American College of Radiology ACR Appropriateness Criteria®

Preprocedural Chest or Cardiac Imaging for Cardiothoracic Surgery

Variant 1: Adult. Preprocedural chest or cardiac imaging for coronary cardiac surgery. No history of cardiothoracic surgery. Preprocedure planning.

	Appropriateness	GOT		D 1 DD1	- ·	3.5.11			F	inal '	Tabu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Arteriography coronary	Usually appropriate	Expert Consensus	��� 1-10 mSv		9	9	0	0	1	0	0	0	4	3	11
US echocardiography transthoracic resting	Usually appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	7	7	1	0	0	0	3	1	4	5	5
US echocardiography transesophageal	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	4	0	9	5	2
		References		Study	Quality										
		28 (8167285)			3										
		29 (20418689)			4		_								
Radiography chest	Usually appropriate	Limited	� <0.1 mSv		7	7	0	0	0	0	8	1	6	1	4
		References		Study	Quality										
		20 (20478948)			4										
		27 (29477256)			4			_		_					
CTA coronary arteries with IV contrast	May be appropriate	Limited	��� 1-10 mSv	���� 3- 10 mSv [ped]	6	6	0	0	1	1	4	5	6	2	0
		References		Study	Quality										_
		26 (35994043)		4											
		25 (30312411)			3										

		23 (30586767)			4										
CT chest without IV contrast	May be appropriate	Limited	��� 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	6	6	0	1	0	0	9	5	4	0	1
		References		Study	Quality										
		22 (37064355)			4										
		21 (20360209)			3										
		19 (26971418)			4										
		20 (20478948)			4										
CTA chest with IV contrast	May be appropriate	Limited	≎≎≎ 1-10 mSv	���� 3- 10 mSv [ped]	5	5	0	0	1	1	12	1	4	0	1
		References		Study	Quality										
		22 (37064355)			4										
		21 (20360209)			3										
		19 (26971418)			4										
		20 (20478948)			4										
CT chest with IV contrast	May be appropriate	Limited	��� 1-10 mSv	���� 3- 10 mSv [ped]	5	5	0	0	2	1	13	2	2	0	0
		References		Study	Quality										
		22 (37064355)			4										
		21 (20360209)			3										
		19 (26971418)			4										
		20 (20478948)			4										
MRA coronary arteries without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	2	0	0	5	11	1	1	0	0
		References		Study	Quality										
		23 (30586767)			4										
		8 (38040460)		_	4										
MRA coronary arteries without and with IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	2	0	0	4	10	2	2	0	0
		References		Study	Quality										

		23 (30586767)			4										
		8 (38040460)			4		-								
MRI heart function and morphology without IV contrast	May approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	0	2	1	13	4	0	0	0
MRI heart function and morphology without and with IV contrast	May approp	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	3	12	2	2	1	0
		References		Study	/ Quality										
		18 (32833510)			4										
CTA chest without and with IV contrast	May approp	Expert Consensus	��� 1-10 mSv)	5	5	0	1	0	3	11	3	2	0	0
CT heart function and morphology with IV contrast	Usuall approp	Expert Consensus	≎≎≎≎ 10-3 mSv	30	2	2	4	3	5	4	1	1	1	0	0
MRI chest with IV contrast	Usuall approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	7	3	3	2	3	1	0	0	0
CT chest without and with IV contrast	Usuall approp	Expert Consensus	≎≎≎ 1-10 mSv	���� 3- 10 mSv [ped]	1	1	12	4	2	1	1	0	0	0	0
MRA chest without IV contrast	Usuall approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	6	2	5	2	4	0	0	0	0
MRA chest without and with IV contrast	Usuall approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	7	1	5	1	3	2	0	0	0
MRI chest without IV contrast	Usuall approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	8	3	4	3	1	0	0	0	0
MRI chest without and with IV contrast	Usuall approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	8	3	4	0	3	1	0	0	0
MRA chest with IV contrast	Usuall approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	7	1	5	1	3	2	0	0	0

Variant 2: Adult. Preprocedural chest or cardiac imaging for coronary cardiac surgery. History of cardiothoracic surgery. Preprocedure planning.

