American College of Radiology ACR Appropriateness Criteria[®]

Thoracoabdominal Aortic Aneurysm or Dissection: Treatment Planning and Follow-Up

Variant 1: Follow-up of known thoracoabdominal aortic aneurysm or dissection without repair. Without or with new symptoms.

| | Appropriateness | 300 | | | | | | | F | Final | Tabu | ilatio | ns | | |
|---|------------------------|---------------|---------------------------------|--------------------------|-----------|--------|---|---|---|-------|------|--------|----|----|----|
| Procedure | Category | SOE | Adults RRI | L Peds RRL | Rating | Median | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| CTA chest abdomen pelvis with IV contrast | Usually appropriate | Limited | ବହତବ ତ 30 100 mSv |)- 10-30 mSv [ped] | 9 | 9 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 18 |
| | | References | | Study | V Quality | | | | | | | | | | |
| | | 35 (24625611) |) | | 4 | | | | | | | | | | |
| | | 36 (28027791) |) | | 4 | | | | | | | | | | |
| | | 34 (19884165) |) | | 3 | | | | | | | | | | |
| | | 31 (24503676) |) | | 4 | | | | | | | | | | |
| | | 33 (25623219) |) | | 4 | | | | | | | | | | |
| MRA chest abdomen pelvis without and with IV contrast | Usually appropriate | Strong | O 0 mSv | O 0 mSv [ped] | 8 | 8 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 12 | 6 |
| | | References | | Study | Quality | | | • | | | | • | • | • | |
| | | 51 (24399340) |) | | 2 | | | | | | | | | | |
| | | 50 (20200628) | | | 2 | | | | | | | | | | |
| | | 49 (20171907) | | | 1 | | | | | | | | | | |
| | | 48 (24740558) |) | | 3 | | | | | | | | | | |
| | | 45 (27553926) | | | 1 | | | | | | | | | | |
| | | 44 (28388971) | | | 2 | | | | | | | | | | |
| | | 43 (31054559) | | | 4 | | | | | | | | | | |
| | | 41 (7824707) | | | 2 | | | | | | | | | | |

| | | 40 (28987425) | | | 4 | | | | | | | | | | |
|--|----------------------|---------------------|-------------------|------------------|---------|---|---|---|---|---|----|----|----|---|---|
| | | 39 (20013276) | | | 3 | | | | | | | | | | |
| | | 38 (22386146) | | | 2 | | | | | | | | | | |
| | | 34 (19884165) | | | 3 | | | | | | | | | | |
| | | 33 (25623219) | | | 4 | | | | | | | | | | |
| | | 37 (17968882) | | | 3 | | | | | | | | | | |
| | | 46 (30664117) | | | 2 | | | | | | | | | | |
| | | 47 (28905233) | | | 2 | | | | | | | | | | |
| MRA chest abdomen pelvis without IV contrast | Usually appropria | Strong | O 0 mSv | O 0 mSv [ped] | 7 | 7 | 0 | 1 | 0 | 0 | 2 | 0 | 13 | 5 | 1 |
| | | References | | Study | Quality | | | | | | | | | | |
| | | 52 (30694008) | | | 3 | | | | | | | | | | |
| | | 53 (22415593) | | | 3 | | | | | | | | | | |
| | | 51 (24399340) | | | 2 | | | | | | | | | | |
| | | 45 (27553926) | | | 1 | | | | | | | | | | |
| | | 37 (17968882) | | | 3 | | | | | | | | | | |
| | | <u> </u> | | | 3 | | | | | | | | | | |
| | | 44 (28388971) | | | 2 | | | | | | | | | | |
| · · · · · · · · · · · · · · · · · · · | | 50 (20200628) | | | 2 | | | | | | | | | | |
| CTA chest and abdomen with IV contrast | May be appropria | Expert Consensus | ତତତତ 10-30 mSv |) | 6 | 6 | 0 | 0 | 1 | 0 | 7 | 10 | 3 | 0 | 1 |
| MRA chest and abdomen without IV contrast | May be appropria | Expert Consensus | O 0 mSv | O 0 mSv [ped] | 6 | 6 | 0 | 0 | 1 | 0 | 6 | 9 | 3 | 3 | 0 |
| MRA chest and abdomen without and with IV contrast | May be appropria | Expert Consensus | O 0 mSv | O 0 mSv [ped] | 6 | 6 | 0 | 0 | 0 | 0 | 4 | 10 | 4 | 3 | 1 |
| CT chest abdomen pelvis with IV contrast | May be appropria | Expert Consensus | ତତତତ 10-30 mSv |) | 5 | 5 | 0 | 0 | 0 | 1 | 12 | 2 | 7 | 0 | 0 |
| CT chest abdomen pelvis without IV contrast | May be appropria | Strong | ତତତତ 10-30 mSv |) | 5 | 5 | 0 | 0 | 3 | 6 | 11 | 1 | 1 | 0 | 0 |
| | | References | | | Quality | | | - | | - | - | | | | - |

