American College of Radiology ACR Appropriateness Criteria[®]

Cerebrovascular Diseases-Stroke and Stroke-Related Conditions

Variant 1: Adult. Clinical transient ischemic attack (TIA). Symptoms resolved. Initial imaging

	Appropriateness								F	'inal '	Tabu	latio	ns		
Procedure	Category	SOE	Adults RRI	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CT head without IV contrast	Usually appropriate	Strong	ତତତ 1-10 mSv	��� 0.3- 3 mSv [ped]	9	9	0	0	0	0	0	0	1	3	15
		References		Study	/ Quality										
		21 (25477216)			2										
		20 (26747699)			4										
		19 (24029731)			4										
		14 (23228203)			2										
		13 (31662037)			4										
CTA neck with IV contrast	Usually appropriate	Limited	ତତତ 1-10 mSv	&&& 0.3- 3 mSv [ped]	8	8	0	0	0	0	0	1	3	11	4
		References		Study	V Quality										
		12 (34024117)			4										
		24 (10219418)			2		-								
MRI head without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	8	8	1	0	0	1	0	0	3	6	8
		References		Study	/ Quality										
		36 (25817629)			4										
		35 (25813066)			2										
		34 (24453269)			4										
		29 (24256197)			2										

CTA head with IV contrast	Usually appropriate	Limited	֎֎֎ 1-10 mSv	&&&& 3- 10 mSv [ped]	7	7	0	0	0	1	0	1	8	6	3
		References		Study	Quality										
		23 (35314513)			4										
		22 (26330567)			2										
US duplex Doppler carotid artery	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	2	1	10	2	4
		References		Study	Quality										
		12 (34024117)			4										
		38 (16679163)		-	М										
MRA head without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	1	7	9	2	0	0
		References		Study	Quality										
		25 (23907247)			4										
MRA neck without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	0	9	9	1	0	0
		References		Study	Quality				-	-					
		12 (34024117)		-	4										
		26 (18556586)		Not A	ssessed										
		27 (19164440)			2										
MRA neck without and with IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	1	7	9	2	0	0
		References		Study	Quality										
		12 (34024117)			4										
		26 (18556586)		Not A	ssessed										
		27 (19164440)			2					-					
MRI head without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	5	1	6	6	1	0	0	0	0
		References		Study	Quality										
		34 (24453269)			4										

CT head perfusion with IV contrast	Usually approp	Strong	ତତତ 1-10 mSv		2	2	6	4	2	1	4	1	1	0	0
		References		Study	y Quality										
		18 (22068990)			2										
		17 (27939758)			2										
		16 (34925211)			2										
		15 (21220677)			2										
		14 (23228203)			2							1	1		
MRI head perfusion with IV contrast	Usually approp	Strong	O 0 mSv	O 0 mSv [ped]	2	2	7	3	7	1	0	0	1	0	0
		References		Study	y Quality										
		33 (29146719)			2										
		32 (17200864)			2										
		 31 (11003277)			2										
		30 (27070836)			2										
		29 (24256197)			2										
		28 (15569725)			4										
		18 (22068990)			2		_		1			1	1	1	
CT head with IV contrast	Usually approp	Expert Consensus	ତେତେ 1-10 mSv	≎≎≎ 0.3- 3 mSv [ped]	1	1	17	0	2	0	0	0	0	0	0
CT head without and with IV contrast	Usually approp	Expert Consensus	ତତତ 1-10 mSv	ଡଡଡଡଡ 3- 10 mSv [ped]	1	1	16	1	2	0	0	0	0	0	0
Arteriography cervicocerebral	Usually approp	Expert Consensus	ତତତ 1-10 mSv	ଡଡଡଡ 3- 10 mSv [ped]	1	1	13	5	1	0	0	0	0	0	0
MRA head without and with IV contrast	Usually approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	16	3	0	0	0	0	0	0	0
US duplex Doppler transcranial	Usually approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	11	7	1	0	0	0	0	0	0

MRV head without IV contrast	Usuall approp		Limited	O 0 mSv		0 mSv [ped]	1	1	12	1	4	1	1	0	0	0	0
		References 37 (21917479)				Study	v Quality										
							4										
CTV head with IV contrast	Usuall approp		Expert Consensus	େଡେଡ 1-1(mSv		��� 3- 0 mSv [ped]	1	1	14	1	2	1	1	0	0	0	0
MRV head without and with IV contrast	Usuall approp	y not oriate	Limited	O 0 mSv		0 mSv [ped]	1	1	11	3	3	1	0	1	0	0	0
			References			Study	V Quality										
			37 (21917479)				4										

Variant 2: Adult. Focal neurologic deficit. Clinically suspected acute ischemic stroke. Initial imaging.

	Appropriateness	005							I	Final	Tabu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CTA head with IV contrast	Usually appropriate	Strong	େଡେଡ 1-10 mSv	ଡଡଡଡ 3- 10 mSv [ped]	9	9	0	0	1	0	0	1	1	5	11
		References		Study	v Quality										
		60 (35342807)			2										
		57 (29364767)			1										
		49 (36239645)			2										
		48 (36239644)			1										
		46 (29129157)			4										
		44 (26898852)		Not A	Assessed										
CTA neck with IV contrast	Usually appropriate	Moderate	ଝେହ 1-10 mSv	ବଟର 0.3- 3 mSv [ped]	9	9	1	0	0	0	0	1	1	5	11
		References		Study	v Quality										
		12 (34024117)			4										
		13 (31662037)			4										

