American College of Radiology
ACR Appropriateness Criteria®

Tinnitus

Variant 1: Subjective or objective pulsatile tinnitus (no myoclonus or Eustachean tube dysfunction).

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CTA head with IV contrast	Usually appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	8	n/a	0	0	0	0	0	0	0	0	0
CTA head and neck with IV contrast	Usually appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	8	n/a	0	0	0	0	0	0	0	0	0
CT temporal bone without IV contrast	Usually appropriate		☢☢☢ 1-10 mSv		8	n/a	0	0	0	0	0	0	0	0	0
CTV head with IV contrast	Usually appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	7	n/a	0	0	0	0	0	0	0	0	0
MRA head without and with IV contrast	Usually appropriate		O 0 mSv	O 0 mSv [ped]	7	n/a	0	0	0	0	0	0	0	0	0
MRI head and internal auditory canal without and with IV contrast	Usually appropriate		O 0 mSv	O 0 mSv [ped]	7	n/a	0	0	0	0	0	0	0	0	0
MRA head without IV contrast	May be appropriate		O 0 mSv	O 0 mSv [ped]	6	n/a	0	0	0	0	0	0	0	0	0
MRV head without and with IV contrast	May be appropriate		O 0 mSv	O 0 mSv [ped]	6	n/a	0	0	0	0	0	0	0	0	0
Arteriography cervicocerebral	May be appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	6	n/a	0	0	0	0	0	0	0	0	0

MRV head without IV contrast	May be appropriate		O 0 mSv	O 0 mSv [ped]	5	n/a	0	0	0	0	0	0	0	0	0
MRI head and internal auditory canal without IV contrast	May be appropriate		O 0 mSv	O 0 mSv [ped]	5	n/a	0	0	0	0	0	0	0	0	0
US duplex Doppler carotid	May be appropriate		O 0 mSv	O 0 mSv [ped]	5	n/a	0	0	0	0	0	0	0	0	0
CT temporal bone with IV contrast	May be appropriate		☢☢☢ 1-10 mSv		4	n/a	0	0	0	0	0	0	0	0	0
CT temporal bone without and with IV contrast	Usually not appropriate		☢☢☢ 1-10 mSv		2	n/a	0	0	0	0	0	0	0	0	0

Variant 2: Asymmetric or unilateral, subjective, nonpulsatile tinnitus (no otoscopic finding; no asymmetric hearing loss, neurologic deficit, or trauma).

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI head and internal auditory canal without and with IV contrast	Usually appropriate		O 0 mSv	O 0 mSv [ped]	8	n/a	0	0	0	0	0	0	0	0	0
MRI head and internal auditory canal without IV contrast	May be appropriate		O 0 mSv	O 0 mSv [ped]	6	n/a	0	0	0	0	0	0	0	0	0
CT temporal bone without IV contrast	May be appropriate		☢☢☢ 1-10 mSv		5	n/a	0	0	0	0	0	0	0	0	0
CT temporal bone with IV contrast	May be appropriate		☢☢☢ 1-10 mSv		5	n/a	0	0	0	0	0	0	0	0	0
CTA head with IV contrast	May be appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	4	n/a	0	0	0	0	0	0	0	0	0
CTA head and neck with IV contrast	Usually not appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0

CTV head with IV contrast	Usually not appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
MRA head without IV contrast	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
MRA head without and with IV contrast	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
MRV head without IV contrast	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
MRV head without and with IV contrast	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
CT temporal bone without and with IV contrast	Usually not appropriate		☢☢☢ 1-10 mSv		2	n/a	0	0	0	0	0	0	0	0	0
Arteriography cervicocerebral	Usually not appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	2	n/a	0	0	0	0	0	0	0	0	0
US duplex Doppler carotid	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	2	n/a	0	0	0	0	0	0	0	0	0
MRI functional (fMRI) head without IV contrast	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	2	n/a	0	0	0	0	0	0	0	0	0
MEG	Usually not appropriate		O 0 mSv		1	n/a	0	0	0	0	0	0	0	0	0

Variant 3: Symmetric or bilateral, subjective, nonpulsatile tinnitus (no hearing loss, neurologic deficit, or trauma).

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CT temporal bone without IV contrast	Usually not appropriate		☢☢☢ 1-10 mSv		3	n/a	0	0	0	0	0	0	0	0	0

CTV head with IV contrast	Usually not appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
MRI head and internal auditory canal without IV contrast	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
MRI head and internal auditory canal without and with IV contrast	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
CTA head with IV contrast	Usually not appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	2	n/a	0	0	0	0	0	0	0	0	0
CTA head and neck with IV contrast	Usually not appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	2	n/a	0	0	0	0	0	0	0	0	0
CT temporal bone without and with IV contrast	Usually not appropriate		☢☢☢ 1-10 mSv		2	n/a	0	0	0	0	0	0	0	0	0
CT temporal bone with IV contrast	Usually not appropriate		☢☢☢ 1-10 mSv		2	n/a	0	0	0	0	0	0	0	0	0
MRA head without IV contrast	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	2	n/a	0	0	0	0	0	0	0	0	0
MRA head without and with IV contrast	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	2	n/a	0	0	0	0	0	0	0	0	0
MRV head without IV contrast	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	2	n/a	0	0	0	0	0	0	0	0	0
MRV head without and with IV contrast	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	2	n/a	0	0	0	0	0	0	0	0	0
US duplex Doppler carotid	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	2	n/a	0	0	0	0	0	0	0	0	0
Arteriography cervicocerebral	Usually not appropriate		☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
MEG	Usually not appropriate		O 0 mSv		1	n/a	0	0	0	0	0	0	0	0	0

MRI functional (fMRI) head without IV contrast	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	1	n/a	0	0	0	0	0	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.**