American College of Radiology
ACR Appropriateness Criteria®

Sinonasal Disease

Variant 1: Acute (less than 4 weeks) uncomplicated rhinosinusitis. Initial Imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CT cone beam paranasal sinuses without IV contrast	Usually not appropriate	Limited	☢☢ 0.1-1mSv		3	3	5	3	3	4	1	0	1	0	0
References	Study Quality														
18 (8259141)	3														
17 (26253983)	4														
19 (26700263)	3														
1 (25833927)	4														
CT head with IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	2	2	8	4	1	1	1	2	0	0	0
References	Study Quality														
1 (25833927)	4														
CT head without IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	2	2	8	3	2	2	0	1	1	0	0
References	Study Quality														
1 (25833927)	4														
CT maxillofacial without IV contrast	Usually not appropriate	Limited	☢☢ 0.1-1mSv	☢☢☢ 0.3-3 mSv [ped]	2	2	7	5	1	2	2	0	0	0	0
References	Study Quality														
18 (8259141)	3														

		17 (26253983)	4												
		1 (25833927)	4												
Radiography paranasal sinuses	Usually not appropriate	Limited	☢ <0.1 mSv	☢ <0.03 mSv [ped]	2	2	8	2	2	4	1	0	0	0	0
		References	Study Quality												
		21 (12820855)	2												
		20 (27481857)	4												
		1 (25833927)	4												
		22 (-3194068)	4												
CTA head with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	15	0	1	0	1	0	0	0	0
CT head without and with IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	9	3	1	3	0	1	0	0	0
		References	Study Quality												
		1 (25833927)	4												
CT maxillofacial with IV contrast	Usually not appropriate	Limited	☢☢ 0.1-1mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	11	5	1	0	0	0	0	0	0
		References	Study Quality												
		18 (8259141)	3												
		17 (26253983)	4												
		1 (25833927)	4												
CT maxillofacial without and with IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	15	2	0	0	0	0	0	0	0
		References	Study Quality												
		18 (8259141)	3												
		17 (26253983)	4												
		1 (25833927)	4												
Arteriography craniofacial	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	16	0	1	0	0	0	0	0	0

MRA head without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	13	3	1	0	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	2	1	0	0	0	0	0	0
MRI head without IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	9	1	4	2	0	1	0	0	0
		References		Study Quality											
		1 (25833927)		4											
MRI head without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	9	2	3	2	0	1	0	0	0
		References		Study Quality											
		1 (25833927)		4											
SPECT or SPECT/CT paranasal sinuses	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	15	0	2	0	0	0	0	0	0
FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	15	1	1	0	0	0	0	0	0
MRI orbits face neck without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	14	2	1	0	0	0	0	0	0
		References		Study Quality											
		1 (25833927)		4											
MRI orbits face neck without IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	14	1	2	0	0	0	0	0	0
		References		Study Quality											
		1 (25833927)		4											
MRA head with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	1	1	0	0	0	0	0	0
MRI head with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	9	2	3	1	0	1	0	1	0
		References		Study Quality											

		1 (25833927)		4											
MRI orbits face neck with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	9	1	2	3	0	1	1	0	0
		References		Study Quality											
		1 (25833927)		4											

Variant 2: Acute rhinosinusitis with suspected orbital or intracranial complication. Initial Imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CT maxillofacial with IV contrast	Usually appropriate	Limited	☢☢ 0.1-1mSv	☢☢☢ 0.3-3 mSv [ped]	9	9	0	0	0	0	0	0	3	6	8
		References		Study Quality											
		23 (11889374)		3											
		17 (26253983)		4											
MRI orbits face neck without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	9	9	0	0	0	0	0	0	2	2	13
		References		Study Quality											
		17 (26253983)		4											
MRI head without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	0	1	3	3	3	7
		References		Study Quality											
		23 (11889374)		3											
		17 (26253983)		4											
CT head with IV contrast	May be appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	6	6	0	0	0	4	3	5	5	0	0
		References		Study Quality											
		23 (11889374)		3											
		17 (26253983)		4											