		61 (27092472)			2									
CT head without IV contrast	Usually appropriate	Strong	ତତତ 1-10 mSv	& & ⊕ 0.3- 3 mSv [ped]	9	9	0	0	1	0	0	0	0	0 1
		References		Study	Quality									
		58 (10905241)		-	2									
		59 (18617663)			2						-			
MRI head without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	7	7	0	0	2	0	4	3	3	4 3
		References		Study	V Quality									
		56 (27673305)			2									
		52 (32668115)			4									
		49 (36239645)			2									
		48 (36239644) 1 47 (35138767) 2												
		47 (35138767) 2												
		46 (29129157) 4												
		40 (29766770)			2									
		39 (16339467)			4			r –	-			1		
CT head perfusion with IV contrast	May be appropriate	Strong	ତତତ 1-10 mSv		6	6	0	1	1	0	6	4	2	1 4
		References		Study	V Quality									
		13 (31662037)			4									
		46 (29129157)			4									
		56 (27673305)			2									
[57 (29364767)		I	1							1		
MRA head without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	1	6	7	3	1 1
		References		Study	V Quality									
		39 (16339467)			4									
		52 (32668115)			4									
		56 (27673305)		2										

MRA neck without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	0	16	2	1	0	0
		References		Study	Quality										
		39 (16339467)			4										
		52 (32668115)			4										
		56 (27673305)			2										
MRA neck without and with IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	1	14	2	2	0	0
		References		Study	Quality										
		12 (34024117)			4										
		39 (16339467)			4										
		52 (32668115)			4										
		56 (27673305)			2			_	-						
MRI head perfusion with IV contrast	May be appropriate	Moderate	O 0 mSv	O 0 mSv [ped]	4	4	3	1	5	1	7	1	0	1	0
		References		Study	V Quality										
		39 (16339467)			4										
		46 (29129157)			4										
		57 (29364767)			1				-	-					
US duplex Doppler carotid artery	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	4	4	3	2	4	3	5	1	0	0	1
		References		Study	Quality										
		12 (34024117)			4										
		63 (10471419)			4										
		64 (29307510)			2										
Arteriography cervicocerebral	Usually not appropriate	Strong	֎֎֎ 1-10 mSv	ତତତତ 3- 10 mSv [ped]	2	2	7	4	8	0	0	0	0	0	0
		References		Study	Quality										
		55 (29075836)			2										
		54 (35593152)		C	Good										

		53 (35251309)		G	bood										
MRI head without and with IV contrast	Usuall approp	Limited	O 0 mSv	O 0 mSv [ped]	2	2	5	5	8	1	0	0	0	0	0
		References		Study	v Quality										
		62 (29934921)			4										
CTV head with IV contrast	Usuall approp	Expert Consensus	ଡଡ େ 1-1(mSv)	2	2	9	4	4	0	1	1	0	0	0
CT head with IV contrast	Usuall approp	Expert Consensus	ତେତ 1-1(mSv)	1	1	13	3	1	0	0	0	1	1	0
CT head without and with IV contrast	Usuall approp	Expert Consensus	ତେତେ 1-1(mSv)	1	1	12	4	2	0	0	0	0	0	1
MRA head without and with IV contrast	Usuall approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	3	2	0	0	0	0	0	0
US duplex Doppler transcranial	Usuall approp	Limited	O 0 mSv	O 0 mSv [ped]	1	1	10	1	5	1	1	1	0	0	0
		References		Study	Quality										
		39 (16339467)			4			-				-			
MRV head without IV contrast	Usuall approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	10	3	3	1	2	0	0	0	0
MRV head without and with IV contrast	Usuall approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	10	3	3	1	1	1	0	0	0

Variant 3: Adult. Recent ischemic infarct; less than 24 hours. Initial imaging.

Duccoduum	Appropriateness	SOE	Adults RRL	Peds RRL	Dating	Madian			F	inal '	Tabu	latio	ns		
Procedure	Category	SUE	Adults KKL	reus KKL	Rating	Median	1	2	3	4	5	6	7	8	9
CTA head with IV contrast	Usually appropriate	Strong	ଝେଝେ 1-10 mSv	ତତତତ 3- 10 mSv [ped]	9	9	0	0	1	0	0	1	2	3	12

		References		Study	Quality										
		60 (35342807)			2										
		57 (29364767)			1										
		49 (36239645)			2										
		48 (36239644)			1										
		46 (29129157)			4										
		44 (26898852)		Not A	Assessed										
CTA neck with IV contrast	Usually appropriate	Moderate	֎֎֎ 1-10 mSv	��� 0.3- 3 mSv [ped]	9	9	1	0	0	0	0	1	3	2	12
		References		Study	v Quality										
		12 (34024117)			4										
		13 (31662037)			4										
		61 (27092472)			2										
CT head without IV contrast	Usually appropriate	Strong	֎֎֎ 1-10 mSv	֎֎֎ 0.3- 3 mSv [ped]	9	9	0	0	1	0	0	0	1	2	15
		References		Study	v Quality										
		59 (18617663)			2										
		58 (10905241)			2										
		57 (29364767)			1										
		49 (36239645)			2										
		48 (36239644)			1										
		47 (35138767)			2										
		46 (29129157)			4										
		44 (26898852)		Not A	Assessed			1	1						
MRA head without IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	1	2	0	12	3	1
		References		Study	v Quality										
		39 (16339467)			4										
		52 (32668115)			4										

