~~National Imaging Associates, Inc.~~	
~~Clinical guidelines~~ ~~ORBIT, FACE, NECK, SINUS MRI~~	~~Original Date: November 2007~~
~~CPT Codes: 70540, 70542, 70543~~	~~Last Revised Date: May April 20210~~
~~Guideline Number: NIA_CG_014~~	~~Implementation Date: January 20221~~

~~A single authorization for CPT code 70540, 70542, or 70543 includes imaging of the Orbit, Face, Sinuses, and Neck. Multiple authorizations are not required.~~

National Imaging Associates, Inc. *	
Clinical guidelines ORBIT, FACE, NECK, SINUS MRI	Original Date: November 2007
CPT Codes: 70540, 70542, 70543, +0698T	Last Revised Date: April 2021
Guideline Number: NIA_CG_014	Implementation Date: January 2022

INDICATIONS FOR ORBIT MRI~~:~~

MRI is superior for the evaluation of the visual pathways, globe and soft tissues~~;~~, CT is preferred for visualizing bony detail and calcifications (Hande, 2012; Kennedy, 2018)

- **Abnormal external or direct eye exam**
  - Exophthalmos (proptosis) or enophthalmos
  - Ophthalmoplegia with concern for orbital pathology
  - Unilateral optic disk swelling (Hata, 2017; Margolin, 2019; Passi, 2013)
  - Documented visual field defect (Fadzil, 2013; Kedar, 2011; Prasad, 2012; Sadun, 2011)
    - Unilateral or with ~~optic disc abnormali~~**abnormal~~ty~~ optic disc(s) (-e.g., optic disc blurring, edema, or pallor); AND**
    - ~~(i.e. optic disc blurring, edema, or pallor); AND~~

* National Imaging Associates, Inc. (NIA) is a subsidiary of Magellan Healthcare, Inc.

- Not explained by underlying diagnosis, glaucoma, or macular degeneration

- **Optic nNeuritis**
  - (**CMSC, 2018;** Gala, 2015; Srikajon, 2018; Voss, 2011~~; CMSC, 2018~~)
    - If atypical presentation, severe visual impairment, or poor recovery following initial onset or treatment onset OR
    - **If needed to confirm optic neuritis and rule out compressive lesions**~~(CMSC, 2018)~~

- **Orbital trauma**
  - (Lin, 2012; Sung, 2014)
    - Physical findings of direct eye injury
    - Suspected orbital trauma with indeterminate x-ray or ultrasound

- **Orbital or ocular mass/tumor, suspected or known**
  - (Hande, 2012; Kedar, 2011)

- **Clinical sSuspicion of orbital infection**
  - (Hande, 2012; Kennedy, 2018)

- **Clinical sSuspicion of osteomyelitis**
  - (Arunkumar, 2011; Lee, 2016)
    - Direct visualization of bony deformity **OR**
    - Abnormal x-rays

- **Clinical sSuspicion of Orbital Inflammatory Disease** (e.g., eye pain and restricted eye movement with suspected orbital pseudotumor)
  - (Pakdaman, 2014)

- **Congenital orbital anomalies**

- **Complex strabismus to aid in diagnosis, treatment and/or surgical planning (Demer, 2002; Kadom, 2008~~; Demer, 2002~~)**

NOTE: FOR OTHER ORBIT MRI INDICATIONS, CLICK HERE

INDICATIONS FOR ORBIT AND BRAIN MRI COMBINATION STUDIES:

- **Optic neuropathy or unilateral optic disk swelling** ~~Unilateral optic disk swelling/optic neuropathy~~ **of unclear etiology to distinguish between a compressive lesion of the optic**

nerve, optic neuritis, ischemic optic neuropathy (arteritic or non-arteritic), central retinal vein occlusion or optic nerve infiltrative disorders (Behbehani, 2007)

