# American College of Radiology ACR Appropriateness Criteria®

## Dysphagia

Variant 1: Oropharyngeal dysphagia with an attributable cause. Initial imaging.

n 1	Appropriateness	COL	A L L DDY	D I DDI	3.5.11			F	inal '	Гаbu	latio	ns			
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Fluoroscopy barium swallow modified	Usually appropriate	Limited	��� 1-10 mSv		8	8	0	0	0	0	0	0	0	0	0
		References		Study	Quality										
		13 (18855050)			3										
		14 (18940640)			4										
Fluoroscopy pharynx dynamic and static imaging	May be appropriate	Expert Consensus	��� 1-10 mSv		6	6	0	0	0	0	0	0	0	0	0
Fluoroscopy single contrast esophagram	May be appropriate	Expert Consensus	��� 1-10 mSv	��� 0.3- 3 mSv [ped]	4	4	0	0	0	0	0	0	0	0	0
Fluoroscopy biphasic esophagram	May be appropriate	Limited	��� 1-10 mSv		4	4	0	0	0	0	0	0	0	0	0
		References		Study	Quality										
		15 (2110721)			4		_								
CT neck and chest with IV contrast	Usually not appropriate	Expert Consensus	���� 10-30 mSv	���� 3- 10 mSv [ped]	3	3	3	4	8	0	0	0	0	0	0
Esophageal transit nuclear medicine scan	Usually not appropriate	Expert Consensus	��� 1-10 mSv		2	2	0	0	0	0	0	0	0	0	0
CT neck and chest without IV contrast	Usually not appropriate	Expert Consensus	���� 10-30 mSv	≎≎≎≎ 3- 10 mSv [ped]	2	2	3	8	1	1	1	1	1	0	0

CT neck and chest without and with IV contrast	Usually not appropriate	Expert Consensus	���� 10-30 mSv	≎≎≎≎ 3- 10 mSv [ped]	2	2	5	6	3	0	1	0	0	1	0
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## Variant 2: Unexplained oropharyngeal dysphagia. Initial imaging.

ъ	Appropri	iateness	gor.	4 1 14 DD		D I DDI	<b>.</b>	3.6.11			F	inal '	Tabu	latio	ns		
Procedure	Categ	gory	SOE	Adults RR	IL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Fluoroscopy biphasic esophagram	Usua approp		Limited	��� 1-10 mSv	0		8	8	0	0	0	0	0	0	0	0	0
			References			Study	Quality										
			12 (25605697)				3										
			15 (2110721)				4										
			17 (8605748)				3										
	•		16 (9798879)				4										
Fluoroscopy single contrast esophagram	May approp		Expert Consensus	��� 1-10 mSv	0	��� 0.3- 3 mSv [ped]	6	6	0	0	0	0	0	0	0	0	0
Fluoroscopy barium swallow modified	May approp		Limited	��� 1-10 mSv	0		6	6	0	0	0	0	0	0	0	0	0
			References			Study	Quality										
			19 (25783698)				4										
Fluoroscopy pharynx dynamic and static imaging	May approp (Disagre	riate	Expert Opinion	��� 1-10 mSv	0		5	5	0	3	0	3	4	5	0	0	0
			References			Study	Quality										
	•		18 (11976859)				3									_	
Esophageal transit nuclear medicine scan	May approp		Expert Consensus	��� 1-10 mSv	0		4	4	0	0	0	0	0	0	0	0	0
CT neck and chest with IV contrast	Usuall approp		Expert Consensus	<b>≎≎≎≎</b> 10∹ mSv	30	���� 3- 10 mSv [ped]	2	2	3	7	5	0	0	0	0	0	0

CT neck and chest without IV contrast	Usually not appropriate	Expert Consensus	ଡେଡେଡ 10-30 mSv	���� 3- 10 mSv [ped]	2	2	2	8	3	0	1	1	0	1	0
CT neck and chest without and with IV contrast	Usually not appropriate	Expert Consensus	ଡେଡେଡ 10-30 mSv	���� 3- 10 mSv [ped]	2	2	4	7	3	0	1	0	1	0	0

