### American College of Radiology

**ACR Appropriateness Criteria®**

**Prostate Cancer–Pretreatment Detection, Surveillance, and Staging**

**Variant 1:** Clinically suspected prostate cancer, no prior biopsy (biopsy naïve). Detection.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Appropriateness Category</th>
<th>SOE</th>
<th>Adults RRL</th>
<th>Peds RRL [ped]</th>
<th>Rating</th>
<th>Median</th>
<th>Final Tabulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRUS-guided biopsy prostate</td>
<td>Usually appropriate</td>
<td>O 0 mSv</td>
<td>O 0 mSv</td>
<td>n/a</td>
<td>9</td>
<td>n/a</td>
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<tr>
<td>MRI-targeted biopsy prostate</td>
<td>Usually appropriate</td>
<td>O 0 mSv</td>
<td>O 0 mSv</td>
<td>n/a</td>
<td>7</td>
<td>n/a</td>
<td>0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>MRI pelvis without and with IV contrast</td>
<td>Usually appropriate</td>
<td>O 0 mSv</td>
<td>O 0 mSv</td>
<td>n/a</td>
<td>7</td>
<td>n/a</td>
<td>0 0 0 0 0 0 0 0 0</td>
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<tr>
<td>MRI pelvis without IV contrast</td>
<td>May be appropriate</td>
<td>O 0 mSv</td>
<td>O 0 mSv</td>
<td>n/a</td>
<td>6</td>
<td>n/a</td>
<td>0 0 0 0 0 0 0 0 0</td>
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<tr>
<td>CT abdomen and pelvis with IV contrast</td>
<td>Usually not appropriate</td>
<td>☢☢☢ 1-10 mSv</td>
<td>☢☢☢☢ 3-10 mSv [ped]</td>
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<td>TRUS prostate</td>
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<td>O 0 mSv</td>
<td>O 0 mSv</td>
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<td>CT abdomen and pelvis without IV contrast</td>
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<td>☢☢☢ 1-10 mSv</td>
<td>☢☢☢☢ 3-10 mSv [ped]</td>
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<tr>
<td>CT abdomen and pelvis without and with IV contrast</td>
<td>Usually not appropriate</td>
<td>☢☢☢☢ 10-30 mSv</td>
<td>☢☢☢☢ 10-30 mSv [ped]</td>
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<td>n/a</td>
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<tr>
<td>Bone scan whole body</td>
<td>Usually not appropriate</td>
<td>☢☢☢ 1-10 mSv</td>
<td>☢☢☢☢ 3-10 mSv [ped]</td>
<td>1</td>
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</table>
### Variant 2: Clinically suspected prostate cancer, prior negative TRUS-guided biopsy. Detection.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Appropriateness Category</th>
<th>SOE</th>
<th>Adults RRL</th>
<th>Peds RRL [ped]</th>
<th>Rating</th>
<th>Median</th>
<th>Final Tabulations</th>
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</thead>
<tbody>
<tr>
<td>MRI-targeted biopsy prostate</td>
<td>Usually appropriate</td>
<td>O 0 mSv</td>
<td>O 0 mSv</td>
<td>8</td>
<td>n/a</td>
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<tr>
<td>MRI pelvis without and with IV contrast</td>
<td>Usually appropriate</td>
<td>O 0 mSv</td>
<td>O 0 mSv</td>
<td>8</td>
<td>n/a</td>
<td>0 0 0 0 0 0 0 0 0</td>
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<tr>
<td>TRUS-guided biopsy prostate</td>
<td>Usually appropriate</td>
<td>O 0 mSv</td>
<td>O 0 mSv</td>
<td>7</td>
<td>n/a</td>
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<tr>
<td>MRI pelvis without IV contrast</td>
<td>May be appropriate</td>
<td>O 0 mSv</td>
<td>O 0 mSv</td>
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<td>n/a</td>
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<tr>
<td>TRUS prostate</td>
<td>Usually not appropriate</td>
<td>O 0 mSv</td>
<td>O 0 mSv</td>
<td>2</td>
<td>n/a</td>
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<td></td>
</tr>
<tr>
<td>CT abdomen and pelvis without IV contrast</td>
<td>Usually not appropriate</td>
<td>1-10 mSv</td>
<td>3-10 mSv</td>
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<td>n/a</td>
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<td>CT abdomen and pelvis with and with IV contrast</td>
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<td>30-10 mSv</td>
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<td>CT abdomen and pelvis with IV contrast</td>
<td>Usually not appropriate</td>
<td>1-10 mSv</td>
<td>3-10 mSv</td>
<td>2</td>
<td>n/a</td>
<td>0 0 0 0 0 0 0 0 0</td>
<td></td>
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<tr>
<td>Bone scan whole body</td>
<td>Usually not appropriate</td>
<td>1-10 mSv</td>
<td>3-10 mSv</td>
<td>1</td>
<td>n/a</td>
<td>0 0 0 0 0 0 0 0 0</td>
<td></td>
</tr>
</tbody>
</table>

