

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

Acute Hip Pain

Variant 1: Adult. Acute hip pain, traumatic. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Radiography hip	Usually appropriate	Strong	⊕⊕⊕ 1-10 mSv		9	9	0	0	0	0	0	0	0	0	16
		References		Study Quality											
		14 (23787985)		4											
		15 (23365546)		2											
		17 (33131797)		4											
		16 (29894220)		2											
		2 (29959502)		4											
CT hip without IV contrast	Usually not appropriate	Expert Consensus	⊕⊕⊕ 1-10 mSv		1	1	14	0	0	1	0	0	1	0	0
MRI hip without IV contrast	Usually not appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	1	1	15	0	0	1	0	0	0	0	0
MRI hip without and with IV contrast	Usually not appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	1	1	15	0	0	0	0	1	0	0	0
Bone scan hip	Usually not appropriate	Expert Consensus	⊕⊕⊕ 1-10 mSv		1	1	16	0	0	0	0	0	0	0	0
US hip	Usually not appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	1	1	14	0	0	0	1	1	0	0	0
CT hip with IV contrast	Usually not appropriate	Expert Consensus	⊕⊕⊕ 1-10 mSv		1	1	15	0	0	0	1	0	0	0	0

CT hip without and with IV contrast	Usually not appropriate	Expert Consensus	⊕⊕⊕ 1-10 mSv		1	1	15	0	0	0	0	1	0	0	0
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Variant 2: Adult. Acute hip pain, traumatic. Suspect fracture. Radiographs negative or indeterminate. Next imaging study.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CT hip without IV contrast	Usually appropriate	Strong	⊕⊕⊕ 1-10 mSv		9	9	1	0	0	0	0	0	3	3	9

	References		Study Quality	
	26 (31147733)		4	
	23 (30249714)		4	
	20 (32633673)		Good	
	19 (33039184)		4	
	18 (31209592)		Inadequate	
	22 (31650264)		1	
	24 (32844321)		4	
	25 (34840828)		3	
	21 (31461322)		Good	
	27 (28301779)		2	

MRI hip without IV contrast	Usually appropriate	Strong	0 0 mSv	0 0 mSv [ped]	8	8	0	0	0	0	0	0	5	4	7
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	References		Study Quality	
	29 (22623574)		2	
	23 (30249714)		4	
	20 (32633673)		Good	
	19 (33039184)		4	
	18 (31209592)		Inadequate	
	22 (31650264)		1	
	28 (31725122)		4	

MRI hip without IV contrast	May be appropriate	Limited	0.0 mSv	0.0 mSv [ped]	5	5	0	0	0	1	10	1	3	1	0
		References		Study Quality											
		20 (32633673)		Good											
		41 (32792156)		4											
		40 (34904188)		4											
		39 (30899712)		3											
MRI hip without and with IV contrast	Usually not appropriate	Expert Consensus	0.0 mSv	0.0 mSv [ped]	1	1	14	1	1	0	0	0	0	0	0
Bone scan hip	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv		1	1	16	0	0	0	0	0	0	0	0
US hip	Usually not appropriate	Expert Consensus	0.0 mSv	0.0 mSv [ped]	1	1	16	0	0	0	0	0	0	0	0
CT hip with IV contrast	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv		1	1	14	1	0	0	0	0	0	1	0
CT hip without and with IV contrast	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv		1	1	13	1	2	0	0	0	0	0	0

Variant 4: Adult. Acute hip pain, traumatic. Post reduction of hip dislocation. Follow-up imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Radiography hip	Usually appropriate	Limited	☻☻☻ 1-10 mSv		9	9	0	0	0	0	0	0	0	0	16
		References		Study Quality											
		44 (34623933)		4											
CT hip without IV contrast	Usually appropriate	Limited	☻☻☻ 1-10 mSv		7	7	1	0	0	0	3	4	0	3	5
		References		Study Quality											
		8 (29131775)		4											

		42 (29146169)	4												
		43 (16424806)	4												
MRI hip without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	10	1	2	1	0	2	0	0	0
MRI hip without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	0	2	0	0	0	0	0	0
Bone scan hip	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv		1	1	16	0	0	0	0	0	0	0	0
US hip	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	0	0	0	0	1	0	0	0
CT hip with IV contrast	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv		1	1	14	0	2	0	0	0	0	0	0
CT hip without and with IV contrast	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv		1	1	14	1	1	0	0	0	0	0	0

Variant 5: Adult. Acute hip pain, traumatic. Suspect tendon, muscle, or ligament injury. Radiographs negative or indeterminate. 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 hip without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	9	9	0	0	0	0	0	0	1	3	12

References	Study Quality
51 (22038311)	M
56 (29757716)	4
57 (31163508)	4
58 (32718743)	4
52 (37092718)	4
55 (35494306)	3
50 (32513090)	4
53 (31283532)	4

54 (12942206)	4
45 (10430134)	4
46 (14684527)	3
47 (18450496)	1
48 (27011854)	4
49 (25453914)	2

CT hip without IV contrast	Usually not appropriate	Expert Consensus	☹☹☹ 1-10 mSv		1	1	15	1	0	0	0	0	0	0	0
MRI hip without and with IV contrast	Usually not appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	1	1	13	0	2	0	0	0	0	0	1
Bone scan hip	Usually not appropriate	Expert Consensus	☹☹☹ 1-10 mSv		1	1	14	0	1	1	0	0	0	0	0
US hip	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	1	1	16	0	0	0	0	0	0	0	0

References	Study Quality
56 (29757716)	4
54 (12942206)	4
59 (19941093)	4

CT hip with IV contrast	Usually not appropriate	Expert Consensus	☹☹☹ 1-10 mSv		1	1	13	0	1	0	1	0	1	0	0
CT hip without and with IV contrast	Usually not appropriate	Expert Consensus	☹☹☹ 1-10 mSv		1	1	13	0	2	0	0	0	1	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.