American College of Radiology ACR Appropriateness Criteria®

Radiologic Management of Lower Gastrointestinal Tract Bleeding

Variant 1: Lower gastrointestinal tract bleeding. Active bleeding clinically observed as hematochezia or melena in a hemodynamically stable patient. Next step.

	Appropriateness	G0-7							F	inal	Tabu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CTA abdomen and pelvis without and with IV contrast	Usually appropriate	Strong	���� 10-30 mSv		8	8	0	1	1	0	0	2	3	7	4
		References		Study	y Quality										
		30 (28189213))		4										
		42 (25992504))		4										
		37 (25023179))		3										
		32 (22084211)	1		2										
		34 (22064550)	1		3										
		29 (12954894)	1		4										
		31 (20400333)	1		3										
		33 (20093615)	1		2										
		35 (16484350))		3										
		39 (20377709)			4										
		40 (18806152)			2										
		36 (28668429))	Inac	dequate										
		38 (28278445)	1		4										
		41 (23836115)			3		_								
Diagnostic/therapeutic colonoscopy	Usually appropriate	Strong	N/A	N/A	8	8	1	0	0	0	2	3	0	5	7
		References		Study	y Quality										

		45 (26631877)			4										
		47 (25812518)			3										
		46 (25786443)			3										
		48 (20648004)			2										
		43 (16279891)			1										
		44 (22468081)			4										
RBC scan abdomen and pelvis	Usually appropriate	Limited	≎≎≎ 1-10 mSv		7	7	0	0	0	0	0	3	10	6	0
		References		Study	Quality										
		53 (26956784)			4										
		55 (23407907)			3										
		54 (21757912)			4										
		56 (26646804)			2										
		52 (3494826)			4										
		57 (30526506)			3										
Transcatheter arteriography/embolization	May be appropriate	Limited	N/A	N/A	5	5	1	0	0	2	11	3	0	2	0
		References		Study	Quality										
		59 (27101433)			4										
		24 (23574847)			4										
		58 (104564)			4										
		7 (19568467)			4										
MRA abdomen and pelvis without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	7	4	5	1	1	0	1	0	0
		References		Study Quality											
		49 (26355018)			4										
Surgery	Usually not	Limited	N/A	N/A	2	2	7	4	6	0	1	0	0	0	0
	appropriate														
	appropriate	References		Study	Quality					1					
	appropriate	References 50 (18636299)		Study	Quality 4									'	

Variant 2: Lower gastrointestinal tract bleeding. Active bleeding in a hemodynamically unstable patient or a patient who has required more than 5 units of blood within 24 hours. Next step.

D 1	Appropriateness	305	A L L DDI	D 1 DD1	D 41	3.6.11			F	inal '	Tabu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CTA abdomen and pelvis without and with IV contrast	Usually appropriate	Limited	���� 10-30 mSv		8	8	0	0	0	0	0	0	6	11	2
		References		Study	Quality						•			•	
		42 (25992504)			4										
		39 (20377709)			4								_		
Transcatheter arteriography/embolization	Usually appropriate	Limited	N/A	N/A	8	8	1	0	0	1	0	2	2	9	3
		References		N/A N/A 8 8 Study Quality 4 4 4			•	•		•	•			•	
		42 (25992504)		4											
		63 (16336385)	3 (16336385)												
		7 (19568467)			4		_				_				
Diagnostic/therapeutic colonoscopy	May be appropriate (Disagreement)	Expert Opinion	N/A	N/A	5	5	0	0	2	1	0	1	3	11	1
		References		Study	Quality										
		60 (28174123)		4 4 4			_								
Surgery	May be appropriate	Limited	N/A	N/A	5	5	2	0	0	0	13	4	0	0	0
		References		Study	Quality				-						
		61 (24267497)			4										
		62 (22677611)		2											
		50 (18636299)		4											
		51 (-3149670)		4			-		1	1				,	,
MRA abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	10	5	3	1	0	0	0	0	0

RBC scan abdomen and pelvis Usually not appropriate Expert Consensus mSv	3	3	3	4	7	1	2	1	0	1	0	
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Variant 3: Lower gastrointestinal tract bleeding. Colonoscopy localized the bleeding site and treatment was attempted. Ongoing or recurrent bleeding. Next procedure or intervention.

