

Prostate Cancer

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Dr. Prevatte is a graduate of the University of South Florida College of Medicine in Tampa. He completed his residency at Halifax Medical Center. Dr. Prevatte has practiced family medicine serving a diverse patient population for more than 30 years. He has been involved in graduate medical education for the past 20 years and has been the recipient of several teaching awards. He provides care to patients of all ages in both the inpatient and outpatient settings with an emphasis on male and female reproductive health.

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Learning Objectives

1. Counsel patients, using shared decision making resources, regarding the risks and benefits of prostate cancer screening.
2. Counsel patient with diagnosed localized prostate cancer about the risks and benefits of their treatments options, using a standardized clinical decision aid.
3. Establish a coordinated care process with other health providers (e.g. urologists and oncologists) for men requiring prostate cancer surveillance, and possibly treatment.
4. Provide appropriate and current resources on the psychosocial effects of cancer for men with prostate cancer.

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Audience Engagement System

Step 1: Home screen of the mobile app with 'CME Events' icon highlighted.

Step 2: List of CME events with 'CME101: Acute Coronary Syndromes' highlighted.

Step 3: Content page for 'CME101: Acute Coronary Syndromes: Unchain My Heart' with the title highlighted.

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Prostate Cancer

- Most common non-cutaneous malignancy in US men
- 221,000 new cases in 2015
- 27,500 deaths
- 16% lifetime risk
- 3% risk of death

CA Cancer J Clin 2015;65(2):87

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AES Question 1

Risk factors for prostate cancer include all of the following except:

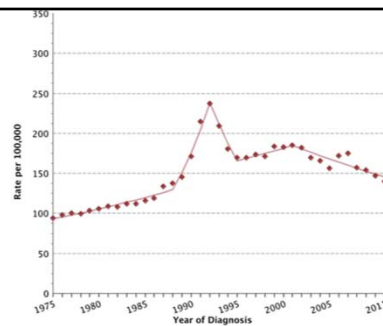
- A. Age > 65
- B. African American race
- C. Asian race
- D. First degree relative with prostate CA

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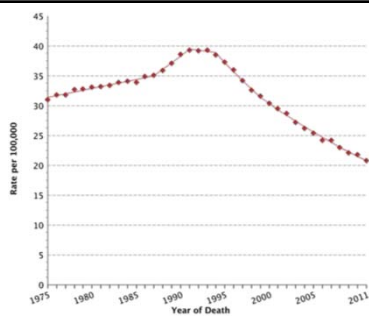
Risk Factors

- Race
 - Death rate
 - 64 per 100,000 (African American)
 - 27 per 100,000 (Caucasian)
 - Asian and Hispanic – lower risk
- Age
 - 70% diagnosed in men 65 & older
- Family History – 2.5 fold increased risk if first degree relative had prostate CA

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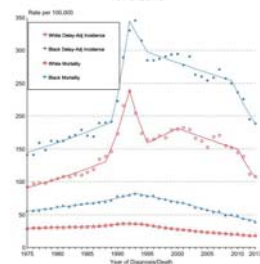


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Cancer of the Prostate
Delay-Adjusted SEER Incidence & US Mortality
1975-2013



Source: SEER's annual and US Mortality files (National Cancer Institute, SEER).
SEER is a joint effort of the National Cancer Institute and the National Center for Health Statistics (NCHS).
 Mortality data are from the National Center for Health Statistics (NCHS).
 Incidence data are from the National Cancer Institute (NCI).
 Delay-adjusted incidence data are from the National Cancer Institute (NCI).
 Mortality data are from the National Center for Health Statistics (NCHS).
 All data are from the period 1975-2013.

Cancer Screening Program

- Highly prevalent cancer
- Sensitive and specific screening test with acceptable morbidity
- Ability of the test to detect clinically important cancers at an early stage and thereby improve outcomes
- Cost-effectiveness

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Elevated PSA

- Anxiety/Worry
- Trans-rectal US guided Bx
 - Pain
 - Fever (3% to 5%)
 - Hematuria (22%)
 - Hematospermia (27% to 50%)
 - Hospitalization (3%)
- If negative – 31% have repeat biopsies

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Harms of Screening

- Half of cancers detected by PSA will not cause Sx in the patient's lifetime
- 80-85% of men who choose observation will not die from prostate CA within 15 yrs
- Majority choose curative treatment