- Bilateral optic disk swelling (papilledema) with vision loss (Margolin, 2019)
- Optic n~~N~~euritis if atypical presentation, severe visual impairment, or poor recovery following initial onset or treatment onset (CMSC, 2018)
- Known or suspected neuromyelitis optica spectrum disorder with severe, recurrent, or bilateral optic neuritis (Wingerchuk, 2015)
- For approved indications as noted above and being performed in a child under 8 years of age who will need anesthesia for the procedure and there is a suspicion of concurrent intracranial pathology (Lawson, 2000).~~.~~

INDICATIONS FOR FACE/SINUS MRI:

- **Rhinosinusitis** (Kirsch, 2017)
  - Clinical s~~S~~uspicion of fungal infection (Gavito-Higuera, 2016)
  - Clinical s~~S~~uspicion of orbital or intracranial complications (Arunkumar, 2011; Lee, 2016), such as ~~(Arunkumar, 2011; Lee, 2016)~~
    - Preseptal, orbital, or central nervous system infection
    - Osteomyelitis
    - Cavernous sinus thrombosis

- **Sinonasal obstruction, suspected mass**, based on exam, nasal endoscopy, or prior imaging (Kirsch, 2017; Rosenfeld, 2015)

- **Suspected infection**
  - Osteomyelitis (after x-rays) (Pincus, 2009)
  - Abscess

- **Anosmia** or Dysosmia based on objective testing that is persistent and of unknown origin (Policeni, 2017; Rouby, 2011; Zaghouani, 2013)

- **Granulomatosis** with polyangiitis (Wegener's granulomatosis) disease (Pakalniskis, 2015)

- **Face mass**
  - (Kirsch, 2017; Koeller, 2016; Kuno, 2014):
    - Present on physical exam and remains non-diagnostic after x-ray or ultrasound is completed ~~(Kuno, 2014)~~
    - Known or highly suspected head and neck cancer on examination (Kirsch, 2017)
    - Failed 2 weeks of treatment for suspected infectious adenopathy (Haynes, 2015).~~.~~

- **Facial trauma**
  - (Echo, 2010; Lin, 2012; Raju, 2017; Sung, 2014)
    - Physical findings of direct facial bone injury
    - For further evaluation of a known fracture for treatment or surgical planning

    - Note:
    - CSF (cerebrospinal fluid) rhinorrhea - Sinus CT is indicated when looking to characterize a bony defect. CSF otorrhea - Temporal Bone CT is indicated. For intermittent leaks and complex cases, consider CT/MRI/Nuclear Cisternography). CSF fluid should always be confirmed with laboratory testing (Beta-2 transferrin assay) edPost traumatic CSF rhinorrhea (for CSF otorrhea Temporal Bone imaging is recommended) (Oh, 2017; Snetty, 2015)
    -) ed

- **Trigeminal neuralgia/neuropathy** (for evaluation of the extracranial nerve course)
  - If < 40 years of age or atypical features (e.g., bilateral, hearing loss, dizziness/vertigo, visual changes, sensory loss, numbness, pain > 2min, pain outside trigeminal nerve distribution, progression) (ACR, 2017; Hughes, 2016; Policeni, 2017)

NOTE: FOR OTHER FACE/SINUS MRI INDICATIONS, CLICK HERE

INDICATIONS FOR FACE/SINUS AND BRAIN MRI COMBINATION STUDIES:

- Anosmia or ondysosmia on objective testing that is persistent and of unknown origin (ACR, 2017; Decker, 2013; Policeni, 2017; Zaghouani, 2013, Decker 2013)
- Granulomatosis with polyangiitis (Wegener's granulomatosis) disease (Pakalniskis, 2015)
- Trigeminal neuralgia that meets the above criteria (Hughes 2016; Policeni, 2017)
- For approved indications as noted above and being performed in a child under 8 years of age who will need anesthesia for the procedure and there is a suspicion of concurrent intracranial pathology (Lawson, 2000).

