

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

Chronic Cough

Variant 1: Chronic cough lasting more than 8 weeks. No known risk factors for lung cancer. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations									
							1	2	3	4	5	6	7	8	9	
Radiography chest	Usually appropriate	Strong	⊕ <0.1 mSv	⊕ <0.03 mSv [ped]	9	9	0	0	0	0	0	1	2	2	8	
		References	Study Quality													
		34 (23083885)	3													
		30 (24788998)	4													
		32 (25968285)	4													
		29 (20694945)	4													
		10 (26165783)	4													
		3 (29960277)	2													
		16 (26937758)	4													
		15 (31757237)	4													
		26 (26861744)	2													
		33 (26662264)	2													
		31 (25316135)	2													
		35 (24698073)	4													
		1 (29080708)	4													
		7 (15684286)	2													
		17 (23347748)	2													
CT chest with IV contrast	May be appropriate	Strong	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	4	4	2	1	3	2	4	0	1	0	0	

References	Study Quality
39 (19926869)	3
32 (25968285)	4
29 (20694945)	4
10 (26165783)	4
3 (29960277)	2
16 (26937758)	4
40 (22795504)	4
36 (21461855)	2
15 (31757237)	4
4 (21127394)	2
37 (28298729)	4
38 (26246280)	4
42 (25731735)	2
41 (24922562)	2
35 (24698073)	4
6 (12461244)	2
1 (29080708)	4
7 (15684286)	2
17 (23347748)	2

CT chest without IV contrast	May be appropriate	Strong	☻☻☻ 1-10 mSv	☻☻☻☻ 3-10 mSv [ped]	4	4	1	1	0	8	3	1	0	0	0
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References	Study Quality
39 (19926869)	3
32 (25968285)	4
29 (20694945)	4
10 (26165783)	4
3 (29960277)	2
16 (26937758)	4
40 (22795504)	4
36 (21461855)	2

15 (31757237)	4
4 (21127394)	2
37 (28298729)	4
38 (26246280)	4
42 (25731735)	2
41 (24922562)	2
35 (24698073)	4
6 (12461244)	2
1 (29080708)	4
7 (15684286)	2
17 (23347748)	2

CT chest without and with IV contrast	Usually not appropriate	Strong	☼☼☼ 1-10 mSv	☼☼☼☼☼ 3-10 mSv [ped]	1	1	7	1	3	1	0	0	1	0	0
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References	Study Quality
39 (19926869)	3
32 (25968285)	4
29 (20694945)	4
10 (26165783)	4
3 (29960277)	2
16 (26937758)	4
40 (22795504)	4
36 (21461855)	2
15 (31757237)	4
4 (21127394)	2
37 (28298729)	4
38 (26246280)	4
42 (25731735)	2
41 (24922562)	2
35 (24698073)	4
6 (12461244)	2
1 (29080708)	4

43 (25030279)	4
1 (29080708)	4

Variant 2: Chronic cough lasting more than 8 weeks. Increased risk for lung cancer. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Radiography chest	Usually appropriate	Strong	⊕ <0.1 mSv	⊕ <0.03 mSv [ped]	9	9	0	0	0	0	0	1	2	2	8

References	Study Quality
25 (21714641)	3
51 (24131487)	4
50 (28108179)	4
3 (29960277)	2
16 (26937758)	4
36 (21461855)	2
33 (26662264)	2
31 (25316135)	2
1 (29080708)	4
7 (15684286)	2
17 (23347748)	2
49 (28142680)	2

CT chest without IV contrast	May be appropriate	Strong	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	6	6	0	0	0	0	5	7	2	0	0
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References	Study Quality
25 (21714641)	3
51 (24131487)	4
53 (27542423)	4
29 (20694945)	4
13 (29094873)	4

50 (28108179)	4
16 (26937758)	4
15 (31757237)	4
1 (29080708)	4
7 (15684286)	2
17 (23347748)	2
49 (28142680)	2
52 (28823540)	4

CT chest with IV contrast	May be appropriate	Strong	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	5	5	0	0	0	4	8	0	0	2	0
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References	Study Quality
25 (21714641)	3
51 (24131487)	4
53 (27542423)	4
29 (20694945)	4
13 (29094873)	4
50 (28108179)	4
16 (26937758)	4
15 (31757237)	4
1 (29080708)	4
7 (15684286)	2
17 (23347748)	2
49 (28142680)	2
52 (28823540)	4

CT chest without and with IV contrast	Usually not appropriate	Strong	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	1	1	12	0	1	0	0	0	1	0	0
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References	Study Quality
25 (21714641)	3
51 (24131487)	4
53 (27542423)	4

29 (20694945)	4
13 (29094873)	4
50 (28108179)	4
16 (26937758)	4
15 (31757237)	4
1 (29080708)	4
7 (15684286)	2
17 (23347748)	2
49 (28142680)	2
52 (28823540)	4

MRI chest without IV contrast	Usually not appropriate	Strong	0 0 mSv	0 0 mSv [ped]	1	1	7	2	2	2	0	0	0	0	0
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References	Study Quality
47 (26223818)	2
46 (26154442)	2
1 (29080708)	4
7 (15684286)	2
17 (23347748)	2

MRI chest without and with IV contrast	Usually not appropriate	Strong	0 0 mSv	0 0 mSv [ped]	1	1	7	2	2	1	0	1	0	0	0
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References	Study Quality
47 (26223818)	2
46 (26154442)	2
1 (29080708)	4
7 (15684286)	2
17 (23347748)	2

FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Limited	☼☼☼☼ 10-30 mSv	☼☼☼☼ 3-10 mSv [ped]	1	1	9	0	2	1	0	0	0	1	0
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References	Study Quality
43 (25030279)	4

Variant 3: Chronic cough lasting more than 8 weeks. Persistent symptoms despite initial clinical evaluation and empiric treatment. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CT chest with IV contrast	Usually appropriate	Strong	⊗⊗⊗ 1-10 mSv	⊗⊗⊗⊗ 3-10 mSv [ped]	7	7	0	1	0	1	2	2	3	2	3

References	Study Quality
39 (19926869)	3
32 (25968285)	4
29 (20694945)	4
3 (29960277)	2
16 (26937758)	4
40 (22795504)	4
4 (21127394)	2
5 (26184784)	4
46 (26154442)	2
31 (25316135)	2
27 (23122673)	2
2 (17285786)	2
6 (12461244)	2
1 (29080708)	4
7 (15684286)	2
17 (23347748)	2
54 (-3191717)	4

CT chest without IV contrast	Usually appropriate	Strong	⊗⊗⊗ 1-10 mSv	⊗⊗⊗⊗ 3-10 mSv [ped]	7	7	1	0	0	0	2	2	2	3	3
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References	Study Quality
39 (19926869)	3
32 (25968285)	4

29 (20694945)	4
3 (29960277)	2
16 (26937758)	4
40 (22795504)	4
4 (21127394)	2
5 (26184784)	4
46 (26154442)	2
31 (25316135)	2
27 (23122673)	2
2 (17285786)	2
6 (12461244)	2
1 (29080708)	4
7 (15684286)	2
17 (23347748)	2
54 (-3191717)	4

Radiography chest	Usually appropriate	Expert Consensus	☼ <0.1 mSv	☼ <0.03 mSv [ped]	7	7	0	0	1	0	2	2	3	2	3
CT maxillofacial without IV contrast	May be appropriate	Strong	☼☼ 0.1-1mSv		5	5	1	0	1	3	4	4	0	0	0

References	Study Quality
53 (27542423)	4
58 (29121436)	2
16 (26937758)	4
56 (21853442)	2
57 (29202870)	2
12 (22287379)	2
55 (22287369)	2
2 (17285786)	2
1 (29080708)	4
7 (15684286)	2
17 (23347748)	2

CT maxillofacial without and with IV contrast	Usually not appropriate	59 (26889651)			4													
		Strong	☼☼☼ 1-10 mSv		3	3	5	0	3	3	0	2	0	0	0			

References	Study Quality
53 (27542423)	4
58 (29121436)	2
16 (26937758)	4
56 (21853442)	2
57 (29202870)	2
12 (22287379)	2
55 (22287369)	2
2 (17285786)	2
1 (29080708)	4
7 (15684286)	2
17 (23347748)	2
59 (26889651)	4

CT maxillofacial with IV contrast	Usually not appropriate	Strong	☼☼ 0.1-1mSv		2	2	5	3	3	0	3	0	0	0	0
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References	Study Quality
53 (27542423)	4
58 (29121436)	2
16 (26937758)	4
56 (21853442)	2
57 (29202870)	2
12 (22287379)	2
55 (22287369)	2
2 (17285786)	2
1 (29080708)	4
7 (15684286)	2
17 (23347748)	2
59 (26889651)	4

Fluoroscopy biphasic esophagram	Usually not appropriate	Strong	☼☼☼ 1-10 mSv		2	2	2	7	3	2	0	0	0	0	0
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References	Study Quality
66 (25910367)	4
67 (27614002)	4
64 (27455157)	4
63 (8222816)	2
69 (29430111)	2
65 (24950025)	4
1 (29080708)	4
7 (15684286)	2
17 (23347748)	2
68 (24473762)	4

CT chest without and with IV contrast	Usually not appropriate	Strong	☼☼☼ 1-10 mSv	☼☼☼☼☼ 3-10 mSv [ped]	1	1	12	0	0	1	0	0	1	0	0
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References	Study Quality
39 (19926869)	3
32 (25968285)	4
29 (20694945)	4
3 (29960277)	2
16 (26937758)	4
40 (22795504)	4
4 (21127394)	2
5 (26184784)	4
46 (26154442)	2
31 (25316135)	2
27 (23122673)	2
2 (17285786)	2
6 (12461244)	2
1 (29080708)	4
7 (15684286)	2

			17 (23347748)		2													
			54 (-3191717)		4													
MRI heart function and morphology without and with IV contrast	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	1	1	8	1	2	0	1	1	0	0	0			
		References	Study Quality															
		1 (29080708)	4															
V/Q scan lung	Usually not appropriate	Strong	☼☼☼ 1-10 mSv		1	1	9	1	1	1	0	1	0	0	0			
		References	Study Quality															
		16 (26937758)	4															
		2 (17285786)	2															
		7 (15684286)	2															
		17 (23347748)	2															
FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Strong	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 3-10 mSv [ped]	1	1	9	1	1	1	0	1	0	0	0			
		References	Study Quality															
		60 (19289428)	3															
		43 (25030279)	4															
		61 (30152649)	2															
		62 (23942907)	2															
SPECT or SPECT/CT MPI rest and stress	Usually not appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	1	1	8	1	1	1	0	2	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.