THE VALUE OF PSA SCREENING

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SCREENING
GOALS

Explain PSA
Discuss how it is used in screening
Controversy
Summary Recommendations
PSA

- Prostate *Specific Antigen* Only made by prostate cells
- Functional Protein within the prostate
- Present in both benign and malignant prostate cells
HISTORY OF PSA

• Discovered in the late 1970’s
• Began as a screening test in the late 1980’s
• 4.0 ng/dl was assigned the normal cut off
INCIDENCE AND MORTALITY
PROBLEMS WITH PSA

• Too many false positives lead to many unnecessary biopsies
• Still have too many false negatives

• DOES SCREENING SAVE LIVES?
IMPROVING PSA

• You can increase the specificity or sensitivity of the test by altering the “cut off” level
• Age specific ranges
  • AGE     PSA
  • 40’s    <2.5
  • 50’s    <3.5
  • 60’s    <4.5
  • 70’s    <6.5
• %Free PSA
CONTROVERSY

The chart illustrates the incidence and mortality trends over the years from 1975 to 2011.

- The incidence line shows a peak around 1990, followed by a decline.
- The mortality line remains relatively stable with a slight increase in recent years.

Legend:
- Incidence
- Mortality
WHY THE CONTROVERSY?

• 2012 Untied States Preventive Services Task Force recommended against PSA screening for prostate cancer!
WHO IS THE USPSTF?

• Convened by Congress to make recommendations regarding preventive services
• Comprised of MD’s, MPH’s and Ph.d’s from primary care and epidemiology
• They use evidence based studies to assign their strength of recommendations
The Task Force assigns each recommendation a letter grade (an A, B, C, or D grade or an I statement) based on the strength of the evidence and the balance of benefits and harms of a preventive service. The recommendations apply only to people who have no signs or symptoms of the specific disease or condition under evaluation, and the recommendations address only services offered in the primary care setting or services referred by a primary care clinician.
USPSTF RECOMMENDATIONS

- Screening all adults 18 and older for hypertension Grade A
- Screening for hearing loss in all new born infants Grade B
- Screening for breast cancer with mammography for women age 40 and older every 1-2 years Grade B
- Recommends against screening with PSA for prostate cancer Grade D
WHY THE NEGATIVE RECOMMENDATION

• Assessed two long term trials for PSA screening and found no benefit from screening to cancer specific survival in one and limited in the other.

• The US trial “PCLO” trial was the American trial used by USPSTF

• Deeply flawed by contamination of the control arm

• It is being reviewed by USPSTF
The American Urological Association (AUA) and the Urology Care Foundation believe that the decision to perform early detection for prostate cancer should be made in the context of a detailed conversation between an asymptomatic man and his physician, and recommend that men ages 55 to 69 at average risk for prostate cancer should talk with their doctors about being tested. Screening for men outside this age range is not recommended as a routine; however, those men with significant risk factors (family history, race) should discuss early detection with their physicians.
• **Guideline Statement 1:** The Panel recommends against PSA screening in men under age 40 years. *(Recommendation; Evidence Strength Grade C)*

• In this age group there is a low prevalence of clinically detectable prostate cancer, no evidence demonstrating benefit of screening and likely the same harms of screening as in other age groups.
• **Guideline Statement 2:** The Panel does not recommend routine screening in men between ages 40 to 54 years at average risk. *(Recommendation; Evidence Strength Grade C)*

• For men younger than age 55 years at higher risk (e.g. positive family history or African American race), decisions regarding prostate cancer screening should be individualized.
• **Guideline Statement 3:** For men ages 55 to 69 years the Panel recognizes that the decision to undergo PSA screening involves weighing the benefits of preventing prostate cancer mortality in 1 man for every 1,000 men screened over a decade against the known potential harms associated with screening and treatment. For this reason, the Panel strongly recommends shared decision-making for men age 55 to 69 years that are considering PSA screening, and proceeding based on a man's values and preferences. *(Standard; Evidence Strength Grade B)*

• The greatest benefit of screening appears to be in men ages 55 to 69 years.
• **Guideline Statement 4:** To reduce the harms of screening, a routine screening interval of two years or more may be preferred over annual screening in those men who have participated in shared decision-making and decided on screening. As compared to annual screening, it is expected that screening intervals of two years preserve the majority of the benefits and reduce over diagnosis and false positives. *(Option; Evidence Strength Grade C)*

• Additionally, intervals for rescreening can be individualized by a baseline PSA level.
AUA GUIDELINE STATEMENTS

• **Guideline Statement 5:** The Panel does not recommend routine PSA screening in men age 70+ years or any man with less than a 10 to 15 year life expectancy. *(Recommendation; Evidence Strength Grade C)*

• Some men age 70+ years who are in excellent health may benefit from prostate cancer screening.
AMERICAN CANCER SOCIETY

• **Age 50 for men who are at average risk** of prostate cancer and are expected to live at least 10 more years.

• **Age 45 for men at high risk** of developing prostate cancer. This includes African Americans and men who have a first-degree relative (father, brother, or son) diagnosed with prostate cancer at an early age (younger than age 65).

• **Age 40 for men at even higher risk** (those with more than one first-degree relative who had prostate cancer at an early age).
WHAT SHOULD YOU DO?

• Assess the risk from symptoms, family history, race and health status
• Do not screen with PSA men who have less than a 10 year life expectancy which according to actuarial tables is 75 y/o healthy male.
• Discuss the risks of screening: false negatives and positives, costs, harm
• Discuss the benefits of screening: early detection, higher cure rates, less advanced disease and probably death