

**American College of Radiology
ACR Appropriateness Criteria®**

Abdominal Aortic Aneurysm or Dissection-Interventional Planning and Follow-up

Variant 1: Adult. Known abdominal aortic aneurysm or dissection without repair. Without or with new symptoms. Follow-up imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CTA abdomen and pelvis with IV contrast	Usually appropriate	Strong	⊕⊕⊕⊕ 10-30 mSv	⊕⊕⊕⊕⊕ 10-30 mSv [ped]	8	8	0	0	0	0	0	0	3	6	8
		References		Study Quality											
		43 (27250693)		4											
MRA abdomen and pelvis without and with IV contrast	Usually appropriate	Limited	0 0 mSv	0 0 mSv [ped]	8	8	0	0	1	0	2	2	2	8	2
		References		Study Quality											
		46 (35638926)		4											
CTA abdomen and pelvis without and with IV contrast	Usually appropriate	Limited	⊕⊕⊕⊕ 10-30 mSv	⊕⊕⊕⊕⊕ 10-30 mSv [ped]	8	8	0	0	1	1	0	1	4	5	5
		References		Study Quality											
		43 (27250693)		4											
CT abdomen and pelvis without and with IV contrast	Usually appropriate	Strong	⊕⊕⊕⊕ 10-30 mSv	⊕⊕⊕⊕⊕ 10-30 mSv [ped]	7	7	0	1	0	0	1	5	8	2	0
		References		Study Quality											
		56 (28648650)		3											

US duplex Doppler aorta abdomen	Usually appropriate	Strong	0 0 mSv	0 0 mSv [ped]	7	7	0	0	1	1	6	0	5	3	1
		References		Study Quality											
		57 (28416190)		4											
		54 (26206524)		4											
CT abdomen and pelvis with IV contrast	May be appropriate	Strong	☹☹☹ 1-10 mSv	☹☹☹☹ 3-10 mSv [ped]	6	6	0	0	0	1	6	3	4	3	0
		References		Study Quality											
		56 (28648650)		3											
CT abdomen and pelvis without IV contrast and US aorta abdomen with duplex Doppler	May be appropriate	Expert Consensus	☹☹☹☹ 10-30 mSv	☹☹☹☹ 3-10 mSv [ped]	6	6	0	0	0	2	6	8	1	0	0
CT abdomen and pelvis without IV contrast	May be appropriate	Strong	☹☹☹ 1-10 mSv	☹☹☹☹ 3-10 mSv [ped]	5	5	0	0	0	3	9	4	1	0	0
MRA abdomen and pelvis without IV contrast	May be appropriate	Limited	0 0 mSv	0 0 mSv [ped]	5	5	0	0	0	4	5	7	1	0	0
		References		Study Quality											
		46 (35638926)		4											
US abdomen and pelvis with IV contrast	May be appropriate	Limited	0 0 mSv	0 0 mSv [ped]	5	5	0	1	1	5	10	0	0	0	0
US aorta abdomen with IV contrast	May be appropriate	Limited	0 0 mSv	0 0 mSv [ped]	5	5	1	2	1	2	10	1	0	0	0
Aortography abdomen and pelvis	Usually not appropriate	Expert Consensus	☹☹☹☹ 10-30 mSv		3	3	5	3	6	2	1	0	0	0	0
US abdomen and pelvis	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	3	3	1	5	6	4	0	1	0	0	0
		References		Study Quality											
		57 (28416190)		4											
Aortography abdomen	Usually not appropriate	Expert Consensus	☹☹☹ 1-10 mSv		2	2	6	3	7	0	1	0	0	0	0

Radiography abdomen and pelvis	Usually not appropriate	Expert Consensus	☹☹☹ 1-10 mSv	☹☹☹ 0.3-3 mSv [ped]	2	2	7	4	6	0	0	0	0	0	0
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Variant 2: Adult. Endovascular aneurysm repair (EVAR) or open repair of abdominal aortic aneurysm or dissection. Preprocedure planning.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CTA abdomen and pelvis with IV contrast	Usually appropriate	Limited	☹☹☹☹ 10-30 mSv	☹☹☹☹☹ 10-30 mSv [ped]	8	8	0	0	0	0	0	0	2	7	8
		References		Study Quality											
		43 (27250693)		4											
CTA abdomen and pelvis without and with IV contrast	Usually appropriate	Limited	☹☹☹☹ 10-30 mSv	☹☹☹☹☹ 10-30 mSv [ped]	8	8	0	0	1	0	2	1	2	5	6
		References		Study Quality											
		43 (27250693)		4											
MRA abdomen and pelvis without and with IV contrast	Usually appropriate	Limited	0 0 mSv	0 0 mSv [ped]	7	7	0	0	1	0	1	2	7	5	1
		References		Study Quality											
		46 (35638926)		4											
CT abdomen and pelvis without and with IV contrast	May be appropriate	Strong	☹☹☹☹ 10-30 mSv	☹☹☹☹☹ 10-30 mSv [ped]	6	6	0	0	0	0	5	6	4	1	1
CT abdomen and pelvis with IV contrast	May be appropriate	Strong	☹☹☹ 1-10 mSv	☹☹☹☹ 3-10 mSv [ped]	5	5	0	0	0	5	4	2	5	1	0
MRA abdomen and pelvis without IV contrast	May be appropriate	Limited	0 0 mSv	0 0 mSv [ped]	5	5	0	0	0	4	10	3	0	0	0
		References		Study Quality											

