Subject: Orbit-Sella-Neck-Temporal Bone (IAC) including Mastoid-Posterior Fossa MRI (70540, 70542, 70543)	Original Effective Date: 12/13/2017
Policy Number: MCR: 608	**Revision Date(s):**
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DISCLAIMER

This Molina Clinical Review (MCR) is intended to facilitate the Utilization Management process. It expresses Molina's determination as to whether certain services or supplies are medically necessary, experimental, investigational, or cosmetic for purposes of determining appropriateness of payment. The conclusion that a particular service or supply is medically necessary does not constitute a representation or warranty that this service or supply is covered (i.e., will be paid for by Molina) for a particular member. The member's benefit plan determines coverage. Each benefit plan defines which services are covered, which are excluded, and which are subject to dollar caps or other limits. Members and their providers will need to consult the member's benefit plan to determine if there are any exclusion(s) or other benefit limitations applicable to this service or supply. If there is a discrepancy between this policy and a member's plan of benefits, the benefits plan will govern. In addition, coverage may be mandated by applicable legal requirements of a State, the Federal government or CMS for Medicare and Medicaid members. CMS's Coverage Database can be found on the CMS website. The coverage directive(s) and criteria from an existing National Coverage Determination (NCD) or Local Coverage Determination (LCD) will supersede the contents of this Molina Clinical Review (MCR) document and provide the directive for all Medicare members.

DESCRIPTION OF PROCEDURE/SERVICE/PHARMACEUTICAL

MRI (Magnetic Resonance Imaging) is a no-n X-ray (no ionizing radiation) imaging scan that uses a strong magnetic field and radiofrequency waves to produce detailed cross sectional views of soft tissues, bones and vascular structures. These cross sectional images can be reconstructed, rotated and displayed in many different planes. A MR scan can be performed either without (non-enhanced) or with (contrast enhanced) injection of gadolinium containing contrast material into a vein.

APPROVAL SUPPORT

For many clinical situations **either MRI or CT** are appropriate. MRI's often show soft tissue details better, and CT's often show boney detail better. The choice should be made by the radiologist and the ordering provider as to which is best for a given clinical situation.

ORBITS MRI or SINUS MRI or FACE MRI

- **Trauma** with physical exam evidence of damage (does not require X-ray first).
- **Decreased range of motion** of the eyes.
- **Proptosis** (exophthalmos).(such as Grave's Disease
- **Progressive vision loss.**
- **Abnormal X-ray**

- **Unilateral visual deficit.**
- **Papilledema** (including Pseudotumor)
- Orbital or facial **Infection** (including Osteomyelitis)
- **Tumor or mass** found on X-ray, Physical Exam, or Ultrasound (including Parotid or submandibular)
- **Sinus Infection/Inflammation** (and reason for not doing CT is provided). Unresolved **sinusitis** after four (4) consecutive weeks of medication, e.g., antibiotics, steroids or decongestants

ORBIT MRI combined with BRAIN MRI:

- Person who will need anesthesia for the procedure and there is a suspicion of concurrent intracranial tumor (e.g. "trilateral retinoblastoma")*
- Unilateral papilledema: (e.g. optic nerve lesion, optic neuritis, central retinal vein occlusion or optic nerve infiltration)

NECK MRI:

- **Known tumor, or mass:**
  - Tumor or mass found on x-ray, physical exam, or ultrasound
  - Evaluation of skull base tumor, mass or cancer.
  - Evaluation of suspected parathyroid tumor when:
    - CA> normal and PTH > normal WITH
    - Previous nondiagnostic ultrasound or nuclear medicine scan AND
    - Surgery planned.

- **Suspected tumor, cancer, inflammation or infection**
  - Neck tumor or mass suspected based on **symptoms** or **examination findings** and **Ultrasound** is indeterminate.
  - Palpable lesions in **mouth or throat**.
  - **Non-thyroid masses** in the neck when persistent, greater than one month, and > 1 cm

- **Other indications** for a Neck MRI:
  - **Vocal cord lesions** or vocal cord **paralysis**.
  - **Stones** of the parotid or submandibular glands and ducts.
  - Brachial plexus dysfunction (Brachial plexopathy/Thoracic Outlet Syndrome).

Pre/Post Procedural

- Pre-operative/ Pre-procedural evaluation when detail is needed
- Post-operative/Post-procedural for routine recommended follow up or for potential post-operative complications.
- A repeat study may be needed to help evaluate a patient's progress after treatment procedure intervention or surgery. The reason for the repeat study and that it will affect care must be clear.