D 1	Appropriateness	COF	4 1 1/ DDF	D 1 DD1	D 41	3.5.11			F	inal	Tabu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Arteriography coronary	Usually appropriate	Expert Consensus	��� 1-10 mSv		9	9	0	0	1	0	1	0	1	5	11
US echocardiography transthoracic resting	Usually appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	8	8	0	0	1	0	1	1	3	7	6
CTA chest with IV contrast	Usually appropriate	Limited	��� 1-10 mSv	���� 3- 10 mSv [ped]	7	7	0	0	0	0	4	2	7	6	0
		References		Study	Quality		•	•		•	•	•	•	•	-
		37 (22456649)													
		36 (20152230)	3												
		32 (25009210)			3										
		33 (18355503)	3												
		34 (19339275)			4										
		35 (21388987)			3										
		19 (26971418)			4										
		2 (31199672)			4										
		30 (19891233)			3										
		31 (23065095)			4										
CT chest with IV contrast	Usually appropriate	Limited	��� 1-10 mSv	���� 3- 10 mSv [ped]	7	7	0	0	2	0	6	2	8	1	1
		References		Study	Quality										
		37 (22456649)			3										
		36 (20152230)			3										
		32 (25009210)			3										
		33 (18355503)			3										
		34 (19339275)			4										
		35 (21388987)			3										
		19 (26971418)		4											

		2 (31199672)			4										
		30 (19891233)			3										
		31 (23065095)			4										
CT chest without IV contrast	Usually appropriate	Limited	��� 1-10 mSv	���� 3- 10 mSv [ped]	7	7	0	0	0	1	5	1	10	2	1
·		References		Study	Quality		-								
		38 (25991392)			4										
		37 (22456649)			3										
		33 (18355503)			3										
		34 (19339275)			4										
		36 (20152230)			3										
		35 (21388987)			3										
		19 (26971418)			4										
		32 (25009210)			3										
		2 (31199672)			4										
		30 (19891233)			3										
		31 (23065095)			4										
US echocardiography transesophageal	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	1	0	0	1	13	4	1
		References		Study	Quality										
		29 (20418689)		_	4										
Radiography chest	Usually appropriate	Limited	⊕ <0.1 mSv		7	7	0	0	0	0	5	1	9	1	4
		References		Study	Quality										
		20 (20478948)			4										
		27 (29477256)			4										
CTA chest without and with IV contrast	Usually appropriate	Limited	ଫେଫ 1-10 mSv		7	7	0	1	0	0	5	3	8	2	1
	1	<u></u>		·	·								_		-
		References		Study	Quality										

	г																
			36 (20152230)				3										
			32 (25009210)				3										
			33 (18355503)				3										
			34 (19339275)				4										
			35 (21388987)				3										
			19 (26971418)				4										
			2 (31199672)				4										
			30 (19891233)				3										
			31 (23065095)				4										
CTA coronary arteries with IV contrast	May approp		Limited	��� 1-10 mSv	0	���� 3- 10 mSv [ped]	6	6	0	0	0	1	5	4	5	4	0
			References			Study	Quality										
			40 (37772419)				3										
			26 (35994043)				4										
			25 (30312411)				3										
			8 (38040460)				4										
			23 (30586767)				4										
MRI heart function and morphology without and with IV contrast	May approp	be riate	Expert Opinion	O 0 mSv	′	O 0 mSv [ped]	6	6	0	0	1	1	5	7	3	2	0
			References			Study	Quality										
			18 (32833510)				4										
			41 (19327524)				2				_						
CT heart function and morphology with IV contrast	May approp		Limited	��� 10- mSv	30	���� 3- 10 mSv [ped]	5	5	0	0	0	2	13	4	1	0	0
			References			Study	Quality										
			39 (26897674)			_	4										
MRA chest without IV contrast	May approp		Expert Consensus	O 0 mSv	,	O 0 mSv [ped]	5	5	0	1	2	1	12	4	0	0	0
MRA chest without and with IV contrast	May approp		Expert Consensus	O 0 mSv	′	O 0 mSv [ped]	5	5	0	1	2	2	10	5	0	0	0