### Variant 3: Clinically established low risk prostate cancer. Active surveillance.
### MRI-targeted biopsy prostate
- **Appropriateness Category**: Usually appropriate
- **SOE**: Usually appropriate
- **Adults RRL**: O 0 mSv
- **Peds RRL**: O 0 mSv [ped]
- **Rating**: 8
- **Median**: n/a
- **Final Tabulations**: 0 0 0 0 0 0 0 0 0

### MRI pelvis without and with IV contrast
- **Appropriateness Category**: Usually appropriate
- **SOE**: Usually appropriate
- **Adults RRL**: O 0 mSv
- **Peds RRL**: O 0 mSv [ped]
- **Rating**: 8
- **Median**: n/a
- **Final Tabulations**: 0 0 0 0 0 0 0 0 0

### TRUS-guided biopsy prostate
- **Appropriateness Category**: Usually appropriate
- **SOE**: Usually appropriate
- **Adults RRL**: O 0 mSv
- **Peds RRL**: O 0 mSv [ped]
- **Rating**: 7
- **Median**: n/a
- **Final Tabulations**: 0 0 0 0 0 0 0 0 0

### MRI pelvis without IV contrast
- **Appropriateness Category**: Usually appropriate
- **SOE**: Usually appropriate
- **Adults RRL**: O 0 mSv
- **Peds RRL**: O 0 mSv [ped]
- **Rating**: 7
- **Median**: n/a
- **Final Tabulations**: 0 0 0 0 0 0 0 0 0

### TRUS prostate
- **Appropriateness Category**: Usually not appropriate
- **SOE**: Usually not appropriate
- **Adults RRL**: O 0 mSv
- **Peds RRL**: O 0 mSv [ped]
- **Rating**: 2
- **Median**: n/a
- **Final Tabulations**: 0 0 0 0 0 0 0 0 0

### CT abdomen and pelvis without IV contrast
- **Appropriateness Category**: Usually not appropriate
- **SOE**: Usually not appropriate
- **Adults RRL**: ☢☢☢ 1-10 mSv
- **Peds RRL**: ☢☢☢☢ 3-10 mSv [ped]
- **Rating**: 2
- **Median**: n/a
- **Final Tabulations**: 0 0 0 0 0 0 0 0 0

### CT abdomen and pelvis with IV contrast
- **Appropriateness Category**: Usually not appropriate
- **SOE**: Usually not appropriate
- **Adults RRL**: ☢☢☢ 1-10 mSv
- **Peds RRL**: ☢☢☢☢ 3-10 mSv [ped]
- **Rating**: 2
- **Median**: n/a
- **Final Tabulations**: 0 0 0 0 0 0 0 0 0

### Bone scan whole body
- **Appropriateness Category**: Usually not appropriate
- **SOE**: Usually not appropriate
- **Adults RRL**: ☢☢☢ 1-10 mSv
- **Peds RRL**: ☢☢☢☢ 3-10 mSv [ped]
- **Rating**: 1
- **Median**: n/a
- **Final Tabulations**: 0 0 0 0 0 0 0 0 0

### Variant 4: Clinically established intermediate risk prostate cancer. Staging and/or surveillance.

#### CT abdomen and pelvis without IV contrast
- **Appropriateness Category**: Usually not appropriate
- **SOE**: Usually not appropriate
- **Adults RRL**: ☢☢☢ 1-10 mSv
- **Peds RRL**: ☢☢☢☢ 3-10 mSv [ped]
- **Rating**: 2
- **Median**: n/a
- **Final Tabulations**: 0 0 0 0 0 0 0 0 0

### CT abdomen and pelvis with IV contrast
- **Appropriateness Category**: Usually not appropriate
- **SOE**: Usually not appropriate
- **Adults RRL**: ☢☢☢ 1-10 mSv
- **Peds RRL**: ☢☢☢☢ 3-10 mSv [ped]
- **Rating**: 2
- **Median**: n/a
- **Final Tabulations**: 0 0 0 0 0 0 0 0 0