#### Variant 3: Retrosternal dysphagia in immunocompetent patients. Initial imaging.

	Appropri	ateness									F	inal '	Tabu	latio	ıs		
Procedure	Categ		SOE	Adults RR	L	Peds RRL	Rating	Median	1	2	3		5			8	9
Fluoroscopy biphasic esophagram	Usua approp		Limited	��� 1-10 mSv	)		8	8	0	0	0	0	0	0	0	0	0
			References			Study	Quality										
			20 (9168701)				3										
			23 (3487939)				3										
			28 (8629536)				4										
			3 (22369033)				4										
			5 (19699405)				4										
			21 (6501826)				4										
			22 (4059545)				3										
			24 (4008906)				3										
			25 (7077058)				3										
			26 (3496755)				3										
			27 (15833990)				3										
			11 (3932116)				3										
			17 (8605748)				3										
Fluoroscopy single contrast esophagram	May approp		Expert Consensus	��� 1-10 mSv	0	��� 0.3- 3 mSv [ped]	6	6	0	0	0	0	0	0	0	0	0
Fluoroscopy barium swallow modified	May approp	be riate	Expert Consensus	��� 1-10 mSv	0		4	4	0	0	0	0	0	0	0	0	0

Esophageal transit nuclear medicine scan	May approp		Limited	��� 1-10 mSv		4	4	0	0	0	0	0	0	0	0	0
			References		Study	Quality										
			3 (22369033)			4										
			30 (9242756)			3										
			29 (19431219)			1										
			31 (8553100)			4										
			32 (12418460)			4		_								
Fluoroscopy pharynx dynamic and static imaging	Usually approp		Expert Consensus	<b>≎≎≎</b> 1-10 mSv		3	3	1	2	6	5	1	0	0	0	0
CT neck and chest with IV contrast	Usually approp		Expert Consensus	���� 10-30 mSv	9999 3- 10 mSv [ped]	3	3	3	2	10	0	0	0	0	0	0
CT neck and chest without IV contrast	Usually approp		Expert Consensus	���� 10-30 mSv	9999 3- 10 mSv [ped]	2	2	2	7	3	1	1	1	1	0	0
CT neck and chest without and with IV contrast	Usually approp	y not riate	Expert Consensus	���� 10-30 mSv	9	2	2	4	6	4	0	1	0	0	1	0

Variant 4: Retrosternal dysphagia in immunocompromised patients. Initial imaging.

	Appropriateness	GOT.	A L L DDY	n i nni	D (1	3.6.11			F	inal '	Гаbи	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Fluoroscopy biphasic esophagram	Usually appropriate	Limited	<b>≎≎≎</b> 1-10 mSv		8	8	0	0	0	0	0	0	0	0	0

References	Study Quality
35 (2823585)	4
37 (3969456)	4
36 (3259822)	4
34 (19266596)	4

Fluoroscopy single contrast esophagram	May be appropriate	Expert Consensus	��� 1-10 mSv	��� 0.3- 3 mSv [ped]	5	5	0	0	0	0	0	0	0	0	0
Fluoroscopy barium swallow modified	May be appropriate	Expert Consensus	<b>≎≎≎</b> 1-10 mSv		4	4	0	1	1	7	4	3	0	0	0
Fluoroscopy pharynx dynamic and static imaging	Usually not appropriate	Expert Consensus	��� 1-10 mSv		3	3	0	0	0	0	0	0	0	0	0
CT neck and chest with IV contrast	Usually not appropriate	Expert Consensus	���� 10-30 mSv	���� 3- 10 mSv [ped]	3	3	1	6	8	0	0	0	0	0	0
Esophageal transit nuclear medicine scan	Usually not appropriate	Expert Consensus	<b>≎≎≎</b> 1-10 mSv		2	2	0	0	0	0	0	0	0	0	0
CT neck and chest without IV contrast	Usually not appropriate	Expert Consensus	���� 10-30 mSv	���� 3- 10 mSv [ped]	2	2	3	9	3	0	0	0	0	0	0
CT neck and chest without and with IV contrast	Usually not appropriate	Expert Consensus	���� 10-30 mSv	���� 3- 10 mSv [ped]	2	2	3	6	4	0	1	1	1	0	0

Variant 5: Early postoperative dysphagia. Oropharyngeal or retrosternal. Initial imaging.