MRA coronary arteries without IV contrast	May approp	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	2	12	2	4	0	0
		References		Study	Quality										
		8 (38040460)			4										
		23 (30586767)			4										
MRA coronary arteries without and with IV contrast	May approp	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	2	11	3	4	0	0
		References		Study	Quality										
		8 (38040460)			4										
		23 (30586767)			4										
MRI chest without IV contrast	May approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	1	1	4	11	3	0	0	0
MRI chest without and with IV contrast	May approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	1	1	3	12	3	0	0	0
MRI heart function and morphology without IV contrast	May approp	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	1	0	3	11	5	0	0	0
		References		Study	Quality										
		41 (19327524)			2										
MRA chest with IV contrast	May approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	1	1	3	10	5	0	0	0
MRI chest with IV contrast	May approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	1	1	3	12	3	0	0	0
CT chest without and with IV contrast	Usuall approp	Expert Consensus	��� 1-10 mSv	���� 3- 10 mSv [ped]	2	2	10	4	3	1	0	1	0	0	1

Variant 3: Adult. Preprocedural chest or cardiac imaging prior to noncoronary cardiac surgery. No history of cardiothoracic surgery. Preprocedure planning.

Day on James	Appropriateness	COF	A J14- DDI	D. J. DDI	D - 43	M - 3!	Final Tabulations
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1 2 3 4 5 6 7 8 9

	Appropriateness	207							F	inal	Tabu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
US echocardiography transthoracic resting	Usually appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	8	8	0	0	1	0	3	0	3	7	5
Arteriography coronary	Usually appropriate	Expert Consensus	��� 1-10 mSv		7	7	0	0	1	0	6	3	6	3	1
US echocardiography transesophageal	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	1	0	5	0	6	4	3
		References		Study	Quality										
		28 (8167285)			3										
		29 (20418689)			4										
Radiography chest	Usually appropriate	Limited	≎ <0.1 mSv		7	7	0	0	0	0	4	4	6	2	4
		References		Study	Quality			•		•	•		•	•	
		20 (20478948)			4										
		27 (29477256)			4										
CTA chest with IV contrast	May be appropriate	Limited	��� 1-10 mSv	���� 3- 10 mSv [ped]	6	6	0	0	0	1	6	7	3	2	0
		References		Study	Quality		_								
		21 (20360209)		•	3										
		20 (20478948)			4										
		19 (26971418)			4										
CTA coronary arteries with IV contrast	May be appropriate	Expert Consensus	��� 1-10 mSv	���� 3- 10 mSv [ped]	6	6	1	0	0	1	4	5	3	3	2
CT chest with IV contrast	May be appropriate	Limited	��⊕ 1-10 mSv	���� 3- 10 mSv [ped]	6	6	0	0	0	2	8	6	2	2	0
		References		Study	Quality										
		22 (37064355)			4										
		21 (20360209)			3										

		10 (26071410)			4										
		19 (26971418)			4										
		20 (20478948)		00000	4 				1						
CT chest without IV contrast	May be appropriate	Limited	≎≎≎ 1-10 mSv	���� 3- 10 mSv [ped]	6	6	0	0	0	1	7	7	3	2	0
		References		Study	Quality										
		21 (20360209)			3										
		20 (20478948)			4										
		19 (26971418)			4										
MRI heart function and morphology without and with IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	6	6	1	0	0	3	5	6	4	1	0
MRA chest without IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	1	0	2	16	1	0	0	0
MRA chest without and with IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	1	0	3	15	1	0	0	0
MRI heart function and morphology without IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	2	12	5	1	0	0
MRA chest with IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	1	0	3	15	1	0	0	0
CTA chest without and with IV contrast	May be appropriate	Expert Consensus	≎≎≎ 1-10 mSv		5	5	0	1	1	1	11	6	0	0	0
MRA coronary arteries without IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	4	4	4	2	4	5	4	0	1	0	0
MRA coronary arteries without and with IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	4	4	4	3	3	5	4	0	1	0	0
CT heart function and morphology with IV contrast	Usually not appropriate	Expert Consensus	❤❤❤ 10-30 mSv	���� 3- 10 mSv [ped]	3	3	5	2	4	0	7	1	1	0	0
CT chest without and with IV contrast	Usually not appropriate	Expert Consensus	��� 1-10 mSv	���� 3- 10 mSv [ped]	2	2	9	4	4	1	1	0	0	1	0

MRI chest without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	7	4	2	2	2	2	0	0	0
MRI chest without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	7	3	3	0	4	0	2	0	0
MRI chest with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	6	8	5	0	0	1	0	0	0

Variant 4: Adult. Preprocedural chest or cardiac imaging for noncoronary cardiac surgery. History of cardiothoracic surgery. Preprocedure planning.

