

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

Acute Pancreatitis

Variant 1: Suspected acute pancreatitis. First time presentation. Epigastric pain and increased amylase and lipase. Less than 48 to 72 hours after symptom onset. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
US abdomen	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	1	4	1	1	8	2
		References		Study Quality											
		14 (26209440)		3											
		15 (24512896)		4											
		12 (24679420)		4											
CT abdomen and pelvis with IV contrast	May be appropriate	Limited	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	5	5	0	0	2	6	8	1	0	0	0
		References		Study Quality											
		4 (12034923)		4											
		7 (22186977)		3											
		1 (28840381)		3											
		6 (27426674)		3											
		5 (25239388)		3											
		8 (25078061)		3											
MRI abdomen without IV contrast with MRCP	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	0	2	6	9	0	0	0	0
		References		Study Quality											
		9 (18253063)		3											

13 (27446845)	3
11 (25200693)	3
12 (24679420)	4
10 (20972954)	3

MRI abdomen without and with IV contrast with MRCP	May be appropriate	Limited	0 0 mSv	0 0 mSv [ped]	5	5	0	0	2	2	8	5	0	0	0
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References	Study Quality
9 (18253063)	3
13 (27446845)	3
11 (25200693)	3
12 (24679420)	4
10 (20972954)	3

US duplex Doppler abdomen	May be appropriate	Limited	0 0 mSv	0 0 mSv [ped]	4	4	0	1	4	7	3	0	1	0	1
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References	Study Quality
1 (28840381)	3
12 (24679420)	4

CT abdomen and pelvis without IV contrast	Usually not appropriate	Limited	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	3	3	1	2	9	3	2	1	0	0	0
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References	Study Quality
4 (12034923)	4
7 (22186977)	3
1 (28840381)	3
6 (27426674)	3
5 (25239388)	3
8 (25078061)	3

CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Limited	⊕⊕⊕⊕ 10-30 mSv	⊕⊕⊕⊕⊕ 10-30 mSv [ped]	3	3	3	1	10	1	1	2	0	0	0
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References	Study Quality
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4 (12034923)	4
7 (22186977)	3
1 (28840381)	3
6 (27426674)	3
5 (25239388)	3
8 (25078061)	3

US abdomen with IV contrast	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	3	3	1	8	6	1	0	2	0	0	0
		References		Study Quality											
		15 (24512896)		4											

Variant 2: Suspected acute pancreatitis. Initial presentation with atypical signs and symptoms; including equivocal amylase and lipase values (possibly confounded by acute kidney injury or chronic kidney disease) and when diagnoses other than pancreatitis may be possible (bowel perforation, bowel ischemia, etc.). Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CT abdomen and pelvis with IV contrast	Usually appropriate	Limited	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	8	8	1	0	0	0	0	2	0	8	7
		References		Study Quality											
		16 (19896558)		4											
		14 (26209440)		3											
MRI abdomen without and with IV contrast with MRCP	Usually appropriate	Limited	0 0 mSv	0 0 mSv [ped]	7	7	0	0	1	0	2	5	4	5	1
		References		Study Quality											
		6 (27426674)		3											
		18 (26102416)		4											
		20 (25457519)		2											
		8 (25078061)		3											
19 (25585483)		4													

11 (25200693)	3
22 (24015276)	2
24 (22613509)	2
23 (22366559)	2

CT abdomen and pelvis without IV contrast	May be appropriate	Limited	☹☹☹ 1-10 mSv	☹☹☹☹ 3-10 mSv [ped]	5	5	0	0	4	3	8	2	0	0	1
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References	Study Quality
6 (27426674)	3
18 (26102416)	4
8 (25078061)	3
2 (25208277)	4
3 (23100216)	4
21 (22584543)	4

US duplex Doppler abdomen	May be appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	4	4	1	4	4	4	3	1	1	0	0
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CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Limited	☹☹☹☹ 10-30 mSv	☹☹☹☹☹ 10-30 mSv [ped]	3	3	1	2	7	2	5	0	1	0	0
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References	Study Quality
6 (27426674)	3
18 (26102416)	4
8 (25078061)	3
2 (25208277)	4
3 (23100216)	4
21 (22584543)	4

US abdomen	Usually not appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	3	3	0	2	8	2	4	1	1	0	0
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US abdomen with IV contrast	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	3	3	1	4	6	2	3	2	0	0	0
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References	Study Quality
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			29 (24441591)		1													
MRI abdomen without and with IV contrast with MRCP	May be appropriate	Limited	0 0 mSv	0 0 mSv [ped]	6	6	0	0	0	0	7	9	0	1	0			
			References		Study Quality													
			29 (24441591)		1													
CT abdomen and pelvis without IV contrast	May be appropriate	Limited	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	5	5	0	0	1	2	8	2	4	1	0			
			References		Study Quality													
			29 (24441591)		1													
CT abdomen and pelvis without and with IV contrast	May be appropriate	Limited	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	5	5	0	0	1	5	6	4	1	0	0			
			References		Study Quality													
			29 (24441591)		1													
MRI abdomen without IV contrast with MRCP	May be appropriate	Limited	0 0 mSv	0 0 mSv [ped]	5	5	0	0	0	4	12	0	1	0	0			
			References		Study Quality													
			29 (24441591)		1													
US abdomen	May be appropriate	Expert Consensus	0 0 mSv	0 0 mSv [ped]	4	4	0	3	4	5	4	2	0	0	0			
US duplex Doppler abdomen	May be appropriate	Expert Consensus	0 0 mSv	0 0 mSv [ped]	4	4	0	3	5	7	1	2	0	0	0			
US abdomen with IV contrast	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	3	3	0	4	8	4	2	0	0	0	0			
			References		Study Quality													
			28 (24574783)		3													

Variant 6: Acute pancreatitis. Known pancreatic or peripancreatic fluid collections with continued abdominal pain, early satiety, nausea, vomiting, or signs of infection. Greater than 4 weeks after symptom onset.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations									
							1	2	3	4	5	6	7	8	9	
CT abdomen and pelvis with IV contrast	Usually appropriate	Limited	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	9	9	0	0	0	0	0	1	2	5	10	
		References	Study Quality													
		26 (25425489)	2													
MRI abdomen without and with IV contrast with MRCP	Usually appropriate	Strong	○ 0 mSv	○ 0 mSv [ped]	8	8	0	0	0	0	0	1	3	10	4	
		References	Study Quality													
		31 (26730150)	4													
		26 (25425489)	2													
		22 (24015276)	2													
MRI abdomen without IV contrast with MRCP	May be appropriate	Strong	○ 0 mSv	○ 0 mSv [ped]	6	6	0	0	0	1	5	4	5	3	0	
		References	Study Quality													
		31 (26730150)	4													
		26 (25425489)	2													
		22 (24015276)	2													
CT abdomen and pelvis without IV contrast	May be appropriate	Limited	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	5	5	0	0	0	4	10	3	0	0	0	
		References	Study Quality													
		26 (25425489)	2													
US abdomen	May be appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	5	5	0	0	2	6	6	3	0	0	0	
		References	Study Quality													
		21 (22584543)	4													
US duplex Doppler abdomen	May be appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	4	4	0	2	5	6	2	1	1	0	0	

CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Limited	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	3	3	2	4	5	0	4	2	0	0	0
		References			Study Quality										
		26 (25425489)			2										
US abdomen with IV contrast	Usually not appropriate	Expert Consensus	0 0 mSv	0 0 mSv [ped]	3	3	1	4	7	4	1	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.