American College of Radiology ACR Appropriateness Criteria®

Thoracic Venous Occlusions-Suspected Superior Vena Cava Syndrome

Variant 1: Adult. Suspected acute superior vena cava or brachiocephalic vein occlusion. Initial Imaging.

	Appropri	ateness	207		_						F	inal '	Tabu	latio	ns		
Procedure	Categ	ory	SOE	Adults RR	L	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CTV chest with IV contrast	Usua approp		Limited	���� 10-3 mSv	30		9	9	0	0	0	0	1	0	2	5	10
			References			Study	Quality										
			9 (25724223)				4										
CT chest with IV contrast	Usua approp		Limited		0	���� 3- 10 mSv [ped]	8	8	0	0	0	1	0	0	4	6	8
			References Study Quality					•									
			8 (26452112)	Study Quanty 4													
			7 (35297100)				4										
	_		6 (25082145)				4			_							
CT chest without and with IV contrast	Usua approp		Expert Consensus	≎≎≎ 1-10 mSv	0	���� 3- 10 mSv [ped]	7	7	0	0	0	0	1	2	9	6	0
MRV chest without and with IV contrast	Usua approp		Limited	O 0 mSv	,	O 0 mSv [ped]	7	7	0	0	0	1	3	3	4	4	3
			References		Study Quality												
			8 (26452112)		4												
CT neck and chest with IV contrast	Usua approp		Expert Consensus	���� 10-30 mSv		���� 3- 10 mSv [ped]	7	7	0	0	0	1	3	2	6	5	2

CT neck and chest without and with IV contrast	Usual appropr		Expert Consensus	���� 10-3 mSv	30	���� 3- 10 mSv [ped]	7	7	0	0	1	1	1	3	7	4	1
CTA and CTV chest with IV contrast	Usual appropr		Limited	���� 10-3 mSv	30	����� 10-30 mSv [ped]	7	7	0	0	1	0	6	1	2	4	4
			References		•	Study	Quality										
			9 (25724223)				4										
MRA and MRV chest without and with IV contrast	Usual appropr		Limited	O 0 mSv	,	O 0 mSv [ped]	7	7	0	0	1	0	6	1	5	3	2
			References			Study	Quality										
			8 (26452112)				4										
MRI chest without and with IV contrast	May l appropr		Limited	O 0 mSv	,	O 0 mSv [ped]	6	6	0	0	1	1	5	4	4	3	0
			References	References		Study	Quality										
			8 (26452112)				4										
MRI chest with IV contrast	May l appropr		Limited	O 0 mSv	,	O 0 mSv [ped]	6	6	0	0	0	0	5	6	4	3	0
			References		Study Quality												
			8 (26452112)		4												
CTA chest with IV contrast	May l appropr (Disagree	riate	Expert Opinion	��� 1-1(mSv	0	���� 3- 10 mSv [ped]	5	5	0	0	3	3	4	1	4	3	0
			References			Study	Quality										
			9 (25724223)				4										
MRA chest without and with IV contrast	May l appropr (Disagree	riate	Expert Opinion	O 0 mSv	,	O 0 mSv [ped]	5	5	0	0	3	5	1	4	3	2	0
			References		Study Quality												
			8 (26452112)			4											
MRV chest without IV contrast	May l appropr (Disagree	riate	Expert Opinion O 0 mSv		O 0 mSv [ped]	5	5	0	0	1	2	6	3	4	1	1	

		References		Study Quality 4											
		8 (26452112)	⊕ <0.03 mSv 5 5												
Radiography chest	May be appropriate (Disagreement)	Expert Opinion	 <0.1 mSv		5	5	1	5	4	0	1	2	3	2	0
		References		Study	Quality										
		10 (33357528)			4										
		11 (22560123)			4										
MRA chest with IV contrast	May be appropriate (Disagreement)			O 0 mSv [ped]	5	5	0	0	3	5	2	1	5	2	0
		References		Study	Quality										
		8 (26452112)													
CTA chest without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	≎		5	5	0	0	6	3	1	1	4	3	0
		References		Study	Quality										
		9 (25724223)													
MRA chest without IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	4	4	1	1	5	6	4	0	1	0	0
MRI chest without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	4	4	0	1	5	5	6	1	0	0	0
		References		Study	Quality		•								
		8 (26452112)		_	4										
CT chest without IV contrast	Usually not appropriate	Expert Consensus	≎≎≎ 1-10 mSv	���� 3- 10 mSv [ped]	3	3	2	2	5	9	0	1	0	0	0
Catheter venography upper extremity and SVC	Usually not appropriate	Limited	≎≎≎ 1-10 mSv		3	3	4	3	6	3	0	1	0	1	0
		References		Study Quality											
		5 (32928071)		3											
CT neck and chest without IV contrast	Usually not appropriate	Expert Consensus	���� 10-30 mSv	���� 3- 10 mSv [ped]	3	3	2	3	5	5	3	1	0	0	0

US duplex Doppler upper extremity and chest	Usuall approp	•	Limited	O 0 mSv	,	O 0 mSv [ped]	3	3	0	2	8	1	4	2	0	1	0
	•		References			Study	Quality										
			7 (35297100)				4										
			10 (33357528)				4										

Variant 2: Adult. Suspected chronic superior vena cava or brachiocephalic vein occlusion. Initial Imaging.

