PROSTATE CANCER SYMPOSIUM: BEYOND THE PSA

R. SCOTT OWENS, M.D.
PROSTATE CANCER SYMPOSIUM: WHY ARE WE HERE?

- PROSTATE CANCER AWARENESS MONTH
- OUR UNDERSTANDING OF THE DISEASE HAS CHANGED
- OUR STRATEGY IN MANAGEMENT HAS EVOLVED
- PROSTATE CANCER SIGNIFICANTLY IMPACTS OUR COMMUNITY AND STATE
- MESSAGE TO OUR PATIENTS NEEDS TO BE CLARIFIED
• USPSTF (UNITED STATES PREVENTIVE SERVICES TASK FORCE) RECOMMENDED AGAINST PSA BASED SCREENING FOR PROSTATE CANCER
USPsTF

RECOMMENDATIONS:

- **UROLOGISTS/ONCOLOGISTS:** WAKE UP CALL
- **PRIMARY CARE:** GUIDELINES
- **PATIENTS:** CONFUSION

R. Scott Owens, MD-Urology of Central PA
9/12/15
ULTIMATE GOAL

• ESTABLISH A CLEAR, UNIFIED MESSAGE TO PATIENTS ON

• PROSTATE CANCER THAT ENCOMPASSES CLINICAL

• SIGNIFICANCE, TESTING AND TREATMENT

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OBJECTIVES PROSTATE CANCER SYMPOSIUM:

- **RECOGNIZE NOT ALL PROSTATE CANCERS ARE THE SAME:**
  - **SIGNIFICANT VS. INSIGNIFICANT**

- **FIND INHERENT VALUE IN PSA TESTING AND ITS DERIVATIVES**

- **ESTABLISH A CLINICAL ALGORITHM FOR PSA TESTING**

- **REVIEW CURRENT TREATMENT OF LOCALIZED AND ADVANCED PROSTATE CANCER**

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Prostate cancer facts:

- 220,000 new cases each year
- 27,500 deaths
- 1 in 6 men
Prostate cancer: PENNSYLVANIA STATISTICS (2014)

- **MOST COMMON CANCER DIAGNOSIS IN MEN - 9,065 CASES**

- **SECOND LEADING CAUSE OF MALE CANCER DEATHS**

- **AFRICAN AMERICAN MEN HAVE A 30% HIGHER INCIDENCE**

- **THAN WHITES AND TWICE THE MORTALITY RATE**
PROSTATE cancer: anatomy
Prostate cancer diagnosis:

- **EXAM/PSA**
- **BIOPSY**
Prostate specific antigen (psa)

- Glycoprotein enzyme secreted by prostate epithelial cells
- Not cancer specific
- Normal levels based on age
- Useful for monitoring recurrent disease

Controversial role in screening
PROSTATE SPECIFIC ANTIGEN (psa) DERIVATIVES

- **PSA DENSITY**
- **PSA VELOCITY**
- **AGE RELATED PSA**
- **TOTAL AND FREE PSA**
- **PROSTATE HEALTH INDEX (PHI)**
TOTAL AND FREE PSA

Table 2. Free Prostate-Specific Antigen

<table>
<thead>
<tr>
<th>% Free PSA</th>
<th>Probability of Cancer</th>
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<tbody>
<tr>
<td>25%</td>
<td>8%</td>
</tr>
<tr>
<td>20%–25%</td>
<td>16%</td>
</tr>
<tr>
<td>15%–20%</td>
<td>20%</td>
</tr>
<tr>
<td>10%–15%</td>
<td>28%</td>
</tr>
<tr>
<td>0%–10%</td>
<td>56%</td>
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PSA = prostate-specific antigen.
Prostate health index (PHI) SCORE

- COMBINES TOTAL PSA, FREE PSA AND NEW BIOMARKER p2 PSA INTO A FORMULA THAT MORE ACCURATELY IDENTIFIES CANCER

- COMMERCIALLY AVAILABLE

- HIGHER SENSITIVITY AND SPECIFICITY THAN FREE PSA

- USEFUL IN MONITORING PTS IN A SURVEILLANCE PROTOCOL
DIAGNOSTIC ALTERNATIVES

• PCA 3
  - GENE EXPRESSED IN THE URINE FROM PROSTATE CANCER CELLS
  - USEFUL IN PTS WITH PERSISTENTLY ELEVATED PSA
  - COLLECTED AFTER PROSTATE MASSAGE

• MRI PROSTATE
  - USE OF AN ENDORECTAL COIL
  - IDENTIFIES HIGHER GRADE TUMORS
  - USEFUL IN TARGETING LESIONS
  - PLAYS A ROLE IN SURVEILLANCE

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9/12/15
PROSTATE CANCER: DIAGNOSIS