INDICATIONS FOR NECK MRI:

Suspected tumor or cancer (ACR, 2018a):
(ACR, 2018a)

- Suspicious lesions in mouth or throat (Kuno, 2014).
- Suspicious mass/tumor found on another imaging study and needing clarification
  Neck mass or lymphadenopathy (non-parotid or thyroid)
  -
    - Present on physical exam and remains non-diagnostic after ultrasound is completed (Kuno, 2014)

Note: For discrete cystic lesions of the neck, an ultrasound should be performed as initial imaging unless there is a high suspicion of malignancy

~~Present on physical exam and remains non-diagnostic after ultrasound is completed (Kuno, 2014)~~

~~**NOTE**: For discrete cystic lesions of the neck, an ultrasound should be performed as initial imaging unless there is a high suspicion of malignancy~~

- Increased risk for malignancy ~~-~~with one or more of the following findings (Pynnonen, 2017):
  - Fixation to adjacent tissues
  - Firm consistency
  - Size >1.5 cm
  - Ulceration of overlying skin
  - Mass present ≥ two weeks (or uncertain duration) without significant fluctuation and not considered of infectious cause
  - History of cancer
- Failed 2 weeks of treatment for suspected infectious adenopathy (Haynes, 2015).

- Neck Mass (parotid) (ACR, 2018a)
  - Parotid mass found on other imaging study and needing further evaluation (US is the initial imaging study of a parotid region mass)
- Neck Mass (thyroid) ~~– US is the initial imaging study of a thyroid region mass. CT is preferred to MRI in the evaluation of thyroid masses since there is less respiratory motion artifact~~ (ACR, 2018b)
  - Staging and monitoring for recurrence of known thyroid cancer (ACR, 2018b).
  - To assess extent of thyroid tissue when other imaging suggests extension through the thoracic inlet into the mediastinum or concern for airway compression (Gharib 2016; Lin, 2016)

Note: US is the initial imaging study of a thyroid region mass. CT is preferred over MRI in the evaluation of thyroid masses since there is less respiratory motion artifact. Chest CT may be included for preoperative assessment in some cases

~~**NOTE**: Chest CT may be included for preoperative assessment in some cases~~

Pediatric patients (≤ 18 years old) ~~(Wai, 2020)~~:

(Wai, 2020)

- Neck masses ~~in the pediatric population~~ if ultrasound is inconclusive or suspicious (Brown, 2016)
- History of malignancy

Known or suspected deep space infections or abscesses of the pharynx or neck (Meyer, 2009)

Other indications for a Neck MRI:

- MR Sialography to evaluate salivary ducts (Burke, 2011; Ren, 2015)
- Vocal cord lesions or vocal cord paralysis (Dankbaar, 2014).
- **Unexplained ear pain when ordered by a specialist with all of the following (Earwood, 2018)**
    - **Otoscopic exam, nasolaryngoscopy, lab evaluation (ESR, CBC) AND**
    - **Risk factor for malignancy i.e., tobacco use, alcohol use, dysphagia, weight loss OR age older than 50 years**
- Diagnosed primary hyperparathyroidism when surgery is planned
    - Previous nondiagnostic ultrasound or nuclear medicine scan (Khan, 2014; Piciucchi, 2012).
- Bell's palsy/hemifacial spasm (for evaluation of the extracranial nerve course)
    - If atypical signs, slow resolution beyond three weeks, no improvement at four months, or facial twitching/spasms prior to onset (Quesnel, 2010)
- Objective cranial nerve palsy (CN IX-XII) (for evaluation of the extracranial nerve course) (ACR, 2017; Mumtaz, 2014; Policeni, 2017)
- **Brachial plexopathy if mechanism of injury or EMG/NCV studies are suggestive (Vijayasarathi, 2016)**

Note: Chest MRI is preferred study, but neck and/or shoulder (upper extremity) MRI can be ordered depending on the suspected location of injury

NOTE: FOR OTHER NECK MRI INDICATIONS, CLICK HERE

INDICATIONS FOR NECK AND BRAIN MRI COMBINATION STUDIES:

- **Objective cranial nerve palsy (CN IX-XII) (for evaluation of the extracranial nerve course) (ACR, 2017; Mumtaz, 2014; Policeni, 2017)**
- **For approved indications as noted above and being performed in a child under 8 years of age who will need anesthesia for the procedure and there is a suspicion of concurrent intracranial pathology (Lawson, 2000).**

OTHER INDICATIONS FOR ORBIT/FACE/SINUS/NECK MRI

Known tumor or cancer of skull base, orbits, sinuses, face, tongue, larynx, nasopharynx, pharynx, or salivary glands

- Initial staging (Kuno, 2014)
- Restaging during treatment
- Suspected recurrence or new metastases based on symptoms or examination findings
    - New mass

    - Change in lymph nodes (Hoang, 2013)
- Surveillance appropriate for tumor type and stage

Indication for combination studies for the initial pre-therapy staging of cancer, OR active monitoring for recurrence as clinically indicated OR evaluation of suspected metastases~~:~~

- < 5 concurrent studies to include CT or MRI of any of the following areas as appropriate depending on the cancer: Neck, Abdomen, Pelvis, Chest, Brain, Cervical Spine, Thoracic Spine or Lumbar Spine~~.~~

Pre-operative/procedural evaluation~~:~~

Pre-operative evaluation for a planned surgery or procedure ~~if the imaging provides diagnostic information that is not available on prior studies (provider should be referred to the health plan for nondiagnostic surgical planning studies).Pre-operative evaluation for a planned surgery or procedure.~~

-

Post- operative/procedural evaluation~~:~~

- When imaging, physical, or laboratory findings indicate surgical or procedural complications~~.~~

~~**INDICATIONS FOR COMBINATION STUDIES: ORBIT/FACE/ SINUS/NECK MRI WITH BRAIN MRI.**~~

- ~~For approved indications as noted above and being performed in a child under 8 years of age who will need anesthesia for the procedure and there is a suspicion of concurrent intracranial pathology (Lawson, 2000).~~

~~**Brain and Orbit MRI**~~

- ~~Unilateral optic disk swelling/optic neuropathy of unclear etiology to distinguish between a compressive lesion of the optic nerve, optic neuritis, ischemic optic neuropathy (arteritic or non-arteritic), central retinal vein occlusion or optic nerve infitrative disorders (Behbehani, 2007)~~
- ~~Bilateral optic disk swelling (papilledema) with vision loss (Margolin, 2019)~~
- ~~Optic Neuritis if atypical presentation, severe visual impairment, or poor recovery following initial onset or treatment onset (CMSC, 2018)~~
- ~~Known or suspected neuromyelitis optica spectrum disorder with severe, recurrent, or bilateral optic neuritis (Wingerchuk, 2015)~~

~~**Brain and Sinus MRI**~~

- ~~Anosmia on objective testing that is persistent and of unknown origin (ACR, 2017; Policeni, 2017; Zaghouani, 2013)~~
- ~~Granulomatosis with polyangiitis (Wegener's granulomatosis) disease (Pakalniskis, 2015)~~

~~**Brain and Neck MRI**~~

- ~~Objective cranial nerve palsy (CN IX-XII) (for evaluation of the extracranial nerve course) (ACR, 2017; Mumtaz, 2014; Policeni, 2017)~~

BACKGROUND:
Magnetic resonance imaging (MRI) is used in the evaluation of face and neck region masses, trauma, and infection. The soft-tissue contrast between normal and abnormal tissues provided by MRI is sensitive for differentiating between inflammatory disease and malignant tumors and permits the precise delineation of tumor margins. MRI is used for therapy planning and follow-up of face and neck neoplasms. It is also used for the evaluation of neck lymphadenopathy and vocal cord lesions.

