contact the organizations below. *Although these organizations may either recommend for or against screening, all recommend shared decision making with your doctor.*

American Academy of Family Physicians	800-274-2237	www.aafp.org
American Cancer Society	800-227-2345	www.cancer.org
American College of Physicians	800-338-2746	www.acponline.org
American College of Preventive Medicine	202-466-2044	www.acpm.org
American Foundation of Urologic Disease	800-828-7866	www.afud.org
American Medical Association	800-262-3211	www.ama-assn.org
American Urological Association	866-746-4282	www.auanet.org
Centers for Disease Control and Prevention	800-311-3435	www.cdc.gov
European Randomized Screening for Prostate Cancer Trial	(Web site only)	www.erspc.org
National Cancer Institute (NCI)	800-422-6237	www.cancer.gov
National Medical Association	202-347-1895	www.nmanet.org
National Prostate Cancer Coalition	888-245-9455	www.pcacoalition.org
NCI's Prostate Cancer Outcomes Study	800-422-6237	www.cancer.gov/newscenter/pcos
NCI's Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial	800-422-6237	www.cancer.gov/prevention/plco
Oncolink	(Web site only)	www.oncolink.upenn.edu
Prostate Cancer Education Council	866-477-6788	www.pcaw.com
U.S. Preventive Services Task Force	(Web site only)	www.ahcpr.gov/clinic/uspstfix.htm
US TOO Cancer Education and Support	800-808-7866	www.ustoo.com

Glossary

Active treatment: Surgery, external radiation therapy, internal radiation therapy, hormone therapy, or cryotherapy, or a combination of these treatments.

Benign: Not cancerous.

Benign prostatic hyperplasia (BPH): Enlargement of the prostate. BPH is not cancer, but it can cause some of the same symptoms.

Biopsy: The removal of a sample of tissue, which is then examined under a microscope to check for cancerous changes.

Bladder: The organ that stores urine.

Bowel movement problems: Can include frequent bowel movements, sudden urges to have bowel movements, or not being able to control your bowel movements.

Brachytherapy: Radioactive material sealed in needles, seeds, wires, or catheters is placed directly into or near the tumor. Also called internal radiation, implant radiation, or interstitial radiation therapy.

Cancer: A term for diseases in which abnormal cells divide without control. Cancer cells are able to invade nearby tissues and to spread through the bloodstream to other parts of the body.

Catheterization: A procedure whereby a thin tube (catheter) is inserted into the urethra to drain and empty the bladder.

Clinical Trial/Study or Research Study: A study that involves people and is designed to answer medical questions and to find better ways to prevent or treat disease.

Cryotherapy: Treatment performed with an instrument that freezes and destroys abnormal tissues.

Cystoscopy: Examination of the bladder and urethra using a thin, lighted instrument (called a cystoscope) inserted into the urethra. Tissue samples can be removed and examined under a microscope to find out if disease is present.

Digital rectal examination (DRE): A procedure in which the doctor inserts a gloved, lubricated finger into the rectum to examine the rectum and prostate for anything not normal. Some tumors of the prostate can be felt during this exam.

Early-stage prostate cancer: Cancer that is confined to the prostate and has not spread to other parts of the body.

European Randomized Screening for Prostate Cancer (ERSPC): A major European study that should tell us whether screening for prostate cancer should be a part of routine health care or not. The study is connected with another big study in the U.S. called the Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial and involves 8 countries.

External radiation therapy: Radiation therapy that uses a machine to aim high-energy rays at the cancer. Also called external beam radiation.

False negative screening result: When a screening test shows a normal test result when cancer is actually present.

False positive screening result: When a screening test shows an abnormal test result when cancer is actually not present. A prostate biopsy that is normal (not cancerous) means that the screening test was incorrect (i.e., falsely positive).

Family history: Prostate cancer seems to run in some families. Having a father or brother with prostate cancer doubles a man's risk of developing this disease. The risk is higher for men who have had several close (first degree) relatives with the disease. The risk is even higher if their relatives were young when the cancer was found.

