AmeriHealth Caritas Louisiana

National Imaging Associates, Inc.*	
Clinical guidelines **SINUS & MAXILLOFACIAL CT** **LIMITED OR LOCALIZED FOLLOW UP SINUS CT**	**Original Date: September 1997**
CPT Codes: 70486, 70487, 70488, 76380	**Last Revised Date: ~~April~~ March 2022~~1~~**
Guideline Number: NIA_CG_009	**Implementation Date: January 2023~~2~~**

A single authorization for CPT codes 70486, 70487, 70488, or 76380 includes imaging of the entire maxillofacial area, including face and sinuses. Multiple authorizations are not required.

INDICATIONS FOR SINUS & MAXILLOFACIAL CT

Rhinosinusitis[1-5~~5~~]

- Clinical suspicion of fungal infection[6, 7~~5, 6~~]
- Clinical suspicion of complications,[8] such as
  - Preseptal, orbital, or intracranial infection[9]
  - Osteomyelitis
  - Cavernous sinus thrombosis
- ~~Acute (<4weeks) or subacute (4-12 weeks) sinusitis (viral or bacterial) (Brook, 2019; Chiarella, 2017; Kaplan, 2013; Rosenfeld, 2015)~~
- ~~Symptoms that persist for more than 4 weeks and are not responding to medical management (e.g., 2 or more courses of antibiotics or any combination of antibiotics, steroids, or antihistamines for more than 4 weeks~~
- ~~Clinical suspicion of fungal infection~~[6, 7] ~~(ACR, 2017; Silveira, 2019)~~
  - ~~Not responding to medical management including 2 or more courses of antibiotics at least 5~~
  - ~~days each course.~~
  - ~~Clinical suspicion of complications (Dankbaar, 2015),~~[7] ~~such as~~
    - ~~Preseptal, orbital, or intracranial infection~~[8] ~~(Kastner, 2014)~~
    - ~~Osteomyelitis~~

  ~~Cavernous sinus thrombosis~~ Note: Imaging may be indicated in those predisposed to complications, including diabetes, immune-compromised state, or a history of facial trauma or surgery.

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

- Recurrent acute rhinosinusitis with 4 or more annual episodes without persistent symptoms in between **and is a possible surgical candidate**
- Chronic recurrent sinusitis (~~symptoms for~~ >12 weeks) not responding to ~~at least 4 weeks of~~ medical management***, is a possible surgical candidate,** ~~-~~and with at least two of the following:
    - mucopurulent discharge
    - nasal obstruction and congestion
    - facial pain, pressure, and fullness
    - decreased or absent sense of smell

  ***Note: Medical management for chronic sinusitis includes nasal saline irrigation and/or topical intranasal steroids. In chronic sinusitis, repeat imaging is not necessary unless clinical signs or symptoms have changed.**
- **Allergic Rhinitis – sinus imaging usually not indicated unless there are signs of complicated infection, signs of neoplasm, or persistence of symptoms-/chronic rhinosinusitis despite treatment (including antihistamines) and is a possible surgical candidate**[10]

- If suspected as a cause of poorly controlled asthma (endoscopic sinus surgery improves outcomes)[11] ~~(Vashishta, 2013)~~
- To evaluate in the setting of unilateral nasal polyps or obstruction (to evaluate for a potential neoplasm)[3] ~~(Rosenfeld, 2015)~~

Pediatrics Rhinosinusitis[12, 13]
~~(Tekes, 2018; Wald, 2013)~~

- Persistent or recurrent sinusitis not responding to treatment (primarily antibiotics, treatment may require a change of antibiotics)
- Suspicion of orbital or central nervous system involvement (e.g., swollen eye, proptosis, altered consciousness, seizures, nerve deficit)
- Clinical suspicion of a fungal infection (more common in immunocompromised children)

Deviated nasal septum, polyp, or other structural abnormality seen on imaging or direct visualization

- **C**~~that may be c~~ausing significant airway obstruction **AND**
- ~~(i~~**Imaging is** ~~f~~ needed to plan surgery or determine if surgery is appropriate~~)~~[14, 15]

~~(Poorey, 2014; Sedaghat, 2015)~~

Suspected sinonasal mass based on exam, nasal endoscopy, or prior imaging with contraindication to MRI or if bony involvement suspected[3, 16, 17]
~~(Kirsch, 2017; Rosenfeld, 2015)~~