CT scanning remains the study of choice for the imaging evaluation of acute and chronic inflammatory diseases of the sinonasal cavities. MRI is not considered the first-line study for routine sinus imaging because of limitations in the definition of the bony anatomy and length of imaging time. MRI for confirmation of diagnosis of sinusitis is discouraged because of hypersensitivity (overdiagnosis) in comparison to CT without contrast. MRI, however, is superior to CT in differentiating inflammatory conditions from neoplastic processes. MRI may better depict intraorbital and intracranial complications in cases of aggressive sinus infection, as well as differentiating soft-tissue masses from inflammatory mucosal disease. MRI may also identify fungal invasive sinusitis or encephaloceles.

Anosmia - Nonstructural causes of anosmia include post viral symptoms, medications (Amitriptyline, Enalapril, Nifedipine, Propranolol, Penicillamine, Sumatriptan, Cisplatin, Trifluoperazine, Propylthiouracil). These should be considered prior to advanced imaging to look for a structural cause. **Anosmia and dysgeusia have been reported as common early symptoms in patients with COVID-19, occurring in greater than 80 percent of patients. For isolated anosmia, imaging is typically not needed once the diagnosis of COVID has been made given the high association. As such, COVID testing should be done prior to imaging (Geyer, 2008; Lechien, 2020; Saniasiaya, 2020).**

POLICY HISTORY~~:~~

Date	Summary
May 2021	Updated References Reordered Indications Added hyperlinks to OTHER indications Orbit Added: - ~~-~~Complex strabismus to aid in diagnosis, treatment and/or surgical planning

	• • If needed to confirm optic neuritis and rule out compressive lesions Clarified: • Documented visual defect if MRI is contraindicated or cannot be performed - *Unilateral or with abnormal optic disc(s) (i.e. Optic disc blurring, edema, or pallor);* • • Clinical Suspicion of osteomyelitis: Direct visualization of bony deformity *OR* Abnormal X-rays • • *Optic neuropathy* or unilateral optic disk swelling of unclear etiology (Combo Orbit/Brain CT) Sinus/Face Added: • Facial Trauma- For further evaluation of a known fracture for treatment or surgical planning • Dysosmia Clarified: • Sinonasal obstruction, suspected mass, *based on exam, nasal endoscopy, or prior imaging* • Note: CSF (cerebrospinal fluid) rhinorrhea - Sinus CT is indicated when looking to characterize a bony defect. CSF otorrhea - Temporal Bone CT is indicated. For intermittent leaks and complex cases consider CT/MRI/Nuclear Cisternography). CSF fluid should always be confirmed with laboratory testing (Beta-2 transferrin assay) Deleted: • Trigeminal neuralgia – if Age < 40 Neck Added: • Neck Mass or *lymphadenopathy* (non-parotid region or thyroid) • • Unexplained ear pain when ordered by a specialist with all the following (Earwood, 2018) •

	~~o~~ Otoscopic exam, nasolaryngoscopy, lab evaluation (ESR, CBC) AND o o Risk factor for malignancy ie tobacco use, alcohol use, dysphagia, weight loss OR age older than 50 years • Brachial Plexopathy (Vijayasarathi, 2016) if mechanism of injury or EMG/NCV studies are suggestive Note: Chest MRI is preferred study, but neck and/or shoulder (upper extremity) MRI can be ordered depending on the suspected location of injury All ~~Clarified:~~ ~~Clarified: Pre-operative evaluation for a planned surgery or procedure if the imaging provides diagnostic information that is not available on prior studies (provider should be referred to the health plan for nondiagnostic surgical planning studies)~~ Removed statement: A single authorization for CPT code 70540, 70542, or 70543 includes imaging of the Orbit, Face, Sinuses, and Neck. Multiple authorizations are not required •
May 2020	Clarified: Orbit • Ophthalmoplegia with concern for orbital pathology • Documented visual field defect if MRI is contraindicated or cannot be performed • Orbital or ocular mass/tumor, suspected or known • Clinical Suspicion of orbital infection • Clinical Suspicion of Orbital Inflammatory Disease (e.g., eye pain and restricted eye movement with suspected orbital pseudotumor) Face/Sinus • Suspected infection o Osteomyelitis (after x-rays) o Abscess • Facial Trauma o Post traumatic CSF rhinorrhea (for CSF otorrhea Temporal Bone imaging is recommended)

