# American College of Radiology ACR Appropriateness Criteria®

## Dysphagia

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

n 1	Appropriate	eness	COF	4.1.4. DDI		DDI	D ()	3.6.11			F	inal T	Γabu	latio	ıs		
Procedure	Categor		SOE	Adults RRL	Peds	RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Fluoroscopy barium swallow modified	Usually appropria		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 appropria		Expert Consensus	<b>≎≎≎</b> 1-10 mSv			6	6	0	0	0	0	0	0	0	0	0
Fluoroscopy single contrast esophagram	May be appropria		Expert Consensus	��� 1-10 mSv			4	4	0	0	0	0	0	0	0	0	0
Fluoroscopy biphasic esophagram	May be appropria		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 n appropria		Expert Consensus	���� 10-3 mSv	0		3	3	3	4	8	0	0	0	0	0	0
Esophageal transit nuclear medicine scan	Usually n appropria		Expert Consensus	��� 1-10 mSv			2	2	0	0	0	0	0	0	0	0	0
CT neck and chest without IV contrast	Usually n appropria		Expert Consensus	���� 10-3 mSv	0		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		2	2	5	6	3	0	1	0	0	1	0	
--	-------------------------	---------------------	-------------------	--	---	---	---	---	---	---	---	---	---	---	---	--

### Variant 2: Unexplained oropharyngeal dysphagia. Initial imaging.

D 1	Appropri	ateness	COL	4.1.14 DD		D I DDI	D (1	3.6.11			F	inal '	Гаbu	latio	ns		
Procedure	Categ		SOE	Adults RR	KL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Fluoroscopy biphasic esophagram	Usua approp	<del></del>	Limited	��� 1-1 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	��� 1-1 mSv	0		6	6	0	0	0	0	0	0	0	0	0
Fluoroscopy barium swallow modified	May approp		Limited	<b>≎≎≎</b> 1-1 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 (Disagree	riate	Expert Opinion	��� 1-1 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	��� 1-1 mSv	0		4	4	0	0	0	0	0	0	0	0	0
CT neck and chest with IV contrast	Usually approp		Expert Consensus	���� 10- mSv	-30		2	2	3	7	5	0	0	0	0	0	0

CT neck and chest without IV contrast	Usually not appropriate	Expert Consensus	���⊕ 10-30 mSv	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	���� 10-30 mSv	2	2	4	7	3	0	1	0	1	0	0

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

ъ .	Appropri	ateness	COE	4 1 14 DDI	n i ppr	D. 41	3.7.11			F	inal '	Tabu	latior	ıs		
Procedure	Catego	ory	SOE	Adults RRI	L Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Fluoroscopy biphasic esophagram	Usual appropi		Limited	��� 1-10 mSv		8	8	0	0	0	0	0	0	0	0	0
			References		Study	y 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			1	1	1	1				
Fluoroscopy single contrast esophagram	May appropr		Expert Consensus	��� 1-10 mSv		6	6	0	0	0	0	0	0	0	0	0
Fluoroscopy barium swallow modified	May appropr		Expert Consensus	��� 1-10 mSv		4	4	0	0	0	0	0	0	0	0	0

Esophageal transit nuclear medicine scan	May approp	be oriate	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)		1	4										
Fluoroscopy pharynx dynamic and static imaging	Usuall approp		Expert Consensus	��� 1-10 mSv		3	3	1	2	6	5	1	0	0	0	0
CT neck and chest with IV contrast	Usuall approp		Expert Consensus	���� 10-30 mSv		3	3	3	2	10	0	0	0	0	0	0
CT neck and chest without IV contrast	Usuall approp		Expert Consensus	<b>≎≎≎≎</b> 10-30 mSv		2	2	2	7	3	1	1	1	1	0	0
CT neck and chest without and with IV contrast	Usuall approp		Expert Consensus	<b>≎≎≎≎</b> 10-30 mSv		2	2	4	6	4	0	1	0	0	1	0

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

D 1	Appropriateness	COE	A L LA DDI	D I DDI	D 4	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
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	<b>≎≎≎</b> 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	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	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	<b>≎≎≎≎</b> 10-30 mSv	2	2	3	6	4	0	1	1	1	0	0

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

D 1	Appropri	ateness	COF	4 1 14 DD		n i nni	D 4	3.7.11			F	inal '	Tabu	latio	ns		
Procedure	Categ		SOE	Adults RR	KL .	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Fluoroscopy single contrast esophagram	Usua approp		Limited	��� 1-1 mSv	0		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	Usua approp		Limited		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		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	��� 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	��� 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	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.

ъ .	Appropriateness	COF	A L L DDI	D I DDI	D 41	3.6.11			F	inal '	Гаbu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Fluoroscopy 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	୫୫୫୫ 10-30 mSv		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	��� 1-1 mSv	0		6	6	0	0	1	1	4	4	4	1	1
Fluoroscopy barium swallow modified	May be appropriate		Limited	��� 1-1 mSv	0		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	��� 1-1 mSv	0		4	4	0	5	3	4	3	1	0	0	0
Fluoroscopy pharynx dynamic and static imaging	Usually not appropriate		Limited	��� 1-1 mSv	0		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- 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	���� 10-30 mSv			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.