		46 (35638926)			4										
CT abdomen and pelvis without IV contrast and US aorta abdomen with duplex Doppler	May be appropriate	Limited	⊕⊕⊕⊕ 10-30 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	5	5	0	2	6	0	2	6	1	0	0
CT abdomen and pelvis without IV contrast	Usually not appropriate	Expert Consensus	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	3	3	1	3	8	2	2	1	0	0	0
Aortography abdomen and pelvis	Usually not appropriate	Expert Consensus	⊕⊕⊕⊕ 10-30 mSv		3	3	4	4	4	2	2	1	0	0	0
US abdomen and pelvis	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	3	3	4	3	6	1	2	1	0	0	0
US duplex Doppler aorta abdomen	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	3	3	2	4	5	1	4	0	1	0	0

		References			Study Quality										
		54 (26206524)			4										
US abdomen and pelvis with IV contrast	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	3	3	3	5	4	0	3	1	1	0	0
Aortography abdomen	Usually not appropriate	Expert Consensus	⊕⊕⊕ 1-10 mSv		2	2	3	7	6	1	0	0	0	0	0
Radiography abdomen and pelvis	Usually not appropriate	Limited	⊕⊕⊕ 1-10 mSv	⊕⊕⊕ 0.3-3 mSv [ped]	2	2	8	5	4	0	0	0	0	0	0
US aorta abdomen with IV contrast	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	2	2	2	8	5	1	1	0	0	0	0

Variant 3: Adult. After endovascular aneurysm repair (EVAR) of abdominal aortic aneurysm or dissection. Follow-up imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CTA abdomen and pelvis without and with IV contrast	Usually appropriate	Strong	⊕⊕⊕⊕ 10-30 mSv	⊕⊕⊕⊕⊕ 10-30 mSv	9	9	0	0	0	0	1	0	2	3	11

Radiography abdomen and pelvis	Usually not appropriate	Strong	☹☹☹ 1-10 mSv	☹☹☹ 0.3-3 mSv [ped]	3	3	4	2	4	3	2	1	1	0	0
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Variant 4: Adult. After open repair of abdominal aortic aneurysm or dissection. Follow-up imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CTA abdomen and pelvis without and with IV contrast	Usually appropriate	Limited	☹☹☹☹ 10-30 mSv	☹☹☹☹☹ 10-30 mSv [ped]	9	9	0	0	1	0	0	0	4	3	9
		References		Study Quality											
		43 (27250693)		4											
CTA abdomen and pelvis with IV contrast	Usually appropriate	Limited	☹☹☹☹ 10-30 mSv	☹☹☹☹☹ 10-30 mSv [ped]	8	8	0	0	0	0	0	0	4	7	6
		References		Study Quality											
		43 (27250693)		4											
MRA abdomen and pelvis without and with IV contrast	Usually appropriate	Strong	○ 0 mSv	○ 0 mSv [ped]	7	7	0	0	0	1	1	2	8	3	2
CT abdomen and pelvis with IV contrast	May be appropriate	Strong	☹☹☹ 1-10 mSv	☹☹☹☹ 3-10 mSv [ped]	6	6	0	0	2	0	5	3	6	0	1
CT abdomen and pelvis without and with IV contrast	May be appropriate	Expert Consensus	☹☹☹☹ 10-30 mSv	☹☹☹☹☹ 10-30 mSv [ped]	6	6	0	0	0	1	3	9	1	3	0
CT abdomen and pelvis without IV contrast	May be appropriate	Strong	☹☹☹ 1-10 mSv	☹☹☹☹ 3-10 mSv [ped]	5	5	0	0	1	5	10	1	0	0	0
MRA abdomen and pelvis without IV contrast	May be appropriate	Strong	○ 0 mSv	○ 0 mSv [ped]	5	5	0	0	0	2	12	3	0	0	0

US duplex Doppler aorta abdomen	May be appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	5	5	0	0	1	2	12	2	0	0	0
CT abdomen and pelvis without IV contrast and US aorta abdomen with duplex Doppler	May be appropriate	Strong	☼☼☼☼ 10-30 mSv	☼☼☼☼ 3-10 mSv [ped]	5	5	0	1	1	4	10	1	0	0	0
US abdomen and pelvis with IV contrast	May be appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	5	5	0	0	1	4	10	2	0	0	0
US aorta abdomen with IV contrast	May be appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	5	5	0	0	1	4	10	2	0	0	0
US abdomen and pelvis	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	3	3	0	6	7	2	1	1	0	0	0
Aortography abdomen	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv		2	2	6	5	1	3	1	0	1	0	0
Aortography abdomen and pelvis	Usually not appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv		2	2	6	5	1	3	1	0	1	0	0
Radiography abdomen and pelvis	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv	☼☼☼ 0.3-3 mSv [ped]	2	2	6	5	6	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.