	• Anosmia on objective testing that is persistent and of unknown origin (also in Brain and Sinus combo section)
	Neck
	• Neck mass (non-parotid or thyroid)
	  ○ Note: For discrete cystic lesions of the neck, an ultrasound should be performed as initial imaging unless there is a high suspicion of malignancy
	• MR Sialography to evaluate salivary ducts
	• Objective cranial nerve palsy (CN IX-XII) (for evaluation of the extracranial nerve course) (also in Brain and Neck combo section)
	Combo - Brain and Orbit
	• Reworded: Unilateral optic disk swelling/optic neuropathy of unclear etiology to distinguish between a compressive lesion of the optic nerve, optic neuritis, ischemic optic neuropathy (arteritic or non-arteritic), central retinal vein occlusion or optic nerve infiltrative disorders
	• Bilateral optic disk swelling (papilledema) with vision loss
	Added:
	Orbit
	• MRI is superior for the evaluation of the visual pathways, globe and soft tissues, CT is preferred for visualizing bony detail and calcifications
	• Unilateral optic disk swelling
	• Under documented visual field defect
	  ○ Unilateral or with optic disc abnormality
	• Congenital orbital anomalies
	Added:
	Face/Sinus
	• Examples of orbital or intracranial complications
	  ○ Preseptal, orbital, or central nervous system infection
	  ○ Osteomyelitis
	  ○ Cavernous sinus thrombosis
	• Face mass
	  ○ Known or highly suspected head and neck cancer on examination
	• Trigeminal neuralgia/neuropathy (for evaluation of the extracranial nerve course)
	  ○ If < 40 years of age or atypical features (e.g. bilateral, hearing loss, dizziness/vertigo, visual changes, sensory loss, numbness, pain > 2min, pain outside trigeminal nerve distribution, progression)
	Added:

	Neck
	• Suspicious mass/tumor found on another imaging study and needing clarification
	• Under increased risk for malignancy
	  ○ History of cancer
	  ○ Mass present ≥ two weeks (or uncertain duration) without significant fluctuation and not considered of infectious cause
	• Neck Mass (parotid)
	  ○ Parotid mass found on other imaging study and needing further evaluation
	Added:
	Neck
	• Neck Mass (thyroid) - US is the initial imaging study of a thyroid region mass. CT is preferred over MRI in the evaluation of thyroid masses since there is less respiratory motion artifact
	  ○ Staging and monitoring for recurrence of known thyroid cancer
	  ○ To assess extent of thyroid tissue when other imaging suggests extension through the thoracic inlet into the mediastinum or concern for airway compression (Lin, 2016; Gharib 2016)
	  NOTE: Chest CT may be included for preoperative assessment in some cases
	• Pediatric patients (≤18 years old)
	  ○ Neck masses in the pediatric population if ultrasound is inconclusive or suspicious
	  ○ History of malignancy
	Added:
	Neck
	• Known or suspected deep space infections or abscesses of the pharynx or neck
	Combo
	• Known tumor or cancer of skull base, orbits, sinuses, face, tongue, larynx, nasopharynx, pharynx, or salivary glands
	  ○ Surveillance appropriate for tumor type and stage
	• For approved indications as noted above and being performed in a child under 8 years of age who will need anesthesia for the procedure and there is a suspicion of concurrent intracranial pathology
	Added:
	Combo

	• Added sub Combo sections
	  ○ Brain and Orbit
	  ▪ Optic Neuritis if atypical presentation, severe visual impairment or poor recovery following initial onset or treatment onset
	  ○ Brain and Sinus
	  ○ Brain and Neck
	Deleted:
	Orbit
	• Unilateral optic disk swelling papilledema approve dedicated Orbits MRI even if Brain MRI approved
	Deleted:
	Face/Sinus
	• Clinical Suspicion of osteomyelitis
	  ○ Direct visualization of lesion over bone
	  ○ Abnormal x-ray
	• Face Mass
	  ○ Prior history of tumor with suspicion of recurrence
	• Facial trauma
	  ○ Suspected orbital trauma with indeterminate x-ray or ultrasound
	Neck
	• Palpable from Palpable suspicious lesions in mouth or throat
	• Salivary gland stones or clinical concern for abscess
	• Thoracic Outlet Syndrome
	Combo
	• Trigeminal neuralgia
	• Cranial neuropathy (weakness or sensory abnormalities of the head and neck