| | | 30 (30835189) |) | | 1 | | | | | | | | | | |
|---|------------------------|-----------------------|-------------------|-------------------------------|-----------|---|---|---|---|---|----|---|---|---|---|
| | | 33 (25623219) |) | | 4 | | | | | | | | | | |
| | | 31 (24503676) |) | | 4 | | | | | | | | | | |
| | | 29 (22451563) |) | | 2 | | | | | | | | | | |
| CT chest abdomen pelvis without and with IV contrast | May be appropriate | e Expert Consensus | ֎֎֎֎ 10-30 mSv | &&&& 10-30 mSv [ped] | 5 | 5 | 0 | 0 | 0 | 1 | 11 | 6 | 3 | 1 | 0 |
| CT chest and abdomen without and with IV contrast | May be appropriate | e Expert Consensus | ֎֎֎֎ 10-30 mSv | | 4 | 4 | 0 | 2 | 8 | 4 | 6 | 1 | 1 | 0 | 0 |
| CT chest and abdomen with IV contrast | May be appropriate | e Expert Consensus | ֎֎֎֎ 10-30 mSv | | 4 | 4 | 0 | 2 | 9 | 2 | 6 | 2 | 1 | 0 | 0 |
| US duplex Doppler aorta abdomen | Usually no appropriate | | O 0 mSv | O 0 mSv [ped] | 3 | 3 | 4 | 5 | 9 | 3 | 1 | 0 | 0 | 0 | 0 |
| | | References | | Study | Quality | | | | | | | | | | |
| | | 43 (31054559) |) | | 4 | | | | | | | | | | |
| | | 56 (15838577) | | | 3 | | | | 1 | | | | | | |
| US echocardiography transthoracic resting | Usually no appropriate | | O 0 mSv | O 0 mSv [ped] | 3 | 3 | 3 | 8 | 9 | 1 | 1 | 0 | 0 | 0 | 0 |
| | | References | | Study | Quality | | | | | | | | | | |
| | | 58 (25529153) |) | | 4 | | | | | | | | | | |
| | | 33 (25623219) |) | | 4 | | | | | | | | | | |
| | | 57 (20823280) | | | 4 | | | - | | - | - | | | | |
| Radiography chest | Usually no appropriate | | ≎ <0.1 mSv | | 3 | 3 | 5 | 5 | 9 | 2 | 1 | 0 | 0 | 0 | 0 |
| | | References | | Study | V Quality | | | | | | | | | | |
| | | 55 (14715319) |) | | 1 | | | | | | | | | | |
| | | 54 (26724510) |) | | 4 | | | | | | | | | | |
| | | 53 (22415593) | | | 3 | | | | | | | | | | |
| CT chest and abdomen without IV contrast | Usually no appropriate | | ֎֎֎֎ 10-30 mSv | | 3 | 3 | 2 | 4 | 6 | 3 | 5 | 1 | 1 | 0 | 0 |