D	Appropria	ateness	SOF	A J14- DD	.	D. J. DDI	D - 45	M - J!			F	inal '	Гаbu	latior	ıs		
Procedure	Catego		SOE	Adults RR	L	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CT chest with IV contrast	Usual appropi		Limited	��� 1-10 mSv		���� 3- 10 mSv [ped]	8	8	1	0	0	0	1	1	3	7	6
			References			Study	Quality										
			5 (32928071)				3										
			6 (25082145)				4										
			8 (26452112)				4										
CTA and CTV chest with IV contrast	Usual appropi		Limited	⊕⊕⊕⊕ 10-30		8	8	1	0	0	0	1	2	5	6	3	
			References		Study Quality												
			9 (25724223)				4										
CT chest without and with IV contrast	Usual appropi		Expert Consensus	≎≎≎ 1-10 mSv)	���� 3- 10 mSv [ped]	7	7	0	0	0	0	1	1	8	7	1
CTV chest with IV contrast	Usual appropi		Limited	ଡଡ଼ଡଡ଼ 10-3 mSv	30		7	7	0	0	0	0	0	4	3	4	8
			References		Study Quality												
			9 (25724223)		4			_									
MRV chest without and with IV contrast	Usual appropi		Limited	O 0 mSv		O 0 mSv [ped]	7	7	0	0	0	0	5	2	4	4	3

			References		Study	/ Quality										
			8 (26452112)			4										
CT neck and chest with IV contrast	Usua approp		Expert Consensus	���� 10-30 mSv	0 \$999 3- 10 mSv [ped]	7	7	0	0	0	0	0	0	10	8	0
CT neck and chest without and with IV contrast	Usua approp		Expert Consensus	���� 10-30 mSv	0	7	7	0	0	0	0	1	5	8	4	0
MRA and MRV chest without and with IV contrast	Usua approp		Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	1	0	1	4	3	3	3	3
			References		Study	Quality										
			8 (26452112)			4										
MRA chest without and with IV contrast	May approp		Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	1	0	5	3	3	5	1	0
			References		Study Quality				•				•	•	•	
			8 (26452112)		Study Quanty 4											
MRI chest without and with IV contrast	May approp		Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	1	3	6	5	3	0
			References		Study	Quality		<u> </u>								
			8 (26452112)		•	4										
MRA chest with IV contrast	May approp		Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	1	0	2	6	3	5	1	0
			References		Study	Quality		•								
			8 (26452112)			4										
MRI chest with IV contrast	May approp		Limited	O 0 mSv	O 0 mSv [ped]	6	6	1	1	0	4	4	6	2	1	0
			References		Study	Quality				_	_	_				
			8 (26452112)		4											
CTA chest with IV contrast	May approp (Disagre	oriate	Expert Opinion	��� 1-10 mSv	���� 3- 10 mSv [ped]	5	5	0	1	3	2	2	3	4	3	0
			References		Study	Quality										

		9 (25724223)													
Catheter venography upper extremity and SVC	May be appropriate (Disagreement)	Expert Opinion	��� 1-10 mSv		5	5	2	3	5	0	1	5	2	0	0
		References		Study	/ Quality										
		5 (32928071)			3										
MRV chest without IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	0	0	1	6	2	4	3	1	1
		References		Study	/ Quality										
		8 (26452112)			4										
Radiography chest	May be appropriate (Disagreement)	Expert Opinion	 		5	5	1	5	4	0	1	2	2	2	1
		References		Study											
		10 (33357528)			4										
		11 (22560123)			4										
CTA chest without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	��� 1-10 mSv		5	5	0	0	3	3	3	2	4	3	0
		References		Study	Quality		•	•		•	•				
		9 (25724223)			4										
US duplex Doppler upper extremity and chest	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	1	4	4	1	1	1	3	1	2
		References		Study	Quality										
		7 (35297100)			4										
		10 (33357528)			4										
MRI chest without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	4	4	1	2	6	6	2	2	0	0	0
		References		Study Quality			•								
		8 (26452112)		4											
CT chest without IV contrast	Usually not appropriate	Expert Consensus	��� 1-10 mSv	���� 3- 10 mSv [ped]	3	3	3	2	5	5	2	0	1	0	0

MRA chest without IV contrast	Usuall approp	· .	Limited	O 0 mSv	,	O 0 mSv [ped]	3	3	1	4	5	5	1	3	0	0	0
	,		References 8 (26452112)			Study	Quality 4										
CT neck and chest without IV contrast	Usuall: approp		Expert Consensus	୫୫୫୫ 10∹ mSv	30	���� 3- 10 mSv [ped]	3	3	2	3	9	0	3	0	1	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.