D 1	Appropri	iateness	COF	A L L DD	, D 1 DD1	D 41	3.6.11			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
US echocardiography transthoracic resting	Usua approp		Expert Consensus	O 0 mSv	O 0 mSv [ped]	8	8	0	0	1	0	2	1	2	8	5
US echocardiography transesophageal	Usua approp		Limited	O 0 mSv	O 0 mSv [ped]	8	8	0	0	1	0	4	2	2	7	3
			References		Stuc	ly Quality										
			28 (8167285)			3										
			29 (20418689)			4		_								
CT chest with IV contrast	Usua approp		Limited	��� 1-10 mSv	0	7	7	0	0	0	2	3	2	10	2	1
			References		Stud	ly Quality										
			37 (22456649)			3										
			36 (20152230)			3										
			32 (25009210)			3										
			33 (18355503)			3										
			34 (19339275)			4										
			35 (21388987)			3										
			19 (26971418)			4										
			2 (31199672)			4										
			30 (19891233)			3										

		31 (23065095) 4													
CT chest without IV contrast	Usually appropriate	Limited	≎≎≎ 1-10 mSv	10	9 3- mSv 7 ed]	7	0	0	1	0	3	4	9	2	1
		References			Study Quality	7									
		38 (25991392)			4										
		37 (22456649)			3										
		33 (18355503)			3										
		34 (19339275)			4										
		36 (20152230)			3										
		35 (21388987)			3										
		19 (26971418)			4										
		32 (25009210)			3		_								
		2 (31199672)			4		_								
		30 (19891233)			3		_								
		31 (23065095)		1	4					1	1				
Radiography chest	Usually appropriate	Limited	⊕ <0.1 mS\	v m	:0.03 Sv 7 ed]	7	0	0	0	1	3	3	7	3	3
		References			Study Quality	7									
		20 (20478948)			4										
		27 (29477256)			4										
CTA chest with IV contrast	May be appropriate	Limited	��� 1-10 mSv	10	№ 3- mSv 6 ed]	6	0	0	0	1	2	6	6	3	1
		References			Study Quality	7									
		37 (22456649)			3										
		36 (20152230)			3										
		32 (25009210)			3										
		33 (18355503)			3										
		34 (19339275)			4]								
		35 (21388987)			3		_								
		19 (26971418)			4										

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		2 (31199672)			4										
		30 (19891233)			3										
		31 (23065095)			4										
CTA coronary arteries with IV contrast	May be appropriate	Expert	��� 1-10 mSv	���� 3- 10 mSv [ped]	6	6	0	1	0	0	5	5	3	3	2
CT heart function and morphology with IV contrast	May be appropriate	Limited	���� 10-30 mSv		6	6	0	0	1	0	8	7	4	0	0
		References		Study	Quality										
		39 (26897674)			4										
Arteriography coronary	May be appropriate	Expert Consensus	��� 1-10 mSv		6	6	1	0	1	0	4	4	2	5	2
MRI heart function and morphology without and with IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	2	7	7	3	1	0
		References		Study	Quality		•			•	•				
		41 (19327524)			2										
MRA chest without IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	1	0	4	12	3	0	0	0
MRA chest without and with IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	1	0	4	12	3	0	0	0
MRI heart function and morphology without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	0	1	2	11	2	4	0	0
		References		Study	Quality										
		41 (19327524)			2										
MRA chest with IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	1	0	3	13	3	0	0	0
CTA chest without and with IV contrast	May be appropriate (Disagreemen		��� 1-10 mSv		5	5	0	2	0	1	6	2	8	0	1
		References		Study	Quality										
		37 (22456649)		3											

36 (20152230)	3
32 (25009210)	3
33 (18355503)	3
34 (19339275)	4
35 (21388987)	3
19 (26971418)	4
2 (31199672)	4
30 (19891233)	3
31 (23065095)	4

		0 - (-0 0 00 0 / 0 /													
MRI chest without IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	4	4	4	3	3	2	7	1	0	0	0
MRI chest without and with IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	4	4	4	3	3	1	8	1	0	0	0
MRI chest with IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	4	4	3	3	4	2	7	1	0	0	0
MRA coronary arteries without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	3	3	6	1	6	1	3	1	1	0	0
CT chest without and with IV contrast	Usually not appropriate	Expert Consensus	��� 1-10 mSv	���� 3- 10 mSv [ped]	2	2	8	4	1	2	3	0	2	0	0
MRA coronary arteries without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	6	3	5	1	3	1	0	0	0

Variant 5: Adult. Preprocedural chest or cardiac imaging for thoracic surgery. No history of cardiothoracic surgery. Preprocedure planning.