D 1	Appropriateness	COF	A L IA DDI	D I DDI	D (*	3.6 11	Final Tabulations 1 2 3 4 5 6 7 8								
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Transcatheter arteriography/embolization	Usually appropriate	Expert Consensus	N/A	N/A	8	8	0	0	1	0	0	0	3	6	8
CTA abdomen and pelvis without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	���� 10-30 mSv		5	5	0	3	0	8	3	3	1	1	0
Diagnostic/therapeutic colonoscopy	May be appropriate (Disagreement)	Expert Opinion	N/A	N/A	5	5	1	3	0	1	10	2	1	0	1
Surgery	May be appropriate	Expert Consensus	N/A	N/A	6	6	0	0	0	1	7	9	2	0	0
MRA abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	9	4	4	2	0	0	0	0	0
RBC scan abdomen and pelvis	Usually not appropriate	Expert Consensus	��� 1-10 mSv		2	2	5	7	3	0	2	1	0	0	0

Variant 4: Lower gastrointestinal tract bleeding. Transcatheter arteriography localized the bleeding site and treatment was attempted. Ongoing or recurrent bleeding. No other prior radiological or endoscopic investigations. Next procedure or intervention.

D 1	Appropriateness	COF	A L L DDI	D I DDI	D 41	N. 1.			F	inal [Tabu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Diagnostic/therapeutic colonoscopy	Usually appropriate	Limited	N/A	N/A	7	7	0	0	0	1	1	2	7	7	1
		References		Study	Quality										

			46 (25786443)			3										
CTA abdomen and pelvis without and with IV contrast	May approp		Expert Consensus	���� 10- mSv	30	6	6	0	2	0	0	5	5	4	3	0
Surgery	May approp	be briate	Expert Consensus	N/A	N/A	6	6	0	0	0	1	5	8	2	3	0
Transcatheter arteriography/embolization	May approp		Expert Consensus	N/A	N/A	6	6	0	1	1	0	3	6	5	3	0
MRA abdomen and pelvis without and with IV contrast	Usuall approp		Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	8	7	2	1	1	0	0	0	0
RBC scan abdomen and pelvis	Usuall approp		Expert Consensus	��⊕ 1-10 mSv	0	2	2	4	6	7	0	1	1	0	0	0

Variant 5: Lower gastrointestinal tract bleeding. Obscure (nonlocalized) recurrent bleeding in a hemodynamically stable patient (assumes a prior negative adequate colonoscopy and upper gastrointestinal endoscopy). Next procedure or intervention.

D 1	Appropriateness	COL	4.1.1/ DD	_	D I DDI	D (*	3.6.11			F	inal	Tabu	latio	ns		
Procedure	Category	SOE	Adults RR	L	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Capsule endoscopy	Usually appropriate	Limited	N/A		N/A	8	8	1	0	0	0	1	2	5	6	3
		References			Study	Quality										
		64 (16279893)				M										
CT enterography abdomen and pelvis with IV contrast	Usually appropriate	Limited	N/A		N/A	7	7	0	0	0	1	3	0	7	6	1
		References			Study	Quality										
		65 (17619098)				4										
		66 (21642417)				2										
		67 (23721134)				M										
		68 (21460027)				3										
		69 (22270143)				3										

MR enterography	May l appropr		Strong	O 0 mSv	O 0 mSv [ped]	4	4	0	1	2	8	6	1	0	0	0
			References		Study	y Quality		•	•		•	•	•			
			72 (20132082)			3										
			73 (22528671)			2										
			71 (28668417)			2										
Push enteroscopy	May l		Limited	N/A	N/A	5	5	0	0	0	2	12	0	3	1	0
			References		Study	y Quality		•	•	•						
			74 (17324401)			1										
RBC scan abdomen and pelvis	May l		Expert Consensus	&& 1-10 mSv)	6	6	0	0	2	0	3	6	1	6	0
RBC scan with SPECT or SPECT/CT abdomen and pelvis	May l appropr		Expert Consensus	��� 1-10 mSv)	6	6	0	0	0	0	1	9	7	2	0
Transcatheter arteriography/embolization	May l appropr (Disagree	riate	Expert Opinion	N/A	N/A	5	5	0	0	4	5	6	1	2	0	0
Fluoroscopy small bowel follow-through	Usually appropr		Limited	��� 1-10 mSv	99993- 10 mSv [ped]	2	2	5	6	3	0	2	1	0	0	1
			References		Study	y Quality										
			70 (20138043)			1										
Surgery	Usually		Limited	N/A	N/A	3	3	3	4	8	1	1	0	1	0	0
			References		Stud	y Quality		•				•	•			
			51 (-3149670)			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.