Refractory Asthma - these patients benefit from medical treatment and surgery together[11, 18, 19]
~~(Ragab, 2006; Sahay, 2016; Vashishta, 2013)~~

Anosmia or Dysosmia noted on objective testing, is persistent, of unknown origin and MRI cannot be performed[16, 17, 20, 21]
~~(Allis, 2012; Geyer, 2008; Kirsch, 2017)~~

Suspected infection

- Osteomyelitis (after x-rays and~~,~~ MRI cannot be performed)[22] ~~(Pincus, 2009)~~
- Abscess based on clinical signs and symptoms of infection

Face mass[16, 17, 23]
~~(Kirsch, 2017; Koeller 2016)~~

- Present on physical exam and remains non-diagnostic after x-ray or ultrasound is completed; **OR**
- Known or highly suspected head and neck cancer on examination[16]; OR~~(Kirsch, 2017)~~
- Failed 2 weeks of treatment for suspected infectious adenopathy[24] ~~(Haynes, 2015)~~

Facial trauma[25-30]
~~(ACR, 2015, 2019; Echo, 2010; Oh, 2017; Raju, 2017; Vemuri, 2017)~~

- Severe facial trauma
- Suspected facial bone fracture with indeterminate x-ray
- For further evaluation of a known fracture for treatment or surgical planning
- CSF (cerebrospinal fluid) rhinorrhea when looking to characterize a bony defect
  Note: ~~(~~for CSF otorrhea should be a Temporal Bone CT; for intermittent leaks and complex cases, consider CT/MRI/Nuclear Cisternography~~)~~. CSF fluid should always be confirmed with laboratory testing (Beta-2 transferrin assay)

Salivary gland

- ~~Suspicion of salivary gland stones or clinical concern for abscess[29-31] (Gadodia, 2011; Kalia, 2015; Terraz, 2013)~~
- Sialadenitis (infection and inflammation of the salivary glands) with indeterminate ultrasound, ~~or~~ bilateral symptoms or concern for abscess[31] ~~(Abdel-Razek, 2017)~~
- Suspected or known salivary gland stones [32-34]

Granulomatosis with polyangiitis (Wegener's granulomatosis) disease[35]
~~(Pakalniskis, 2015)~~

Suspected Osteonecrosis of the Jaw[36]
~~(Popovic, 2010)~~

- Possible etiologies: bisphosphonate treatment, dental procedures, Denosumab, radiation treatment

Lesion seen on x-ray or other study requiring further characterization (primary or secondary bone tumor, metabolic disorder)[37]
~~(Andreu-Arasa, 2018)~~

Trigeminal neuralgia/neuropathy if MRI is contraindicated or cannot be performed (for evaluation of the extracranial nerve course)

- If atypical features (i.e., bilateral, hearing loss, dizziness/vertigo, visual changes, sensory loss, numbness, pain > 2min, pain outside trigeminal nerve distribution, progression)[6, 38] ~~(ACR, 2017; Borges, 2020; Policeni, 2017)~~

Pre-operative/procedural evaluation

- Pre-operative evaluation for a planned surgery or procedure

Post-operative/procedural evaluation

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

COMBINATION OF STUDIES WITH SINUS & MAXILLOFACIAL CT

Sinus CT/Chest CT

- Granulomatosis with polyangiitis (Wegener's granulomatosis) disease (GPA)[39] ~~(Jang, 2013; Lohrmann, 2006).~~

BACKGROUND

Computed tomography (CT) primarily provides information about bony structures but may also be useful in evaluating soft tissue masses. It can help document the extent of facial bone fractures, facial infections, and abscesses, and can aid in diagnosing salivary stones. Additionally, CT may be useful in characterizing and identifying tumor extent in the face and may be used in the assessment of chronic osteomyelitis.

CT scans can provide more detailed information about the anatomy and abnormalities of the paranasal sinuses than plain films. A CT scan provides greater definition of the sinuses and is more sensitive than plain radiography for detecting sinus pathology, especially within the sphenoid and ethmoid sinuses. CT scan findings can be nonspecific, however, and should not be used routinely in the diagnosis of acute sinusitis. The primary role of CT scans is to aid in the diagnosis and management of recurrent and chronic sinusitis, or to define the anatomy of the sinuses prior to surgery.