D 1	Appropriateness	COE	A L I/ DDI	D I DDI	D 4	37.11			F	inal '	Гаbu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CT chest with IV contrast	Usually appropriate	Expert Consensus	≎≎≎ 1-10 mSv	���� 3- 10 mSv [ped]	7	7	0	0	0	1	1	2	6	7	2

CT chest without IV contrast	Usua approp	Expert Consensus	��� 1-10 mSv	���� 3- 10 mSv [ped]	7	7	0	0	0	2	5	2	6	3	1
Radiography chest	Usua approp	Expert Opinion	⊕ <0.1 mS	v <0.03 mSv [ped]	7	7	0	0	2	0	4	0	3	4	6
		References		Stud	y Quality										
		46 (8269561)			M										
CTA chest with IV contrast	May approp	Expert Consensus	��� 1-10 mSv	⊕⊕⊕⊕ 3- 10 mSv [ped]	6	6	0	0	1	1	6	4	3	3	1
MRA chest without IV contrast	May approp	Limited O 0 mSv		O 0 mSv [ped]	5	5	0	2	2	2	13	0	1	0	0
		References		Stud	y Quality		-			•					
		14 (33958117)		4											
MRA chest without and with IV contrast	May approp	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	1	1	3	12	1	2	0	0
		References		Stud	y Quality										
		14 (33958117)			4										
MRI chest without IV contrast	May approp	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	1	2	2	13	1	1	0	0
		References		Stud	y Quality										
		14 (33958117)			4										
MRI chest without and with IV contrast	May approp	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	0	2	2	12	2	2	0	0
		References		Stud	y Quality										
		14 (33958117)		4											
MRI heart function and morphology without IV contrast	May approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	5	12	3	0	0	0
MRI heart function and morphology without and with IV contrast	May approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	3	14	3	0	0	0

US echocardiography transthoracic resting	May approp		Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	2	9	5	2	2	0
US echocardiography transesophageal	May approp		Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	3	13	3	1	0	0
MRA chest with IV contrast	May approp		Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	2	0	1	15	0	2	0	0
			References		Study	Quality										
		14 (33958117)				4										
CTA chest without and with IV contrast	May approp		Expert Consensus	��� 1-10 mSv		5	5	0	1	0	2	9	6	2	0	0
MRI chest with IV contrast	May approp		Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	4	12	4	0	0	0
		Referen			Study	Quality			•	•	•		•		•	
			14 (33958117)			4										
CTA coronary arteries with IV contrast	Usuall approp		Expert Consensus	⊕⊕⊕ 1-10 mSv	���� 3- 10 mSv [ped]	3	3	4	1	8	2	4	0	0	1	0
CT heart function and morphology with IV contrast	Usuall approp		Expert Consensus	���⊕ 10-30 mSv	���� 3- 10 mSv [ped]	3	3	7	2	3	3	3	1	0	0	0
Arteriography coronary	Usuall approp		Expert Consensus	��� 1-10 mSv		3	3	4	4	7	2	2	1	0	0	0
CT chest without and with IV contrast	Usuall approp		Expert Consensus	≎≎≎ 1-10 mSv	���� 3- 10 mSv [ped]	2	2	8	4	5	2	0	0	1	0	0
MRA coronary arteries without IV contrast	Usuall approp		Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	9	3	2	1	4	0	0	0	0
MRA coronary arteries without and with IV contrast	Usuall approp		Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	9	1	4	1	3	0	1	0	0

Variant 6: Adult. Preprocedural chest or cardiac imaging for thoracic surgery. History of cardiothoracic surgery. Preprocedure planning.

