

9 (16493917)	4
12 (9084078)	4
13 (18316353)	3
10 (1732293)	2
11 (1740701)	4

Radiography pelvis	Usually not appropriate	Limited	☼☼ 0.1-1mSv	☼☼ 0.03-0.3 mSv [ped]	3	3	3	2	4	1	5	1	0	0	0
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References	Study Quality
9 (16493917)	4
12 (9084078)	4
13 (18316353)	3
10 (1732293)	2
11 (1740701)	4

Radiography lumbar spine	Usually not appropriate	Limited	☼☼☼ 1-10 mSv	☼☼ 0.03-0.3 mSv [ped]	3	3	2	2	5	3	4	0	0	0	0
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References	Study Quality
9 (16493917)	4
12 (9084078)	4
13 (18316353)	3
10 (1732293)	2
11 (1740701)	4

US hips	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	2	2	4	6	3	1	1	0	1	0	0
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References	Study Quality
15 (11281633)	4
14 (18492916)	4

US lower extremity	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	2	n/a	0	0	0	0	0	0	0	0	0
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References	Study Quality
15 (11281633)	4

CT lower extremity without and with IV contrast	Usually not appropriate	Limited	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕⊕ 10-30 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0	0
		References		Study Quality												
		18 (15046440)		3												
CT lower extremity with IV contrast	Usually not appropriate	Limited	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0	0
		References		Study Quality												
		18 (15046440)		3												
MRI lower extremity without IV contrast	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0	0
		References		Study Quality												
		19 (22528893)		4												
MRI lower extremity without and with IV contrast	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0	0
		References		Study Quality												
		19 (22528893)		4												

Variant 2: Child up to age 5. Acute limp. Pain. Localized symptoms. No concern for infection. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Radiography lower extremity area of interest	Usually appropriate	Limited		⊕⊕ 0.03-0.3 mSv [ped]	9	9	0	0	0	0	0	0	1	0	15
		References		Study Quality											
		12 (9084078)		4											
		31 (15228401)		4											
		27 (11242240)		4											
		28 (2898538)		4											

CT lower extremity area of interest without and with IV contrast	Usually not appropriate	Limited	Varies	Varies	1	1	14	2	0	0	0	0	0	0	0
		References		Study Quality											
		18 (15046440)		3											
MRI lower extremity area of interest without and with IV contrast	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	1	1	9	3	0	1	1	2	0	0	0
		References		Study Quality											
		6 (17566800)		4											
		34 (16741713)		4											
		35 (24609825)		4											
		37 (19995859)		2											
		36 (22764042)		4											
		38 (26122807)		4											
3-phase bone scan pelvis and lower extremity	Usually not appropriate	Expert Consensus		☹☹☹☹ 3-10 mSv [ped]	1	1	11	4	1	0	0	0	0	0	0

Variant 3: Child up to age 5. Acute limp. Nonlocalized symptoms. Concern for infection. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI lower extremity without IV contrast	Usually appropriate	Strong	0 0 mSv	0 0 mSv [ped]	7	n/a	0	0	0	0	0	0	0	0	0
		References		Study Quality											
		51 (20180105)		3											
		45 (19850805)		4											
		42 (16474970)		4											
		40 (17314640)		3											
		43 (-3091625)		4											
		50 (19380545)		3											
		39 (18560822)		2											

41 (19858750)	4
46 (12357025)	4
47 (27408498)	4
48 (23230243)	4
49 (23478935)	4
52 (22194497)	2
44 (18209613)	4

MRI lower extremity without and with IV contrast	Usually appropriate	Strong	0 0 mSv	0 0 mSv [ped]	7	n/a	0	0	0	0	0	0	0	0	0
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References	Study Quality
51 (20180105)	3
45 (19850805)	4
42 (16474970)	4
40 (17314640)	3
43 (-3091625)	4
50 (19380545)	3
39 (18560822)	2
41 (19858750)	4
46 (12357025)	4
47 (27408498)	4
48 (23230243)	4
49 (23478935)	4
52 (22194497)	2
44 (18209613)	4

US hips	May be appropriate	Limited	0 0 mSv	0 0 mSv [ped]	6	6	0	0	0	0	4	6	1	4	1
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References	Study Quality
15 (11281633)	4
14 (18492916)	4

3-phase bone scan pelvis and lower extremity	May be appropriate	Limited		☼☼☼☼ 3-10 mSv [ped]	5	5	0	0	1	3	8	4	0	0	0
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References	Study Quality
16 (17885058)	3
17 (19958848)	4
40 (17314640)	3
39 (18560822)	2
41 (19858750)	4

MRI whole body without and with IV contrast	May be appropriate	Limited	0 0 mSv	0 0 mSv [ped]	5	5	1	1	0	2	9	2	0	1	0
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References	Study Quality
42 (16474970)	4
43 (-3091625)	4
22 (15243716)	3
53 (18799279)	4
54 (20304319)	4
55 (27043465)	4

MRI whole body without IV contrast	May be appropriate	Limited	0 0 mSv	0 0 mSv [ped]	5	5	1	0	1	1	11	1	0	1	0
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References	Study Quality
42 (16474970)	4
43 (-3091625)	4
22 (15243716)	3
53 (18799279)	4
54 (20304319)	4
55 (27043465)	4

Radiography lumbar spine	Usually not appropriate	Limited	☼☼☼ 1-10 mSv	☼☼ 0.03-0.3 mSv [ped]	3	3	3	3	5	2	2	1	0	0	0
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References	Study Quality
40 (17314640)	3
39 (18560822)	2