| Aortography chest abdomen pelvis | Usuall approp | y not oriate | Limited | ଡଡଡଡ 10-3 mSv | 30 | | 3 | 3 | 5 | 4 | 7 | 2 | 2 | 2 | 0 | 0 | 0 |
|----------------------------------|------------------|-----------------|--------------------------------|------------------|----------------|------------------------------|-----------|---|---|---|---|---|---|---|---|---|---|
| | | | References | | | Study | y Quality | | | | | | | | | | |
| | | | 27 (29613964) 28 (12694105) | | | | 4 | | | | | | | | | | |
| | | | 28 (12694105) | | | | 2 | | | | | | | | | | |
| Radiography chest abdomen pelvis | Usuall approp | | Limited | େହେଡ 1-10 mSv |) ⁶ | 0 ଫ ଫ 0.3- 3 mSv [ped] | 2 | 2 | 9 | 6 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | References | | | Study | y Quality | | | | | | | | | | |
| | | | References 55 (14715319) | | | | 1 | | | | | | | | | | |
| | | | 54 (26724510) | | | | 4 | | | | | | | | | | |
| | | | 53 (22415593) | | | | 3 | | | | | | | | | | |

Variant 2: Planning for endovascular or open repair of thoracoabdominal aorta aneurysm or dissection.

| | Appropr | iateness | | | | D.C | | | | F | 'inal ' | Tabu | latio | ns | | |
|--|----------------|---|---------------|----------------------------------|--------------------------------|-----------|--------|---|---|---|---------|------|-------|----|---|----|
| Procedure | Categ | gory | SOE | Adults RRL | Peds RRL | Rating | Median | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| CTA chest abdomen pelvis with IV contrast | Usua approp | | Strong | ଷଟ୍ଟରହ 30- 100 mSv | ≎≎≎≎≎ 10-30 mSv [ped] | 9 | 9 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 18 |
| | | | References | | Study | y Quality | | | | | | | | | | |
| | | | 68 (31705825) | | | 3 | | | | | | | | | | |
| | | 68 (31705825) 72 (29080918) 71 (26344681) | | | | 2 | | | | | | | | | | |
| | | | 71 (26344681) | 1 | | 3 | | | | | | | | | | |
| | | | 70 (17306951) | | | 1 | | | | | | | | | | |
| | | | 69 (26497024) | | | 3 | | | | | | | | | | |
| | | | 67 (22021522) | | | 2 | | | | | | | | | | |
| | | | 66 (22459348) | | | 2 | | | | | | | | | | |
| | | | 65 (31635962) | | | 2 | | | | | | | | | | |
| | | | 64 (30855116) | | | 4 | | | | | | | | | | |
| | | | 63 (22176725) | | | 4 | | | | | | | | | | |

| | | | | | | | 1 | | | | | | | | |
|---|---|----------------|------------------|------------------|---------|---|---|---|---|---|---|---|----|----|---|
| | | 62 (12618702) | | | 1 | | - | | | | | | | | |
| | | 61 (23392427) | | | 1 | | 4 | | | | | | | | |
| | | 31 (24503676) | | | 4 | | - | | | | | | | | |
| | | 14 (26792544) | | | 1 | | 4 | | | | | | | | |
| | | 9 (23062495) | | | 2 | | - | | | | | | | | |
| | | 60 (19803256) | | | 4 | 1 | | | | _ | | | | | |
| MRA chest abdomen pelvis without and with IV contrast | Usually appropriate | Strong | O 0 mSv | O 0 mSv [ped] | 8 | 8 | 0 | 0 | 0 | 1 | 1 | 0 | 4 | 11 | 5 |
| | | References | | Study | Quality | | | | | | | | | | |
| | | 73 (23047141) | | | 2 | | | | | | | | | | |
| | | 72 (29080918) | | | 2 | | | | | | | | | | |
| | | 71 (26344681) | | | 3 | | | | | | | | | | |
| | | 68 (31705825) | | | 3 | | | | | | | | | | |
| | | 65 (31635962) | | | 2 | | | | | | | | | | |
| | | 14 (26792544) | | | 1 | | - | | | | | | | | |
| | | 9 (23062495) | | | 2 | | - | | | | | | | | |
| | | 38 (22386146) | | | 2 | | - | | | | | | | | |
| | | 62 (12618702) | | | 1 | | | | | | | | | | |
| | | 64 (30855116) | | | 4 | | - | | | | | | | | |
| | | 67 (22021522) | | | 2 | | - | | | | | | | | |
| | | 70 (17306951) | | | 1 | 1 | | | | | | | | | |
| MRA chest abdomen pelvis without IV contrast | Usually appropriate | Strong | O 0 mSv | O 0 mSv [ped] | 7 | 7 | 1 | 0 | 0 | 0 | 4 | 2 | 11 | 3 | 1 |
| | | References | | Study | Quality | | | | | | | | | | |
| | | 61 (23392427) | | | 1 | | | | | | | | | | |
| | | 63 (22176725) | | | 4 | | | | | | | | | | |
| | | 74 (29162027) | | 1 | 2 | 1 | | | | _ | | | | | |
| CTA chest and abdomen with IV contrast | May be appropriate (Disagreement) | Expert Opinion | ଡଡଡଡ 10-3 mSv | 30 | 5 | 5 | 2 | 4 | 6 | 2 | 3 | 3 | 2 | 0 | 0 |

