American College of Radiology ACR Appropriateness Criteria®

Chronic Chest Pain-Noncardiac Etiology Unlikely: Low to Intermediate Probability of Coronary Artery Disease

Variant 1: Chronic chest pain, noncardiac etiology unlikely: low to intermediate probability of coronary artery disease. Initial imaging.

Procedure	Appropriateness	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations												
	Category						1	2	3	4	5	6	7	8	9				
CTA coronary arteries with IV contrast	Usually appropriate	Strong	��� 1-10 mSv	���� 3- 10 mSv [ped]	9	9	0	0	1	0	0	0	0	4	8				

References	Study Quality
39 (26330417)	1
18 (26892420)	4
19 (27043808)	4
10 (25984459)	4
11 (26782999)	4
13 (26112200)	4
14 (23684682)	3
15 (27081014)	3
21 (25714275)	4
22 (22830462)	1
27 (21565735)	2
31 (27318587)	4
33 (22032711)	2
34 (22922562)	1
36 (23934536)	4
37 (24110575)	3
25 (25773919)	1

						1									
		12 (25844996))		4										
		23 (23517254)	1		2										
		30 (25125300))		2										
		35 (23562923)	1		4										
		26 (28389572)	1		2										
		40 (27470449)	1		2										
		24 (25788230))		1										
		28 (25473041))		1										
		32 (27502292))		3										
		16 (28973101))	C	lood										
		29 (23727215))		3										
		38 (28444153)	1		3										
		20 (26746631))		1										
		17 (28329294)	2												
US echocardiography transthoracic stress	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	8	8	0	0	1	0	1	0	4	5	2
		References		Study	Quality			•		•		•			
		51 (15215802)			2										
		52 (17222734)		G	lood										
		References 51 (15215802) 52 (17222734) 53 (25896850) ally priate References 55 (12403662) 56 (15289384) 58 (22196944) 59 (16580532) 60 (22084203) 57 (23578348) ally			3										
MRI heart with function and vasodilator stress perfusion without and with IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	1	2	5	4	1
		References		Study	Quality										
		55 (12403662))		3										
		56 (15289384))		2										
		58 (22196944)	1		3										
					3										
		60 (22084203))	1											
		57 (23578348)			4			_							
Rb-82 PET/CT MPI rest and stress	Usually appropriate	Limited	���� 10-30 mSv		7	n/a	0	0	0	0	0	0	0	0	0

		References		Stud	y Quality										
		66 (16949498)	,		2										
		67 (20541718)			4										
Rb-82 PET/CT MPI rest and stress	Usually appropriate	Limited	���� 10-30 mSv		7	7	0	0	0	1	1	0	11	1	1
		References		Stud	y Quality										
		66 (16949498))	2											
		67 (20541718)			4										
SPECT or SPECT/CT MPI rest and stress	Usually appropriate	Limited	ଡେଡେଡ 10-30 mSv	\$\$\$\$\$ 10-30 mSv [ped]	7	n/a	0	0	0	0	0	0	0	0	0
		References		Stud											
		41 (11397352)			3										
		25 (25773919))		1										
		44 (24026478))		3										
		42 (25745089))												
		43 (26052677)			2										
SPECT or SPECT/CT MPI rest and stress	Usually appropriate	Limited	���� 10-30 mSv	⊕⊕⊕⊕⊕ 10-30 mSv [ped]	7	7	0	0	0	0	0	2	5	3	3
		References		Study Quality											
		41 (11397352))		3										
		25 (25773919))		1										
		44 (24026478))		3										
		42 (25745089))		2										
		43 (26052677))		2										
SPECT or SPECT/CT MPI stress only	Usually appropriate	Limited	��� 1-10 mSv		7	7	0	0	1	0	2	3	6	1	0
		References		Study Quality											
		41 (11397352))		3										
		25 (25773919)			1										

		44 (24026478)			3										
		42 (25745089)			2										
		43 (26052677)			2					1					
US echocardiography transthoracic resting	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	1	4	7	3	0	0
		References		Study	Quality								•	•	
		54 (26455270)			4										
MRI heart with function and inotropic stress without IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	6	6	0	0	1	1	4	3	2	2	0
		References		Study	Quality										
		55 (12403662)		3											
		56 (15289384)													
		58 (22196944)			3										
		59 (16580532)			3										
		60 (22084203)			1										
		57 (23578348)			4										
MRI heart with function and inotropic stress without and with IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	0	4	4	1	4	0
		References		Study	Quality										
		55 (12403662)			3										
		56 (15289384)													
		58 (22196944)			3										
		59 (16580532)		3											
		60 (22084203)			1										
		57 (23578348)		•	4										
CT coronary calcium	May be appropriate	Limited	��� 1-10 mSv		5	5	1	0	0	0	9	4	1	0	0
		References		Study	Quality										
		45 (22825529)			4										

47 (22919038) 4 48 (22461571) 2							
48 (22461571) 2							
49 (23370817) 3							
50 (21067988) 4							
MRI heart function and morphology without IV contrast May be appropriate Strong O 0 mSv [ped] 5	3	3	5	3	1	0	0
References Study Quality							
55 (12403662)							
56 (15289384)							
58 (22196944) 3							
59 (16580532)							
60 (22084203)							
57 (23578348) 4							
CT chest with IV contrast May be appropriate Expert Consensus E	7	7	3	3	1	0	0
MRA coronary arteries without and with IV contrast May be appropriate Strong O 0 mSv [ped] 4 4 0 0 0 3	5	5	5	2	0	0	0
References Study Quality							
62 (11471654)							
63 (15931354) 4							
61 (11756576)							
CT chest without IV contrast Usually not appropriate Expert Consensus Expert Consensus Expert Consensus Section 1-10 mSv [ped] 3 3 5 1 2	1	1	3	1	0	0	0
CT chest without and with IV Contrast Usually not appropriate Expert Consensus Expert Consensus Expert Consensus Section 1-10 mSv [ped] 3 3 2 7	2	2	0	1	0	0	0
Arteriography coronary Usually not appropriate Limited Discrete the second s	1	1	0	1	0	0	0
References Study Quality							
64 (24139951)							

SPECT or SPECT/CT MPI rest only	Usuall approp	Limited			3	3	2	1	10	2	0	0	0	0	0
	•	References		S	tudy Quality										
		41 (11397352)													
		25 (25773919)			1										
		44 (24026478)			3										
		42 (25745089)			2										
		43 (26052677)			2										

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.