**American College of Radiology**  
**ACR Appropriateness Criteria®**

**Low Back Pain**

**Variant 1:** Acute, subacute, or chronic uncomplicated low back pain or radiculopathy. No red flags. No prior management.

<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>CT lumbar spine with IV contrast</td>
<td>Usually not appropriate</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>CT lumbar spine without IV contrast</td>
<td>Usually not appropriate</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>0 0 0 0 0 0 0 0 0</td>
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<tr>
<td>MRI lumbar spine without and with IV contrast</td>
<td>Usually not appropriate</td>
<td></td>
<td>0 0 mSv</td>
<td>0 0 mSv [ped]</td>
<td>2</td>
<td>n/a</td>
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<td></td>
<td>0 0 mSv</td>
<td>0 0 mSv [ped]</td>
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<td>n/a</td>
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<tr>
<td>Tc-99m bone scan with SPECT spine</td>
<td>Usually not appropriate</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
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</tr>
<tr>
<td>Radiography lumbar spine</td>
<td>Usually not appropriate</td>
<td></td>
<td></td>
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<tr>
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### Variant 2: Acute, subacute, or chronic uncomplicated low back pain or radiculopathy. One or more of the following: low velocity trauma, osteoporosis, elderly individual, or chronic steroid use.

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<th>SOE</th>
<th>Adults RRL</th>
<th>Peds RRL</th>
<th>Rating</th>
<th>Median</th>
<th>Final Tabulations</th>
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<tbody>
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<td>O 0 mSv</td>
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### Variant 3: Acute, subacute, or chronic low back pain or radiculopathy. One or more of the following: suspicion of cancer, infection, or immunosuppression.

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<th>Peds RRL</th>
<th>Rating</th>
<th>Median</th>
<th>Final Tabulations</th>
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<td>Final Tabulations</td>
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<tr>
<td>with IV contrast</td>
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<td>[ped]</td>
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<td>10-30 mSv</td>
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Variant 4: Acute, subacute, or chronic low back pain or radiculopathy. Surgery or intervention candidate with persistent or progressive symptoms during or following 6 weeks of conservative management.
<table>
<thead>
<tr>
<th>Procedure</th>
<th>Appropriateness Category</th>
<th>SOE</th>
<th>Adults RRL</th>
<th>Peds RRL</th>
<th>Rating</th>
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<th>Final Tabulations</th>
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<tr>
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<td>☢☢☢☢ 3-10 mSv [ped]</td>
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<tr>
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<td>☢☢☢☢ 3-10 mSv [ped]</td>
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<tr>
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<td>May be appropriate</td>
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<td>☢☢☢ 1-10 mSv</td>
<td>☢☢☢☢ 3-10 mSv [ped]</td>
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<tr>
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<td>May be appropriate</td>
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<tr>
<td>CT lumbar spine without and with IV contrast</td>
<td>Usually not appropriate</td>
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<td>☢☢☢ 10-30 mSv</td>
<td>☢☢☢☢ 3-10 mSv [ped]</td>
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<tr>
<td>Discography and post-discography CT lumbar spine</td>
<td>Usually not appropriate</td>
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<td>☢☢☢ 1-10 mSv</td>
<td>☢☢☢☢ 3-10 mSv [ped]</td>
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**Variant 5:** Low back pain or radiculopathy. New or progressing symptoms or clinical findings with history of prior lumbar surgery.
<table>
<thead>
<tr>
<th>Procedure</th>
<th>Appropriateness Category</th>
<th>SOE</th>
<th>Adults RRL</th>
<th>Peds RRL</th>
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<tbody>
<tr>
<td>CT lumbar spine with IV contrast</td>
<td>May be appropriate</td>
<td>☢☢☢ 1-10 mSv</td>
<td>☢☢☢ 3-10 mSv [ped]</td>
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<td>☢☢☢☢ 3-10 mSv [ped]</td>
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</tr>
<tr>
<td>Radiography lumbar spine</td>
<td>May be appropriate</td>
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<td>☢☢☢ 0.03-0.3 mSv [ped]</td>
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<tr>
<td>Tc-99m bone scan with SPECT spine</td>
<td>May be appropriate</td>
<td>☢☢☢ 1-10 mSv</td>
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<tr>
<td>Discography and post-discography CT lumbar spine</td>
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Variant 6:  Low back pain with suspected cauda equina syndrome or rapidly progressive neurologic deficit.
<table>
<thead>
<tr>
<th>Procedure</th>
<th>Appropriateness</th>
<th>Dose (mSv)</th>
<th>Dose (mSv)</th>
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<th>Age</th>
<th>Gender</th>
<th>Cost</th>
<th>Time</th>
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<tbody>
<tr>
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</table>
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.