American College of Radiology
ACR Appropriateness Criteria®

Thoracic Aorta Interventional Planning and Follow-up

Variant 1: Planning for pre–thoracic endovascular repair (TEVAR) of thoracic aorta disease.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CTA chest abdomen pelvis with IV contrast	Usually appropriate		☢☢☢☢☢ 30-100 mSv		9	n/a	0	0	0	0	0	0	0	0	0
CTA chest with IV contrast	Usually appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	7	n/a	0	0	0	0	0	0	0	0	0
MRA chest abdomen pelvis with IV contrast	Usually appropriate		O 0 mSv	O 0 mSv [ped]	7	n/a	0	0	0	0	0	0	0	0	0
MRA chest with IV contrast	Usually appropriate		O 0 mSv	O 0 mSv [ped]	7	n/a	0	0	0	0	0	0	0	0	0
MRA chest without IV contrast	May be appropriate		O 0 mSv	O 0 mSv [ped]	6	n/a	0	0	0	0	0	0	0	0	0
MRA chest abdomen pelvis without IV contrast	May be appropriate		O 0 mSv	O 0 mSv [ped]	6	n/a	0	0	0	0	0	0	0	0	0
US echocardiography transesophageal	May be appropriate		O 0 mSv	O 0 mSv [ped]	5	n/a	0	0	0	0	0	0	0	0	0
Aortography chest abdomen pelvis	May be appropriate		☢☢☢☢ 10-30 mSv		5	n/a	0	0	0	0	0	0	0	0	0
US duplex Doppler iliofemoral arteries	May be appropriate		O 0 mSv	O 0 mSv [ped]	5	n/a	0	0	0	0	0	0	0	0	0

CT chest abdomen pelvis without IV contrast	May be appropriate		☢☢☢☢ 10-30 mSv		4	n/a	0	0	0	0	0	0	0	0	0
CT chest without IV contrast	May be appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	4	n/a	0	0	0	0	0	0	0	0	0
US echocardiography transthoracic resting	May be appropriate		O 0 mSv	O 0 mSv [ped]	4	n/a	0	0	0	0	0	0	0	0	0
US intravascular aorta	May be appropriate		O 0 mSv	O 0 mSv [ped]	4	n/a	0	0	0	0	0	0	0	0	0
CT chest abdomen pelvis without and with IV contrast	Usually not appropriate		☢☢☢☢ 10-30 mSv		3	n/a	0	0	0	0	0	0	0	0	0
CT chest abdomen pelvis with IV contrast	Usually not appropriate		☢☢☢☢ 10-30 mSv		3	n/a	0	0	0	0	0	0	0	0	0
CT chest without and with IV contrast	Usually not appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
CT chest with IV contrast	Usually not appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
FDG-PET/CT skull base to mid-thigh	Usually not appropriate		☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
Radiography chest	Usually not appropriate		☢ <0.1 mSv	☢ <0.03 mSv [ped]	2	n/a	0	0	0	0	0	0	0	0	0

Variant 2: Follow-up for post–thoracic endovascular repair (TEVAR) of thoracic aortic disease.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CTA chest abdomen pelvis with IV contrast	Usually appropriate		☢☢☢☢☢ 30-100 mSv		8	n/a	0	0	0	0	0	0	0	0	0

CTA chest with IV contrast	Usually appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	8	n/a	0	0	0	0	0	0	0	0	0
MRA chest abdomen pelvis with IV contrast	May be appropriate		O 0 mSv	O 0 mSv [ped]	6	n/a	0	0	0	0	0	0	0	0	0
MRA chest with IV contrast	May be appropriate		O 0 mSv	O 0 mSv [ped]	6	n/a	0	0	0	0	0	0	0	0	0
MRA chest without IV contrast	May be appropriate		O 0 mSv	O 0 mSv [ped]	5	n/a	0	0	0	0	0	0	0	0	0
MRA chest abdomen pelvis without IV contrast	May be appropriate		O 0 mSv	O 0 mSv [ped]	5	n/a	0	0	0	0	0	0	0	0	0
Aortography chest abdomen pelvis	May be appropriate		☢☢☢☢ 10-30 mSv		5	n/a	0	0	0	0	0	0	0	0	0
CT chest without IV contrast	May be appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	4	n/a	0	0	0	0	0	0	0	0	0
Radiography chest	May be appropriate		☢ <0.1 mSv	☢ <0.03 mSv [ped]	4	n/a	0	0	0	0	0	0	0	0	0
CT chest abdomen pelvis without IV contrast	May be appropriate		☢☢☢☢ 10-30 mSv		4	n/a	0	0	0	0	0	0	0	0	0
US echocardiography transesophageal	May be appropriate		O 0 mSv	O 0 mSv [ped]	4	n/a	0	0	0	0	0	0	0	0	0
US echocardiography transthoracic resting	May be appropriate		O 0 mSv	O 0 mSv [ped]	4	n/a	0	0	0	0	0	0	0	0	0
CT chest without and with IV contrast	Usually not appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
CT chest abdomen pelvis with IV contrast	Usually not appropriate		☢☢☢☢ 10-30 mSv		3	n/a	0	0	0	0	0	0	0	0	0
CT chest abdomen pelvis without and with IV contrast	Usually not appropriate		☢☢☢☢ 10-30 mSv		3	n/a	0	0	0	0	0	0	0	0	0

CT chest with IV contrast	Usually not appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
US duplex Doppler aorta abdomen	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	2	n/a	0	0	0	0	0	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.**