American College of Radiology ACR Appropriateness Criteria®

Acute Nonspecific Chest Pain-Low Probability of Coronary Artery Disease

Variant 1: Acute nonspecific chest pain; low probability of coronary artery disease. Initial imaging.

, n	Appropria	ateness	COF	A L L DDI	D 1 DD1	- ·	36.11	Final Tabulations								
Procedure	Catego		SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CTA coronary arteries with IV contrast	Usual appropi		Expert Consensus ⊕⊕⊕ 1-10 mSv		���� 3- 10 mSv [ped]	8	8	1	0	0	1	0	1	4	10	0
Radiography chest	Usual appropi		Expert Consensus	� <0.1 mSv	<pre></pre>	8	8	0	0	0	0	1	2	3	3	8
CTA chest with IV contrast	May lappropi		Expert Consensus	��� 1-10 mSv	���� 3- 10 mSv [ped]	5	5	1	0	0	1	9	1	4	1	0
CT chest with IV contrast	May be appropriate		Expert Consensus	��� 1-10 mSv	���� 3- 10 mSv [ped]	5	5	1	0	1	1	10	4	0	0	0
CT chest without and with IV contrast	May lappropi		Limited	��� 1-10 mSv	���� 3- 10 mSv [ped]	5	5	1	1	1	4	7	2	1	0	0
	References Study Quality															
			38 (19486717)													
	20 (27819965)															
V/Q scan lung	May lappropi		Expert Consensus	��� 1-10 mSv	��� 0.3- 3 mSv [ped]	5	5	2	1	2	2	10	0	0	0	0
US echocardiography transthoracic resting	May appropri (Disagree	riate	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	0	2	0	0	4	4	6	1	0
			References		Study											

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1			22 (25378470)		4				1			1	1				
Radiography ribs and thoracic spine	May approp		Expert Consensus	�� 0.1-1m	ıSv		5	5	0	1	2	5	7	1	0	0	0
CT chest without IV contrast	May approp		Expert Consensus	��� 1-10 mSv		���� 3- 10 mSv [ped]	4	4	2	3	3	4	4	0	0	0	1
CT heart function and morphology with IV contrast	Usually approp		Limited	���� 10-30 mSv		���� 3- 10 mSv [ped]	3	3	2	4	9	1	1	0	0	0	0
			References		Study Quality												
			39 (28027742)		4												
MRI heart function and morphology without IV contrast	Usually approp		Limited	O 0 mSv	′	O 0 mSv [ped]	3	3	0	8	6	0	2	0	0	0	1
			References			Study Quality											
		41 (28005512)		4													
SPECT or SPECT/CT MPI rest and stress	Usually		Limited	���� 10- mSv	30	����� 10-30 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
			References			Study	Quality										
			25 (28549119)		4												
SPECT or SPECT/CT MPI rest and stress	Usually		Limited	���� 10- mSv	30	����� 10-30 mSv [ped]	3	3	1	5	8	1	1	0	0	0	0
			References			Study	Quality										
			25 (28549119)		4												
Fluoroscopy barium swallow and upper GI series	Usually approp		Expert Consensus	��� 1-10 mSv	0		2	2	6	4	1	1	3	1	1	0	0
MRA chest without IV contrast	Usually approp		Limited	Limited O 0 mSv		O 0 mSv [ped]	2	2	2	7	3	0	4	0	0	1	0
		References			Study Quality												
			40 (27533160)		4												
	-		· · · · · · · · · · · · · · · · · · ·														

MRA chest without and with IV contrast	Usually not appropriate	Limited O 0 mSv		O 0 mSv [ped]	2	2	4	7	6	0	0	0	0	0	0
		References		Stud		•			•						
		40 (27533160)	,		4										
MRA coronary arteries without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	5	8	3	0	1	0	0	0	0
MRA coronary arteries without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	4	6	5	1	1	0	0	0	0
MRI heart function and morphology without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	2	7	7	0	0	0	0	0	1
		References		Stud											
		42 (19389557)	1												
		41 (28005512)													
		43 (27899132)													
Nuclear medicine scan gallbladder	Usually not appropriate	Expert Consensus	�� 0.1-1mSv	,	2	2	6	3	1	4	2	0	0	1	0
US echocardiography transthoracic stress	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	2	8	3	1	2	0	0	1	0
		References		Study											
		15 (26910053)	,												
		23 (28378340)													
		22 (25378470)													
		24 (29909113)													
US echocardiography transesophageal	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	6	5	1	3	1	0	1	0	0
		References		Study		-									
		22 (25378470)		4											
MRI heart with function and vasodilator stress perfusion without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	6	6	2	0	2	0	0	0	1
		References		Study	y Quality										

			31 (25863305)		Inadequate												
MRI heart with function and inotropic stress without IV contrast	Usually not appropriate		Limited	O 0 mSv	,	O 0 mSv [ped]	2	2	6	5	2	0	3	0	1	0	0
			References	Study Quality													
		31 (2586			Inadequa												
MRI heart with function and inotropic stress without and with IV contrast	Usuall approp	y not oriate	Expert Consensus	O 0 mSv	,	O 0 mSv [ped]	2	2	5	5	3	0	3	0	1	0	0
Arteriography coronary	Usuall approp	y not oriate	Limited	��� 1-10 mSv	0		1	1	10	3	2	2	0	0	0	0	0
		References		Study Quality													
		44 (26112200)					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.