# 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 | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 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 | | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
|---|---|

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

| 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 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 |

| 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 | 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 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | |

| References | Study Quality |
|---|---|
| 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 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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.**