| CT chest abdomen pelvis with IV contrast | May be appropriate (Disagreement) | Expert Opinion | ହହହହ 10-30 mSv | ତତତତ 3- 10 mSv [ped] | 5 | 5 | 2 | 3 | 8 | 2 | 3 | 1 | 3 | 0 | 0 |
|---|---|---------------------|------------------------------|----------------------------|-----------|---|---|---|---|---|---|---|---|---|---|
| CT chest abdomen pelvis without and with IV contrast | May be appropriate (Disagreement) | Expert Opinion | ବତତତ 10-30 mSv | | 5 | 5 | 2 | 3 | 7 | 2 | 4 | 2 | 1 | 1 | 0 |
| MRA chest and abdomen without and with IV contrast | May be appropriate (Disagreement) | Expert Opinion | O 0 mSv | O 0 mSv [ped] | 5 | 5 | 3 | 2 | 6 | 4 | 2 | 4 | 1 | 0 | 0 |
| CT chest abdomen pelvis without IV contrast | Usually not appropriate | Expert Consensus | ଷଷଷଷ 10-30 mSv | ≎≎≎≎ 3- 10 mSv [ped] | 3 | 3 | 3 | 4 | 8 | 3 | 4 | 0 | 0 | 0 | 0 |
| MRA chest and abdomen without IV contrast | Usually not appropriate | Expert Consensus | O 0 mSv | O 0 mSv [ped] | 3 | 3 | 4 | 2 | 8 | 6 | 1 | 1 | 0 | 0 | 0 |
| CT chest and abdomen without IV contrast | Usually not appropriate | Expert Consensus | ଡଡଡଡ 10-30 mSv | | 3 | 3 | 5 | 4 | 7 | 4 | 2 | 0 | 0 | 0 | 0 |
| CT chest and abdomen without and with IV contrast | Usually not appropriate | Expert Consensus | ଡଡଡଡ 10-30 mSv | | 3 | 3 | 3 | 4 | 7 | 4 | 3 | 1 | 0 | 0 | 0 |
| CT chest and abdomen with IV contrast | Usually not appropriate | Expert Consensus | ଡଡଡଡ 10-30 mSv | | 3 | 3 | 3 | 4 | 7 | 5 | 2 | 1 | 0 | 0 | 0 |
| Aortography chest abdomen pelvis | Usually not appropriate | Limited | ଡଡଡଡ 10-30 mSv | | 3 | 3 | 2 | 7 | 5 | 2 | 4 | 1 | 1 | 0 | 0 |
| | | References | | Study | y Quality | | | | | | | | | | - |
| | | 27 (29613964) | | | 4 | | | | | | | | | | |
| | | 59 (19251176) | | | 4 | | - | | | | | | | | |
| US duplex Doppler aorta abdomen | Usually not appropriate | Expert Consensus | O 0 mSv | O 0 mSv [ped] | 2 | 2 | 8 | 5 | 5 | 1 | 3 | 0 | 0 | 0 | 0 |
| US echocardiography transthoracic resting | Usually not appropriate | Limited | O 0 mSv | O 0 mSv [ped] | 2 | 2 | 7 | 5 | 4 | 2 | 2 | 0 | 0 | 1 | 1 |
| | | References | | Study | y Quality | | | | | | | | | | |
| | | 33 (25623219) 4 | | | | | | | | | | | | | |

| Radiography chest | Usually not appropriate | Expert Consensus | 發 <0.1 mSv | | 2 | 2 | 11 | 6 | 3 | 0 | 1 | 0 | 1 | 0 | 0 |
|----------------------------------|-------------------------|---------------------|-------------------|----------------------------|---|---|----|---|---|---|---|---|---|---|---|
| Radiography chest abdomen pelvis | Usually not appropriate | Expert Consensus | ଝେଝଝ 1-10 mSv | ≎≎≎ 0.3- 3 mSv [ped] | 1 | 1 | 15 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |

Variant 3: Follow-up after endovascular repair of thoracoabdominal aortic aneurysm or dissection.

| | Appropri | iateness | | | | | | | | I | - Final | Tabu | latio | ns | | |
|---|----------------|----------------|---------------|--------------------------------|---|-----------|--------|---|---|---|------------|------|-------|----|---|----|
| Procedure | Categ | gory | SOE | Adults RRI | Peds RRL | Rating | Median | 1 | 2 | 3 | 4 | | | | 8 | 9 |
| CTA chest abdomen pelvis with IV contrast | Usua approp | llly priate | Strong | ଡଡଡଡଡ 30 100 mSv |)- \$€\$\$\$\$ 10-30 mSv [ped] | 9 | 9 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 3 | 17 |
| | | | References | | Stud | y Quality | | | | | | | | | | |
| | | | 83 (20924762) | | | 3 | | | | | | | | | | |
| | | | 84 (28662928) | | | 4 | | | | | | | | | | |
| | | | 82 (27542700) | | | 4 | | | | | | | | | | |
| | | | 81 (27436027) | | | 1 | | | | | | | | | | |
| | | | 80 (23465175) | | | 4 | | | | | | | | | | |
| | | | 79 (23403221) | | | 4 | | | | | | | | | | |
| | | | 78 (19104821) | | | 2 | | | | | | | | | | |
| | | | 32 (23711975) | | | 3 | | | | | | | | | | |
| | | | 17 (24246537) | | | 3 | | | | | | | | | | |
| | | | 14 (26792544) | | | 1 | | | | | | | | | | |
| | | | 77 (24480084) | | | 2 | | | 1 | | | 1 | | | | |
| MRA chest abdomen pelvis without and with IV contrast | Usua approp | | Strong | O 0 mSv | O 0 mSv [ped] | 8 | 8 | 0 | 0 | 0 | 1 | 2 | 1 | 6 | 8 | 4 |
| | | | References | | Stud | y Quality | | | | | | | | | | |
| | | | 88 (27357219) | | | 1 | | | | | | | | | | |
| | | | 87 (14718808) | | | 2 | | | | | | | | | | |
| | | | 86 (16630731) | | | 3 | | | | | | | | | | |

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|---|---------------------------|--------------|---------------------|------------------------------|---------------------------------|-----------|---|---|---|---|---|----|---|---|---|---|
| | | | 85 (18307209) | | | 4 | | | | | | | | | | |
| | | | 84 (28662928) | | | 4 | | | | | | | | | | |
| | | | 83 (20924762) | | | 3 | | | | | | | | | | |
| | | | 82 (27542700) | | | 4 | | | | | | | | | | |
| | | | 80 (23465175) | | | 4 | | | | | | | | | | |
| | | | 79 (23403221) | | | 4 | | | | | | | | | | |
| | | | 78 (19104821) | | | 2 | | | | | | | | | | |
| | | | 20 (30792053) | | | 2 | | | | | | | | | | |
| | | | 17 (24246537) | | | 3 | | | | | | | | | | |
| | | | 14 (26792544) | | | 1 | | | | | | | | | | |
| | | | 76 (29460048) | | | 4 | | | | | | | | | | |
| MRA chest abdomen pelvis without IV contrast | May approp | be priate | Limited | O 0 mSv | O 0 mSv [ped] | 6 | 6 | 0 | 1 | 0 | 1 | 8 | 9 | 3 | 0 | 0 |
| | • | | References | | Study | Quality | | - | | | | | | | | |
| | | | 89 (31075419) | | | 3 | | | | | | | | | | |
| CTA chest and abdomen with IV contrast | May approp (Disagre | oriate | Expert Opinion | ଡଡଡଡ 10-30 mSv | | 5 | 5 | 2 | 2 | 7 | 2 | 3 | 5 | 1 | 0 | 0 |
| CT chest abdomen pelvis with IV contrast | May approp | be | Expert Consensus | ଡଡଡଡ 10-30 mSv | **** 3- 10 mSv [ped] | 5 | 5 | 0 | 0 | 0 | 1 | 15 | 5 | 1 | 0 | 0 |
| CT chest abdomen pelvis without and with IV contrast | May approp | | Expert Consensus | ଡଡଡଡ 10-30 mSv | ©⊕⊕⊕⊕⊕ 10-30 mSv [ped] | 5 | 5 | 0 | 0 | 1 | 2 | 13 | 3 | 1 | 2 | 0 |
| MRA chest and abdomen without and with IV contrast | May approp (Disagre | oriate | Expert Opinion | O 0 mSv | O 0 mSv [ped] | 5 | 5 | 2 | 3 | 5 | 4 | 5 | 2 | 1 | 0 | 0 |
| Aortography chest abdomen pelvis | May approp (Disagre | oriate | Expert Opinion | ଡେଡେଡ 10-30 mSv | | 5 | 5 | 0 | 3 | 1 | 4 | 10 | 4 | 0 | 0 | 0 |
| | | | References | | Study | v Quality | | | | | | | | | | |
| | | | 27 (29613964) | | | 4 | | | | | | | | | | |
| | | | 76 (29460048) | | | 4 | | | | | | | | | | |