MRA neck without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	8	1	8	2	0
		References		Study	Quality				•						
		12 (34024117)			4										
		39 (16339467)			4										
		52 (32668115)			4										
		56 (27673305)			2										
MRI head without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	7	7	1	0	0	0	4	3	4	1	6
		References		Study	Quality										
		56 (27673305)			2										
		52 (32668115)			4										
		49 (36239645)			2										
		48 (36239644)			1										
		47 (35138767)			2										
		46 (29129157)			4										
		40 (29766770)			2										
		39 (16339467)			4										
CT head perfusion with IV contrast	May be appropriate	Strong	≎≎≎≎ 1-10 mSv		6	6	0	0	0	0	8	10	0	0	1
		References		Study	Quality										
		13 (31662037)			4										
		46 (29129157)			4										
		56 (27673305)			2										
		57 (29364767)			1	•									
MRA neck without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	1	13	3	2	0	0
		References		Study	Quality										
		39 (16339467)			4										
		52 (32668115)			4										
		56 (27673305)			2										

MRI head perfusion with IV contrast	May be appropriate	Moderate	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	1	14	3	0	1	0
		References		Study	Quality				•						
		39 (16339467)			4										
		46 (29129157)			4										
		57 (29364767)			1										
US duplex Doppler carotid artery	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	1	0	0	6	10	2	0	0	0
		References		Study	Quality		-	-				-	-	-	
		63 (10471419)			4										
		64 (29307510)			2										
		12 (34024117)			4										
MRI head without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	5	2	4	6	2	0	0	0	0
		References		Study	Quality			•	•						
		62 (29934921)		-	4										
Arteriography cervicocerebral	Usually not appropriate	Strong	֎֎֎ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	2	2	7	4	8	0	0	0	0	0	0
		References		Study	V Quality										
		55 (29075836)			2										
		54 (35593152)		0	Good										
		53 (35251309)			Good			-		_	1				
US duplex Doppler transcranial	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	8	3	4	1	2	1	0	0	0
		References		Study	Quality		-								
		39 (16339467)			4										
CT head with IV contrast	Usually not appropriate	Expert Consensus	ତତତ 1-10 mSv	��� 0.3- 3 mSv [ped]	1	1	13	2	3	0	0	0	1	0	0

CT head without and with IV contrast	Usually not appropriate	Expert Consensus	ଡେଡେ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	1	1	12	3	2	1	0	0	0	0	1
MRA head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	3	1	0	0	0	0	0	0
MRV head without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	11	4	1	1	1	0	0	1	0
CTV head with IV contrast	Usually not appropriate	Expert Consensus	ଷଟ୍ଟେବ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	1	1	10	3	3	0	1	1	0	1	0
MRV head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	10	4	2	1	1	0	0	1	0

Variant 4: Adult. Recent ischemic infarct; greater than 24 hours. Initial imaging.

	Appropriateness	COL			D (1				F	'inal '	Tabu	latio	ıs		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CT head without IV contrast	Usually appropriate	Strong	ତତତ 1-10 mSv	≎≎≎ 0.3- 3 mSv [ped]	9	9	0	0	1	0	0	1	0	4	13
		References		Study	Quality										
		68 (34921104)			2										
		67 (24525954)			2										
CTA head with IV contrast	Usually appropriate	Limited	ଡଡଡ 1-10 mSv	ତତତତ 3- 10 mSv [ped]	7	7	0	0	0	1	4	4	6	2	2
		References		Study	Quality										
		22 (26330567)			2										
		23 (35314513)			4										
		69 (35143758)			4										
CTA neck with IV contrast	Usually appropriate	Limited	ତେତ 1-10 mSv	ଡେଡେଡ 0.3- 3 mSv [ped]	7	7	0	0	1	0	2	4	5	2	5

		References		Study	/ Quality										
		12 (34024117)			4										
		13 (31662037)			4					_					
MRI head without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	7	7	0	0	1	0	3	3	3	1	8
		References		Study	/ Quality										
		79 (35862046)			2										
		78 (33043760)			2										
		77 (31479136)			4										
		76 (23894258)			2										
		75 (23173645)			4										
		74 (22367989)			2										
		13 (31662037)			4										
		12 (34024117)			4										
MRA head without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	1	0	1	5	3	7	1	1
		References		Study	Quality										
		22 (26330567)			2										
		23 (35314513)			4										
		69 (35143758)			4										
MRA neck without IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	6	6	0	1	0	1	7	8	2	0	0
		References		Study	/ Quality										
		71 (16155164)			2										
		70 (15955853)			2						-				
MRA neck without and with IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	6	6	0	1	0	0	7	9	1	0	1
		References		Study	V Quality										
		70 (15955853)			2										
		71 (16155164)			2										

US duplex Doppler carotid artery	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	1	5	11	2	0	0
		References		Study	y Quality										
		80 (29522870)			2										
		38 (16679163)			М										
		24 (10219418)			2										
		13 (31662037)			4										
		12 (34024117)			4					-	-			-	
CT head perfusion with IV contrast	Usually not appropriate	Strong	ଝେଝି 1-10 mSv		3	3	4	3	7	1	4	0	0	0	0
		References		Study	y Quality										
		17 (27939758)			2										
		18 (22068990)			2										
Arteriography cervicocerebral	Usually not appropriate	Limited	ତତତ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	3	3	3	6	9	0	0	0	0	0	1
		References		Study	y Quality										
		66 (31649101)			4						-				
MRI head without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	6	2	4	1	6	0	0	0	0
		References		Study	y Quality		•	•		-					
		62 (29934921)			4										
MRI head perfusion with IV contrast	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	2	2	6	4	3	3	3	0	0	0	0
		References		Study	y Quality										
		18 (22068990)			2										
		73 (21737809)			2										
		72 (23908062)			2										
		33 (29146719)			2										
		32 (17200864)			2										
		31 (11003277)			2										

