

# American College of Radiology ACR Appropriateness Criteria®

## Dysphagia

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

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							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		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.**

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Fluoroscopy biphasic esophagram	Usually appropriate	Limited	☼☼☼ 1-10 mSv		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 be appropriate	Expert Consensus	☼☼☼ 1-10 mSv		6	6	0	0	0	0	0	0	0	0	0
Fluoroscopy barium swallow modified	May be appropriate	Limited	☼☼☼ 1-10 mSv		6	6	0	0	0	0	0	0	0	0	0
		References		Study Quality											
		19 (25783698)		4											
Fluoroscopy pharynx dynamic and static imaging	May be appropriate (Disagreement)	Expert Opinion	☼☼☼ 1-10 mSv		5	5	0	3	0	3	4	5	0	0	0
		References		Study Quality											
		18 (11976859)		3											
Esophageal transit nuclear medicine scan	May be appropriate	Expert Consensus	☼☼☼ 1-10 mSv		4	4	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]	2	2	3	7	5	0	0	0	0	0	0



Esophageal transit nuclear medicine scan	May be appropriate	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 not appropriate	Expert Consensus	☹☹☹ 1-10 mSv		3	3	1	2	6	5	1	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	3	2	10	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	2	7	3	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	4	6	4	0	1	0	0	1	0

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

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Fluoroscopy biphasic esophagram	Usually appropriate	Limited	☼☼☼ 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		5	5	0	0	0	0	0	0	0	0	0
Fluoroscopy barium swallow modified	May be appropriate	Expert Consensus	⊕⊕⊕ 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	⊕⊕⊕ 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.**

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Fluoroscopy single contrast esophagram	Usually appropriate	Limited	⊕⊕⊕ 1-10 mSv		8	8	0	0	0	0	1	2	2	9	2
		References		Study Quality											
		1 (25590391)		4											
		40 (23059739)		3											
		41 (23529533)		4											
		39 (27066433)		3											
CT neck and chest with IV contrast	Usually appropriate	Limited	⊕⊕⊕⊕ 10-30 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	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 be appropriate	Expert Consensus	⊗⊗⊗⊗ 10-30 mSv	⊗⊗⊗⊗ 3-10 mSv [ped]	6	6	0	1	0	3	4	5	2	1	0	
Fluoroscopy biphasic esophagram	Usually not appropriate	Expert Consensus	⊗⊗⊗ 1-10 mSv		3	3	1	5	8	1	0	0	0	0	0	
Fluoroscopy pharynx dynamic and static imaging	Usually not appropriate	Limited	⊗⊗⊗ 1-10 mSv		3	3	1	3	6	3	2	0	0	0	0	
			References		Study Quality											
			42 (11016771)		3											
Fluoroscopy barium swallow modified	Usually not appropriate	Limited	⊗⊗⊗ 1-10 mSv		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	Usually not appropriate	Expert Consensus	⊗⊗⊗⊗ 10-30 mSv	⊗⊗⊗⊗ 3-10 mSv [ped]	3	3	1	3	6	5	0	0	0	0	0	
Esophageal transit nuclear medicine scan	Usually not appropriate	Expert Consensus	⊗⊗⊗ 1-10 mSv		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.**

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Fluoroscopy single contrast esophagram	Usually appropriate	Expert Consensus	☼☼☼ 1-10 mSv		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
		References		Study Quality											

		49 (25794065)		4											
		48 (17374861)		4											
Fluoroscopy biphasic esophagram	May be appropriate	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)		4											
		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)		3											
CT neck and chest without IV contrast	Usually not appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv	☼☼☼☼ 3-10 mSv [ped]	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	☼☼☼☼ 10-30 mSv	☼☼☼☼ 3-10 mSv [ped]	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](http://www.acr.org/ac).