First degree relative: A relative in your immediate family: For prostate cancer this means father, a brother, or a son. Cousins, aunts, uncles, grandparents are 'second degree' relatives.

Finasteride: A drug used to reduce the amount of male hormone (testosterone) produced by the body.

Gland: An organ that produces and releases one or more substances used by various parts of the body.

Hormone therapy: Treatment of cancer by removing, blocking, or adding hormones.

Impotence: Not being able to have an erection that is adequate for sexual intercourse.

Incontinence: Not being able to hold or control the flow of urine.

Informed decision: A decision that is made after all of the information and possible outcomes have been examined.

Internal radiation therapy: Radiation therapy that is given internally. This is done by placing radioactive material that is sealed in needles, seeds, wires, or catheters directly into or near the tumor. Also called implant radiation, interstitial radiation, or brachytherapy.

Overdiagnosis: Detection of cancer that would otherwise not have been noticed in the patient's lifetime.

Prostate cancer: A disease of cells growing out of control. Spurred by changes in the genes, the glandular cells of the prostate multiply abnormally.

Prostate gland: A male sex gland. The prostate produces fluid that forms part of semen that carries sperm.

Prostate, Lung, Colorectal, and Ovarian (PLCO) Cancer Screening Trial: A large-scale National Cancer Institute sponsored study to determine if certain tests will reduce the number of deaths from prostate, lung, colorectal, and ovarian cancers.

Prostate specific antigen (PSA): A protein produced by cells of the prostate gland. PSA circulates in the blood and can be measured with a simple blood test. PSA levels go up in the blood of some men who have prostate enlargement, inflammation, infection, or cancer.

Prostatectomy: An operation to remove part or all of the prostate. Radical (or total) prostatectomy is the removal of the entire prostate and some of the tissue around it.

Prostatitis: Inflammation of the prostate. Prostatitis is not cancer.

Rectum: The lower part (last 8 to 10 inches) of the large intestine. The rectum stores solid waste until it leaves the body through the anus.

Risk factor: Something that increases a person's chance of developing a disease.

Screening: Checking for signs of disease in a person who has no symptoms. For example, screening measures for prostate cancer include digital rectal examination (DRE) and the PSA blood test. Screening may refer to programs that are designed to test many people.

Sexual functioning problems: Can include not being able to get an erection, not being able to have intercourse, or being unhappy with the erections you can get.

Shared Decision-Making: The process of a patient working together with his health care providers to make decisions about screening and/or treatment.

Side effects: Unavoidable results that may accompany treatment. The potential side effects of prostate cancer treatment include incontinence, impotence, and bowel problems.

Surgery: A procedure to remove or repair a part of the body or to find out if disease is present.

Symptom: Effect of disease as experienced by the patient. Pain, for example, is a symptom.

Transrectal Ultrasound (TRUS): The use of sound waves to produce an image of the prostate. The sound waves are emitted by an instrument inserted into the rectum. As the waves bounce off the prostate, they create a pattern that is converted by a computer into a picture. TRUS is used to detect abnormal prostate growth and to guide a biopsy of the abnormal prostate area.

Tumor: Abnormal growth of tissue. Tumors can be malignant (cancerous) or benign (not cancerous).

Urethra: The tube that extends from the bladder to the tip of the penis. It carries urine from the bladder and, during ejaculation, semen from the prostate gland, out through the penis.

Urination problems: Can include frequent urination, sudden urges to urinate, or not being able to control urination (i.e., leaking urine).

Urologist: A doctor (surgeon) who specializes in disorders of the urinary system and the male reproductive system.

Watchful Waiting: Following the patient closely and postponing aggressive therapy unless symptoms or other signs of disease progress. Watchful waiting can be a choice for treating both an enlarged prostate and early-stage prostate cancer.

Definitions from *Understanding Prostate Changes: A Health Guide for All Men*, National Cancer Institute, September 1999, NIH Publication No. 98-4303; *What You Need to Know About Prostate Cancer*, National Cancer Institute, September 2000, NIH Publication No. 00-1576; and the American Cancer Society's cancer glossary at www.cancer.org.

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