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Prostate CA Treatment

- Radical Prostatectomy
 - Blood transfusion (20%)
 - Urinary incontinence (20%)
 - Erectile dysfunction (up to 50%)
- External Beam Radiation/Brachytherapy
 - Acute toxicity (up to 50%)
urgency, dysuria, diarrhea, bleeding, rectal pain
 - Late toxicity
erectile dysfunction (up to 50%), bowel dysfunction, rectal bleeding

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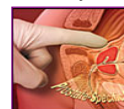
Prostate CA Screening

- Low-grade tumors confined to the prostate gland are usually asymptomatic
- May only be detected through screening
- Many low-grade localized cancers are unlikely to lead to significant disease
- Adverse effects of treatment may outweigh the benefits

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DRE

- Effectiveness for CA screening not well established
- Poor inter-rater reliability
- Up to 25% of cancers detected with biopsy are in a different area than the palpable abnormality
- Sensitivity 53-59%
- Specificity 83-94%
- PPV 18-28%



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PSA

- Glycoprotein expressed by normal and neoplastic prostate tissue
- Sensitivity 72%
- Specificity 93%
- Up to 38% of prostate cancers occur in men with PSA values < 4
- Up to 70% of men with PSA > 4 do not have cancer

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Age Specific PSA

- 40 to 49 years — 0 to 2.5 ng/mL
- 50 to 59 years — 0 to 3.5 ng/mL
- 60 to 69 years — 0 to 4.5 ng/mL
- 70 to 79 years — 0 to 6.5 ng/mL

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Ratio of Free/Total PSA

- Percentage of free PSA is lower in men with prostate Ca
- May increase diagnostic specificity by 15-20%
- Prospective multicenter trial, tumor was found on biopsy in 56 % of men with f/t PSA <0.10, but in only 8 % of men with f/t PSA >0.25

JAMA. 1998;279(19):1542-7.

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PSA Modifications

- Complexed PSA
- PSA density
- PSA velocity
- Race-specific PSA cutoffs

- No Consensus
- Additional evaluation is needed

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AES Question 2 True or False

A screening PSA should not be drawn within 48 hours of a Digital Rectal Exam.

- A. True
- B. False

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PSA

- DRE – increase in PSA is clinically insignificant
- Bicycle Riding – conflicting evidence
2015 meta-analysis – no significant effect
- Sexual Activity – 0.4-0.5 ng/ml increase for 48-72 hrs following ejaculation

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PSA

- 4.0 ng per mL
- Most widely used and recommended cutoff for screening
- > 10 refer immediately
- 4 – 10 might consider repeating test (40% of men with an isolated PSA > 4 will have a normal reading when repeated)

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PSA

- PSA detects cancers that otherwise would not have been detected
- 85%-99% of cancers detected by PSA are confined to the prostate
- 50%-60% of cancers not discovered by screening are confined to the prostate

J Urol 2006; 175:902-906

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Rational for Screening

- PSA test introduced in 1989
- Death rates from prostate cancer declined by 4% per year from 1994 to 1998
- Continues to decline
- Improved therapies for prostate CA

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Overdiagnosis/Overtreatment

- Most screening-detected cancers are Gleason score 6 or less
- Only 10% of patients will die of prostate cancer within 10 years without treatment
- Natural history of low grade cancer is not known (may not be clinically significant)
- Treatment related morbidity is significant

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ERSPC

- European Randomized Study of Screening for Prostate Cancer
- 182,000 Men
- Ages 50-74
- Randomly assigned to PSA screening or no screening
- Followed for 11 years

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ERSPC

- 21% reduction in prostate CA mortality
- Absolute prostate CA mortality rate
Screened 0.39 per 1000 person years
Unscreened 0.50 per 1000 person years
- 1055 men need to be screened to prevent one prostate CA death over 11 yrs
- 37 additional cases of prostate CA would need to be detected by screening to prevent one death over 11 yrs

N Engl J Med 2012;366(11):981-90.

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ERSPC

- Follow up extended to 13 years
- 29% reduction in prostate CA mortality
- Number needed to screen 781
- Number needed to treat 27
- No reduction in all cause mortality

Lancet 2014;384(9959):2027–35.

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PLCO

- Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial
- 76,000 men ages 55 to 74
- Annual screening PSA/DRE vs usual care
- 7 years of follow up
- No reduction in Prostate CA mortality

N Engl J Med 2009;360(13):1310–9.

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PLCO

- Follow up extended to 13 years
- No significant difference in mortality rates

J Natl Cancer Inst 2012;104(2):125–32

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2010 Meta-analysis

- 6 RCTs
- 387,000 participants
- Screening with PSA with or without DRE did not reduce death from prostate CA
- Significantly increased the probability of CA diagnosis

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AES Question 3

Which statement is false?

