

American College of Radiology ACR Appropriateness Criteria®

Breast Implant Evaluation

Variant 1: Adult of any age. Female or transfeminine. Evaluation of saline breast implants. Asymptomatic. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Mammography screening	Usually not appropriate	Limited	⊕⊕ 0.1-1mSv		1	1	0	0	0	0	0	0	0	0	0
		References	Study Quality												
		2 (34794604)	4												
MRI breast without IV contrast	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	
		References	Study Quality												
		3 (24792659)	4												
MRI breast without and with IV contrast	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	
		References	Study Quality												
		3 (24792659)	4												
US breast	Usually not appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	
Digital breast tomosynthesis screening	Usually not appropriate	Limited	⊕⊕ 0.1-1mSv		1	1	0	0	0	0	0	0	0	0	
		References	Study Quality												
		2 (34794604)	4												

Variant 2: Adult younger than 30 years of age. Female or transfeminine. Evaluation of saline breast implants. Suspected implant rupture. Initial imaging.

MRI breast without IV contrast	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
		References		Study Quality											
		3 (24792659)		4											
MRI breast without and with IV contrast	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
		References		Study Quality											
		3 (24792659)		4											

Variant 4: Adult age 40 years or older. Female or transfeminine. Evaluation of saline breast implants. Suspected implant rupture. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Mammography diagnostic	Usually appropriate	Limited	⊗⊗ 0.1-1mSv		8	8	0	0	0	0	0	0	0	0	0
Digital breast tomosynthesis diagnostic	Usually appropriate	Limited	⊗⊗ 0.1-1mSv		8	8	0	0	0	0	0	0	0	0	0
US breast	May be appropriate	Expert Consensus	0 0 mSv	0 0 mSv [ped]	6	6	0	0	0	0	0	0	0	0	0
MRI breast without IV contrast	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
		References		Study Quality											
		3 (24792659)		4											
MRI breast without and with IV contrast	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
		References		Study Quality											
		3 (24792659)		4											

Variant 5: Adult of any age. Female or transfeminine. Evaluation of silicone breast implants. Asymptomatic. Less than 5 years after implant placement. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Mammography diagnostic	Usually not appropriate	Limited	☼☼ 0.1-1mSv		1	1	0	0	0	0	0	0	0	0	0
		References		Study Quality											
		2 (34794604)		4											
MRI breast without IV contrast	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
MRI breast without and with IV contrast	Usually not appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
US breast	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
Digital breast tomosynthesis diagnostic	Usually not appropriate	Limited	☼☼ 0.1-1mSv		1	1	0	0	0	0	0	0	0	0	0
		References		Study Quality											
		2 (34794604)		4											

Variant 6: Adult of any age. Female or transfeminine. Evaluation of silicone breast implants. Asymptomatic. Initial imaging at 5 to 6 years after implant placement and follow-up imaging every 2 to 3 years after initial negative imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI breast without IV contrast	Usually appropriate	Strong	○ 0 mSv	○ 0 mSv [ped]	9	9	0	0	0	0	0	0	0	0	0
		References		Study Quality											
		3 (24792659)		4											
US breast	Usually appropriate	Strong	○ 0 mSv	○ 0 mSv [ped]	7	7	0	0	0	0	0	0	0	0	0
		References		Study Quality											

MRI breast without and with IV contrast	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
		References		Study Quality											
		2 (34794604)		4											

Variant 9: Adult age 40 years or older. Female or transfeminine. Evaluation of silicone breast implants. Suspected implant complication. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI breast without IV contrast	Usually appropriate	Strong	0 0 mSv	0 0 mSv [ped]	9	9	0	0	0	0	0	0	0	0	0
		References		Study Quality											
		3 (24792659)		4											
Mammography diagnostic	May be appropriate	Limited	☼☼ 0.1-1mSv		5	5	0	0	0	0	0	0	0	0	0
		References		Study Quality											
		2 (34794604)		4											
US breast	May be appropriate	Strong	0 0 mSv	0 0 mSv [ped]	5	5	0	0	0	0	0	0	0	0	0
		References		Study Quality											
		2 (34794604)		4											
Digital breast tomosynthesis diagnostic	May be appropriate	Limited	☼☼ 0.1-1mSv		5	5	0	0	0	0	0	0	0	0	0
		References		Study Quality											
		2 (34794604)		4											
MRI breast without and with IV contrast	Usually not appropriate	Expert Consensus	0 0 mSv	0 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
		References		Study Quality											
		2 (34794604)		4											

MRI breast without and with IV contrast	Usually not appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
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Variant 12: Adult age 40 years or older. Female or transfeminine. Evaluation of unexplained axillary adenopathy. Silicone breast implants current or prior. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Mammography diagnostic	Usually appropriate	Expert Consensus	⊕⊕ 0.1-1mSv		9	9	0	0	0	0	0	0	0	0	0
US breast	Usually appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	9	9	0	0	0	0	0	0	0	0	0
Digital breast tomosynthesis diagnostic	Usually appropriate	Expert Consensus	⊕⊕ 0.1-1mSv		9	9	0	0	0	0	0	0	0	0	0
MRI breast without and with IV contrast	Usually not appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	2	2	0	0	0	0	0	0	0	0	0
MRI breast without IV contrast	Usually not appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0

Variant 13: Adult of any age. Female or transfeminine. Suspected breast implant-associated malignancy. Breast implant of any type. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
US breast	Usually appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	9	9	0	0	1	0	0	0	0	3	12
MRI breast without and with IV contrast	Usually appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	7	7	0	0	0	1	0	8	1	6	
Mammography diagnostic	May be appropriate	Limited	⊕⊕ 0.1-1mSv		5	5	0	0	0	2	7	3	2	1	1

Digital breast tomosynthesis diagnostic	May be appropriate	Limited	☼☼ 0.1-1mSv		5	5	0	0	0	0	14	1	1	0	0
MRI breast without IV contrast	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	3	3	4	3	7	1	1	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.