CT head with IV contrast	Usually not appropriate	Expert Consensus	ତତତ 1-10 mSv	≎≎≎ 0.3- 3 mSv [ped]	1	1	13	2	3	0	0	0	1	0	0
CT head without and with IV contrast	Usually not appropriate	Expert Consensus	ଝେଝ 1-10 mSv	≎≎≎≎≎ 3- 10 mSv [ped]	1	1	12	2	3	1	0	0	0	1	0
MRA head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	3	2	0	0	0	0	0	0
US duplex Doppler transcranial	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	11	3	1	1	2	1	0	0	0
MRV head without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	10	3	3	1	1	0	1	0	0
CTV head with IV contrast	Usually not appropriate	Expert Consensus	ତତତ 1-10 mSv	���� 3- 10 mSv [ped]	1	1	12	2	1	1	2	0	0	1	0
MRV head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	10	3	3	1	1	0	0	1	0

Variant 5: Adult. Prior ischemic infarct. Surveillance imaging.

	Appropriateness	COL							ŀ	inal	Tabu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CT head without IV contrast	Usually appropriate	Strong	ତତତ 1-10 mSv	&& 0.3- 3 mSv [ped]	8	8	1	0	1	0	1	1	2	5	8
		References													
		ReferencesStudy Quality67 (24525954)2													
		<u>67 (24525954)</u> <u>68 (34921104)</u> <u>2</u>													
CTA head with IV contrast	May be appropriate	Limited	ତତତ 1-10 mSv	ଡଡଡଡ 3- 10 mSv [ped]	5	5	2	0	0	1	14	1	1	0	0
		References Study Quality													
		ReferencesStudy Quality22 (26330567)2													

		23 (35314513)			4										
		69 (35143758)			4										
CTA neck with IV contrast	May be appropriate	Strong	ତେତେ 1-10 mSv	ଡେଡେଡ 0.3- 3 mSv [ped]	5	5	1	0	0	1	14	2	1	0	0
		References		Study	Quality										
		12 (34024117)			4										
		13 (31662037)			4										
		24 (10219418)			2										
		81 (25721945)			1										
		82 (33004431)			4										
MRA head without IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	1	1	0	8	6	1	1	0	1
		References		Study	Quality										
		22 (26330567)			2										
		23 (35314513)			4										
		69 (35143758)			4										
MRA neck without IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	5	5	1	1	0	5	9	2	0	0	1
		References		Study	Quality										
		85 (26077590)			2										
		84 (26077583)			4										
		83 (22498329)		1	2										
MRA neck without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	1	1	0	6	8	1	0	1	1
		References		Study	Quality										
		12 (34024117)			4										
		13 (31662037)			4										
		85 (26077590)			2										
		84 (26077583)			4										
		83 (22498329)			2										

MRI head without IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	0	1	0	2	5	2	6	2	1
		References		Study	Quality		-								
		79 (35862046)			2										
		78 (33043760)			2										
		77 (31479136)			4										
		76 (23894258)			2										
		75 (23173645)			4										
		74 (22367989)			2										
		13 (31662037)			4										
		12 (34024117)			4										
US duplex Doppler carotid artery	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	1	0	0	3	10	4	1	0	0
		References		Study	Quality	•							I		
		12 (34024117)		Ĩ	4										
		13 (31662037)			4										
		38 (16679163)			М										
Arteriography cervicocerebral	Usually not appropriate	Limited	ତତତ 1-10 mSv	€€€€ 3- 10 mSv [ped]	3	3	7	2	5	3	1	1	0	0	0
		References		Study	Quality										
		66 (31649101)			4										
MRI head without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	6	2	6	4	0	1	0	0	0
		References		Study	Quality										-
		62 (29934921)			4										
CT head perfusion with IV contrast	Usually not appropriate	Strong	֎֎֎ 1-10 mSv		2	2	6	5	8	0	0	0	0	0	0
		References		Study	v Quality										
		17 (27939758)			2										
		18 (22068990)			2										

MRI head perfusion with IV contrast	Usually approp		Strong	O 0 mSv	O 0 mSv [ped]	2	2	7	3	7	0	2	0	0	0	0
			References		Study	Quality										
		18 (22068990) 33 (29146719)				2										
		33 (29146719)				2										
		32 (17200864)			2											
			31 (11003277)			2										
CT head with IV contrast	Usually approp		Expert Consensus	֎֎֎ 1-10 mSv	ଡଡଡ 0.3- 3 mSv [ped]	1	1	13	3	2	0	0	1	0	0	0
CT head without and with IV contrast	Usuall ₂ approp		Expert Consensus	ତତତ 1-10 mSv	���� 3- 10 mSv [ped]	1	1	12	2	4	0	0	0	1	0	0
MRA head without and with IV contrast	Usuall ₂ approp		Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	12	2	1	0	2	1	1	0	0
US duplex Doppler transcranial	Usuall ₂ approp		Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	10	3	1	2	3	0	0	0	0
MRV head without IV contrast	Usuall ₂ approp		Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	11	2	3	0	2	0	0	0	1
CTV head with IV contrast	Usuall ₂ approp		Expert Consensus	ତତତ 1-10 mSv	���� 3- 10 mSv [ped]	1	1	12	2	2	0	2	0	1	0	0
MRV head without and with IV contrast	Usually approp		Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	11	2	4	0	1	0	1	0	0

Variant 6: Adult. Known intraparenchymal hemorrhage. No history of trauma. Follow-up imaging study.