CT vs MRI ~~–~~ MRI allows better differentiation of soft tissue structures within the sinuses. It is used occasionally in cases of suspected tumors or fungal sinusitis. Otherwise, MRI has no advantages over CT scanning in the evaluation of sinusitis. Disadvantages of MRI include high false-positive findings, poor bony imaging, and higher cost. MRI scans take considerably longer to accomplish than CT scans and may be difficult to obtain in patients who are claustrophobic.

Rhinosinusitis - Society consensus recommendation is not to order sinus computed tomography (CT) or indiscriminately prescribe antibiotics for uncomplicated acute rhinosinusitis.[42] Viral infections cause the majority of acute rhinosinusitis and only 0.5 percent to 2 percent progress to bacterial infections. Most acute rhinosinusitis resolves without treatment in two weeks. Uncomplicated acute rhinosinusitis is generally diagnosed clinically and does not require a sinus CT scan or other imaging. Antibiotics are not recommended for patients with uncomplicated acute rhinosinusitis who have mild illness and assurance of follow-up. If a decision is made to treat, amoxicillin should be first-line antibiotic treatment for most acute rhinosinusitis.

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)~~.[20, 40, 41]

Suspected Osteonecrosis of the Jaw - CT can characterize the extension of the lesions and in detecting cortical involvement. MRI should be reserved for those patients who have soft tissue extension of the disease ~~(Phal, 2007)~~.[42]

Trigeminal Neuralgia - ~~:~~ According to the International Headache Society, TN is defined as "a disorder characterized by recurrent unilateral brief electric shock-like pain, abrupt in onset and termination, limited to the distribution of one or more divisions of the trigeminal nerve and triggered by innocuous stimuli."[43]

~~**OVERVIEW**~~

~~**Don't order sinus computed tomography (CT) or indiscriminately prescribe antibiotics for uncomplicated acute rhinosinusitis** (AAAAI, 2012).[42] Viral infections cause the majority of acute rhinosinusitis and only 0.5 percent to 2 percent progress to bacterial infections. Most acute rhinosinusitis resolves without treatment in two weeks. Uncomplicated acute rhinosinusitis is generally diagnosed clinically and does not require a sinus CT scan or other imaging. Antibiotics are not recommended for patients with uncomplicated acute rhinosinusitis who have mild illness and assurance of follow-up. If a decision is made to treat, amoxicillin should be first-line antibiotic treatment for most acute rhinosinusitis.~~

~~**CT instead of MRI –** MRI allows better differentiation of soft tissue structures within the sinuses. It is used occasionally in cases of suspected tumors or fungal sinusitis. Otherwise, MRI has no advantages over CT scanning in the evaluation of sinusitis. Disadvantages of MRI include high false-positive findings, poor bony imaging, and higher cost. MRI scans take considerably~~

~~longer to accomplish than CT scans and may be difficult to obtain in patients who are claustrophobic.~~

POLICY HISTORY

Date	Summary
March 2022	Reformatted and update references Reformatted and updated background Reformatted--structural abnormality, salivary gland, and trauma sections Clarified: • ~~———~~Sialadenitis (infection and inflammation of the salivary glands) with indeterminate ultrasound, bilateral symptoms, or concern for abscess • ~~——~~acute vs subacute sinusitis • ~~——~~described medical management for acute (including 2 or more courses of antibiotics at least 5 days each course) and chronic sinusitis (includes nasal saline irrigation and/or topical intranasal steroids) • ~~———~~Abscess Added: • ~~——~~Note: Imaging may be indicated in those predisposed to complications, including diabetes, immune-compromised state, or a history of facial trauma or surgery (Acute sinusitis) • ~~——~~And is a surgical candidate- for chronic sinusitis and recurrent acute rhinosinusitis • ~~——~~In chronic sinusitis, repeat imaging is not necessary unless clinical signs or symptoms have changed. • ~~——~~Indications for allergic rhinitis Removed: • ~~——~~4 weeks of medical management for acute and chronic sinusitis

April 2021	Updated background section and references
	Added:
	• Chronic recurrent sinusitis (symptoms for >12 weeks) not responding to at least 4 weeks of medical management and with at least two of the following:
	  ○ mucopurulent discharge
	  ○ nasal obstruction and congestion
	  ○ facial pain, pressure, and fullness
	  ○ decreased or absent sense of smell
	• Facial Trauma- For further evaluation of a known fracture for treatment or surgical planning
	• Suspected sinonasal mass based on exam, nasal endoscopy, or prior imaging with contraindication to MRI or if bony involvement suspected
	• Dysosmia

