

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

Soft Tissue Masses

Variant 1: Superficial soft tissue mass. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations									
							1	2	3	4	5	6	7	8	9	
US area of interest	Usually appropriate	Strong	0 mSv	0 mSv [ped]	9	9	1	0	0	0	0	2	2	2	7	
		References		Study Quality												
		17 (24848846)		3												
		19 (24848826)		4												
		18 (33058264)		2												
		16 (31900511)		2												
		15 (35412355)		4												
		14 (28987653)		3												
		13 (30928084)		4												
		12 (32438440)		4												
		9 (29846498)		4												
Radiography area of interest	Usually appropriate	Limited	Varies	Varies	9	9	1	0	1	0	0	0	0	1	11	
		References		Study Quality												
		11 (27726739)		4												
		10 (18566812)		4												
		9 (29846498)		4												
CT area of interest with IV contrast	Usually not appropriate	Expert Consensus	Varies	Varies	2	2	7	4	2	0	0	1	0	0	0	

CT area of interest without IV contrast	Usually not appropriate	Expert Consensus	Varies	Varies	2	2	6	4	2	0	0	0	1	0	0
CT area of interest without and with IV contrast	Usually not appropriate	Expert Consensus	Varies	Varies	2	2	7	2	2	0	1	1	1	0	0
MRI area of interest without and with IV contrast	Usually not appropriate	Expert Consensus	0 0 mSv	0 0 mSv [ped]	2	2	6	2	1	3	1	1	0	0	0
Image-guided biopsy area of interest	Usually not appropriate	Limited	Varies	Varies	1	1	10	1	1	1	0	0	1	0	0
		References		Study Quality											
		23 (23971442)		4											
		24 (29752328)		4											
MRI area of interest without IV contrast	Usually not appropriate	Expert Consensus	0 0 mSv	0 0 mSv [ped]	1	1	8	2	0	2	1	1	0	0	0
FDG-PET/CT area of interest	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv		1	1	11	1	1	0	0	0	0	1	0
US area of interest with IV contrast	Usually not appropriate	Strong	0 0 mSv	0 0 mSv [ped]	1	1	10	2	0	0	0	0	1	0	0
		References		Study Quality											
		22 (22411306)		4											
		21 (27959625)		2											
		20 (25454097)		2											
Image-guided fine needle aspiration area of interest	Usually not appropriate	Limited	Varies	Varies	1	1	10	1	1	0	1	0	1	0	0
		References		Study Quality											
		23 (23971442)		4											
		24 (29752328)		4											

Variant 2: Nonsuperficial (deep) soft tissue mass. Initial imaging.

US area of interest	May be appropriate	Limited	0 0 mSv	0 0 mSv [ped]	5	5	0	0	0	1	10	2	0	0	0
		References		Study Quality											
		13 (30928084)		4											
		27 (19414084)		3											
		28 (32591891)		2											
MRI area of interest without and with IV contrast	Usually not appropriate	Expert Consensus	0 0 mSv	0 0 mSv [ped]	2	2	6	3	1	2	1	0	0	0	1
US area of interest with IV contrast	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	2	2	7	0	3	1	2	0	1	0	0
		References		Study Quality											
		27 (19414084)		3											
Image-guided biopsy area of interest	Usually not appropriate	Limited	Varies	Varies	1	1	12	1	0	0	0	0	1	0	0
		References		Study Quality											
		23 (23971442)		4											
		24 (29752328)		4											
MRI area of interest without IV contrast	Usually not appropriate	Expert Consensus	0 0 mSv	0 0 mSv [ped]	1	1	8	3	0	0	3	0	0	0	0
FDG-PET/CT area of interest	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv		1	1	11	2	0	0	0	0	1	0	0
Image-guided fine needle aspiration area of interest	Usually not appropriate	Limited	Varies	Varies	1	1	12	0	0	1	0	0	1	0	0
		References		Study Quality											
		23 (23971442)		4											
		24 (29752328)		4											

Variant 3: Soft tissue mass. Nondiagnostic radiograph and noncontrast enhanced ultrasound. Next imaging study.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI area of interest without and with IV contrast	Usually appropriate	Strong	0.0 mSv	0.0 mSv [ped]	9	9	1	0	0	0	0	0	2	0	11

References	Study Quality
42 (33814107)	4
41 (28655433)	4
40 (31834812)	2
39 (32885297)	2
38 (30949892)	4
37 (32649224)	2
36 (32379793)	2
35 (30663160)	2
34 (33542870)	2
33 (15459325)	1
11 (27726739)	4
3 (33852362)	4

MRI area of interest without IV contrast	May be appropriate	Strong	0.0 mSv	0.0 mSv [ped]	6	6	0	0	0	1	4	4	3	1	0
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References	Study Quality
42 (33814107)	4
41 (28655433)	4
40 (31834812)	2
39 (32885297)	2
38 (30949892)	4
37 (32649224)	2
36 (32379793)	2
35 (30663160)	2
34 (33542870)	2
33 (15459325)	1
11 (27726739)	4

		3 (33852362)			4														
CT area of interest with IV contrast	May be appropriate	Moderate	Varies	Varies	5	5	0	0	0	0	7	1	2	1	2				
		References			Study Quality														
		32 (8988217)			2														
		29 (25344599)			4														
		30 (20489097)			4														
		31 (33299004)			4														
CT area of interest without and with IV contrast	May be appropriate	Moderate	Varies	Varies	5	5	0	0	0	0	8	5	0	0	0				
		References			Study Quality														
		32 (8988217)			2														
		31 (33299004)			4														
CT area of interest without IV contrast	Usually not appropriate	Moderate	Varies	Varies	2	2	6	1	4	1	1	0	0	0	0				
		References			Study Quality														
		32 (8988217)			2														
FDG-PET/CT area of interest	Usually not appropriate	Strong	☼☼☼☼ 10-30 mSv		2	2	5	5	1	0	1	0	1	0	0				
		References			Study Quality														
		47 (26990930)			2														
		45 (32711449)			2														
		46 (20660389)			3														
		43 (19636577)			3														
		48 (26053718)			3														
		44 (18756363)			3														
US area of interest with IV contrast	Usually not appropriate	Strong	0 0 mSv	0 0 mSv [ped]	2	2	6	2	3	1	0	1	1	0	0				
		References			Study Quality														
		16 (31900511)			2														
		28 (32591891)			2														

CT area of interest without IV contrast	Usually not appropriate	Limited	Varies	Varies	3	3	5	1	2	2	2	1	1	0	0
		References		Study Quality											
		29 (25344599)		4											
US area of interest with IV contrast	Usually not appropriate	Expert Consensus	0 0 mSv	0 0 mSv [ped]	3	3	6	0	5	2	0	0	1	0	0
FDG-PET/CT area of interest	Usually not appropriate	Strong	☼☼☼☼ 10-30 mSv		2	2	5	5	1	1	0	0	1	0	0
		References		Study Quality											
		47 (26990930)		2											
		45 (32711449)		2											
		46 (20660389)		3											
		43 (19636577)		3											
		48 (26053718)		3											
		44 (18756363)		3											
Image-guided biopsy area of interest	Usually not appropriate	Limited	Varies	Varies	1	1	8	0	3	0	1	2	0	0	0
		References		Study Quality											
		29 (25344599)		4											
		24 (29752328)		4											
Image-guided fine needle aspiration area of interest	Usually not appropriate	Limited	Varies	Varies	1	1	7	3	2	0	0	0	1	0	0
		References		Study Quality											
		29 (25344599)		4											
		24 (29752328)		4											

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.