American College of Radiology ACR Appropriateness Criteria[®]

Suspected Acute Aortic Syndrome

Variant 1: Acute chest pain; suspected acute aortic syndrome.

D 1	Appropriateness Category		GOE	411, 55		D 1 DD2	D	N. 11			F	inal '	Tabu	latio	ns		
Procedure	Categ	gory	SOE	Adults RR	L Peds RRL		Rating	Median	1	2	3	4	5	6	7	8	9
CTA chest with IV contrast	Usua approp		Strong	≎≎≎ 1-1(mSv)	���� 3- 10 mSv [ped]	9	9	0	0	0	0	0	1	1	2	14
			References			Study	Quality										
			27 (28360261)		3												
			17 (25415694)				2										
			21 (12008187)				3										
			24 (7824707)				2										
			26 (8668776)				2										
			22 (12819341)				2										
			23 (1934367)				3										
			25 (8416265)				1										
			32 (18790585)				4										
			33 (19703877)				4										
			30 (15115998)				3										
CTA chest abdomen pelvis with IV contrast	Usua approp	ally oriate	Limited	����� 30 100 mSv			8	8	0	0	0	0	1	1	7	3	6
			References		Study Quality												
			21 (12008187)				3										
			34 (12598026)				4										
			35 (16831999)				M										

CT chest with IV contrast	Usually appropriate	Expert Consensus	��� 1-10 mSv	ॐॐॐ 3- 10 mSv [ped]	7	7	0	0	2	0	4	3	5	3	1
CT chest without and with IV contrast	Usually appropriate			���� 3- 10 mSv [ped]	7	7	0	0	1	0	5	1	3	3	5
		References		Study	y Quality										
		17 (25415694)			2										
MRA chest without and with IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	7	7	1	0	0	1	1	3	9	2	1
		References		Study											
		24 (7824707)			2										
		26 (8668776)			2										
		39 (8416269)													
		40 (1735142)													
		25 (8416265)													
		38 (9395943)													
		35 (16831999)													
MRA chest abdomen pelvis without and with IV contrast	Usually appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	0	1	14	2	0
US echocardiography transesophageal	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	0	0	12	4	1
		References		Study											
		47 (24030294)													
		40 (1735142)													
		43 (1934402)			3										
		45 (1555267)													
		46 (10593804)		4											
		44 (8772749)		3											
Radiography chest	Usually appropriate	Limited	 		7	7	0	0	1	0	2	1	6	2	6
		References		Study	y Quality										-

		41 (5848976)														
		10 (10589336)														
			42 (24055476)			3							1			
CTA coronary arteries with IV contrast	May approp		Expert Consensus	��� 1-10 mSv	9	6	6	0	0	0	0	8	4	2	2	1
MRA chest without IV contrast	May approp		Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	2	6	9	0	0	0
			References		Study	Quality										
			37 (11930077)													
			36 (20013276)													
Aortography chest	May approp		Limited	��� 1-10 mSv)	5	5	1	0	4	3	7	2	0	1	0
	•		References		Study			•								
		3 (12900496)			-	4										
		14 (1621436)				4										
			13 (8074043)													
			1 (26205591)			3										
MRA chest abdomen pelvis without IV contrast	May approp		Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	4	9	4	0	0	0
US echocardiography transthoracic resting	May approp		Strong	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	1	10	3	3	0	0
			References		Study Quality											
			39 (8416269)		4											
			40 (1735142)			3										
		25 (8416265) 48 (2563839) 49 (20037148)			1 3 2											
			44 (8772749)		3											
CT chest without IV contrast	May approp	be Strong		≎≎≎ 1-10 mSv	9	4	4	1	1	7	3	3	2	1	0	0

References	Study Quality
15 (23521452)	2
16 (24939821)	2

MRI chest abdomen pelvis without IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	4	4	0	5	3	7	2	0	0	0	0
MRI chest abdomen pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	3	3	0	4	5	2	4	1	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.