- MRI/DIAGNOSIS
- MRI/DIRECTED BIOPSY
PROSTATE CANCER PSA TESTING: A NEW STRATEGY

- PSA SCREENING: VALUE IS NOT FULLY SUPPORTED

- SELECTIVE SCREENING OF HIGH RISK GROUPS

- (FAMILY HISTORY AND AFRICAN AMERICANS)

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PROSTATE CANCER: DIAGNOSTIC PSA

- HEMATURIA
- BPH WITH OBSTRUCTION
- NODULE
- FREQUENCY
- NOCTURIA
- URGENCY
Prostate cancer: baseline PSA

- **STRATIFIES MEN INTO RISK GROUPS**
- **ELIMINATES NEED FOR ANNUAL TESTING IN MAJORITY**
- **REPLACES CONCEPT OF SCREENING**
Psa “opens” thE door,

but the biopsy
directs care
PROSTATE CANCER GRADING:

- **GLEASON SCORE**
- **PROGNOSTIC**
GLEASON GRADE/SCORE: PROGNOSIS

- **GLEASON 6**
  - Well differentiated tumor
  - 20% positive margin rate
  - 16 year disease specific survival

- **GLEASON 7 or higher**
  - Moderately-poorly differentiated tumor
  - 48% positive margin rate
  - 10 year disease specific survival
PROSTATE CANCER: “BAD ACTORS”

- GLEASON 3 + 4 (MORTALITY RATE: 2.1)
- GLEASON 4 + 3 (MORTALITY RATE: 6.3)
- GLEASON 4 + 4 (MORTALITY RATE: 14.5)
- GLEASON 5 + ? (MORTALITY RATE: 39.1)
PROSTATE CANCER:

PSA TESTING WHY IS IT IMPORTANT?

- **IDENTIFIES EARLY STAGE CANCER (WHEN COMBINED WITH DRE)**
- **MAJORITY OF LOCALIZED CANCERS ARE ASYMPTOMATIC**
- **DOES NOT CORRELATE WITH GRADE OF CANCER**
- **NO OTHER TEST AVAILABLE**
- **60-70% OF PROSTATE CANCERS ARE CLINICALLY SIGNIFICANT**
PROSTATE CANCER IMPACT ON OUR COMMUNITY:

UCPA DATA

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9/12/15
UCPA DATA

UCPA
Elevated PSAs by Year
New Pt. Visits/Consults with dx code 790.93

- 2009: 587
- 2010: 672
- 2011: 641
- 2012: 457
- 2013: 480
- 2014: 352
UCPA Prostate Biopsies 2009 to 2014

<table>
<thead>
<tr>
<th>Year</th>
<th>Biopsies</th>
<th>Malignancies</th>
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<tbody>
<tr>
<td>2009</td>
<td>805</td>
<td>264</td>
</tr>
<tr>
<td>2010</td>
<td>858</td>
<td>312</td>
</tr>
<tr>
<td>2011</td>
<td>870</td>
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<td>723</td>
<td>270</td>
</tr>
<tr>
<td>2013</td>
<td>734</td>
<td>289</td>
</tr>
<tr>
<td>2014</td>
<td>613</td>
<td>232</td>
</tr>
<tr>
<td>2015*</td>
<td>354</td>
<td>145</td>
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</table>
UCPA DATA

UCPA - Prostate Malignancies by Age Group
1/1/12 to 7/31/15 (43 months/936 Cases)

- 60 to 69: 44%
- 50 to 59: 20%
- 70 to 79: 27%
- 80 to 89: 7%
- 90+: 0%
- 40 to 49: 2%

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UCPA - Prostate Malignancies by PSA Result
1/1/12 to 7/31/15 (43 months/933 Cases)

- 4 to 10.0: 63%
- 10.1 to 20.0: 17%
- 20.1+: 10%
- Less than 4: 10%
UCPA - Prostate Malignancies by Gleason
1/1/12 to 7/31/15 (43 months/935 Cases)

- Gleason 7: 54%
- Gleason 6: 26%
- Gleason 8: 15%
- Gleason 9: 4%
- Gleason 10: 1%
UCPA Prostate Malignancies (1/1/12 to 7/31/15)
Gleason Scores by PSA Results
UCPA - Prostate Cancer Treatments
1/1/12 to 12/31/14 (36 months/791 Cases)

- IMRT: 44%
- Prostatectomy: 31%
- Observation: 11%
- Androgen Deprivation: 6%
- Brachytherapy: 1%
- Undecided: 4%
- Cryotherapy: 0%
- Deceased: 1%
- Not Documented: 2%
• 40% OF PTS WITH AN ELEVATED PSA WERE FOUND TO HAVE CANCER

• 70% OF CANCERS WERE GLEASON 7 OR HIGHER

• TREATMENTS SHOULD BE TAILORED TO RISK OF CANCER

• PSA TESTING HAS VALUE

• PSA DETECTED CANCER IS CLINICALLY SIGNIFICANT