Dere en herre	Appropriateness	SOF		Peds RRL	Detter	M. P			F	'inal '	Fabul	latior	ıs		
Procedure	Category	SOE	Adults RRL	Peas KKL	Rating	Median	1	2	3	4	5	6	7	8	9
CT head without IV contrast	Usually appropriate	Expert Consensus	ଝେଝେ 1-10 mSv	≎≎≎ 0.3- 3 mSv [ped]	9	9	1	0	0	0	0	2	3	1	12

CTA head with IV contrast	Usually appropriate	Strong	ଷ୍ଟେତ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	8	8	0	0	1	1	0	1	4	5	7
		References		Study	y Quality										
		5 (34794589)		-	4										
		95 (19910545)			3										
		94 (24136645)			2										
		93 (25177839)			2										
		92 (19342546)			1										
		91 (30193811)			2										
MRI head without and with IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	8	8	0	0	1	0	2	1	3	6	6
		References		Study	y Quality										
		98 (20733299)			2										
		97 (10800260)			2										
		96 (21761271)			1			-							
MRI head without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	7	7	0	0	1	0	2	4	4	4	4
		References		Study	y Quality	•									
		97 (10800260)			2										
		98 (20733299)			2										
Arteriography cervicocerebral	May be appropriate	Strong	ଝେଝ 1-10 mSv	ତତତତ 3- 10 mSv [ped]	5	5	0	0	0	2	9	6	2	0	0
		References		Study	y Quality										
		90 (9836762)			4										
		89 (26553142)			1										
		88 (9227692)			2										
MRA head without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	0	10	7	1	0	1
		References		Study	y Quality										
		93 (25177839)			2										

		95 (19910545)			3		_	-	-	-					
MRV head without IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	2	14	2	1	0	0
CTV head with IV contrast	May be appropriate	Expert Consensus	ତେତେ 1-10 mSv	≎≎≎≎≎ 3- 10 mSv [ped]	5	5	0	0	0	1	15	2	1	0	0
MRV head without and with IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	0	15	3	0	1	0
MRI head perfusion with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	7	1	7	0	3	1	0	0	0
		References		Study	Quality										
		5 (34794589)		_	4					-					
CTA neck with IV contrast	Usually not appropriate	Expert Consensus	ତତତ 1-10 mSv	≎≎≎≎ 0.3- 3 mSv [ped]	2	2	7	5	7	0	0	0	0	0	0
CT head without and with IV contrast	Usually not appropriate	Expert Consensus	ଡଡଡ 1-10 mSv	≎≎≎≎≎ 3- 10 mSv [ped]	2	2	9	6	2	2	0	0	0	0	0
CT head perfusion with IV contrast	Usually not appropriate	Limited	ଷଷଷ 1-10 mSv		2	2	7	4	7	0	1	0	0	0	0
		References		Study	Quality										
		5 (34794589)			4										
MRA head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	7	4	8	0	0	0	0	0	0
MRA neck without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	8	4	5	0	1	0	0	0	1
MRA neck without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	8	4	3	1	1	0	0	1	1
CT head with IV contrast	Usually not appropriate	Expert Consensus	ଡେଡେଡ 1-10 mSv	��� 0.3- 3 mSv [ped]	1	1	10	3	1	2	2	0	1	0	0

US duplex Doppler carotid artery	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	3	1	0	0	0	0	0	0
US duplex Doppler transcranial	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	16	2	1	0	0	0	0	0	0

Variant 7: Adult. Suspected venous sinus thrombosis. Initial imaging.

	Appropriatene	SS GOT			-				F	'inal '	Tabul	atio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CT head without IV contrast	Usually appropriate	Limited	ତତତ 1-10 mSv	ଝେଙ 0.3- 3 mSv [ped]	9	9	0	0	0	0	0	0	3	6	10
		References		Study	v Quality										
		99 (21293023)			4										
CTV head with IV contrast	Usually appropriate	Limited	ତତତ 1-10 mSv	- 2222 20 3- 10 mSv [ped]	9	9	0	0	1	0	0	1	1	2	14
		References		Study	Quality										
		101 (9393193)			3										
MRV head without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	9	9	1	0	0	0	0	0	0	2	16
		References		Study	Quality										
		104 (25938564))		2										
MRI head without IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	1	0	0	6	7	5
		References		Study	Quality										
		103 (26670082))		2										
		102 (11237970))		4										
MRI head without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	8	8	1	1	0	0	1	0	3	5	8
		References		Study	v Quality										

		103 (26670082)			2										
		102 (11237970)			4									•	
MRV head without IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	8	8	1	0	0	0	0	1	4	4	9
		References		Study	V Quality										
		104 (25938564)			2										
CT head with IV contrast	May be appropriate	Expert Consensus	ତତତ 1-10 mSv	ତତତ 0.3- 3 mSv [ped]	4	4	4	2	2	6	4	1	0	0	0
CTA head with IV contrast	Usually not appropriate	Limited	֎֎֎ 1-10 mSv	**** 3- 10 mSv [ped]	3	3	5	3	3	4	3	1	0	0	0
		References		Study	Quality		-								
		5 (34794589)			4										
CT head without and with IV contrast	Usually not appropriate	Expert Consensus	ତତତ 1-10 mSv	**** 3- 10 mSv [ped]	3	3	6	1	5	2	4	0	0	1	0
CT head perfusion with IV contrast	Usually not appropriate	Limited	ତତତ 1-10 mSv		3	3	6	3	6	2	1	1	0	0	0
		References		Study	Quality										
		100 (24172883)			3										
MRI head perfusion with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	6	3	4	3	3	0	0	0	0
		References		Study	V Quality										
		100 (24172883)			3										
CTA neck with IV contrast	Usually not appropriate	Expert Consensus	≎≎≎≎ 1-10 mSv	≎≎≎ 0.3- 3 mSv [ped]	1	1	10	5	3	0	1	0	0	0	0
Arteriography cervicocerebral	Usually not appropriate	Expert Consensus	ତତତ 1-10 mSv	00000 3- 10 mSv [ped]	1	1	10	3	0	3	2	1	0	0	0
MRA head without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	2	2	0	1	0	0	0	0