July 2019	ORBIT MRI:
	• Removed: Orbital asymmetry and Suspected hyperthyroidism (such as Graves' disease)
	• Added: Clinical suspicion of osteomyelitis
	
	Face/Sinus MRI
	• Added specifics to Face Mass:
	  ○ Present on physical exam and remains non-diagnostic after x-ray or ultrasound is completed (Kuno, 2014)
	  ○ Clinical concern for abscess
	  ○ Failed 2 weeks of treatment for suspected infectious adenopathy (Haynes, 2015).
	  ○ Prior history of tumor with suspicion of recurrence

	• Added: Facial trauma with physical findings of direct facial bone injury; suspected orbital trauma w/indeterminate x-ray or US; CSF leak (rhinorrhea or otorrhea) Other Indications • Added: Suspected recurrence or new metastases based on symptoms or examination findings with new mass or change in lymph nodes; Anosmia on objective testing; Trigeminal neuralgia if <40 years of age or atypical features; Objective cranial nerve palsy; and Granulomatosis with polyangiitis (Wegener's granulomatosis) disease Indications for combo studies orbit/face/sinus neck MRI with brain MRI • Added: Bilateral papilledema with vision loss AND Known or suspected neuromyelitis optica spectrum disorder with severe, recurrent, or bilateral optic neuritis

Review Date: July 2019
Review Summary:
ORBIT MRI:

- Removed: Orbital asymmetry and Suspected hyperthyroidism (such as Graves' disease)
- Added: Clinical suspicion of osteomyelitis

Face/Sinus MRI

- Added specifics to Face Mass:
    - Present on physical exam and remains non-diagnostic after x-ray or ultrasound is completed (Kuno, 2014)
    - Clinical concern for abscess
    - Failed 2 weeks of treatment for suspected infectious adenopathy (Haynes, 2015).
    - Prior history of tumor with suspicion of recurrence
- Added: Facial trauma with physical findings of direct facial bone injury; suspected orbital trauma w/indeterminate x-ray or US; CSF leak (rhinorrhea or otorrhea)

Other Indications

- Added: Suspected recurrence or new metastases based on symptoms or examination findings with new mass or change in lymph nodes; Anosmia on objective testing; Trigeminal neuralgia if <40 years of age or atypical features; Objective cranial nerve palsy; and Granulomatosis with polyangiitis (Wegener's granulomatosis) disease

Indications for combo studies orbit/face/sinus neck MRI with brain MRI

- Added: Bilateral papilledema with vision loss AND Known or suspected neuromyelitis optica spectrum disorder with severe, recurrent, or bilateral optic neuritis

Review Date: May 2020
Review Summary:
Clarified:
Orbit

- Ophthalmoplegia **with concern for orbital pathology**
- Documented visual field defect **if MRI is contraindicated or cannot be performed**
- Orbital or ocular mass/tumor, suspected or known
- Clinical Suspicion of **orbital** infection
- Clinical Suspicion of Orbital Inflammatory Disease (e.g., eye pain and **restricted eye movement** with suspected **orbital** pseudotumor)

Face/Sinus

- Suspected infection
    - Osteomyelitis (after x-rays)
    - Abscess
- Facial Trauma

- Post traumatic CSF rhinorrhea (for CSF otorrhea Temporal Bone imaging is recommended)
- Anosmia on objective testing that is persistent and of unknown origin (also in Brain and Sinus combo section)