NOTE: Use **Brain MRI** for **Pituitary** MRI, **Sella** MRI, **IAC** (Internal Auditory Canal) MRI, or **Mastoid** MRI

ADDITIONAL INFORMATION

The following medical necessity criteria are used to determine the best diagnostic study based on a patient's specific clinical circumstances. The criteria were developed using evidence based recommendations and current accepted clinical practices. Medical necessity will be determined using a combination of established criteria as well as the patient's individual clinical or social circumstances.

- Tests that will not change treatment recommendations should not be approved.
- Tests completed recently need a specific reason for repeat
- Tests done very recently that have an abnormality that requires the test be done again with contrast can be approved.
- Contrast should be used if there is a history of prior surgery, malignancy or known or suspected infection

REFERENCES USED FOR DETERMINATIONS

1. Neuman, M.I., Bachur,R.G., **Orbital fractures,** UpToDate, https://www.uptodate.com/contents/orbital-fractures?source=machineLearning&search=orbital%20fracture&selectedTitle=1~23&sectionRank=2&anchor=H14#H14
2. American College of Radiology. (2014). ACR Appropriateness Criteria® Retrieved from https://acsearch.acr.org/list.
3. Mafee MF. Imaging of the nasal cavities, paranasal sinuses, nasopharynx, orbits, infratemporal fossa, pterygomaxillary fissure, parapharyngeal space, and base of skull. In: Ballenger's otorhinolaryngology head and neck surgery, 16th ed, Ballenger JJ, Show JB (Eds), BC Decker, Canada 2002.
4. American College of Radiology. (2012). Appropriateness Criteria®. Orbits, Vision and Visual Loss. Retrieved from http://www.acr.org/Quality-Safety/Appropriateness-Criteria/Diagnostic/Neurologic-Imaging.
5. Buerk, B.M., Pulido, J.S., Chiong, I., Folberg, R., Edward, D.P., Duffy, M.T., & Thuborn, K.R. (2004).Vascular perfusion of choroidal melanoma by 3.0 tesla magnetic resonance imaging. Trans Am Ophthalmol Soc, 102, 209-218. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1280101/.
6. Conneely, M.R., Hacein-Bey, L., & Jay, W.M. (2008). Magnetic resonance imaging of the orbit. Seminars in Ophthalmology, 23(3), 179-189. doi: 10.1080/08820530802028677. Baek, S.K., Chae, S.W., & Jung, H.H. (2003). Congenital internal auditory canal stenosis. The Journal of Laryngology and Otology, 117(10), 784-787.
7. Heilbrun, M.E., Salzman, K.L., Glastonbury, C.M., et al. (2003). External auditory canal cholesteatoma: Clinical and imaging spectrum. American Journal of Neuroradiology, 24(4), 751-756.

8. Hsu, K.C., Wang, A.C., & Chen, S.J. (2008). Mastoid bone fracture presenting as unusual delayed onset of facial nerve palsy. The American Journal of Emergency Medicine, 26(3), 386.
9. Jager, L., Bonell, H., Liebl, M., et al. (2005). CT of the normal temporal bone: Comparison of multi– and single–detector row CT. Radiology, 235, 133-141.
10. Jain, R., & Mukherji, S.K. (2003). Cochlear implant failure: Imaging evaluation of the electrode course. Clinical Radiology, 58(4), 288-293
11. Ma, H., Han, P., Liang, B., et al. (2008). Multislice spiral computed tomography imaging in congenital inner ear malformations. Journal of Computer Assisted Tomography, 32(1), 146-150.
12. NI, Y., Sha, Y., Dai, P., et al. (2007). Quantitative positioning of facial nerve based on three-dimensional CT image reconstruction of temporal bone. Journal of Clinical Otorhinolaryngology, Head, and Neck Surgery, 21(19), 865.
13. O'Reilly, B.J., Chevretton, E.B., Wylie, I., et al. (1991). The value of CT scanning in chronic suppurative otitis media. The Journal of Laryngology & Otology, 105, 990-994
14. Ahmad F, Kirkpatrick NA, Lyne J, et al. Buckling and hydraulic mechanisms in orbital blowout fractures: fact or fiction? J Craniofac Surg 2006; 17:438.
15. Cruz AA, Eichenberger GC. Epidemiology and management of orbital fractures. Curr Opin Ophthalmol 2004; 15:416.
16. Lin HW, Shargorodsky J, Gopen Q. Clinical strategies for the management of acute mastoiditis in the pediatric population. Clin Pediatr (Phila) 2010; 49:110.

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CPT: Description
70540: MRI (Magnetic Resonance Imaging) Face/Neck/Orbit without contrast
70542: MRI (Magnetic Resonance Imaging) Face/Neck/Orbit with contrast
70543: MRI (Magnetic Resonance Imaging) Face/Neck/Orbit without and with contrast