

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

**Acute Hip Pain-Suspected Fracture**

**Variant 1: Acute hip pain. Fall or minor trauma. Suspect fracture. 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		☼☼☼ 1-10 mSv		9	9	0	0	0	0	0	0	1	3	10
		References		Study Quality											
		26 (26015154)		2											
		25 (19651835)		4											
		24 (15910835)		3											
		23 (20308510)		3											
		22 (15269019)		4											
		21 (15805330)		2											
		20 (18963720)		4											
		19 (23365546)		2											
		18 (22495203)		3											
		17 (23787985)		4											
		16 (24434365)		4											
		15 (25187593)		4											
Radiography pelvis	Usually appropriate	Limited	☼☼ 0.1-1mSv	☼☼ 0.03-0.3 mSv [ped]	9	9	0	0	0	0	0	0	2	3	9
		References		Study Quality											
		31 (24368044)		4											

Radiography pelvis and hips	Usually appropriate	Limited	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	9	9	1	0	0	0	0	0	0	0	0	13	
		References	Study Quality														
		31 (24368044)	4														
		30 (21874573)	4														
		29 (15027916)	4														
		28 (26432694)	4														
		27 (7568834)	4														
		21 (15805330)	2														
US hip	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	1	1	13	0	1	0	0	0	0	0	0	0	
		References	Study Quality														
		36 (19854958)	2														
CT pelvis and hips without IV contrast	Usually not appropriate	Limited	☼☼☼ 1-10 mSv		1	1	9	0	1	0	2	1	1	0	0		
		References	Study Quality														
		35 (27365082)	3														
		34 (26838948)	3														
CT pelvis and hips with IV contrast	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv		1	1	11	1	1	0	0	1	0	0	0		
CT pelvis and hips without and with IV contrast	Usually not appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv		1	1	12	1	0	0	0	1	0	0	0		
MRI pelvis and affected hip without IV contrast	Usually not appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	1	1	10	1	1	0	0	1	0	1	0		
MRI pelvis and affected hip without and with IV contrast	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	1	1	11	1	2	0	0	0	0	0	0		
		References	Study Quality														
		33 (8424346)	4														
		32 (24338938)	3														

Tc-99m bone scan hips	Usually not appropriate	Expert Consensus	⊕⊕⊕ 1-10 mSv		1	1	13	0	0	0	0	1	0	0	0
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**Variant 2: Acute hip pain. Fall or minor trauma. Negative radiographs. Suspect fracture. 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 pelvis and affected hip without IV contrast	Usually appropriate	Strong	0 0 mSv	0 0 mSv [ped]	9	9	0	0	0	0	0	0	0	4	10

References	Study Quality
45 (19266195)	3
44 (11764362)	3
43 (22623574)	2
42 (12942204)	3
41 (16129752)	4
40 (10189478)	4
39 (18806133)	3
38 (9659484)	4
37 (8475292)	3
30 (21874573)	4
29 (15027916)	4
28 (26432694)	4
23 (20308510)	3
22 (15269019)	4
21 (15805330)	2
10 (19450802)	4

CT pelvis and hips without IV contrast	Usually appropriate	Strong	⊕⊕⊕ 1-10 mSv		7	7	1	0	0	0	1	2	4	1	5
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References	Study Quality
48 (22459594)	3

47 (22173818)	3
46 (24780791)	3
39 (18806133)	3
34 (26838948)	3
26 (26015154)	2
24 (15910835)	3

US hip	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	1	1	12	1	1	0	0	0	0	0	0
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References	Study Quality
36 (19854958)	2

CT pelvis and hips with IV contrast	Usually not appropriate	Expert Consensus	⊕⊕⊕ 1-10 mSv		1	1	14	0	0	0	1	0	0	0	0
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CT pelvis and hips without and with IV contrast	Usually not appropriate	Limited	⊕⊕⊕⊕ 10-30 mSv		1	1	15	0	0	0	0	0	0	0	0
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References	Study Quality
49 (24985783)	2

MRI pelvis and affected hip without and with IV contrast	Usually not appropriate	Strong	○ 0 mSv	○ 0 mSv [ped]	1	1	9	0	1	2	1	0	1	0	0
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References	Study Quality
45 (19266195)	3
44 (11764362)	3
43 (22623574)	2
42 (12942204)	3
41 (16129752)	4
40 (10189478)	4
39 (18806133)	3
38 (9659484)	4
37 (8475292)	3
30 (21874573)	4
29 (15027916)	4
28 (26432694)	4

23 (20308510)	3
22 (15269019)	4
21 (15805330)	2
10 (19450802)	4

Tc-99m bone scan hips	Usually not appropriate	Limited	☢☢☢ 1-10 mSv		1	1	15	0	0	0	0	0	0	0	0
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References	Study Quality
51 (9592902)	4
50 (8444918)	3

## **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).