

# American College of Radiology ACR Appropriateness Criteria®

## Preoperative and Postoperative Imaging for Bariatric Procedures

**Variant 1: Adult. Bariatric procedure. Routine preprocedure planning.**

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Fluoroscopy upper GI series	May be appropriate	Limited	⊕⊕⊕ 1-10 mSv	⊕⊕⊕ 0.3-3 mSv [ped]	6	6	0	0	0	1	4	5	2	0	0
		References	Study Quality												
		4 (31682518)	4												
		11 (29519608)	4												
		12 (15072649)	4												
Fluoroscopy single contrast esophagram	May be appropriate	Limited	⊕⊕⊕ 1-10 mSv		5	5	0	0	0	2	7	2	1	0	0
		References	Study Quality												
		4 (31682518)	4												
		11 (29519608)	4												
		12 (15072649)	4												
Fluoroscopy biphasic esophagram	May be appropriate	Limited	⊕⊕⊕ 1-10 mSv		5	5	0	0	0	1	8	2	1	0	0
		References	Study Quality												
		4 (31682518)	4												
		11 (29519608)	4												
		12 (15072649)	4												
CT abdomen and pelvis with IV contrast	Usually not appropriate	Limited	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	3	3	2	1	5	0	4	0	1	0	0

		References	Study Quality													
		10 (32917578)	4													
US abdomen	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	3	2	2	3	2	1	0	0	0	0
		References	Study Quality													
		11 (29519608)	4													
		13 (29627946)	4													
		14 (24101090)	4													
CT abdomen and pelvis without IV contrast	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	2	2	3	5	3	0	2	0	0	0	0	0
CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	2	2	6	4	3	0	0	0	0	0	0	0
Fluoroscopy small bowel follow-through	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	2	2	4	4	3	0	2	0	0	0	0	0
MRI abdomen without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	5	5	2	0	1	0	0	0	0	0
MRI abdomen without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	5	5	1	0	2	0	0	0	0	0
Radiography abdomen	Usually not appropriate	Expert Consensus	☼☼ 0.1-1mSv	☼☼ 0.03-0.3 mSv [ped]	2	2	6	6	1	0	0	0	0	0	0	0

**Variant 2: Adult. Bariatric procedure. Routine immediate postprocedure evaluation.**

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Fluoroscopy upper GI series	May be appropriate	Limited	☼☼☼ 1-10 mSv	☼☼☼ 0.3-3 mSv [ped]	6	6	1	0	0	1	4	4	2	1	0

		References	Study Quality													
		23 (23341032)	4													
		22 (23828033)	4													
		19 (24119721)	4													
		18 (25812843)	4													
		15 (30542825)	4													
CT abdomen and pelvis with IV contrast	May be appropriate	Limited	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	5	5	1	0	2	3	5	1	0	0	0	1
		References	Study Quality													
		17 (35292901)	3													
		21 (27387688)	3													
CT abdomen and pelvis without IV contrast	May be appropriate	Limited	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	4	4	1	2	1	5	3	1	0	0	0	0
		References	Study Quality													
		17 (35292901)	3													
		21 (27387688)	3													
CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Limited	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	3	3	3	2	6	0	1	1	0	0	0	0
		References	Study Quality													
		17 (35292901)	3													
		21 (27387688)	3													
Fluoroscopy single contrast esophagram	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv		3	3	1	5	6	0	0	0	0	0	0	0
Fluoroscopy upper GI series with small bowel follow-through	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	3	3	3	2	5	1	2	0	0	0	0	0
Radiography abdomen	Usually not appropriate	Expert Consensus	☼☼ 0.1-1mSv	☼☼ 0.03-0.3 mSv [ped]	3	3	4	1	4	2	2	0	0	0	0	0



		25 (24471382)		4											
		24 (36160820)		2											
Radiography abdomen and pelvis	May be appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	5	5	1	1	3	0	8	0	0	0	0
		References		Study Quality											
		26 (28983652)		4											
		27 (24951191)		2											
CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	3	3	2	2	5	2	2	0	0	0	0
Fluoroscopy single contrast esophagram	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		3	3	1	4	7	0	0	0	0	0	0
Fluoroscopy biphasic esophagram	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		3	3	4	2	4	1	2	0	0	0	0
Fluoroscopy upper GI series with small bowel follow-through	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	3	3	3	2	6	1	1	0	0	0	0
US abdomen	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	3	3	3	3	4	2	0	0	1	0	0
		References		Study Quality											
		28 (15525891)		4											
MRI abdomen and pelvis without IV contrast	Usually not appropriate	Expert Consensus	0 0 mSv	0 0 mSv [ped]	2	2	6	1	5	0	1	0	0	0	0
MRI abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	0 0 mSv	0 0 mSv [ped]	2	2	6	1	5	0	1	0	0	0	0

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	Strong	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	8	8	0	0	1	0	0	1	1	8	2
		References		Study Quality											
		39 (36474098)		3											
		38 (32078011)		1											
		37 (29845311)		3											
		36 (25843399)		3											
		35 (25218014)		3											
		34 (27689925)		3											
		33 (29516397)		Not Assessed											
		32 (25747433)		2											
		31 (32944801)		4											
		30 (29395108)		4											
		25 (24471382)		4											
CT abdomen and pelvis without IV contrast	May be appropriate	Limited	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	6	6	0	0	1	0	4	2	6	0	0
		References		Study Quality											
		33 (29516397)		Not Assessed											
		32 (25747433)		2											
Fluoroscopy upper GI series	May be appropriate	Limited	⊕⊕⊕ 1-10 mSv	⊕⊕⊕ 0.3-3 mSv [ped]	6	6	1	0	0	1	3	2	2	3	1
		References		Study Quality											
		33 (29516397)		Not Assessed											
		32 (25747433)		2											
Fluoroscopy single contrast esophagram	Usually not appropriate	Limited	⊕⊕⊕ 1-10 mSv		3	3	0	4	8	0	0	0	0	0	0
		References		Study Quality											
		40 (26810364)		4											

Fluoroscopy biphasic esophagram	Usually not appropriate	Limited	☼☼☼ 1-10 mSv		3	3	1	4	5	1	2	0	0	0	0
		References		Study Quality											
		40 (26810364)		4											
Fluoroscopy upper GI series with small bowel follow-through	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	3	3	2	3	4	1	2	0	1	0	0
MRI abdomen and pelvis without IV contrast	Usually not appropriate	Strong	○ 0 mSv	○ 0 mSv [ped]	3	3	2	0	5	3	3	0	0	0	0
		References		Study Quality											
		43 (34807405)		2											
		42 (35452955)		3											
		41 (30106618)		2											
Radiography abdomen and pelvis	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv	☼☼☼ 0.3-3 mSv [ped]	3	3	4	2	4	0	2	0	0	1	0
CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	2	2	3	5	4	0	0	0	0	0	0
MRI abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	2	2	4	3	4	1	1	0	0	0	0
US abdomen	Usually not appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	2	2	3	5	5	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](http://www.acr.org/ac).