Cohere Medical Policy - Magnetic Resonance Imaging (MRI), Neck/Orbit/Face

Clinical Guidelines for Medical Necessity Review

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Important Notices

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Guideline Information:

Specialty Area: Diagnostic Imaging
Guideline Name: Cohere Medical Policy - Magnetic Resonance Imaging (MRI), Neck/Orbit/Face

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Medical Necessity Criteria

Magnetic Resonance Imaging (MRI), Neck/Orbit/Face

Recommended Clinical Approach

Magnetic resonance imaging (MRI) is a versatile imaging technique that operates on the interaction between radiofrequency electromagnetic fields and specific nuclei in the body, typically hydrogen nuclei, following exposure to a powerful magnetic field. This method allows for the discrimination between normal and abnormal tissues, offering a highly sensitive diagnostic tool for detecting diseases. The effectiveness of MRI stems from the notable contrast inherent in various healthy and diseased tissues, owing to differences in their magnetic relaxation properties.[1] Because of the complex anatomy of the neck, orbit, and face, and the many available imaging choices, clear communication of the patient's symptoms and physical exam findings by the referring clinician to the interpreting radiologists is most critical in choosing the best imaging exam to address the patient's problem.

Medical Necessity Criteria

Indications

- ➔ **Magnetic resonance imaging (MRI), neck/orbit/face** is considered appropriate if **ANY** of the following is **TRUE**:
  - ◆ **ANY** of the following orbital indications:
    - Trauma-related conditions, including traumatic visual defect with suspected orbital injury[2]; **OR**
    - Trauma that is not related to the cervical spine; **OR**
    - **ANY** of the following conditions, known or suspected:
      - Congenital conditions (e.g. capillary hemangioma, optic nerve hypoplasia); **OR**
      - Neoplastic conditions, benign or malignant, detection, and follow-up (e.g., dermoid, lymphoma, metastases)[2-3]; **OR**
      - Orbital pseudotumor or orbital inflammatory disease; **OR**
      - Osseous lesions (e.g., fibrodysplasia, Paget's), when CT is completed or contraindicated and further evaluation is needed; **OR**

    - Foreign body, suspected clinically or seen on prior imaging when CT is completed or contraindicated and further evaluation is needed; **OR**
    - Orbital infectious process, suspected or known, and **ANY** of the following is **TRUE**:
        - Medical management has failed (e.g., orbital cellulitis not responding appropriately to antibiotics); **OR**
        - The patient is pediatric; **OR**
        - The patient is immunocompromised; **OR**
    - Optic nerve inflammation is suspected, including optic neuritis; **OR**
    - Scleritis confirmed clinically with failure of medical management or with complication suspected[4]; **OR**
    - Uveitis, confirmed clinically with complication suspected; **OR**
    - Thyroid orbitopathy[5]; **OR**
    - Venous conditions such as orbital varices; **OR**
- Additional evaluation is needed when etiology remains unclear following a complete eye examination that includes funduscopy, including **ANY** of the following:
    - Diplopia; **OR**
    - Enophthalmos; **OR**
    - Exophthalmos; **OR**
    - Eye pain, with history or other signs or symptoms indicating non-ischemic pathology; **OR**
    - Orbital asymmetry; **OR**
    - Preseptal or post-septal orbital mass, otherwise unexplained; **OR**
    - Ophthalmoplegia; **OR**
    - Eye movement abnormality in a child (e.g., strabismus or nystagmus in a child 6 months or older); **OR**
    - Proptosis; **OR**
    - Unilateral papilledema; **OR**
    - Orbital hemorrhage, when the underlying lesion is suspected, and CT has been completed; **OR**