		6 (28341385)		4												
CT maxillofacial without IV contrast	May be appropriate (Disagreement)	Expert Opinion	☢☢ 0.1-1mSv	☢☢☢ 0.3-3 mSv [ped]	5	5	0	3	1	2	8	3	0	0	0
		References		Study Quality												
		23 (11889374)		3												
		17 (26253983)		4												
MRI head without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	1	0	0	5	6	5	0	0	0
		References		Study Quality												
		23 (11889374)		3												
		17 (26253983)		4												
MRI orbits face neck without IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	3	5	4	3	2	0
		References		Study Quality												
		17 (26253983)		4												
CT cone beam paranasal sinuses without IV contrast	Usually not appropriate	Limited	☢☢ 0.1-1mSv		3	3	7	2	5	1	1	1	0	0	0
		References		Study Quality												
		25 (24449524)		3												
		19 (26700263)		3												
CTA head with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	8	1	2	4	0	2	0	0	0
CT head without IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	2	2	8	4	2	2	1	0	0	0	0
		References		Study Quality												
		23 (11889374)		3												
		17 (26253983)		4												
		6 (28341385)		4												

CT head without and with IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	11	1	2	2	1	0	0	0	0

References	Study Quality
23 (11889374)	3
17 (26253983)	4
6 (28341385)	4

CT maxillofacial without and with IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	12	1	1	2	1	0	0	0	0

References	Study Quality
23 (11889374)	3
17 (26253983)	4

Arteriography craniofacial	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	14	0	0	2	0	1	0	0	0
MRA head without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	9	1	3	2	1	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	9	2	4	1	0	1	0	0	0
SPECT or SPECT/CT paranasal sinuses	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	14	0	3	0	0	0	0	0	0
FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	13	1	2	0	0	1	0	0	0
Radiography paranasal sinuses	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢ <0.03 mSv [ped]	1	1	12	1	2	0	1	1	0	0	0
MRA head with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	9	1	5	0	0	2	0	0	0
MRI head with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	11	1	2	2	1	0	0	0	0

References	Study Quality

		23 (11889374)		3											
		17 (26253983)		4											
MRI orbits face neck with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	12	0	2	2	0	1	0	0	0
		References		Study Quality											
		17 (26253983)		4											

Variant 3: Acute recurrent sinusitis or chronic rhinosinusitis or noninvasive fungal sinusitis or sinonasal polyposis. Possible surgical candidate for these indications or other non-neoplastic indications, including suspected silent sinus syndrome or suspected mucocele, or deviated nasal septum. Initial Imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CT maxillofacial without IV contrast	Usually appropriate	Strong	☢☢ 0.1-1mSv	☢☢☢ 0.3-3 mSv [ped]	9	9	1	0	0	1	0	0	2	0	13
		References		Study Quality											
		26 (25832968)		4											
		31 (26001236)		4											
		35 (27554662)		1											
		36 (28072563)		4											
		32 (27643765)		4											
		37 (27193478)		2											
		2 (26476379)		4											
		38 (25412986)		2											
CT maxillofacial with IV contrast	May be appropriate	Strong	☢☢ 0.1-1mSv	☢☢☢ 0.3-3 mSv [ped]	5	5	0	0	0	3	8	2	4	0	0
		References		Study Quality											
		26 (25832968)		4											
		31 (26001236)		4											
		35 (27554662)		1											
		36 (28072563)		4											

		32 (27643765)		4											
		37 (27193478)		2											
		2 (26476379)		4											
		38 (25412986)		2											
CT cone beam paranasal sinuses without IV contrast	May be appropriate	Strong	☢☢ 0.1-1mSv		5	5	0	0	2	1	12	2	0	0	0
		References		Study Quality											
		25 (24449524)		3											
		19 (26700263)		3											
		34 (28747616)		2											
		33 (25765366)		2											
MRI orbits face neck without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	3	0	1	2	8	3	0	0	0
		References		Study Quality											
		40 (19379610)		2											
		39 (2294574)		4											
		24 (29685531)		4											
MRI orbits face neck without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	4	4	3	0	0	6	8	0	0	0	0
		References		Study Quality											
		40 (19379610)		2											
		39 (2294574)		4											
		24 (29685531)		4											
CT head without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	3	3	6	2	5	1	1	2	0	0	0
CT head without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	8	1	3	3	0	2	0	0	0
CTA head with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	13	1	1	0	0	2	0	0	0

CT head with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	11	2	4	0	0	0	0	0	0
CT maxillofacial without and with IV contrast	Usually not appropriate	Strong	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	12	2	2	0	1	0	0	0	0

References	Study Quality
26 (25832968)	4
31 (26001236)	4
35 (27554662)	1
36 (28072563)	4
32 (27643765)	4
37 (27193478)	2
2 (26476379)	4
38 (25412986)	2