MRA head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	13	3	2	0	1	0	0	0	0
MRA neck without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	16	2	0	1	0	0	0	0	0
MRA neck without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	16	2	0	1	0	0	0	0	0
US duplex Doppler carotid artery	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	3	1	0	0	0	0	0	0
US duplex Doppler transcranial	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	3	0	0	1	0	0	0	0

Variant 8: Adult. Known venous sinus thrombosis. Surveillance imaging.

	Appropriate	eness	202							F	inal	Tabu	latio	ns		
Procedure	Categor		SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
MRV head without and with IV contrast	Usually appropria		Limited	O 0 mSv	O 0 mSv [ped]	9	9	1	0	0	0	1	1	1	4	11
			References		Study	v Quality										
			104 (25938564))		2					_				-	
CT head without IV contrast	Usually appropria		Limited	֎֎֎ 1-10 mSv	ଝେଙେ 0.3- 3 mSv [ped]	8	8	0	0	0	1	0	0	7	6	5
			References		Study	Quality										
			99 (21293023)			4					_				-	
MRI head without IV contrast	Usually appropria		Limited	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	0	2	0	6	7	4
			References		Study	v Quality										
			102 (11237970))		4										
			103 (26670082))		2										

MRI head without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	0	2	0	7	5	5
		References		Study	Quality										
		102 (11237970))		4										
		103 (26670082))		2										
MRV head without IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	8	8	1	0	0	0	1	1	3	7	6
		References		Study	Quality										
		104 (25938564))		2										
CTV head with IV contrast	Usually appropriate	Limited	֎֎֎ 1-10 mSv	���� 3- 10 mSv [ped]	8	8	0	0	0	0	1	0	3	9	6
		References		Study	Quality										
		101 (9393193)													
		106 (17114562))		2										
CTA head with IV contrast	Usually not appropriate	Limited	ତତତ 1-10 mSv	���� 3- 10 mSv [ped]	3	3	7	1	7	2	2	0	0	0	0
		References		Study	Quality										
		5 (34794589)			4										
CT head with IV contrast	Usually not appropriate	Expert Consensus	ବଟତ 1-10 mSv	& the two sets of two sets of the two sets of	3	3	5	1	5	4	2	2	0	0	0
CT head without and with IV contrast	Usually not appropriate	Expert Consensus	ବଟତ 1-10 mSv	€€€€€3- 10 mSv [ped]	3	3	6	1	3	6	1	1	1	0	0
Arteriography cervicocerebral	Usually not appropriate	Expert Consensus	ତତତ 1-10 mSv	€€€€ 3- 10 mSv [ped]	3	3	8	1	2	2	4	1	1	0	0
CT head perfusion with IV contrast	Usually not appropriate	Limited	ତେତତ 1-10 mSv		2	2	8	2	5	4	0	0	0	0	0
		References		Study	Quality										
		100 (24172883))		3										

MRI head perfusion with IV contrast	Usuall approp	Limited	O 0 mSv	O 0 mSv [ped]	2	2	8	3	4	3	1	0	0	0	0
		References		Study	y Quality										
		100 (24172883)			3										
CTA neck with IV contrast	Usuall approp	Expert Consensus	ଝଝଝ 1-1(mSv)	1	1	16	2	0	0	1	0	0	0	0
MRA head without IV contrast	Usuall approp	Limited	O 0 mSv	O 0 mSv [ped]	1	1	12	3	2	1	1	0	0	0	0
		References		Study	y Quality				-						
		5 (34794589)			4										
MRA head without and with IV contrast	Usuall approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	2	1	1	0	0	0	0	0
MRA neck without IV contrast	Usuall approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	3	0	1	0	0	0	0	0
MRA neck without and with IV contrast	Usuall approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	3	0	1	0	0	0	0	0
US duplex Doppler carotid artery	Usuall approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	16	2	1	0	0	0	0	0	0
US duplex Doppler transcranial	Usuall approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	2	0	0	0	0	0	0	0

Variant 9: Adult. Asymptomatic cervical bruit. Initial imaging.

	Appropriaten	SS SOF							F	inal	Tabu	latio	ns		
Procedure	Category	SOE SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
US duplex Doppler carotid artery	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	9	9	0	0	1	0	0	1	3	2	12
		References		Study	/ Quality										
		120 (15944595)		М										

		112 (35412377)			4										
		111 (25355838)			4										
CTA neck with IV contrast	Usually appropriate	Strong	ତତତ 1-10 mSv	≎≎≎≎ 0.3- 3 mSv [ped]	8	8	0	0	1	0	1	3	4	4	6
		References		Study	v Quality										
		24 (10219418)			2										
		116 (24343701)	1		2										
		115 (28251333))		2										
		114 (30378455))		4										
		113 (29896980)			2	_									
MRA neck without and with IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	8	8	0	0	1	0	1	0	3	6	8
		References		Study	Quality										
		27 (19164440)			2										
		119 (24008170)			1										
		118 (23988640)	1		4										
		117 (32877415)	1		2										
		114 (30378455))		4										
		113 (29896980)			2			_	-						
MRA neck without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	2	1	10	1	5
		References		Study	Quality										
		27 (19164440)			2										
		119 (24008170)	1		1										
		118 (23988640))		4										
		117 (32877415))		2										
		114 (30378455))		4										
		113 (29896980))		2						,				
CT head without IV contrast	Usually not appropriate	Expert Consensus	֎֎֎ 1-10 mSv	ଡେଡେଡ 0.3- 3 mSv [ped]	3	3	6	3	10	0	0	0	0	0	0