        - Vision loss or visual field deficit with history or other signs/symptoms indicating non-ischemic intra-orbital pathology; **OR**
    - Preoperative, postoperative, or pre-treatment evaluation for surgery, radiation, or chemotherapy; **OR**
- Temporal bone and inner ear indications including **ANY** of the following:
    - MRI-preferred indications, including **ANY** of the following:
        - Cholesteatoma, initial, and 9 to 12-month postoperative follow-up; **OR**
        - Sensorineural hearing loss, acquired or congenital; **OR**
        - Bell's palsy or other facial nerve abnormalities requiring evaluation of the extracranial portion of the nerve; **OR**
        - Tinnitus, unexplained by history or physical examination, and is worsening or affects daily function; **OR**
    - CT is contraindicated or already performed, and further evaluation is needed, including **ANY** of the following:
        - **ANY** of the following conditions, known or suspected[6]:
            - Neoplastic conditions, detection, and follow-up (including tumors of the internal or external auditory canal, inner ear, and mastoid); **OR**
            - Otitis media, recurrent with at least 3 episodes in the past 12 months, with complications suspected (e.g., hearing loss, intracranial extension, mastoiditis); **OR**
            - Malignant otitis externa, unresponsive to antibiotics; **OR**
            - Mastoiditis; **OR**
            - Other infectious processes involving the middle or inner ear, where imaging is needed to direct appropriate management; **OR**
        - Symptoms/signs, evaluated by complete auditory examination including **ANY** of the following[6]:
            - Conductive, mixed-conductive, or congenital hearing loss; **OR**
            - Total deafness, otherwise unexplained; **OR**

        - ◆ Vertigo, unexplained by history or physical examination with **ANY** of the following:
            - Worsening symptoms; **OR**
            - Affects daily function; **OR**
            - Associated hearing loss or other neurological deficits; **OR**
            - History of prior infection such as otitis or meningitis; **OR**
            - History of prior trauma; **OR**
    - Trauma-related conditions related to the ear, further evaluation after CT completed[7-9]; **OR**
    - Vascular conditions, known or suspected, related to the ear or temporal bone including evaluation of pulsatile tinnitus[10]; **OR**
- Preoperative, postoperative, or pre-treatment evaluation for surgery, radiation, or chemotherapy (including evaluation for cochlear implant); **OR**

◆ Face/paranasal sinus indications, including **ANY** of the following:

- **ANY** of the following MR-preferred indications:
    - Bell's palsy or other facial nerve abnormalities requiring evaluation of the extracranial portion of the nerve; **OR**
    - Trigeminal neuralgia with **ANY** of the following[11]:
        - ◆ Atypical trigeminal neuralgia, defined by **ANY** of the following symptoms:
            - Bilateral hearing loss; **OR**
            - Dizziness/vertigo; **OR**
            - Visual changes; **OR**
            - Sensory loss or numbness; **OR**
            - Pain greater than 2 minutes; **OR**
            - Pain outside trigeminal nerve distribution and progression; **OR**
        - ◆ Refractory trigeminal neuralgia when done for surgical planning; **OR**
- Conditions (known or suspected), with CT either contraindicated or already performed, and further evaluation is needed for **ANY** of the following[6]:
    - Anatomic abnormalities (e.g. deviated septum), suspected as a cause of patient symptoms and

surgical management is being considered; **OR**

- Congenital conditions and craniofacial abnormalities[1]; **OR**
- Sinusitis when, if infective, and **ANY** of the following is **TRUE**[1,12-14]:
  - Four or more acute episodes per year and surgery/biologic therapy are contemplated; **OR**
  - Not resolving despite 2 courses of antibiotics; **OR**
  - A complication is suspected (e.g., abscess formation, involvement of adjacent structures such as orbits, cavernous sinus, or intracranial); **OR**
  - The patient is immunocompromised, and invasive fungal sinusitis is suspected; **OR**
  - Allergic fungal sinusitis (AFS) suspected, with failed medical treatment or surgery is contemplated; **OR**
  - Chronic rhinosinusitis, symptomatic (discharge, congestion, anosmia, pain), severity staging or restaging when management change is contemplated; **OR**
- Osteomyelitis; **OR**
- Odontogenic infections with suspected complications (e.g., abscess formation, facial swelling, nerve, sinus involvement); **OR**
- Unexplained facial swelling (e.g., over the mandible); **OR**
- Foreign body (suspected), clinically or seen on prior imaging; **OR**
- Neoplastic conditions for initial staging, treatment planning, response assessment, and surveillance; **OR**
- Lymphadenopathy with failure of conservative management (e.g., rest, antibiotics, anti-inflammatory, analgesics) that is documented for a period of greater than two weeks for reactive adenopathy; **OR**
- Sinonasal polyposis detected on nasal endoscopy with **ALL** of the following[12,15]:

        - The patient is symptomatic; **AND**
        - No relief with appropriate medical therapy such as systemic corticosteroids, antihistamines, and antibiotics; **AND**
        - Surgical intervention or biologic therapy is being contemplated; **OR**
    - Known sinonasal polyposis with complications suspected, such as involvement of the orbits; **OR**
    - Non-infectious inflammatory involvement of the sinus is suspected based on clinical history and symptoms, such as a history of granulomatosis with polyangiitis[1]; **OR**
    - Salivary gland disorder (e.g. chronic unexplained xerostoma, autoimmune involvement, palpable mass, or salivary duct evaluation via MR sialography); **OR**
    - Vascular malformations such as arteriovenous malformations[1,10]; **OR**
- For evaluation of **ANY** of the following symptoms when applicable:
    - Anosmia with **ANY** of the following[16]:
        - Persistent anosmia with nondiagnostic endoscopy; **OR**
        - Abnormal endoscopy with further evaluation needed; **OR**
        - Known or suspected neoplasm; **OR**
        - History of head or facial trauma; **OR**
    - Cerebrospinal fluid (CSF) leak (MR cisternography), confirmed on testing or strong clinical history such as prior trauma or CSF leak that increases after Valsalva maneuvers, further evaluation after CT is completed[12]; **OR**
    - Epistaxis with failure of conservative management (e.g., nasal packing/tampon, cautery, etc) **OR**
    - Epistaxis with detection of mass, polyp, or other pathology on examination that requires further evaluation[1]; **OR**
- Neck indications, including **ANY** of the following:
    - Initial staging, treatment assessment, and surveillance of known malignant conditions in the neck not otherwise listed

(e.g., nasopharynx, oropharynx, hypopharynx, larynx, salivary glands, jaw, oral cavity); **OR**

- Thyroid masses or goiter when ultrasound is non-diagnostic or requires further work-up; **OR**
- Lymphadenopathy or palpable mass, when **ANY** of the following is **TRUE**[17]:
    - Unlikely to be due to infection (non-mobile, firm, greater than 1.5cm, or history of cancer); **OR**
    - Ultrasound was suspicious for malignancy; **OR**
    - Not resolving despite at least 2 weeks of conservative management (watchful waiting, antibiotics, etc.); **OR**
    - Overlying skin changes present, such as ulceration **OR**
    - Lymphadenopathy in a patient older than 50 years; **OR**
    - Mass or lesion detected on laryngoscopy; **OR**
- Assessment of signs and symptoms, including **ANY** of the following:
    - Odynophagia; **OR**
    - Globus sensation or dysphagia when clinical examination, including endoscopy and fluoroscopy, are negative or require further evaluation; **OR**
    - Vocal cord paralysis; **OR**
    - Neck pain that is not related to cervical spine or dissection and has not resolved with conservative treatment (e.g., rest and analgesics) that is documented for a period of greater than 4 weeks; **OR**
    - Cranial neuropathy of cranial nerves (CN) 9-11; **OR**
    - Brachial plexus pathology, suspected due to anatomic (e.g. cervical rib) or clinical symptoms (e.g., positive EMG results, symptoms related to scalene muscles, symptoms that worsen with arm overhead), Includes but not limited to trauma, neurogenic thoracic outlet syndrome, neuropathies affecting brachial plexus (e.g, chronic inflammatory demyelinating polyneuropathy [CIDP], or suspected or known mass); **OR**
    - Ear pain unexplained by ENT evaluation and a trial of conservative therapy (e.g., topical and systemic antibiotics, ear drops); **OR**

