American College of Radiology  
ACR Appropriateness Criteria®  

Breast Implant Evaluation

**Variant 1:** Evaluation of saline breast implants. Asymptomatic patient. Any age. Initial imaging.

<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>Mammography screening</td>
<td>Usually not appropriate</td>
<td>☢☢</td>
<td>0.1-1mSv</td>
<td></td>
<td>1</td>
<td>1</td>
<td>15 0 0 0 1 0 0 0 0</td>
</tr>
<tr>
<td>MRI breast without IV contrast</td>
<td>Usually not appropriate</td>
<td>O 0 mSv</td>
<td>0 mSv [ped]</td>
<td></td>
<td>1</td>
<td>1</td>
<td>15 1 0 0 0 0 0 0 0</td>
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<tr>
<td>MRI breast without and with IV contrast</td>
<td>Usually not appropriate</td>
<td>O 0 mSv</td>
<td>0 mSv [ped]</td>
<td></td>
<td>1</td>
<td>1</td>
<td>15 1 0 0 0 0 0 0 0</td>
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<tr>
<td>US breast</td>
<td>Usually not appropriate</td>
<td>O 0 mSv</td>
<td>0 mSv [ped]</td>
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<td>1</td>
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<td>15 0 0 0 0 0 0 1 0</td>
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<tr>
<td>Digital breast tomosynthesis</td>
<td>Usually not appropriate</td>
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<td>0.1-1mSv</td>
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<td>15 0 1 0 0 0 0 0 0</td>
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</table>

**Variant 2:** Evaluation of saline breast implants. Clinical examination equivocal for implant rupture. Age younger than 30 years. Initial imaging.

<table>
<thead>
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<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>US breast</td>
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<td>O 0 mSv</td>
<td>0 mSv [ped]</td>
<td></td>
<td>9</td>
<td>9</td>
<td>0 0 0 0 1 0 1 4 10</td>
</tr>
<tr>
<td>Mammography diagnostic</td>
<td>Usually not appropriate</td>
<td>☢☢</td>
<td>0.1-1mSv</td>
<td></td>
<td>3</td>
<td>3</td>
<td>3 4 3 3 2 1 0 0 0</td>
</tr>
</tbody>
</table>
Digital breast tomosynthesis diagnostic | Usually not appropriate | ☢☢ 0.1-1mSv | 3 | 3 | 3 | 4 | 3 | 2 | 3 | 1 | 0 | 0 | 0 | 0

MRI breast without IV contrast | Usually not appropriate | O 0 mSv | O 0 mSv [ped] | 1 | 1 | 13 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0

MRI breast without and with IV contrast | Usually not appropriate | O 0 mSv | O 0 mSv [ped] | 1 | 1 | 14 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 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>
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<td>O 0 mSv</td>
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</table>

### Variant 4: Evaluation of saline breast implants. Clinical examination equivocal for implant rupture. Age 40 years or older. Initial imaging.

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<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>
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<tbody>
<tr>
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### Variant 5: Evaluation of silicone breast implants. Asymptomatic patient. Any age. Initial imaging.

<table>
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<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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<td>3</td>
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</tr>
<tr>
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<td>O 0 mSv [ped]</td>
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### Variant 6: Evaluation of silicone breast implants. Suspected implant complication. Age younger than 30 years. Initial imaging.

<table>
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<th>SOE</th>
<th>Adults RRL</th>
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<th>Final Tabulations</th>
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<td>SOE</td>
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<td>Peds RRL [ped]</td>
<td>Rating</td>
<td>Median</td>
<td>Final Tabulations</td>
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<td>10</td>
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</tr>
<tr>
<td>MRI breast without and with IV contrast</td>
<td>Usually not appropriate</td>
<td>O 0 mSv</td>
<td>O 0 mSv [ped]</td>
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<th>Rating</th>
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<th>Final Tabulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRI breast without IV contrast</td>
<td>Usually appropriate</td>
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<td>O 0 mSv</td>
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<td>9</td>
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<td>MRI breast without and with IV contrast</td>
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<td>O 0 mSv [ped]</td>
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<td>12 3 0 0 0 0 1 0 0</td>
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Variant 8:  Evaluation of silicone breast implants. Suspected implant complication. Age 40 years or older. Initial imaging.
<table>
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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>
</tr>
</thead>
<tbody>
<tr>
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<td>Usually appropriate</td>
<td>O 0 mSv</td>
<td>O 0 mSv [ped]</td>
<td>9</td>
<td>9</td>
<td>1 0 0 0 0 1 3 2 9</td>
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</tr>
<tr>
<td>Digital breast tomosynthesis diagnostic</td>
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<td>0 0 0 0 0 1 7 4 4</td>
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<td>O 0 mSv [ped]</td>
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<td>1</td>
<td>12 3 0 0 0 1 0 0 0</td>
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</table>

**Variant 9:** Evaluation of unexplained axillary adenopathy. Silicone breast implants (current or prior). Age younger than 30 years. Initial imaging.

<table>
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<th>Appropriateness Category</th>
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<th>Adults RRL</th>
<th>Peds RRL</th>
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<th>Final Tabulations</th>
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<tr>
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<td>O 0 mSv [ped]</td>
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</tr>
<tr>
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<td>Usually not appropriate</td>
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<td>O 0 mSv [ped]</td>
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</table>
### Variant 10: Evaluation of unexplained axillary adenopathy. Silicone breast implants (current or prior). Age 30-39 years. Initial imaging.

<table>
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<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>Mammography diagnostic</td>
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<td>0</td>
<td>1    0    2    1  3  1 8</td>
</tr>
<tr>
<td>US axilla</td>
<td>Usually appropriate</td>
<td>☢ 0 mSv</td>
<td>☢ 0 mSv [ped]</td>
<td>9</td>
<td>9</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>MRI breast without IV contrast</td>
<td>Usually not appropriate</td>
<td>☢ 0 mSv</td>
<td>☢ 0 mSv [ped]</td>
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<td>2</td>
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<tr>
<td>MRI breast without and with IV contrast</td>
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<td>☢ 0 mSv [ped]</td>
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</table>

### Variant 11: Evaluation of unexplained axillary adenopathy. Silicone breast implants (current or prior). Age 40 years or older. Initial imaging.

<table>
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<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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<tbody>
<tr>
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<td>2</td>
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</tbody>
</table>
### Variants

#### Variant 12: Suspected breast implant associated anaplastic large cell lymphoma (BIA-ALCL) (delayed seroma, swelling, mass, pain but no erythema, warmth or skin changes that would raise concern for inflammatory breast cancer or mastitis). Any age. Breast implant of any type. Initial imaging.

<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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<tbody>
<tr>
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<td>O 0 mSv</td>
<td>O 0 mSv</td>
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<td>9</td>
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<td>0 0 2 2 6 4 1 0 1</td>
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</tr>
<tr>
<td>MRI breast without and with IV contrast</td>
<td>May be appropriate</td>
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<td>O 0 mSv</td>
<td>O 0 mSv</td>
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<td>1</td>
<td>9 5 1 0 0 0 0 1 0</td>
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</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).