

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

**Sudden Onset of Cold, Painful Leg**

**Variant 1: Sudden onset of cold, painful leg. Suspected vascular compromise. Initial imaging.**

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations									
							1	2	3	4	5	6	7	8	9	
CTA abdomen and pelvis with bilateral lower extremity runoff with IV contrast	Usually appropriate	Strong	☼☼☼☼ 10-30 mSv		9	9	0	0	0	0	0	2	3	4	11	
		References	Study Quality													
		29 (20609871)	4													
		28 (20664093)	4													
		27 (18963674)	2													
		26 (27399244)	4													
		25 (18430854)	1													
		24 (11641196)	1													
		23 (16580545)	2													
		22 (15128997)	2													
		18 (19176443)	M													
		17 (18058929)	2													
		16 (25241315)	4													
		15 (17848679)	M													
		14 (17548364)	4													
		13 (18243622)	1													
		12 (17715120)	1													
Arteriography lower extremity	Usually appropriate	Strong	☼☼ 0.1-1mSv	☼☼☼ 0.3-3 mSv [ped]	8	8	0	0	1	1	4	1	2	5	6	

References	Study Quality
21 (12591682)	2
20 (21512091)	2
19 (22511320)	3
18 (19176443)	M
17 (18058929)	2
16 (25241315)	4
15 (17848679)	M
14 (17548364)	4
13 (18243622)	1
12 (17715120)	1
11 (27840332)	4
8 (34492289)	4

CTA lower extremity with IV contrast	Usually appropriate	Strong	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	7	7	0	0	0	0	3	2	6	7	2
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References	Study Quality
27 (18963674)	2
26 (27399244)	4
25 (18430854)	1
24 (11641196)	1
23 (16580545)	2
22 (15128997)	2
18 (19176443)	M
17 (18058929)	2
16 (25241315)	4
15 (17848679)	M
14 (17548364)	4
13 (18243622)	1
12 (17715120)	1

MRA abdomen and pelvis with bilateral lower extremity runoff with IV contrast	Usually appropriate	Strong	0 0 mSv	0 0 mSv [ped]	7	7	1	0	1	0	2	4	4	6	2
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References	Study Quality
39 (19656648)	2
38 (17018306)	4
37 (12413600)	3
36 (27535040)	1
35 (22109304)	2
34 (25079487)	3
33 (20820041)	M
32 (12239057)	3
31 (23801421)	M
30 (9052573)	4
16 (25241315)	4

MRA lower extremity without and with IV contrast	May be appropriate	Strong	0 0 mSv	0 0 mSv [ped]	6	6	1	0	0	0	8	10	0	0	1
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References	Study Quality
39 (19656648)	2
38 (17018306)	4
37 (12413600)	3
36 (27535040)	1
35 (22109304)	2
34 (25079487)	3
33 (20820041)	M
32 (12239057)	3
31 (23801421)	M
30 (9052573)	4
16 (25241315)	4

MRA lower extremity without IV contrast	May be appropriate	Strong	0 0 mSv	0 0 mSv [ped]	5	5	1	0	0	4	12	3	0	0	0
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References	Study Quality
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39 (19656648)	2
38 (17018306)	4
37 (12413600)	3
36 (27535040)	1

US duplex Doppler lower extremity	May be appropriate	Strong	0 0 mSv	0 0 mSv [ped]	5	5	0	0	0	3	8	7	2	0	0
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References	Study Quality
14 (17548364)	4
43 (16796006)	2
44 (15858107)	1

MRA abdomen and pelvis with bilateral lower extremity runoff without IV contrast	May be appropriate	Strong	0 0 mSv	0 0 mSv [ped]	5	5	1	0	0	1	13	5	0	0	0
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References	Study Quality
42 (21502384)	2
41 (30318162)	1
40 (30566270)	4
39 (19656648)	2
38 (17018306)	4
37 (12413600)	3
36 (27535040)	1

US duplex Doppler aorta abdomen	Usually not appropriate	Expert Consensus	0 0 mSv	0 0 mSv [ped]	3	3	2	8	8	2	0	0	0	0	0
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US intravascular aorta and iliofemoral system	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	2	2	3	12	5	0	0	0	0	0	0
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References	Study Quality
45 (33933251)	2
46 (28895369)	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](http://www.acr.org/ac).