| | | | 75 (10751479) | | | 1 | | | | | | | | | | |
|--|-------------------------------|--------------|---------------------|-------------------------------|-----------------------------|-----------|---|---|---|---|---|---|---|---|---|---|
| CT chest abdomen pelvis without IV contrast | May approp | be oriate | Limited | ଡଡ ଡଡ 10-30 mSv | **** 3- 10 mSv [ped] | 4 | 4 | 2 | 2 | 6 | 4 | 6 | 1 | 1 | 0 | 0 |
| | | | References | | Study | / Quality | | | | | | | | | | |
| | | | 32 (23711975) | | | 3 | | | | | | | | | | |
| | | | 77 (24480084) | | | 2 | | | | | | | | | | |
| | | | 76 (29460048) | | | 4 | | | | | | | | | | |
| MRA chest and abdomen without IV contrast | May approp | | Expert Consensus | O 0 mSv | O 0 mSv [ped] | 4 | 4 | 2 | 4 | 4 | 6 | 5 | 0 | 1 | 0 | 0 |
| US duplex Doppler aorta abdomen | Usuall ₂ approp | | Limited | O 0 mSv | O 0 mSv [ped] | 3 | 3 | 5 | 4 | 8 | 5 | 0 | 0 | 0 | 0 | 0 |
| | | | References | | Study | Quality | | | | | | | | | | |
| | | | 93 (12514572) | | | 3 | | | | | | | | | | |
| | | | 92 (29850415) | | | 4 | | | | | | | | | | |
| | | | 91 (11107086) | | | 1 | | | | | | | | | | |
| | | | 84 (28662928) | | | 4 | | | | | | | | | | |
| | | | 82 (27542700) | | | 4 | | | | | | | | | | |
| | | | 76 (29460048) | | | 4 | | | | | 1 | | | | | |
| US echocardiography transthoracic resting | Usually approp | | Limited | O 0 mSv | O 0 mSv [ped] | 3 | 3 | 5 | 4 | 8 | 0 | 5 | 0 | 0 | 0 | 0 |
| | | | References | | Study | / Quality | | | | | | | | | | |
| | | | 33 (25623219) | | | 4 | | | | | | | | | | |
| | | | 58 (25529153) | | | 4 | | | | | 1 | 1 | | | | |
| Radiography chest | Usually approp | | Limited | ⊕ <0.1 mSv | | 3 | 3 | 7 | 3 | 8 | 2 | 1 | 0 | 1 | 0 | 0 |
| | | | References | | Study | / Quality | | | | | | | | | | |
| | | | 90 (14656185) | | | 4 | | | | | | | | | | |
| | | | 76 (29460048) | | | 4 | | | | | 1 | 1 | | | | |
| Radiography chest abdomen pelvis | Usually approp | | Limited | ֎֎֎ 1-10 mSv | େଡେଡ 0.3- 3 mSv [ped] | 3 | 3 | 8 | 3 | 7 | 2 | 1 | 0 | 0 | 0 | 1 |