D 1	Appropriaten	ess	A L L DDI	D I DDI	D 41	3.6.11			F	'inal '	Tabu	latio	ns		
Procedure	Category	SOE	Adults RRI	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Fluoroscopy single contrast esophagram	Usually appropriate	Limited	<b>≎≎≎</b> 1-10 mSv	��� 0.3- 3 mSv [ped]	8	8	0	0	0	0	1	2	2	9	2
		References		Study	/ Quality										
		1 (25590391)			4										
		40 (23059739)			3										
		41 (23529533)	ı		4										
		39 (27066433)			3		_								
CT neck and chest with IV contrast	Usually appropriate	Limited	ଡଡ଼ଡ଼ 10-3 mSv	30	7	7	0	0	0	0	1	2	6	6	1

		References			Study	Quality										
		40 (23059739)				3										
		43 (18559902)				2										
CT neck and chest without IV contrast	May approp	Expert Consensus	���� 10- mSv	30	���� 3- 10 mSv [ped]	6	6	0	1	0	3	4	5	2	1	0
Fluoroscopy biphasic esophagram	Usuall approp	Expert Consensus	��� 1-10 mSv	0		3	3	1	5	8	1	0	0	0	0	0
Fluoroscopy pharynx dynamic and static imaging	Usuall approp	Limited	<b>��≎</b> 1-10 mSv	0		3	3	1	3	6	3	2	0	0	0	0
		References			Study	Quality										
		42 (11016771)				3										
Fluoroscopy barium swallow modified	Usuall approp	Limited	<b>��⊕</b> 1-10 mSv	0		3	3	0	4	4	6	1	0	0	0	0
		References			Study	Quality									•	
		41 (23529533)				4										
CT neck and chest without and with IV contrast	Usuall approp	Expert Consensus	���� 10- mSv	30	���� 3- 10 mSv [ped]	3	3	1	3	6	5	0	0	0	0	0
Esophageal transit nuclear medicine scan	Usuall approp	Expert Consensus	��� 1-10 mSv	0		2	2	4	12	0	0	0	0	0	0	0

Variant 6: Delayed (greater than 1 month) postoperative development of dysphagia. Oropharyngeal or retrosternal. Initial imaging.

D	Appropriateness	COE	A 314- DDI	D. J. DDI	D - 43	M. P			F	inal '	<u> Fabu</u>	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Fluoroscopy single contrast esophagram	Usually appropriate	Expert Consensus	<b>≎≎≎</b> 1-10 mSv	��� 0.3- 3 mSv [ped]	7	7	0	0	0	0	2	4	6	3	1
CT neck and chest with IV contrast	Usually appropriate	Limited	���� 10-30 mSv	���� 3- 10 mSv [ped]	7	7	0	0	0	0	1	1	7	6	1

	Г		References		Stud											
			49 (25794065)	Study Quality 4												
	48 (17374861)															
Fluoroscopy biphasic esophagram	May be appropris		Expert Consensus	��� 1-10 mSv	)	6	6	0	0	1	1	4	4	4	1	1
Fluoroscopy barium swallow modified	May be appropriate		Limited	��� 1-10 mSv	)	6	6	0	0	1	3	4	4	3	1	0
	References Study Quality						•				•					
		46 (25943964)														
		47 (12587251)			4			_								
Esophageal transit nuclear medicine scan	May be appropriate		Expert Consensus	��� 1-10 mSv	)	4	4	0	5	3	4	3	1	0	0	0
Fluoroscopy pharynx dynamic and static imaging	Usually not appropriate		Limited	��� 1-10 mSv	)	3	3	1	3	5	2	4	0	0	0	0
		References			Study Quality											
		42 (11016771)														
CT neck and chest without IV contrast	Usually not appropriate		Expert Consensus	���� 10-3 mSv	30	3	3	0	6	3	1	3	2	0	0	0
CT neck and chest without and with IV contrast	Usually not appropriate		Expert Consensus	���� 10-3 mSv	30	2	2	0	8	2	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.