American College of Radiology
ACR Appropriateness Criteria®

Pulsatile Abdominal Mass, Suspected Abdominal Aortic Aneurysm

Variant 1: Pulsatile abdominal mass, suspected abdominal aortic aneurysm. Initial 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		9	9	0	0	1	0	0	0	4	4	9

References	Study Quality
28 (24842834)	4
29 (27610820)	2
25 (25623219)	4
27 (24220116)	4
7 (29268916)	4
13 (29724423)	4
30 (30476460)	1
26 (29460048)	4
10 (30528142)	4

CTA abdomen and pelvis with IV contrast	Usually appropriate	Strong	☢☢☢☢ 10-30 mSv		8	8	0	0	0	0	0	0	4	7	7

References	Study Quality
28 (24842834)	4
29 (27610820)	2
25 (25623219)	4
27 (24220116)	4
7 (29268916)	4

		13 (29724423)	4													
		30 (30476460)	1													
		26 (29460048)	4													
		10 (30528142)	4													
MRA abdomen and pelvis without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	0	3	2	4	6	3
		References	Study Quality													
		28 (24842834)	4													
		25 (25623219)	4													
		8 (25173340)	4													
		27 (24220116)	4													
		13 (29724423)	4													
		10 (30528142)	4													
		34 (21388544)	4													
		35 (26102308)	4													
		36 (31638489)	4													
		37 (32374422)	4													
		39 (32160925)	4													
		38 (32646571)	4													
US aorta abdomen	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	0	1	0	4	6	7
		References	Study Quality													
		58 (27436173)	4													
		57 (25662155)	1													
		3 (16549646)	4													
		51 (21861264)	4													
		49 (24723017)	2													
		55 (19631858)	3													
		42 (24473919)	4													
		7 (29268916)	4													
		13 (29724423)	4													

47 (29277483)	3
9 (30337540)	4
43 (31821437)	4
41 (23406071)	4
10 (30528142)	4
12 (31054747)	4
14 (22336051)	4
15 (7776474)	2
44 (-3195123)	4
45 (14709438)	4
46 (33646456)	3
48 (24491283)	1
50 (21439859)	3
52 (20519070)	3
54 (21852165)	2
56 (12947257)	3
53 (21193715)	4
16 (34224827)	4

MRA abdomen and pelvis with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	0	2	1	6	6	3

References	Study Quality
28 (24842834)	4
25 (25623219)	4
8 (25173340)	4
27 (24220116)	4
13 (29724423)	4
10 (30528142)	4
34 (21388544)	4
35 (26102308)	4
36 (31638489)	4
37 (32374422)	4

		39 (32160925)	4													
		38 (32646571)	4													
MRA abdomen and pelvis without IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	1	5	1	8	1	2
		References	Study Quality													
		28 (24842834)	4													
		25 (25623219)	4													
		8 (25173340)	4													
		27 (24220116)	4													
		13 (29724423)	4													
		10 (30528142)	4													
		34 (21388544)	4													
		35 (26102308)	4													
		36 (31638489)	4													
		37 (32374422)	4													
		39 (32160925)	4													
		38 (32646571)	4													
CT abdomen and pelvis with IV contrast	May be appropriate	Moderate	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	6	6	0	0	0	2	6	11	1	0	0
		References	Study Quality													
		23 (26072194)	4													
		22 (23508616)	4													
		5 (20541348)	3													
		4 (28216357)	4													
		21 (27235992)	3													
		7 (29268916)	4													
		24 (28193267)	2													
CT abdomen and pelvis without and with IV contrast	May be appropriate	Moderate	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	6	6	0	0	0	2	7	10	1	0	0
		References	Study Quality													

23 (26072194)	4
22 (23508616)	4
5 (20541348)	3
4 (28216357)	4
21 (27235992)	3
7 (29268916)	4
24 (28193267)	2

CT abdomen and pelvis without IV contrast	May be appropriate	Moderate	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	5	5	0	0	0	5	11	4	0	0	0

References	Study Quality
23 (26072194)	4
22 (23508616)	4
5 (20541348)	3
4 (28216357)	4
21 (27235992)	3
7 (29268916)	4
24 (28193267)	2

MRI abdomen and pelvis without IV contrast	May be appropriate	Moderate	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	1	16	3	0	0	0

References	Study Quality
5 (20541348)	3
25 (25623219)	4
8 (25173340)	4
40 (27553926)	1
10 (30528142)	4

MRI abdomen and pelvis without and with IV contrast	May be appropriate	Moderate	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	1	12	7	0	0	0

References	Study Quality
5 (20541348)	3
25 (25623219)	4
8 (25173340)	4

		40 (27553926)	1												
		10 (30528142)	4												
MRI abdomen and pelvis with IV contrast	May be appropriate	Moderate	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	0	13	7	0	0	0
		References	Study Quality												
		5 (20541348)	3												
		25 (25623219)	4												
		8 (25173340)	4												
		40 (27553926)	1												
		10 (30528142)	4												
Aortography abdomen	Usually not appropriate	Limited	☢☢☢ 1-10 mSv		2	2	3	7	5	1	2	0	0	0	0
		References	Study Quality												
		3 (16549646)	4												
		7 (29268916)	4												
FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	7	6	4	0	1	0	0	0	0
		References	Study Quality												
		33 (27283346)	4												
		32 (24200128)	4												
		31 (18729562)	4												
		10 (30528142)	4												
Radiography abdomen and pelvis	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	2	2	8	5	4	0	0	1	0	0	0
		References	Study Quality												
		3 (16549646)	4												
		7 (29268916)	4												
US intravascular aorta abdomen	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	3	8	6	0	1	0	0	0	0
		References	Study Quality												

59 (10194490)	3
60 (12618701)	4

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.**