| | | References | | | Study Quali | ty | | | | | | | | | | |
|--|-------------------|-------------------------------------|-------------------|----|-------------|----|---|---|---|---|---|---|---|---|---|---|
| | | 90 (14656185) | | | 4 | | | | | | | | | | | |
| | | 76 (29460048) tot Expert ⊕⊕⊕⊕ 10 | | | 4 | | | | | | | | | | | |
| CT chest and abdomen without IV contrast | Usually approp | Expert Consensus | ଡଡଡଡଡ 10-3 mSv | 0 | 3 | | 3 | 2 | 4 | 9 | 0 | 6 | 1 | 0 | 0 | 0 |
| CT chest and abdomen without and with IV contrast | Usually approp | Expert Consensus | ଡଡଡଡ 10-3 mSv | 0 | 3 | | 3 | 2 | 4 | 7 | 3 | 5 | 0 | 0 | 1 | 0 |
| CT chest and abdomen with IV contrast | Usually approp | Expert Consensus | ଡଡଡଡଡ 10-3 mSv | 60 | 3 | | 3 | 2 | 4 | 7 | 4 | 4 | 1 | 0 | 0 | 0 |

Variant 4: Follow-up after open repair of thoracoabdominal aortic aneurysm or dissection.

| | Appropri | ateness | COL | | | D (1 | | Final Tabulations | | | | | | | | | | | |
|---|------------------------|---------------|---------------|------------------------------|-------------------------------|-------------|--------|-------------------|---|---|---|---|---|---|---|----|--|--|--|
| Procedure | Categ | gory | SOE | Adults RRL | L Peds RRL | Rating | Median | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | |
| CTA chest abdomen pelvis with IV contrast | Usually appropriate | | Limited | ֎֎֎֎֎ 30- 100 mSv | &&&& 10-30 mSv [ped] | 9 | 9 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 4 | 14 | | | |
| | | | References | | Study Quality | | | | | | | | | | | | | | |
| | | | 35 (24625611) | | 4 | | | | | | | | | | | | | | |
| | | | 34 (19884165) | | | | | | | | | | | | | | | | |
| | | 31 (24503676) | | | | | | | | | | | | | | | | | |
| | | | 33 (25623219) | | | | | | | | | | | | | | | | |
| MRA chest abdomen pelvis without and with IV contrast | Usua approp | | Limited | O 0 mSv | O 0 mSv [ped] | 8 | 8 | 0 | 0 | 0 | 0 | 2 | 1 | 4 | 9 | 6 | | | |
| | | References | | | Study | | | | | | | | | | | | | | |
| | | 23 (32772927) | | | | | | | | | | | | | | | | | |
| | | 24 (21103933) | | | | | | | | | | | | | | | | | |
| | | 33 (25623219) | | | | | | | | | | | | | | | | | |
| CTA chest and abdomen with IV contrast | May approp | | | ଷଷଷଷ 10-30 mSv | | 6 | 6 | 0 | 0 | 0 | 0 | 9 | 6 | 6 | 1 | 0 | | | |