CT lower extremity without and with IV contrast	Usually not appropriate	Expert Consensus	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕⊕ 10-30 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
CT lower extremity with IV contrast	Usually not appropriate	Expert Consensus	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0

Variant 4: Child up to age 5. Acute limp. Symptoms localized to the hip. Concern for infection. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
US hips	Usually appropriate	Limited	○ ○ mSv	○ ○ mSv [ped]	9	9	0	0	0	0	0	0	4	2	10

References	Study Quality
62 (11961445)	4
57 (16757758)	3
61 (15118038)	4
59 (25588046)	4
60 (25560622)	4

MRI pelvis without and with IV contrast	Usually appropriate	Limited	○ ○ mSv	○ ○ mSv [ped]	8	8	1	0	0	0	0	1	5	6	3
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References	Study Quality
51 (20180105)	3
71 (17019590)	4
69 (21129563)	4
40 (17314640)	3
50 (19380545)	3
68 (12368368)	4
41 (19858750)	4
67 (26001240)	4
70 (22268189)	3

		56 (28170361)			4														
MRI pelvis without IV contrast	Usually appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	7	7	0	0	0	0	3	2	5	4	2				
		References			Study Quality														
		51 (20180105)			3														
		71 (17019590)			4														
		69 (21129563)			4														
		40 (17314640)			3														
		50 (19380545)			3														
		68 (12368368)			4														
		41 (19858750)			4														
		67 (26001240)			4														
		70 (22268189)			3														
		56 (28170361)			4														
Radiography pelvis	May be appropriate	Limited	☼☼ 0.1-1mSv	☼☼ 0.03-0.3 mSv [ped]	4	4	2	2	1	5	5	1	0	0	0				
		References			Study Quality														
		58 (6739205)			4														
3-phase bone scan pelvis and lower extremity	May be appropriate	Limited		☼☼☼☼ 3-10 mSv	4	4	3	0	4	3	4	2	0	0	0				
		References			Study Quality														
		40 (17314640)			3														
CT pelvis with IV contrast	Usually not appropriate	Limited	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	3	3	5	3	2	1	5	0	0	0	0				
		References			Study Quality														
		63 (17127204)			4														
		64 (20567730)			4														
		66 (18690452)			4														
		65 (16264122)			Inadequate														

Radiography lumbar spine	Usually not appropriate	Limited	☹☹☹ 1-10 mSv	☹☹ 0.03-0.3 mSv [ped]	2	2	7	4	0	2	3	0	0	0	0
		References		Study Quality											
		58 (6739205)		4											
CT pelvis without IV contrast	Usually not appropriate	Limited	☹☹☹ 1-10 mSv	☹☹☹☹ 3-10 mSv [ped]	1	1	12	2	0	2	0	0	0	0	0
		References		Study Quality											
		63 (17127204)		4											
		64 (20567730)		4											
		66 (18690452)		4											
		65 (16264122)		Inadequate											
CT pelvis without and with IV contrast	Usually not appropriate	Limited	☹☹☹☹ 10-30 mSv	☹☹☹☹ 3-10 mSv [ped]	1	1	10	5	0	0	1	0	0	0	0
		References		Study Quality											
		63 (17127204)		4											
		64 (20567730)		4											
		66 (18690452)		4											
		65 (16264122)		Inadequate											

Variant 5: Child up to age 5. Acute limp. Symptoms localized to lower extremity (not pelvis or hips). Concern for infection. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI lower extremity area of interest (not pelvis or hip) without and with IV contrast	Usually appropriate	Limited	0 0 mSv	0 0 mSv [ped]	8	8	1	0	0	0	0	2	2	6	5
		References		Study Quality											
		51 (20180105)		3											
		43 (-3091625)		4											
		50 (19380545)		3											

		54 (20304319)			4														
MRI whole body without and with IV contrast	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	3	3	3	4	8	1	0	0	0	0	0	0	0	0	
		References			Study Quality														
		22 (15243716)			3														
		53 (18799279)			4														
		54 (20304319)			4														
CT lower extremity area of interest (not pelvis or hip) with IV contrast	Usually not appropriate	Limited	Varies	Varies	3	3	5	2	4	3	2	0	0	0	0	0	0	0	
		References			Study Quality														
		63 (17127204)			4														
		64 (20567730)			4														
		66 (18690452)			4														
		65 (16264122)			Inadequate														
3-phase bone scan pelvis and lower extremity	Usually not appropriate	Limited		☼☼☼☼ 3-10 mSv [ped]	3	3	3	4	5	4	0	0	0	0	0	0	0	0	
		References			Study Quality														
		39 (18560822)			2														
		41 (19858750)			4														
CT lower extremity area of interest (not pelvis or hip) without IV contrast	Usually not appropriate	Limited	Varies	Varies	1	1	10	3	1	1	1	0	0	0	0	0	0	0	
		References			Study Quality														
		64 (20567730)			4														
		66 (18690452)			4														
		65 (16264122)			Inadequate														
CT lower extremity area of interest (not pelvis or hip) without and with IV contrast	Usually not appropriate	Limited	Varies	Varies	1	1	11	3	1	0	1	0	0	0	0	0	0	0	
		References			Study Quality														
		63 (17127204)			4														
		64 (20567730)			4														

66 (18690452)	4
65 (16264122)	Inadequate

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.