CTA head with IV contrast	Usually not appropriate	Expert Consensus	ଷଟ୍ଟର 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	2	2	6	5	8	0	0	0	0	0	0
MRA head without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	9	2	8	0	0	0	0	0	0
MRI head without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	8	5	4	2	0	0	0	0	0
MRI head perfusion with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	9	3	3	1	3	0	0	0	0
CT head with IV contrast	Usually not appropriate	Expert Consensus	ଡେଡେ 1-10 mSv	��� 0.3- 3 mSv [ped]	1	1	14	3	1	0	0	0	1	0	0
CT head without and with IV contrast	Usually not appropriate	Expert Consensus	ଡେଡେ 1-10 mSv	€€€€ 3- 10 mSv [ped]	1	1	14	3	1	0	0	1	0	0	0
CT head perfusion with IV contrast	Usually not appropriate	Expert Consensus	ଝେଝ 1-10 mSv		1	1	13	3	2	0	1	0	0	0	0
Arteriography cervicocerebral	Usually not appropriate	Expert Consensus	ଡେଡେ 1-10 mSv	���� 3- 10 mSv [ped]	1	1	11	2	4	2	0	0	0	0	0
MRA head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	13	1	0	1	2	1	1	0	0
MRI head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	10	4	2	1	1	0	0	1	0
US duplex Doppler transcranial	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	11	4	2	1	1	0	0	0	0
MRV head without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	12	5	1	0	0	1	0	0	0
CTV head with IV contrast	Usually not appropriate	Expert Consensus	ଝେଝ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	1	1	14	3	1	0	1	0	0	0	0
MRV head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	12	4	2	0	0	0	1	0	0

	Appropriateness	005							F	inal	Tabu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CTA neck with IV contrast	Usually appropriate	Strong	ଝେଡେ≎ 1-10 mSv	≎≎≎ 0.3- 3 mSv [ped]	8	8	0	0	1	1	1	1	3	5	7
		References		Study	/ Quality										
		80 (29522870)			2										
		116 (24343701))		2										
		115 (28251333))		2										
		114 (30378455))		4										
		113 (29896980))		2		_								
MRA neck without and with IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	8	8	0	0	1	0	1	1	3	7	6
		References		Study	/ Quality										
		27 (19164440)			2										
		85 (26077590)			2										
		119 (24008170))		1										
		118 (23988640))		4										
		117 (32877415))		2										
		114 (30378455))		4										
		113 (29896980))		2										
US duplex Doppler carotid artery	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	0	1	1	4	6	7
		References		Study	/ Quality			-							
		120 (15944595))		М										
MRA neck without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	1	0	1	10	3	4
		References		Study	Quality										

Variant 10: Adult. Asymptomatic carotid stenosis. Surveillance imaging.

							1									
			27 (19164440)			2										
			85 (26077590)			2										
			119 (24008170)			1										
			118 (23988640)	1		4										
			117 (32877415)			2										
			114 (30378455)			4										
			113 (29896980)			2										
MRI head without IV contrast	May approp (Disagree	riate	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	3	0	0	5	6	4	0	0	1
CTA head with IV contrast	Usually approp		Expert Consensus	֎֎֎ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	3	3	7	2	10	0	0	0	0	0	0
CT head without IV contrast	Usually approp		Expert Consensus	֎֎֎ 1-10 mSv	��≎ 0.3- 3 mSv [ped]	3	3	7	2	8	1	0	1	0	0	0
CT head perfusion with IV contrast	Usually approp		Limited	֎֎֎ 1-10 mSv		2	2	9	2	4	2	2	0	0	0	0
			References		Study	Quality										
			124 (28255464)			2			_			_				
Arteriography cervicocerebral	Usually approp		Expert Consensus	֎֎֎ 1-10 mSv	ଡେଡେଡ 3- 10 mSv [ped]	2	2	9	1	3	1	4	1	0	0	0
MRA head without IV contrast	Usually approp		Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	8	3	8	0	0	0	0	0	0
MRI head perfusion with IV contrast	Usually approp		Limited	O 0 mSv	O 0 mSv [ped]	2	2	6	4	7	1	0	0	1	0	0
			References		Study	Quality										
			124 (28255464)			2										
CT head with IV contrast	Usually approp		Expert Consensus	ତେତେ 1-10 mSv	&	1	1	13	3	3	0	0	0	0	0	0

CT head without and with IV contrast	Usually not appropriate	Expert Consensus	ତେତେ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	1	1	11	5	2	0	1	0	0	0	0
MRA head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	11	2	4	1	0	0	1	0	0
MRI head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	11	1	5	0	2	0	0	0	0
US duplex Doppler transcranial	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	3	1	0	0	1	0	0	0
MRV head without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	3	2	0	0	0	0	0	0
CTV head with IV contrast	Usually not appropriate	Expert Consensus	ଝେଝେ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	1	1	14	3	2	0	0	0	0	0	0
MRV head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	3	1	0	1	0	0	0	0

Variant 11: Adult. Suspected cervical vascular dissection or injury. Initial imaging.

