





40 (22104551)	3
41 (23500216)	4
42 (15808765)	3
43 (16510467)	2
44 (16115798)	2
45 (11263606)	3
46 (11348601)	2
47 (21722451)	4
48 (26910112)	Good
49 (24286578)	4
50 (25572643)	2
51 (25783858)	3
52 (24813438)	2
53 (21155032)	3
54 (21944161)	2

MRI heart with function and vasodilator stress perfusion without and with IV contrast	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	3	3	3	4	4	3	0	0	0	0	1
---	-------------------------	---------	---------	---------------	---	---	---	---	---	---	---	---	---	---	---

References	Study Quality
41 (23500216)	4
58 (19755468)	2

MRI heart with function and inotropic stress without and with IV contrast	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	3	3	3	3	6	2	1	0	0	0	0
---	-------------------------	---------	---------	---------------	---	---	---	---	---	---	---	---	---	---	---

References	Study Quality
41 (23500216)	4
58 (19755468)	2

FDG-PET/CT heart	Usually not appropriate	Limited	⊛⊛⊛⊛ 10-30 mSv		3	3	4	2	6	0	2	2	0	0	0
------------------	-------------------------	---------	----------------	--	---	---	---	---	---	---	---	---	---	---	---

References	Study Quality
23 (19672592)	4
24 (24781009)	4



66 (26805452)	2
67 (21778591)	3
68 (24863953)	4
69 (26058890)	2
70 (21602549)	3
71 (26559428)	4
72 (24184245)	1
73 (22874137)	2
74 (22383372)	2
75 (21601421)	2
76 (21458230)	2
77 (23747067)	3
78 (21685198)	4
79 (22291430)	2
80 (21788358)	2
81 (26811160)	Inadequate
82 (24150723)	4
83 (26082167)	2
84 (26941415)	2

MRI heart function and morphology without and with IV contrast	Usually appropriate	Limited	0 0 mSv	0 0 mSv [ped]	8	8	0	0	0	0	2	1	5	6	2
--	---------------------	---------	---------	---------------	---	---	---	---	---	---	---	---	---	---	---

References	Study Quality
85 (26005800)	2

MRI heart function and morphology without IV contrast	Usually appropriate	Limited	0 0 mSv	0 0 mSv [ped]	7	7	0	0	1	0	4	3	3	4	1
---	---------------------	---------	---------	---------------	---	---	---	---	---	---	---	---	---	---	---

References	Study Quality
85 (26005800)	2

Tc-99m ventriculography	May be appropriate	Limited	⊕⊕⊕ 1-10 mSv		5	5	0	1	0	5	6	3	0	0	0
-------------------------	--------------------	---------	--------------	--	---	---	---	---	---	---	---	---	---	---	---

References	Study Quality
41 (23500216)	4

CTA coronary arteries with IV contrast	May be appropriate	Expert Consensus	⊕⊕⊕ 1-10 mSv		4	4	1	0	2	5	5	2	0	0	0
Arteriography coronary	May be appropriate	Limited	⊕⊕⊕ 1-10 mSv		4	4	1	2	2	6	3	1	0	0	0

References	Study Quality
86 (23112002)	4
87 (23811839)	4
88 (24975907)	4

US echocardiography transthoracic stress	Usually not appropriate	Moderate	○ 0 mSv	○ 0 mSv [ped]	3	3	3	2	3	4	2	1	0	0	0
--	-------------------------	----------	---------	---------------	---	---	---	---	---	---	---	---	---	---	---

References	Study Quality
51 (25783858)	3
61 (25119893)	3
62 (27118225)	4
63 (25355298)	4
64 (25187609)	2
65 (23769272)	2
66 (26805452)	2
67 (21778591)	3
68 (24863953)	4
69 (26058890)	2
70 (21602549)	3
71 (26559428)	4
72 (24184245)	1
73 (22874137)	2
74 (22383372)	2
75 (21601421)	2
76 (21458230)	2
77 (23747067)	3
78 (21685198)	4
79 (22291430)	2

			80 (21788358)		2														
			81 (26811160)		Inadequate														
			82 (24150723)		4														
			83 (26082167)		2														
			84 (26941415)		2														
MRI heart with function and vasodilator stress perfusion without and with IV contrast	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	3	3	3	2	5	2	3	0	0	0	0	0	0	0	
		References	Study Quality																
			85 (26005800)		2														
MRI heart with function and inotropic stress without IV contrast	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	3	3	4	1	6	4	0	0	0	0	0	0	0	0	
		References	Study Quality																
			85 (26005800)		2														
MRI heart with function and inotropic stress without and with IV contrast	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	3	3	4	1	6	4	0	0	0	0	0	0	0	0	
		References	Study Quality																
			85 (26005800)		2														
FDG-PET/CT heart	Usually not appropriate	Expert Consensus	⊕⊕⊕⊕ 10-30 mSv		3	3	5	3	4	2	2	0	0	0	0	0	0	0	
Tc-99m SPECT/CT MPI rest and stress	Usually not appropriate	Expert Consensus	⊕⊕⊕⊕ 10-30 mSv		3	3	5	1	5	3	1	0	0	0	0	0	0	0	
Radiography chest	Usually not appropriate	Expert Consensus	⊕ <0.1 mSv	⊕ <0.03 mSv [ped]	2	2	8	1	2	0	4	0	1	0	0	0	0	0	
Rb-82 PET/CT heart stress	Usually not appropriate	Expert Consensus	⊕⊕⊕⊕ 10-30 mSv		2	2	5	4	1	2	2	1	1	0	0	0	0	0	

**Variant 3: Confirmed new-onset heart failure with reduced ejection fraction of uncertain etiology: ischemic versus nonischemic.**







			41 (23500216)		4													
			96 (18794272)		3													
			97 (19223407)		3													
MRI heart function and morphology without IV contrast	May be appropriate	Moderate	0 0 mSv	0 0 mSv [ped]	4	4	3	1	3	6	2	0	0	0	0			
			References		Study Quality													
			98 (26251006)		2													
			99 (21900085)		2													
			100 (21789747)		1													
Tc-99m ventriculography	Usually not appropriate	Limited	☼☼☼ 1-10 mSv		3	3	3	5	6	1	1	0	0	0	0			
			References		Study Quality													
			41 (23500216)		4													
US echocardiography transthoracic resting	Usually not appropriate	Moderate	0 0 mSv	0 0 mSv [ped]	3	3	2	1	9	1	2	0	0	0	0			
			References		Study Quality													
			90 (16098295)		2													
			91 (19609896)		2													
			92 (17336751)		2													
Radiography chest	Usually not appropriate	Expert Consensus	☼ <0.1 mSv	☼ <0.03 mSv [ped]	2	2	7	3	3	1	1	0	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](http://www.acr.org/ac).