- A. The USPSTF recommends against screening for prostate Ca with PSA.
- B. Men who choose screening should have a PSA drawn annually from age 50 to age 70.
- C. Men with a life expectancy < 10 yrs. should not be screened for prostate Ca.
- D. Decision support tools have been shown to decrease the number of men who choose PSA screening.

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USPSTF 2012 Recommendation

- Recommends against screening
- There is moderate certainty that the benefits of screening do not outweigh the harms
- Men requesting screening should be supported in making an informed decision

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ACS Recommendation

- Informed and shared decision
- PSA testing with or without DRE for average risk men beginning at age 50
- Screening should not be offered to men with a life expectancy <10 yrs
- Initial PSA \geq 2.5 annual testing, < 2.5 – every 2 yrs
- Begin screening discussions at age 40 to 45 in patients at high risk

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AUA Guidelines

- Recommend against screening men < 40 yrs
- Does not recommend routine screening for average risk men ages 40-54, over 70 or with life expectancy <10-15 yrs
- Recommends shared decision making in men ages 55-69
- Screening interval of two years may be preferred

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American College of Physicians

Inform men ages 50 to 69 about the limited potential benefits and substantial harms of prostate cancer screening and only screen men who express a clear preference for being screened.

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Choosing Wisely Campaign

Recommendation	Sponsoring Organization
Do not routinely screen for prostate Ca using PSA or DRE	American Academy of Family Physicians
Do not screen for prostate Ca without considering life expectancy & risks of overdiagnosis & overtreatment	American Geriatrics Society
Offer PSA screening for prostate Ca only after engaging in shared decision making	American Urological Association

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Discussion Points

- Prostate cancer is an important health concern
- Chance of harm from screening is > than chance of benefit for most
- Potentially prevent 1 death per 1000 screened but 37 diagnosed unnecessarily
- PSA may have false positive or false negative results
- There is a high risk for further invasive evaluation
- Treatment may be associated with significant morbidity
- Early detection may save lives and prevent cancer related morbidity but there is no proof

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Discussion Points

- No current tests can accurately determine which men with a cancer found by screening are most likely to benefit from aggressive treatment.
- Most men with prostate cancer will die from other causes, many will never experience health problems from their cancer.

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Decision Support Tools

- [American Cancer Society](#)
- [CDC](#)
- [Mayo Clinic](#)

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Future Directions

- Prostate Health Index (PHI)
Combines 3 isoforms of PSA
(total PSA, free PSA, p2PSA)
- 4 Kallikren (4K) Score Test
(total PSA, free PSA, intact PSA,
kallikren-related peptidase 2)

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Prostate Cancer Prevention Trial

- 18,882 men with risk of prostate CA
- Normal DRE & PSA ≤ 3
- Finasteride 5 mg./d or placebo
- After 7 years
 - 25% decrease in the incidence of CA
 - Aggressive CA (Gleason score ≥ 7) significantly increased in treatment group

N Engl J Med 2003;349:215-224

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Gleason Score

- Gleason Grade
 - Grade 1 (least aggressive)
 - Grade 5 (most aggressive)
- Gleason Score
 - Primary Grade – Most predominant
 - Secondary Grade – Second most predominant
- Gleason Score (Sums) range from 2-10
- Majority of detected tumors range from 5-10

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Tumor Stage

- T1 – Normal DRE
Clinically in-apparent tumor
- T2 – Confined within prostate
 - T2a – Tumor involves $\frac{1}{2}$ of 1 lobe or less
 - T2b – Tumor involves more than $\frac{1}{2}$ of one lobe but not both lobes
 - T2c – Tumor involves both lobes

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Risk Strata

- Low Risk – PSA ≤ 10 ng/ml; Gleason score < 6
Clinical stage T1 or T2a
- Intermediate Risk – PSA > 10 to 20 ng/ml; Gleason score 7
Clinical stage T2b
- High Risk – PSA > 20 ; Gleason score 8-10
Clinical stage T2c

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PIVOT

Prostate Ca Intervention vs Observation Trial

- 731 men with localized prostate Ca
- Radical Prostatectomy vs Observation
- F/U 10 yrs
- Overall mortality
 - Prostatectomy 47%
 - Observation 50%(HR, 0.88; 95% CI 0.87-1.29)