| MRA chest and abdomen without and with IV contrast | May approp | | Expert Consensus | O 0 mSv | | 0 mSv [ped] | 6 | 6 | 0 | 0 | 0 | 0 | 9 | 9 | 4 | 0 | 0 |
|---|---------------|---------------|---------------------|------------------------------|--------|-------------------------------|---|---|---|---|---|---|----|---|---|---|---|
| MRA chest abdomen pelvis without IV contrast | May approp | | Strong | O 0 mSv | | 0 mSv [ped] | 6 | 6 | 0 | 0 | 0 | 1 | 4 | 9 | 6 | 1 | 1 |
| | | References | | Study Quality | | | | | | | | | | | | | |
| | | 51 (24399340) | | | | | | | | | | | | | | | |
| | | | 45 (27553926) | | | 1 | | | | | | | | | | | |
| | | | 39 (20013276) | | | 3 | | | | | | | | | | | |
| | | | 38 (22386146) | | | | 2 | | | | | | | | | | |
| | | | 34 (19884165) | | | | 3 | | | | | | | | | | |
| | | | 33 (25623219) | | | 4 | | | | | | | | | | | |
| | | | 37 (17968882) | | | | | | | | | | | | | | |
| | | 44 (28388971) | | | | | | | | | | | | | | | |
| | | 50 (20200628) | | | 2 | | | | | 1 | | | | | | | |
| CT chest abdomen pelvis with IV contrast | May approp | | Expert Consensus | େହେହେତ 10∹ mSv | | ତତତ 3- 0 mSv [ped] | 5 | 5 | 0 | 1 | 0 | 3 | 14 | 3 | 1 | 0 | 0 |
| CT chest abdomen pelvis without IV contrast | May approp | | | ଡେଡେଡେ 10∹ mSv | 30 1 | 99999 3- 0 mSv [ped] | 5 | 5 | 0 | 0 | 2 | 7 | 12 | 1 | 0 | 0 | 0 |
| | | | References | | | | | | | | | | | | | | |
| | | | 31 (24503676) | | 4 | | | | | | | | | | | | |
| | | | 30 (30835189) | | | 1 | | | | | | | | | | | |
| | | | 29 (22451563) | | | | | | | | | | | | | | |
| CT chest abdomen pelvis without and with IV contrast | May approp | | Expert Consensus | ଡେଡଡ େ 10∹ mSv | 30 | ✿֎֎֎ 10-30 mSv [ped] | 5 | 5 | 0 | 0 | 0 | 1 | 15 | 5 | 0 | 0 | 1 |
| MRA chest and abdomen without IV contrast | May approp | | Expert Consensus | O 0 mSv | | 0 mSv [ped] | 5 | 5 | 0 | 1 | 0 | 2 | 12 | 5 | 2 | 0 | 0 |
| CT chest and abdomen without and with IV contrast | May approp | | | ଡଡଡଡ 10∹ mSv | 30 | | 5 | 5 | 0 | 0 | 1 | 5 | 14 | 2 | 0 | 0 | 0 |

| CT chest and abdomen with IV contrast | May be appropriate | | Expert Consensus | ଝଝଝଝ 10-30 mSv | | 5 | 5 | 0 | 0 | 1 | 8 | 11 | 2 | 0 | 0 | 0 |
|---|-------------------------|---------------|--------------------------|-----------------------|------------------|---|---|----|---|---|---|----|---|---|---|---|
| CT chest and abdomen without IV contrast | Usually not appropriate | | Expert Consensus | ଝଝଝଝ 10-30 mSv | | 3 | 3 | 3 | 3 | 9 | 0 | 6 | 1 | 0 | 0 | 0 |
| US duplex Doppler aorta abdomen | Usually not appropriate | | Limited | O 0 mSv | O 0 mSv [ped] | 2 | 2 | 6 | 7 | 9 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | References | | Study Quality | | | | | | | | | | | |
| | | | 43 (31054559) | | | | | | | | | | | | | |
| | | 56 (15838577) | | <u>_</u> | 3 | | - | | _ | | - | | | | | |
| US echocardiography transthoracic resting | Usuall approp | | Limited | O 0 mSv | O 0 mSv [ped] | 2 | 2 | 6 | 6 | 6 | 1 | 3 | 0 | 0 | 0 | 0 |
| | | | References Study Quality | | | | | | | | | | | | | |
| | | | 58 (25529153) | | 4 | | | | | | | | | | | |
| Aortography chest abdomen pelvis | Usuall approp | | Limited | ଝଝଝଝ 10-30 mSv | | 2 | 2 | 7 | 7 | 8 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | References | | Study Quality | | | | | | | | | | | |
| | | | 27 (29613964) | | 4 | | | | | | | | | | | |
| Radiography chest | Usuall approp | | Expert Consensus | 發 < 0.1 mSv | | 1 | 1 | 12 | 2 | 7 | 1 | 0 | 0 | 0 | 0 | 0 |
| Radiography chest abdomen pelvis | Usuall approp | | Expert Consensus | ଡେଡେ 1-10 mSv | | 1 | 1 | 13 | 2 | 7 | 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.