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

**Cervical Neck Pain or Cervical Radiculopathy**

**Variant 1:** New or increasing nontraumatic cervical or neck pain. No “red flags.” Initial imaging.

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<th>Adults RRL</th>
<th>Peds RRL [ped]</th>
<th>Rating</th>
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| MRI cervical spine without IV contrast | May be appropriate (Disagreement) | Expert Opinion | O 0 mSv [ped] | 5 | 5 | 1 2 4 2 6 3 1 0 0 |

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| CT cervical spine without IV contrast | May be appropriate | Limited | ☣ 1-10 mSv | ☣ 3-10 mSv [ped] | 4 | 4 | 0 2 3 8 4 2 0 0 0 |

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| CT cervical spine with IV contrast | Usually not appropriate | Limited | ☣ 1-10 mSv | ☣ 3-10 mSv [ped] | 2 | 2 | 9 4 3 0 1 1 0 0 0 |

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26 (23412368)

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**References**

40 (2398088)

33 (21047885)

39 (17204882)

41 (27318668)

21 (8107998)

23 (9460946)

35 (2847516)

**CT cervical spine without IV contrast** | May be appropriate | Limited | 1-10 mSv | 3-10 mSv [ped] | 6 | 6 | 0 | 0 | 1 | 1 | 3 | 11 | 1 | 2 | 0 |

**References**

35 (2847516)

36 (16632616)

**Radiography cervical spine** | May be appropriate (Disagreement) | Expert Opinion | 0.1-1mSv | 0.03-0.3 mSv [ped] | 5 | 5 | 0 | 0 | 1 | 4 | 3 | 6 | 1 | 1 | 2 |

**References**

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### Discography cervical spine
- **Usually not appropriate**
- **Expert Consensus**
- ☢☢ 0.1-1mSv
- 1
- 1
- 12
- 3
- 3
- 0
- 0
- 0
- 0
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- 0

### Facet injection/medial branch block cervical spine
- **Usually not appropriate**
- **Expert Consensus**
- ☢☢ 0.1-1mSv
- 1
- 1
- 15
- 2
- 1
- 0
- 0
- 0
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- 0
- 0

### MRA neck without IV contrast
- **Usually not appropriate**
- **Expert Consensus**
- O 0 mSv
- O 0 mSv [ped]
- 1
- 1
- 12
- 1
- 4
- 0
- 1
- 0
- 0
- 0
- 0

### MRA neck with IV contrast
- **Usually not appropriate**
- **Expert Consensus**
- O 0 mSv
- O 0 mSv [ped]
- 1
- 1
- 12
- 1
- 4
- 0
- 1
- 0
- 0
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- 0

### MRI cervical spine with IV contrast
- **Usually not appropriate**
- **Strong**
- O 0 mSv
- O 0 mSv [ped]
- 1
- 1
- 11
- 1
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- 4
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### Bone scan whole body with SPECT or SPECT/CT neck
- **Usually not appropriate**
- **Expert Consensus**
- ☢☢☢ 1-10 mSv
- ☢☢☢☢ 3-10 mSv [ped]
- 1
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### MR imaging parameters

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  - **Adults RRL**: 0 mSv
  - **Peds RRL [ped]**: 0 mSv
  - **Rating**: 9
  - **Median**: 9
  - **Final Tabulations**: 1 0 0 0 0 0 1 2 14

- **CT cervical spine with IV contrast**
  - **SOE**: Limited
  - **Adults RRL**: 1-10 mSv
  - **Peds RRL [ped]**: 3-10 mSv
  - **Rating**: 6
  - **Median**: 6
  - **Final Tabulations**: 0 0 1 1 1 8 5 3 0

- **MRI cervical spine without IV contrast**
  - **SOE**: Strong
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Facet injection/medial branch block cervical spine | Usually not appropriate | Expert Consensus | ☢☢ 0.1-1mSv | 1 | 1 | 16 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0

Radiographic myelography cervical spine | Usually not appropriate | Limited | ☢☢☢ 1-10 mSv | 1 | 1 | 12 | 2 | 1 | 2 | 1 | 0 | 0 | 0 | 0

References | Study Quality | 17 (-3130497) | 4

MRA neck without IV contrast | Usually not appropriate | Expert Consensus | O 0 mSv | O 0 mSv [ped] | 1 | 1 | 11 | 2 | 2 | 2 | 1 | 0 | 0 | 0 | 0

MRA neck with IV contrast | Usually not appropriate | Expert Consensus | O 0 mSv | O 0 mSv [ped] | 1 | 1 | 12 | 2 | 3 | 1 | 0 | 0 | 0 | 0

References | Study Quality | 88 (25412631) | 4

References | Study Quality | 94 (-3127654) | 4

Variant 5: Known malignancy. New or increasing nontraumatic cervical or neck pain or radiculopathy. Initial imaging.

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References | Study Quality | 88 (25412631) | 4

References | Study Quality | 94 (-3127654) | 4

MRI cervical spine without IV contrast | Usually appropriate | Limited | O 0 mSv | O 0 mSv [ped] | 7 | 7 | 0 | 0 | 0 | 2 | 0 | 4 | 8 | 4 | 1

References | Study Quality | 88 (25412631) | 4

References | Study Quality | 94 (-3127654) | 4

Radiography cervical spine | May be appropriate | Limited | ☢☢ 0.1-1mSv | ☢☢ 0.03-0.3 mSv [ped] | 6 | 6 | 0 | 0 | 1 | 1 | 7 | 3 | 3 | 1 | 2

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### Variant 6: Cervicogenic headache and new or increasing nontraumatic cervical or neck pain. No neurologic deficit. Initial imaging.

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106 (19643679)  
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Variant 8:  Chronic cervical or neck pain. No neurologic findings. Radiographs show degenerative changes. Next imaging study.

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Variant 9: Chronic cervical or neck pain without or with radiculopathy. Radiographs show ossification in the posterior longitudinal ligament (OPLL). Next imaging study.
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References: 122 (1636514)

Study Quality: 1 = Good, 2 = Fair, 3 = Poor
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).