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PIVOT

- PSA \leq 10
Overall mortality 46% prostatectomy
44% observation
(RR, 1.06; 95% CI, 0.87-1.29)
- PSA > 10
Overall mortality 48% prostatectomy
62% observation
(RR, 0.79; 95% CI, 0.63-0.99)

N Engl J Med 2012; 367:203-213

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Low Risk Treatment Options

- Watchful Waiting
 - Periodic PSA & DRE
- Active Surveillance
 - Periodic PSA, DRE
 - Periodic repeat prostate biopsies

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National Comprehensive Cancer Network (NCCN) Treatment Guidelines

- **Very Low Risk**
Life exp. < 10 yrs – observation
Life exp. 10-20 yrs – active surveillance
Life exp. > 20 yrs – AS, EBRT,
Brachytherapy or Radical Prostatectomy

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NCCN Treatment Guidelines

- **Low Risk**
Life exp. < 10 yrs – observation
Life exp. \geq 10 yrs – active surveillance,
EBRT, Brachytherapy or Radical
Prostatectomy

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NCCN Treatment Guidelines

- **Intermediate Risk**
Life exp. < 10 yrs – observation, EBRT,
Brachytherapy
Life exp. \geq 10 yrs – Radical Prostatectomy,
EBRT or Brachytherapy
(Active surveillance is an option if:
Gleason 3+4=7 & < 50% of biopsy cores are
positive)

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NCCN Treatment Guidelines

- **High Risk**
EBRT and ADT for 2-3 yrs
or
EBRT and Brachytherapy (with or without ADT)
or
Radical Prostatectomy with
pelvic lymph node dissection

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Practice Recommendations

- Use decision support tools and shared decision making to counsel men who request screening for prostate cancer.
- Use evidence based guidelines to counsel men diagnosed with low risk prostate cancer.

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Care of the Prostate Ca Survivor

- 2014
Estimated 3 million prostate cancer survivors in the US
- ACS
Prostate cancer survivorship care guidelines (July, 2014)

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Coordination of Care

- IOM recommendation
Primary care physicians should be provided with treatment summaries and follow-up care plans.
- Collaborate – Define respective roles and responsibilities

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ACS Guidelines

- Lifelong monitoring for recurrence
 - DRE annually
 - PSA every 6 to 12 mos. for the first 5 yrs. then annually

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AES Question 4 True or False?

PSA should fall to undetectable levels within 6 months of the completion of treatment with External Beam Radiation Therapy for prostate Ca.

- A. True
- B. False

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Primary Treatment	Expected PSA Level
Radiation	Target < 1.0 ng/ml decreases 6 mos to several yrs post-treatment
Prostatectomy	< 0.03 ng/ml two months after surgery
Androgen Deprivation Therapy	Target < 0.05 to 0.1 ng/ml within 6-8 wks of therapy initiation

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Secondary Malignancies Following Radiation

- One in 220 to 290
- Bladder & Rectal Ca most common
- Evaluate
 - Hematuria
 - Rectal Bleeding

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Long Term Effects of Treatment

- Urge Incontinence
 - Consider anticholinergic agent
- Difficulty with bladder emptying
 - Consider alpha blocker
- Erectile Dysfunction
 - Consider PDE5 inhibitor

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Androgen Deprivation Therapy

- Baseline measurement of bone density
- Calcium (1,200 mg per day)
- Vitamin D (600 IU per day)
- Fracture Risk Assessment Tool (FRAX)
- Consider bisphosphonate therapy

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Psychosocial Issues

- Between 9% and 25% of prostate cancer survivors experience major depression.
- 25% have increased anxiety
- Expanded Prostate Cancer Index
[Composite for Clinical Practice \(EPIC-CP\)](#)

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Lifestyle

- Healthy weight
- Physical activity
- Nutrition
- Smoking cessation

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Abbreviations

- PSA –Prostate Specific Antigen
- DRE – Digital Rectal Exam
- USPSTF- US Preventive Services Task Force
- ACS – American Cancer Society
- AUA – American Urological Association
- IOM – Institute of Medicine
- EBRT – External Beam Radiation Therapy
- ADT – Androgen Deprivation Therapy

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Contact Information

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Billing & Coding

When services performed in conjunction with:

Office Visit 992xx *

*Time-based selection documentation criteria:

- Face-to-face time
- greater than 50% spent counseling/coordinating care

Preventive 9938x/9939x

MCR IPPE/AWV G0402/G0438

MCR IPPE G0402

Additional tests to confirm or monitor:

99490 Chronic Care Management-20 minutes monthly

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