- Infectious conditions (e.g., tonsillitis, epiglottitis, cellulitis, etc.) when **ANY** of the following is **TRUE**:
    - Suspected compromise of the airway; **OR**
    - Surgery is planned; **OR**
    - Not improving with appropriate therapy; **OR**
    - Retropharyngeal abscess suspected; **OR**
    - Ludwig's angina, suspected; **OR**
- Localization of parathyroid adenoma when lab tests indicate primary hyperparathyroidism and neck ultrasound and Sestamibi scan (nuclear medicine scan) are normal or nondiagnostic[18]; **OR**
- Presurgical evaluation, planning, or guidance, including radiation planning; **OR**
- Foreign body when initial radiographs and CT are non-diagnostic, unavailable, or contraindicated; **OR**
- Suspected extracapsular spread of a tumor into the surrounding neck structures; **OR**
- Suspected recurrent thyroid cancer or rising thyroglobulin, with negative ultrasound and physical exams to detect occult neck nodes[5]; **OR**

◆ Repeat imaging of a specific area or structure using the same imaging modality (in the absence of an existing follow-up guideline) is considered appropriate when **ALL** of the following are **TRUE**:

- There is documented clinical necessity; **AND**
- Prior imaging results of the specific area or structure, obtained using the same imaging modality, must be documented and available for comparison; **AND**
- **ANY** of the following is **TRUE**:
    - A change in clinical status, such as worsening symptoms or the emergence of new symptoms, that may influence the treatment approach; **OR**
    - The requirement for interval reassessment, which may alter the treatment plan; **OR**
    - One-time follow-up of a prior indeterminate finding to assess for interval change; **OR**
    - The need for re-imaging either before or after performing an invasive procedure.

Non-Indications

- ➔ **Magnetic resonance imaging (MRI), neck/orbit/face** may not be considered appropriate if **ANY** of the following is **TRUE**:
  - ◆ The patient has undergone advanced imaging of the same body part within 3 months without undergoing treatment or developing new or worsening symptoms; **OR**
  - ◆ If contrast is used, history of anaphylactic allergic reaction to gadolinium contrast media with detailed guidelines for use in patients with renal insufficiency; **OR**
  - ◆ The patient has metallic clips on vascular aneurysms; **OR**
  - ◆ Incompatible implantable devices (e.g., pacemakers, defibrillators, cardiac valves); **OR**
  - ◆ Metallic foreign body in orbits/other critical area(s) or within the field of view and obscuring area of concern.

*NOTE: MRI in patients with claustrophobia should be requested at the discretion of the ordering provider.
**NOTE: MRI in pregnant patients should be requested at the discretion of the ordering provider and obstetric care provider.

Level of Care Criteria

Inpatient or Outpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
70540	Magnetic resonance imaging (MRI) (e.g., proton); orbit, face and/or neck; without contrast material(s)
70542	Magnetic resonance imaging (MRI) (e.g., proton); orbit, face and/or neck; with contrast material(s)
70543	Magnetic resonance imaging (MRI) (e.g., proton); orbit, face and/or neck; without contrast material(s) and further sequences

Medical Evidence

Saltagi et al. (2021) reviewed spontaneous intracranial hypotension (SIH). The condition manifests as decreased cerebrospinal fluid (CSF) volume due to leakage through a dural defect, occurring without a discernible underlying cause. Magnetic resonance imaging (MRI) is a preferred initial, non-invasive diagnostic tool (with and without gadolinium contrast enhancement). Spinal MRI or CT myelography is useful for extradural fluid collection to identify a 'fast' leak; a dynamic CT myelogram or digital subtraction myelogram can locate the precise leak. Spine MRI may reveal secondary findings indicative of SIH, such as dural thickening, enhancement, or engorgement of the epidural venous plexus.[19]

Bond et al. (2020) present a review of the diagnostic evaluation of anosmia and hyposmia, including etiology (e.g., trauma, chronic sinusitis, neoplasms, respiratory viral infections). Smell tests primarily diagnose the conditions; however, MRI is often widely used. Functional MRI can diagnose suspected post-traumatic abnormalities.[20]

Nael et al. (2015) conducted a study to identify distinctive MR perfusion patterns (PTAs) to allow differentiation from neighboring thyroid tissue and cervical lymph nodes, which may exhibit similar imaging characteristics. Utilizing dynamic 4D contrast-enhanced MR imaging enables the exploitation of the hypervascular features of PTAs. Multiparametric MR perfusion analysis demonstrates a diagnostic accuracy of 96% in distinguishing PTAs from adjacent thyroid tissue or lymph nodes.[21]

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Clinical Guideline Revision History/Information

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