

# Prostate Cancer Case Study

Medical Student Case-Based  
Learning



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# Learning objectives

- 1) Who and how do you screen for prostate cancer?
- 2) What does a shared decision-making process for prostate cancer screening include?
- 3) How is prostate cancer diagnosed?



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# Case presentation #1

**Patient:** 58 year old male

**Past medical/surgical history:** Hypertension

**Medications:** enalapril

**Family history:** Father with prostate cancer at age 65

Should this patient be screened for prostate cancer?



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# Guideline recommendations



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Men age 55-69 years should undergo prostate screening after an informed decision-making process



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# Case presentation #2

**Patient:** 72 year old male

**Past medical/surgical history:** Hypertension, obesity, type 2 diabetes, congestive heart failure, prior stroke

**Medications:** several

Should this patient be screened for prostate cancer?



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# Guideline recommendations



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Men age 70 and older, and most importantly, men with a life expectancy of less than 10 to 15 years should not be screened for prostate cancer

Importantly, men being screened for prostate cancer should consider stopping screening as other health issues take priority



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# Case presentation #3

**Patient:** 50 year old male

**Past medical/surgical history:** Hypertension

**Medications:** enalapril

**Family history:** Father with prostate cancer at age 65,  
brother with prostate cancer at age 55

Should this patient be screened for prostate cancer?



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# Guideline recommendations



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Men age 40 to 54 years with a high risk of prostate cancer should be screened for prostate cancer

Risk factors

- 1) Black race
- 2) First degree relatives with metastatic or lethal adenocarcinomas



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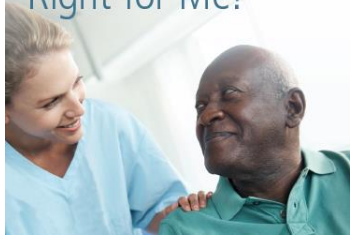
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# Shared decision making

*Urology Care*  
FOUNDATION™  
The Official Foundation of the  
American Urological Association

Is Prostate  
Cancer Screening  
Right for Me?



Patients should be given decision aids for education about screening

A discussion between the patient and his doctor should include the risk and benefits of screening

Most importantly, the patient's own health priorities should be considered



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# How is screening performed?

Most often with measurements of serum prostate-specific antigen (PSA) levels every two or more years.

A digital rectal exam is also performed to assess for nodules produced by prostate cancer.



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# How is screening performed?

PSA, DRE, and other factors should be combined to determine an individual's patient's risk of prostate cancer.

Online tool can help do this (e.g. <https://riskcalc.org/PCPTRC/>)

**Race**  
Other

**Age**  
57

**PSA [ng/ml]**  
7

**Digital rectal examination**  
Normal

**Prior biopsy**  
Never had a prior biopsy

**Family History of Prostate Cancer**  
Yes

**Calculate Risk**

**Result** [More Information](#)

Based on the provided risk factors a prostate biopsy performed would have a:

-  33% chance of high-grade prostate cancer,
-  22% chance of low-grade cancer,
-  45% chance that the biopsy is negative for cancer.

Please consult your physician concerning these results.



# Who should undergo a biopsy?

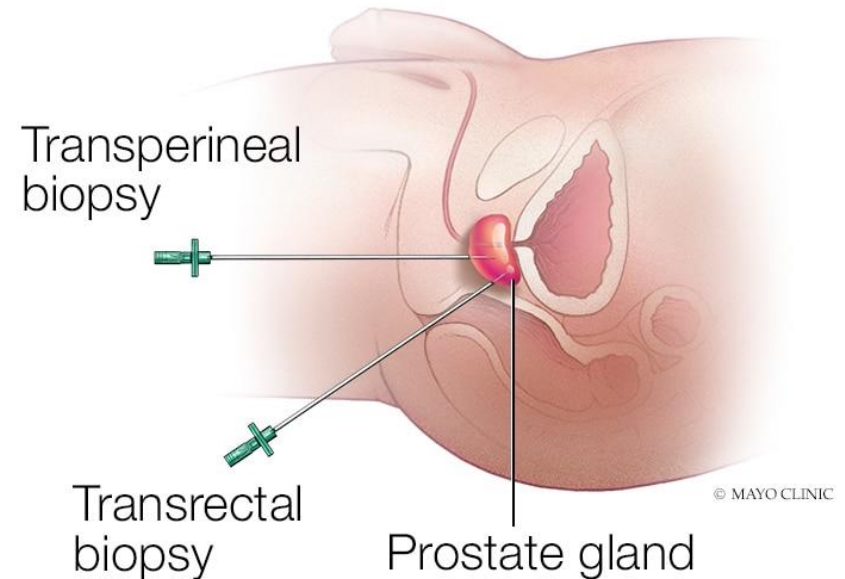
Men who screen positive for prostate cancer should be referred to a urologist who may use an array of pre-biopsy tests.

<b>PSA kinetics</b>	Rapid and sustained PSA rises are more indicative of cancer
<b>Free/total PSA ratio</b>	Lower ratio of unbound (free) to total serum PSA suggests a higher risk of cancer
<b>Prostate Health Index (PHI)</b>	Determines risk of prostate cancer based on the different molecular forms of serum PSA
<b>MRI</b>	Scores lesions in the prostate based on risk of harboring aggressive prostate cancer. Can also be used to aid targeted biopsies and focal therapy
<b>DRE</b>	Palpation of a nodule or induration can be indicative of a prostate cancer
<b>Urinary markers</b>	Can help predict the risk of prostate cancer

# How is a biopsy performed?

Using a rectal ultrasound, the prostate is biopsied by a transperineal or, more often, a transrectal biopsy

This is often done in the office but may be done in an operating room



<https://www.mayoclinic.org/medical-professionals/urology/news/ultrasound-guided-transperineal-prostate-biopsy/mac-20473283>



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