### Bone scan whole body
- **Appropriateness Category**: Usually not appropriate
- **SOE**: Usually not appropriate
- **Adults RRL**: ☢☢☢ 1-10 mSv
- **Peds RRL**: ☢☢☢☢ 3-10 mSv [ped]
- **Rating**: 1
- **Median**: n/a
- **Final Tabulations**: 0 0 0 0 0 0 0 0 0
<table>
<thead>
<tr>
<th>Procedure</th>
<th>Appropriateness Category</th>
<th>SOE</th>
<th>Adults RRL</th>
<th>Peds RRL</th>
<th>Rating</th>
<th>Median</th>
<th>Final Tabulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRI pelvis without IV contrast</td>
<td>Usually appropriate</td>
<td>O 0 mSv</td>
<td>O 0 mSv [ped]</td>
<td>7</td>
<td>n/a</td>
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</tr>
<tr>
<td>MRI-targeted biopsy prostate</td>
<td>May be appropriate</td>
<td>O 0 mSv</td>
<td>O 0 mSv [ped]</td>
<td>6</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Bone scan whole body</td>
<td>May be appropriate</td>
<td>☢☢☢ 1-10 mSv</td>
<td>☢☢☢☢ 3-10 mSv [ped]</td>
<td>6</td>
<td>n/a</td>
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<tr>
<td>CT abdomen and pelvis with IV contrast</td>
<td>May be appropriate</td>
<td>☢☢☢ 1-10 mSv</td>
<td>☢☢☢☢ 3-10 mSv [ped]</td>
<td>6</td>
<td>n/a</td>
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</tr>
<tr>
<td>TRUS-guided biopsy prostate</td>
<td>May be appropriate</td>
<td>O 0 mSv</td>
<td>O 0 mSv [ped]</td>
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<tr>
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<td>May be appropriate</td>
<td>☢☢☢ 1-10 mSv</td>
<td>☢☢☢☢ 3-10 mSv [ped]</td>
<td>5</td>
<td>n/a</td>
<td>0</td>
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<tr>
<td>TRUS prostate</td>
<td>Usually not appropriate</td>
<td>O 0 mSv</td>
<td>O 0 mSv [ped]</td>
<td>2</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CT abdomen and pelvis without and with IV contrast</td>
<td>Usually not appropriate</td>
<td>☢☢☢☢ 10-30 mSv</td>
<td>☢☢☢☢ 10-30 mSv [ped]</td>
<td>2</td>
<td>n/a</td>
<td>0</td>
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</tbody>
</table>

Variant 5: Clinically established high risk prostate cancer. Staging.
| Procedure                                              | Appropriateness        | Radiation Dose (mSv) | | | | |
|-------------------------------------------------------|------------------------|----------------------|---|---|---|---|---|---|---|---|
| CT abdomen and pelvis without IV contrast             | Usually appropriate    | ★★★★ 1-10 mSv       | ★★★★★ 3-10 mSv [ped] | 7  | n/a | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| MRI pelvis without IV contrast                        | May be appropriate     | 0 0 mSv              | 0 0 mSv [ped]         | 6  | n/a | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| MRI-targeted biopsy prostate                          | Usually not appropriate| 0 0 mSv              | 0 0 mSv [ped]         | 3  | n/a | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| CT abdomen and pelvis without and with IV contrast    | Usually not appropriate| ★★★★★ 10-30 mSv     | ★★★★★ 10-30 mSv [ped]| 3  | n/a | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| TRUS prostate                                         | Usually not appropriate| 0 0 mSv              | 0 0 mSv [ped]         | 2  | n/a | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| TRUS-guided biopsy prostate                           | Usually not appropriate| 0 0 mSv              | 0 0 mSv [ped]         | 2  | n/a | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
Appendix Key
A more complete discussion of the items presented below can be found by accessing the supporting documents at the designated hyperlinks.

**Appropriateness Category:** The panel's recommendation for a procedure based on the assessment of the risks and benefits of performing the procedure for the specified clinical scenario.

**SOE:** Strength of Evidence. The assessment of the amount and quality of evidence found in the peer reviewed medical literature for an appropriateness recommendation.

- **References:** The citation number and PMID for the reference(s) associated with the recommendation.
- **Study Quality:** The assessment of the quality of an individual reference based on the number of study quality elements described in the reference.

**RRL:** Relative Radiation Level. A population based assessment of the amount of radiation a typical patient may be exposed to during the specified procedure.

**Rating:** The final rating (1-9 scale) for the procedure as determined by the panel during rating rounds.

**Median:** The median rating (1-9 scale) for the procedure as determined by the panel during rating rounds.

**Final tabulations:** A histogram showing the number of panel members who rated the procedure as noted in the column heading (ie, 1, 2, 3, etc.).

Additional supporting documents about the AC methodology and processes can be found at [www.acr.org/ac](http://www.acr.org/ac).