D 1	Appropr	iateness	COE	414 DD	ts RRL Peds RRL Rating			N. 11			F	inal '	Tabu	latio	ns		
Procedure	Cate		SOE	Adults RR	(L	Peas RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CT chest with IV contrast	Usu: approj		Expert Consensus	��� 1-10 mSv	0	���� 3- 10 mSv [ped]	7	7	0	0	0	1	1	3	5	6	3
CT chest without IV contrast	Usu: approj		Expert Consensus mSv		0	���� 3- 10 mSv [ped]	7	7	0	0	1	1	2	3	11	2	0
Radiography chest	Usu: approj		Limited		Sv		7	7	0	0	0	1	1	2	7	5	4
			References			Study	Quality										
			46 (8269561)				M										
CTA chest with IV contrast	May approj		Expert Consensus	��� 1-10 mSv	0	���� 3- 10 mSv [ped]	6	6	0	0	0	2	4	4	6	2	1
US echocardiography transthoracic resting	May approj		Expert Consensus	O 0 mSv	′	O 0 mSv [ped]	6	6	0	0	0	3	6	6	3	1	1
CT heart function and morphology with IV contrast	May approj		Limited	��� 10- mSv	30	���� 3- 10 mSv [ped]	5	5	0	0	3	3	11	2	1	0	0
			References			Study	Quality										
			39 (26897674)				4										
MRA chest without IV contrast	May approj		Limited	O 0 mSv	′	O 0 mSv [ped]	5	5	0	0	0	3	14	3	0	0	0
			References			Study	Quality										
			14 (33958117)				4							1	1		
MRA chest without and with IV contrast	May approp		Limited	O 0 mSv	′	O 0 mSv [ped]	5	5	0	0	0	3	14	3	0	0	0
		References			Study	Quality											
			14 (33958117)				4										

MRI chest without IV contrast	May be appropria	e ate	Limited	O 0 mSv		O 0 mSv [ped]	5	5	0	1	1	4	12	1	1	0	0
			References			Study	Quality										
			14 (33958117)				4										
MRI chest without and with IV contrast	May be appropria		Limited	O 0 mSv		O 0 mSv [ped]	5	5	0	0	1	4	10	3	2	0	0
		•	References			Study	Quality		•			•					
			14 (33958117)				4										
MRI heart function and morphology without IV contrast	May be appropria		Limited	O 0 mSv		O 0 mSv [ped]	5	5	1	1	0	7	8	3	0	0	0
			References			Study	Quality		·			•					
			41 (19327524)				2										
MRI heart function and morphology without and with IV contrast	May be appropria		Limited	O 0 mSv		O 0 mSv [ped]	5	5	1	0	1	2	10	5	1	0	0
		,	References			Study	Quality	,		,							
			41 (19327524)				2										
US chest	May be appropria		Strong	O 0 mSv		O 0 mSv [ped]	5	5	0	0	0	3	12	2	2	1	0
			References			Study	Quality		·			•					
			49 (21442577)			-	2										
			48 (22518039)				2										
			47 (31366513)				4										
US echocardiography transesophageal	May be appropria		Expert Consensus	O 0 mSv		O 0 mSv [ped]	5	5	1	0	0	6	8	3	2	0	0
MRA chest with IV contrast	May be appropria		Limited	O 0 mSv		O 0 mSv [ped]	5	5	0	0	0	3	14	3	0	0	0
			References			Study	Quality										
			14 (33958117)				4										
CTA chest without and with IV contrast	May be appropria		Expert Consensus	��� 1-10 mSv	ס		5	5	0	0	0	2	9	6	3	0	0

MRI chest with IV contrast	May be appropriate		Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	1	1	3	11	2	2	0	0
	•	References			Study	Quality										
			14 (33958117)			4										
CTA coronary arteries with IV contrast	Usuall approp		Expert Consensus	≎≎≎ 1-10 mSv	9	3	3	4	3	7	2	3	1	0	0	0
Arteriography coronary	Usuall approp		Expert Consensus	��� 1-10 mSv)	3	3	5	0	8	3	2	2	0	0	0
CT chest without and with IV contrast	Usuall approp		Expert Consensus	��� 1-10 mSv	9	2	2	8	4	6	1	0	0	1	0	0
MRA coronary arteries without IV contrast	Usuall approp		Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	7	2	5	1	4	0	0	0	0
MRA coronary arteries without and with IV contrast	Usuall approp		Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	7	2	4	1	5	0	0	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.