Arteriography craniofacial	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	16	0	1	0	0	0	0	0	0
MRA head without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	2	0	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	15	1	0	1	0	0	0	0	0
MRI head without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	3	0	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	14	3	0	0	0	0	0	0	0
SPECT or SPECT/CT paranasal sinuses	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	14	1	0	0	1	1	0	0	0

References	Study Quality
42 (19401044)	3

FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	14	2	1	0	0	0	0	0	0

Radiography paranasal sinuses	Usually not appropriate	Limited	☢ <0.1 mSv	☢ <0.03 mSv [ped]	1	1	9	3	2	1	1	0	1	0	0

References	Study Quality
41 (8327669)	4
2 (26476379)	4

MRA head with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	2	0	1	0	0	0	0	0
MRI head with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	1	1	0	0	0	0	0	0
MRI orbits face neck with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	13	0	1	3	0	0	0	0	0

References	Study Quality
40 (19379610)	2
39 (2294574)	4
24 (29685531)	4

Variant 4: Acute sinusitis with rapid progression or suspected invasive fungal sinusitis. Initial Imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI orbits face neck without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	9	9	0	0	0	0	0	0	2	3	12

References	Study Quality
45 (22006778)	2
46 (29774383)	4
5 (28438285)	4
4 (26476380)	4

CT maxillofacial with IV contrast	Usually appropriate	Limited	☢☢ 0.1-1mSv	☢☢☢ 0.3-3 mSv [ped]	8	8	0	0	0	0	2	0	6	3	6

References	Study Quality
43 (18029900)	4
23 (11889374)	3
5 (28438285)	4
6 (28341385)	4
4 (26476380)	4
44 (25882281)	1

CT maxillofacial without IV contrast	Usually appropriate	Limited	☢☢ 0.1-1mSv	☢☢☢ 0.3-3 mSv [ped]	7	7	0	0	0	1	2	1	8	1	4

References	Study Quality
43 (18029900)	4
23 (11889374)	3
5 (28438285)	4
6 (28341385)	4
4 (26476380)	4
44 (25882281)	1

MRI head without and with IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	1	6	7	3	0	0

References	Study Quality
43 (18029900)	4
5 (28438285)	4
6 (28341385)	4

CT head with IV contrast	May be appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	5	5	0	0	1	3	9	4	0	0	0

References	Study Quality
43 (18029900)	4
23 (11889374)	3
6 (28341385)	4

MRI head without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	1	0	1	4	7	4	0	0	0

References	Study Quality
43 (18029900)	4
5 (28438285)	4
6 (28341385)	4

MRI orbits face neck without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	5	5	5	1	1	0

References	Study Quality
45 (22006778)	2
46 (29774383)	4
5 (28438285)	4
4 (26476380)	4

CT cone beam paranasal sinuses without IV contrast	Usually not appropriate	Limited	☢☢ 0.1-1mSv		2	2	8	1	3	2	3	0	0	0	0

References	Study Quality
25 (24449524)	3
19 (26700263)	3

CTA head with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	12	3	1	0	1	0	0	0	0
CT head without IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	9	3	2	3	0	0	0	0	0

References	Study Quality
43 (18029900)	4
23 (11889374)	3
6 (28341385)	4

CT head without and with IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	12	0	4	1	0	0	0	0	0

References	Study Quality
43 (18029900)	4
23 (11889374)	3
6 (28341385)	4

CT maxillofacial without and with IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	10	2	2	1	2	0	0	0	0

References	Study Quality
43 (18029900)	4
23 (11889374)	3
5 (28438285)	4
6 (28341385)	4
4 (26476380)	4
44 (25882281)	1

Arteriography craniofacial	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	12	1	1	1	0	0	2	0	0
MRA head without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	11	0	2	2	1	0	1	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	2	1	0	0	1	0	0
SPECT or SPECT/CT paranasal sinuses	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	16	0	0	1	0	0	0	0	0
FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	15	1	1	0	0	0	0	0	0
Radiography paranasal sinuses	Usually not appropriate	Limited	☢ <0.1 mSv	☢ <0.03 mSv [ped]	1	1	11	3	1	1	0	1	0	0	0

References	Study Quality
47 (28599686)	2

MRA head with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	11	0	4	1	0	0	1	0	0
MRI head with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	11	3	0	1	2	0	0	0	0

References	Study Quality
43 (18029900)	4

		5 (28438285)	4												
		6 (28341385)	4												
MRI orbits face neck with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	11	3	0	1	2	0	0	0	0
		References	Study Quality												
		45 (22006778)	2												
		46 (29774383)	4												
		5 (28438285)	4												
		4 (26476380)	4												