	• Sialadenitis with indeterminate ultrasound or bilateral symptoms Clarified: • Rhinosinusitis - Symptoms that persist for more than 4 weeks and are not responding to medical management (e.g. 2 or more courses of antibiotics or any combination of antibiotics, steroids or antihistamines for more than 4 weeks • CSF (cerebrospinal fluid) rhinorrhea *when looking to characterize a bony defect* (for CSF otorrhea should be a Temporal Bone CT; *for intermittent leaks and complex cases consider CT/MR/Nuclear Cisternography). CSF fluid should always be confirmed with laboratory testing (Beta-2 transferrin assay)* • *Suspicion of* salivary gland stones Deleted: • For poorly controlled asthma associated with upper respiratory tract infection. May be performed without failing 4 consecutive weeks of treatment with medication. • Trigeminal neuralgia – if Age < 40
May 2020	• Updated references; Updated and reordered background information • Reordered and reformatted indications • Clarified: ○ Reworded: Rhinosinusitis: Clinical suspicion of complications, such Preseptal, orbital or intracranial infection, Osteomyelitis, Cavernous sinus thrombosis ○ Deviated nasal septum, polyp, or other structural abnormality seen on imaging or direct visualization that may be causing significant airway obstruction (if needed to plan surgery or determine if surgery is appropriate) ○ Refractory Asthma (Sinus CT) - these patients benefit from medical treatment and surgery together ○ Anosmia noted on objective testing, is persistent, of unknown origin and MRI cannot be done ○ Suspected infection: Osteomyelitis (after x-rays, MRI cannot be done) Facial trauma: Post traumatic CSF (cerebrospinal fluid) rhinorrhea (for CSF otorrhea should be a Temporal Bone CT) Added: • Rhinosinusitis ○ Recurrent acute rhinosinusitis with 4 or more annual episodes without persistent symptoms in between

	○ If suspected as a cause of poorly controlled asthma (endoscopic sinus surgery improves outcomes) (Vashishta, 2013) ○ To evaluate in the setting of unilateral nasal polyps or obstruction (to evaluate for a potential neoplasm) (Rosenfeld, 2015) • Pediatrics Rhinosinusitis (ACR, 2018; Wald, 2013) ○ Persistent or recurrent sinusitis not responding to treatment (primarily antibiotics, treatment may require a change of antibiotics) ○ Suspicion of orbital or central nervous system involvement (e.g., swollen eye, proptosis, altered consciousness, seizures, nerve deficit) (Ward, 2013) ○ Clinical suspicion of a fungal infection (more common in immunocompromised children). Added: • Suspected Osteonecrosis of the Jaw (Popovic, 2010) ○ Possible etiologies: biphosphonate treatment, dental procedures, Denosumab, radiation treatment) ○ CT can characterize the extension of the lesions and in detecting cortical involvement. MRI should be reserved for those patients who have soft tissue extension of the disease • Lesion seen on xray or other study requiring further characterization (primary or secondary bone tumor, metabolic disorder) • Trigeminal neuralgia/neuropathy if MRI is contraindicated or cannot be performed (for evaluation of the extracranial nerve course) ○ If < 40 years of age or atypical features (ie bilateral, hearing loss, dizziness/vertigo, visual changes, sensory loss, numbness, pain > 2min, pain outside trigeminal nerve distribution, progression) (Policeni, 2017; Hughes, 2016; ACR CN, 2017) Added: • Suspected infection: Abscess • Face mass: Known or highly suspected head and neck cancer on examination • Facial trauma: Severe facial trauma Deleted:

	• Symptoms persist after four (4) **consecutive** weeks of medication, e.g., antibiotics, steroids or anti-histamines
	• Clinical Suspicion of osteomyelitis: **Direct visualization of lesion over bone**
	Deleted:
	• Face Mass
	  ○ Unless increased risk for malignancy based on
	  ▪ Any of these:
	  ▪ Fixation to adjacent tissues
	  ▪ Firm consistency
	  ▪ Size >1.5 cm
	  ▪ Ulceration of overlying skin
	  ○ Clinical concern for abscess
	• Facial trauma: Physical findings of direct facial bone injury

May 2019	• Added: Suspected orbital trauma w/indeterminate x-ray or US
	• 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).
	• Removed:
	  ○ Hyposmia
	• Immunocompromised patient

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Reviewed / Approved by NIA Clinical Guideline Committee

~~**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.~~

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Reviewed / Approved by NIA Clinical Guideline Committee

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.