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

### Penetrating Neck Injury

**Variant 1:** Penetrating neck injury. Clinical soft injury signs.

<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>CTA neck with IV contrast</td>
<td>Usually appropriate</td>
<td></td>
<td>✭✭✭ 1-10 mSv</td>
<td>✭✭✭ 0.3-3 mSv [ped]</td>
<td>9</td>
<td>n/a</td>
<td>0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>Radiography neck</td>
<td>Usually appropriate</td>
<td></td>
<td>✭✭ 0.1-1 mSv</td>
<td></td>
<td>7</td>
<td>n/a</td>
<td>0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>US neck</td>
<td>May be appropriate</td>
<td></td>
<td>O 0 mSv</td>
<td>O 0 mSv [ped]</td>
<td>5</td>
<td>n/a</td>
<td>0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>MRA neck without and with IV contrast</td>
<td>May be appropriate</td>
<td></td>
<td>O 0 mSv</td>
<td>O 0 mSv [ped]</td>
<td>5</td>
<td>n/a</td>
<td>0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>Arteriography neck</td>
<td>May be appropriate</td>
<td></td>
<td>✭✭✭ 1-10 mSv</td>
<td></td>
<td>5</td>
<td>n/a</td>
<td>0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>Fluoroscopy biphasic esophagram</td>
<td>May be appropriate</td>
<td></td>
<td>✭✭✭ 1-10 mSv</td>
<td></td>
<td>5</td>
<td>n/a</td>
<td>0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>MRA neck without IV contrast</td>
<td>May be appropriate</td>
<td></td>
<td>O 0 mSv</td>
<td>O 0 mSv [ped]</td>
<td>4</td>
<td>n/a</td>
<td>0 0 0 0 0 0 0 0 0</td>
</tr>
</tbody>
</table>

**Variant 2:** Penetrating neck injury. Normal or equivocal CTA. Concern for vascular injury.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Appropriateness Category</th>
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<th>Peds RRL</th>
<th>Rating</th>
<th>Median</th>
<th>Final Tabulations</th>
</tr>
</thead>
</table>

---

**CTA neck with IV contrast**

- Usually appropriate
- ✭✭✭ 1-10 mSv
- ✭✭✭ 0.3-3 mSv [ped]
- 9
- n/a
- Final Tabulations: 0 0 0 0 0 0 0 0 0

**Radiography neck**

- Usually appropriate
- ✭✭ 0.1-1 mSv
- 7
- n/a
- Final Tabulations: 0 0 0 0 0 0 0 0 0

**US neck**

- May be appropriate
- O 0 mSv
- O 0 mSv [ped]
- 5
- n/a
- Final Tabulations: 0 0 0 0 0 0 0 0 0

**MRA neck without and with IV contrast**

- May be appropriate
- O 0 mSv
- O 0 mSv [ped]
- 5
- n/a
- Final Tabulations: 0 0 0 0 0 0 0 0 0

**Arteriography neck**

- May be appropriate
- ✭✭✭ 1-10 mSv
- 5
- n/a
- Final Tabulations: 0 0 0 0 0 0 0 0 0

**Fluoroscopy biphasic esophagram**

- May be appropriate
- ✭✭✭ 1-10 mSv
- 5
- n/a
- Final Tabulations: 0 0 0 0 0 0 0 0 0

**MRA neck without IV contrast**

- May be appropriate
- O 0 mSv
- O 0 mSv [ped]
- 4
- n/a
- Final Tabulations: 0 0 0 0 0 0 0 0 0
<table>
<thead>
<tr>
<th>Procedure</th>
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<th>Adults RRL</th>
<th>Peds RRL</th>
<th>Rating</th>
<th>Median</th>
<th>Final Tabulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arteriography neck</td>
<td>Usually appropriate</td>
<td>☢☢☢ 1-10 mSv</td>
<td>8</td>
<td>n/a</td>
<td>0</td>
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<td>0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>MRA neck without and with IV contrast</td>
<td>May be appropriate</td>
<td>0 0 mSv</td>
<td>5</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td>0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>US neck</td>
<td>May be appropriate</td>
<td>0 0 mSv</td>
<td>4</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td>0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>MRA neck without IV contrast</td>
<td>May be appropriate</td>
<td>0 0 mSv</td>
<td>4</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td>0 0 0 0 0 0 0 0 0</td>
</tr>
</tbody>
</table>


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<th>Final Tabulations</th>
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</thead>
<tbody>
<tr>
<td>Fluoroscopy single contrast esophagram</td>
<td>Usually appropriate</td>
<td>☢☢☢ 1-10 mSv</td>
<td>8</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td>0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>MRI neck without IV contrast</td>
<td>May be appropriate</td>
<td>0 0 mSv</td>
<td>5</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td>0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>MRI neck without and with IV contrast</td>
<td>May be appropriate</td>
<td>0 0 mSv</td>
<td>5</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td>0 0 0 0 0 0 0 0 0</td>
</tr>
</tbody>
</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](http://www.acr.org/ac).