Variant 5: Suspected sinonasal mass. Initial Imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI orbits face neck without and with IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	9	9	0	0	0	0	0	0	1	0	16
		References	Study Quality												
		24 (29685531)	4												
		52 (31939885)	1												
		8 (29696477)	4												
		9 (29217745)	1												
		7 (26830408)	4												
		53 (26359585)	2												
CT maxillofacial with IV contrast	Usually appropriate	Limited	☢☢ 0.1-1mSv	☢☢☢ 0.3-3 mSv [ped]	7	7	0	0	0	1	1	0	8	1	6
		References	Study Quality												
		51 (28391267)	2												
		7 (26830408)	4												
CT maxillofacial without IV contrast	Usually appropriate	Limited	☢☢ 0.1-1mSv	☢☢☢ 0.3-3 mSv [ped]	7	7	1	0	1	0	1	4	3	3	4

References	Study Quality
51 (28391267)	2
7 (26830408)	4

MRI head without and with IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	6	6	1	0	0	1	1	8	4	2	0
CT head with IV contrast	May be appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	5	5	1	0	0	4	10	2	0	0	0

References	Study Quality
51 (28391267)	2

MRI head without IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	2	0	0	5	9	1	0	0	0
MRI orbits face neck without IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	3	7	6	0	1	0

References	Study Quality
24 (29685531)	4
52 (31939885)	1
8 (29696477)	4
9 (29217745)	1
7 (26830408)	4
53 (26359585)	2

CT head without and with IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	8	2	1	4	0	1	1	0	0

References	Study Quality
51 (28391267)	2

CTA head with IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	10	0	1	3	1	2	0	0	0

References	Study Quality
43 (18029900)	4
48 (17213441)	4
49 (15794546)	4

		50 (12487677)		4											
CT head without IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	11	1	5	0	0	0	0	0	0
		References		Study Quality											
		51 (28391267)		2											
CT maxillofacial without and with IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	11	3	0	1	1	1	0	0	0
		References		Study Quality											
		51 (28391267)		2											
		7 (26830408)		4											
Arteriography craniofacial	Usually not appropriate	Limited	☢☢☢ 1-10 mSv		1	1	12	1	1	1	0	2	0	0	0
		References		Study Quality											
		43 (18029900)		4											
		48 (17213441)		4											
		49 (15794546)		4											
		50 (12487677)		4											
MRA head without IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	10	1	3	1	1	1	0	0	0
		References		Study Quality											
		43 (18029900)		4											
		48 (17213441)		4											
		49 (15794546)		4											
		50 (12487677)		4											
MRA head without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	10	0	2	2	1	2	0	0	0
		References		Study Quality											
		43 (18029900)		4											
		48 (17213441)		4											
		49 (15794546)		4											

		50 (12487677)		4											
SPECT or SPECT/CT paranasal sinuses	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	15	1	1	0	0	0	0	0	0
FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	12	1	3	1	0	0	0	0	0
		References		Study Quality											
		7 (26830408)		4											
Radiography paranasal sinuses	Usually not appropriate	Limited	☢ <0.1 mSv	☢ <0.03 mSv [ped]	1	1	14	2	0	0	1	0	0	0	0
		References		Study Quality											
		51 (28391267)		2											
CT cone beam paranasal sinuses without IV contrast	Usually not appropriate	Expert Consensus	☢☢ 0.1-1mSv		1	1	9	1	2	2	2	0	1	0	0
MRA head with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	11	0	2	2	1	1	0	0	0
		References		Study Quality											
		43 (18029900)		4											
		48 (17213441)		4											
		49 (15794546)		4											
		50 (12487677)		4											
MRI head with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	12	2	0	2	0	0	0	1	0
MRI orbits face neck with IV contrast	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	1	1	13	0	1	0	1	1	0	1	0
		References		Study Quality											
		24 (29685531)		4											
		52 (31939885)		1											
		8 (29696477)		4											
		9 (29217745)		1											

7 (26830408)	4
53 (26359585)	2

Variant 6: Suspected CSF leak. Initial Imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CT maxillofacial without IV contrast	Usually appropriate	Strong	☢☢ 0.1-1mSv	☢☢☢ 0.3-3 mSv [ped]	9	9	1	0	1	0	0	0	4	0	11