	Appropri	ateness	005							I	Final	Tabu	latio	ns		
Procedure	Categ	ory	SOE	Adults RRI	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CTA neck with IV contrast	Usua approp		Limited	ଝେଝ 1-10 mSv	≎≎≎ 0.3- 3 mSv [ped]	9	9	1	0	0	0	0	0	0	5	13
			References		Study											
			131 (27767400)		4											
			130 (18635617))		2										
			129 (29853818))					_					-		
MRA neck without and with IV contrast	Usua approp		Limited	O 0 mSv	O 0 mSv [ped]	8	8	1	0	0	0	1	1	5	6	5
		References		Study	Quality											
		129 (29853818)				4										

		132 (24384680))	2											
CT head without IV contrast	Usually appropriate	Expert Consensus	ଡ େଡେ 1-10 mSv	&&& 0.3- 3 mSv [ped]	7	7	0	0	0	0	6	3	8	0	2
MRA neck without IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	0	1	10	5	3
		References		Study	y Quality										
		129 (29853818))		4										
		132 (24384680))	2										-	
CTA head with IV contrast	May be appropriate	Expert Consensus	≎⊛⊛ 1-10 mSv	ଡଡଡଡ 3- 10 mSv [ped]	5	5	0	0	0	1	13	3	1	1	0
MRA head without IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	1	0	3	2	11	2	0	0	0
MRI head without IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	0	1	0	13	3	1	0	1
Arteriography cervicocerebral	Usually not appropriate	Strong	ତେତେ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	2	2	9	4	6	0	0	0	0	0	0
		References		Study	y Quality										
		128 (26478890))		4										
		127 (22198988))		2										
		126 (10568710))		2									•	
CT head with IV contrast	Usually not appropriate	Expert Consensus	ତତତ 1-10 mSv	֎֎֎ 0.3- 3 mSv [ped]	1	1	12	3	3	0	0	0	0	1	0
CT head without and with IV contrast	Usually not appropriate	Expert Consensus	େହେତ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	1	1	13	3	2	1	0	0	0	0	0
CT head perfusion with IV contrast	Usually not appropriate	Expert Consensus	ତତତ 1-10 mSv		1	1	12	2	4	0	0	1	0	0	0
MRA head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	13	2	0	0	2	0	2	0	0

MRI head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	13	2	4	0	0	0	0	0	0
MRI head perfusion with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	11	2	4	1	1	0	0	0	0
US duplex Doppler carotid artery	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	4	1	0	0	0	0	0	0
US duplex Doppler transcranial	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	2	1	0	0	1	0	0	0
MRV head without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	3	1	0	0	0	0	0	0
CTV head with IV contrast	Usually not appropriate	Expert Consensus	ଡେଡେ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	1	1	13	4	0	0	2	0	0	0	0
MRV head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	4	1	0	0	0	0	0	0

Variant 12: Adult. Known cervical vascular dissection or injury. Surveillance imaging.

	Appropriateness	S SOE					Final Tabulations							ns				
Procedure	Category		Adults RRI	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9			
CTA neck with IV contrast	Usually appropriate	Limited	ତତତ 1-10 mSv	��� 0.3- 3 mSv [ped]	9	9	1	0	0	0	0	1	2	2	13			
		References		Study														
		131 (27767400))		4													
		130 (18635617))		2													
		129 (29853818))							-								
MRA neck without IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	1	0	1	0	3	12	0	2			
		References	Study	Quality														
		129 (29853818)		4														

		132 (24384680)	2												
MRA neck without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	0	3	11	3	2
		References		Study	V Quality										
		129 (29853818)			4										
		132 (24384680)			2										
MRA head without IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	3	2	0	9	2	3	0	0	0
CTA head with IV contrast	May be appropriate	Expert Consensus	ତତତ 1-10 mSv	ବେତବତ 3- 10 mSv [ped]	4	4	1	1	1	9	5	2	0	0	0
Arteriography cervicocerebral	May be appropriate	Expert Consensus	≎≎≎≎ 1-10 mSv	ତତତତ 3- 10 mSv [ped]	4	4	1	0	1	9	6	2	0	0	0
CT head without IV contrast	Usually not appropriate	Expert Consensus	ତତତ 1-10 mSv	��� 0.3- 3 mSv [ped]	3	3	7	2	5	0	4	1	0	0	0
MRI head without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	3	3	6	1	3	9	0	0	0	0	0
US duplex Doppler carotid artery	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	9	6	2	2	0	0	0	0	0
		References		Study	Quality										
		137 (20962286)			2										
CT head with IV contrast	Usually not appropriate	Expert Consensus	ତତତ 1-10 mSv	ବଟର 0.3- 3 mSv [ped]	1	1	14	4	1	0	0	0	0	0	0
CT head without and with IV contrast	Usually not appropriate	Expert Consensus	ତତତ 1-10 mSv	ଡଡଡଡ 3- 10 mSv [ped]	1	1	14	3	2	0	0	0	0	0	0
CT head perfusion with IV contrast	Usually not appropriate	Expert Consensus	֎֎֎ 1-10 mSv		1	1	11	3	4	1	0	0	0	0	0
MRA head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	4	1	0	0	0	0	0	0

MRI head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	11	2	1	1	2	2	0	0	0
MRI head perfusion with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	11	3	3	1	0	1	0	0	0
US duplex Doppler transcranial	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	12	2	2	0	1	2	0	0	0
MRV head without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	3	1	0	0	0	0	0	0
CTV head with IV contrast	Usually not appropriate	Expert Consensus	ତତତ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	1	1	14	2	3	0	0	0	0	0	0
MRV head without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	3	0	0	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.