Neck

- Neck mass (**non-parotid** or thyroid)
  - Note: For discrete cystic lesions of the neck, an ultrasound should be performed as initial imaging **unless there is a high suspicion of malignancy**
- MR Sialography **to evaluate salivary ducts**
- Objective cranial nerve palsy (**CN IX-XII) (for evaluation of the extracranial nerve course**) (also in Brain and Neck combo section)

Combo - Brain and Orbit

- Reworded: Unilateral **optic disk swelling/optic neuropathy of unclear etiology** to distinguish between a compressive lesion of the optic nerve, optic neuritis, ischemic optic neuropathy (arteritic or non-arteritic), central retinal vein occlusion or optic nerve infiltrative disorders
- Bilateral **optic disk swelling** (papilledema) with vision loss

Added:

Orbit

- MRI is superior for the evaluation of the visual pathways, globe and soft tissues, CT is preferred for visualizing bony detail and calcifications
- Unilateral optic disk swelling
- Under documented visual field defect
  - Unilateral or with optic disc abnormality
- Congenital orbital anomalies

Added:

Face/Sinus

- Examples of orbital or intracranial complications
  - Preseptal, orbital, or central nervous system infection
  - Osteomyelitis
  - Cavernous sinus thrombosis
- Face mass
  - Known or highly suspected head and neck cancer on examination
- Trigeminal neuralgia/neuropathy (for evaluation of the extracranial nerve course)
  - If < 40 years of age or atypical features (e.g. bilateral, hearing loss, dizziness/vertigo, visual changes, sensory loss, numbness, pain > 2min, pain outside trigeminal nerve distribution, progression)

Added:

Neck

- Suspicious mass/tumor found on another imaging study and needing clarification
- Under increased risk for malignancy
  - History of cancer

- Mass present ≥ two weeks (or uncertain duration) without significant fluctuation and not considered of infectious cause

- Neck Mass (parotid)
  - Parotid mass found on other imaging study and needing further evaluation

Added:

Neck

- Neck Mass (thyroid) - US is the initial imaging study of a thyroid region mass. CT is preferred over MRI in the evaluation of thyroid masses since there is less respiratory motion artifact
  - Staging and monitoring for recurrence of known thyroid cancer
  - To assess extent of thyroid tissue when other imaging suggests extension through the thoracic inlet into the mediastinum or concern for airway compression (Lin, 2016; Gharib 2016)
    - **NOTE**: Chest CT may be included for preoperative assessment in some cases
- Pediatric patients (≤18 years old)
  - Neck masses in the pediatric population if ultrasound is inconclusive or suspicious
  - History of malignancy

Added:

Neck

- Known or suspected deep space infections or abscesses of the pharynx or neck

Combo

- Known tumor or cancer of skull base, orbits, sinuses, **face**, tongue, larynx, nasopharynx, pharynx, or salivary glands
  - Surveillance appropriate for tumor type and stage
- For approved indications as noted above and being performed in a child under 8 years of age who will need anesthesia for the procedure and there is a suspicion of concurrent intracranial pathology

Added:

Combo

- Added sub Combo sections
  - Brain and Orbit
    - Optic Neuritis if atypical presentation, severe visual impairment or poor recovery following initial onset or treatment onset
      - Brain and Sinus
      - Brain and Neck

Deleted:

Orbit

- Unilateral optic disk swelling papilledema approve dedicated Orbits MRI even if Brain MRI approved

Deleted:

Face/Sinus

- Clinical Suspicion of osteomyelitis
  - Direct visualization of lesion over bone

- Abnormal x-ray
- Face Mass
  - Prior history of tumor with suspicion of recurrence
- Facial trauma
  - Suspected orbital trauma with indeterminate x-ray or ultrasound

Neck

- **Palpable** from Palpable suspicious lesions in mouth or throat
- Salivary gland stones or clinical concern for abscess
- Thoracic Outlet Syndrome

Combo

- Trigeminal neuralgia
- Cranial neuropathy (weakness or sensory abnormalities of the head and neck

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GENERAL INFORMATION

It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.