References	Study Quality
57 (10319986)	3
58 (12087336)	3
12 (27890184)	4
13 (26370330)	4
55 (16145599)	2
61 (9576647)	2
62 (18079188)	4

MRI orbits face neck without IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	0	6	7	3	1	0

References	Study Quality
11 (18710972)	4
58 (12087336)	3
12 (27890184)	4
14 (27738899)	2
13 (26370330)	4
55 (16145599)	2
61 (9576647)	2
60 (17970620)	2
63 (19723768)	3
65 (19762462)	4

MRI head without IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	5	5	0	0	1	4	5	6	0	1	0

References	Study Quality
11 (18710972)	4
58 (12087336)	3
12 (27890184)	4
14 (27738899)	2
13 (26370330)	4
55 (16145599)	2
61 (9576647)	2
63 (19723768)	3

MRI head without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	4	0	1	4	5	3	0	0	0

References	Study Quality
11 (18710972)	4
58 (12087336)	3
64 (31685104)	4
12 (27890184)	4
14 (27738899)	2
13 (26370330)	4
55 (16145599)	2
61 (9576647)	2
63 (19723768)	3

CT head cisternography	May be appropriate	Strong	☢☢☢ 1-10 mSv		5	5	0	0	1	1	9	3	2	0	1

References	Study Quality
57 (10319986)	3
58 (12087336)	3
12 (27890184)	4
13 (26370330)	4
55 (16145599)	2

		56 (2287375)		4												
		59 (9369519)		2												
		60 (17970620)		2												
DTPA cisternography	May be appropriate	Limited	☢☢☢ 1-10 mSv		5	5	1	0	1	3	8	4	0	0	0
		References		Study Quality												
		58 (12087336)		3												
		12 (27890184)		4												
		13 (26370330)		4												
MRI orbits face neck without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	2	0	1	2	5	3	2	2	0
		References		Study Quality												
		11 (18710972)		4												
		58 (12087336)		3												
		12 (27890184)		4												
		14 (27738899)		2												
		13 (26370330)		4												
		55 (16145599)		2												
		61 (9576647)		2												
		60 (17970620)		2												
		63 (19723768)		3												
		65 (19762462)		4												
SPECT or SPECT/CT paranasal sinuses	May be appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	4	4	5	1	0	4	6	1	0	0	0
		References		Study Quality												
		13 (26370330)		4												
		66 (23871275)		4												
CTA head with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	12	3	0	0	2	0	0	0	0

CT head with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	14	1	1	1	0	0	0	0	0
CT head without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	12	3	2	0	0	0	0	0	0
CT head without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	15	0	2	0	0	0	0	0	0
CT maxillofacial with IV contrast	Usually not appropriate	Strong	☢☢ 0.1-1mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	11	2	4	0	0	0	0	0	0

References	Study Quality
57 (10319986)	3
58 (12087336)	3
12 (27890184)	4
13 (26370330)	4
55 (16145599)	2
61 (9576647)	2
62 (18079188)	4

CT maxillofacial without and with IV contrast	Usually not appropriate	Strong	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	12	1	4	0	0	0	0	0	0

References	Study Quality
57 (10319986)	3
58 (12087336)	3
12 (27890184)	4
13 (26370330)	4
55 (16145599)	2
61 (9576647)	2
62 (18079188)	4

Arteriography craniofacial	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	15	1	0	1	0	0	0	0	0

MRA head without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	2	0	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	2	0	1	0	0	0	0	0
FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	15	1	1	0	0	0	0	0	0
Radiography paranasal sinuses	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢ <0.03 mSv [ped]	1	1	15	1	0	0	0	1	0	0	0
CT cone beam paranasal sinuses without IV contrast	Usually not appropriate	Expert Consensus	☢☢ 0.1-1mSv		1	1	11	1	0	1	2	1	1	0	0
MRA head with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	2	0	1	0	0	0	0	0
MRI head with IV contrast	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	1	1	13	1	0	1	2	0	0	0	0

References	Study Quality
58 (12087336)	3
12 (27890184)	4
14 (27738899)	2
13 (26370330)	4
55 (16145599)	2
61 (9576647)	2
63 (19723768)	3

MRI orbits face neck with IV contrast	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	1	1	12	1	2	1	1	0	0	0	0

References	Study Quality
11 (18710972)	4
58 (12087336)	3
12 (27890184)	4
14 (27738899)	2
13 (26370330)	4

55 (16145599)	2
61 (9576647)	2
60 (17970620)	2
63 (19723768)	3
65 (19762462)	4

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.**