

CT Maxillofacial

CPT: 70486, 70487, 70488, 76380

IMPORTANT NOTES

- If MRI is Preferred CT cannot be authorized without a statement that MRI is not available, has been done but was nondiagnostic, or that the patient cannot tolerate an MR examination.

1 Major Symptom or Complaint presented as primary indication

1.1 Anosmia

1.1.1 Industrial exposure eliminated

References:

1. Timo Hannu , Elina Toskala , Timo Tuomi , and Markku Sainio Anosmia in association with occupational use of a waterproof coating chemical Occup Med (Lond) 55: 142-144.
2. Li, C, Yousem, DM, Doty, RL, Kennedy, DW Neuroimaging in patients with olfactory dysfunction Am. J. Roentgenol. 1994 162: 411-418

1.2 Cough, chronic (Upper Airway Cough Syndrome suspected)

1.2.1 No response to ALL of the following:

1.2.1.1 ACE inhibitor cessation (if appropriate),

1.2.1.2 Bronchodilators if asthmatic

1.2.1.3 GERD empirical treatment,

1.2.1.4 Post nasal drip empirical treatment,

1.2.1.5 Smoking cessation

References:

1. Irwin, Richard S., Baumann, et al Diagnosis and Management of Cough Executive Summary: ACCP Evidence-Based Clinical Practice Guidelines Chest 2006 129: 1S-23
2. Bucca, Caterina B., Culla, Beatrice, Guida, Giuseppe, Heffler, Enrico, Bigo, Patrizia, Bugiani, Massimiliano, Brussino, Luisa CHARACTERISTICS OF UPPER AIRWAY COUGH SYNDROME (UACS) Chest 2008 134: s16003
3. Melvin R. Pratter Chronic Upper Airway Cough Syndrome Secondary to Rhinosinus Diseases (Previously Referred to as Postnasal Drip Syndrome) Chest January 2006 129:63S-71S; doi:10.1378/chest.129.1_suppl.63S

1.3 CSF Rhinorrhea (proven by a positive Beta-2 transferrin test of the nasal discharge)

1.4 Dysosmia (disturbed sense of smell)

1.4.1 Industrial exposure eliminated

1.5 Epistaxis, (Nose bleed) recurrent

1.5.1 Malignancy is suspected

1.5.2 Surgery is planned

References:

1. Pope, L E R, Hobbs, C G L Epistaxis: an update on current management Postgrad Med J 2005 81: 309-314
2. Lustig Lawrence R, Schindler Joshua, "Chapter 8. Ear, Nose, & Throat Disorders" (Chapter). McPhee SJ, Papadakis MA, Tierney LM, Jr.: CURRENT Medical Diagnosis & Treatment 2009: <http://www.accessmedicine.com/content.aspx?aID=2356>.

1.6 Nose Bleed (recurrent)

1.6.1 Malignancy is suspected

1.6.2 Surgery is planned

References

1. Pope, L E R, Hobbs, C G L Epistaxis: an update on current management Postgrad Med J 2005 81: 309-314

1.7 Pain and swelling of Parotid or Submandibular Gland

Reference

- Lustig Lawrence R, Schindler Joshua, "Chapter 8. Ear, Nose, & Throat Disorders" (Chapter). McPhee SJ, Papadakis MA, Tierney LM, Jr.: CURRENT Medical Diagnosis & Treatment 2009: <http://www.accessmedicine.com/content.aspx?aID=2356>.

2 Working Diagnosis or Rule Out presented as primary indication

2.1 CSF Rhinorrhea

2.1.1 Positive Beta-2 transferrin test of the nasal discharge

2.1.2 Beta-2 transferrin test of the nasal discharge not possible due to low volume or intermittent cerebrospinal fluid leak with a strong clinical suspicion for leak due to other clinical findings such as otorrhea, rhinorrhea after trauma, or recurrent meningitis

2.2 Mucocele

References

1. Fischbein Nancy J, Ong Kenneth C, "Chapter 3. Radiology" (Chapter). Lalwani AK: CURRENT Diagnosis & Treatment in Otolaryngology-Head & Neck Surgery, 2nd Edition: <http://www.accessmedicine.com/content.aspx?aID=2825206>.
2. Akan, H, Cihan, B, Celenk, C Sphenoid sinus mucocele causing third nerve paralysis: CT and MR findings Dentomaxillofac Radiol 2004 33: 342-344

2.3 Nasal Polyp ONE

2.3.1 Cystic Fibrosis

2.3.2 Loss of sense of smell (anosmia)

2.3.3 Nasal Obstruction

2.3.4 Watery or purulent nasal discharge

References:

1. Valerie J Lund Fortnightly Review: Diagnosis and treatment of nasal polyps BMJ, Nov 1995; 311: 1411 – 1414
2. Nino-Murcia, M, Rao, VM, Mikaelian, DO, Som, P Acute sinusitis mimicking antrochoanal polyp AJNR Am J Neuroradiol 1986 7: 513-516

2.4 Osteomyelitis suspected MRI Preferred

2.4.1 Pain or Fever AND One

2.4.1.1 C reactive Protein elevated

2.4.1.2 Elevated ESR

2.4.1.3 Fever

2.4.1.4 Leukocytosis

2.4.1.5 Positive Blood Cultures

References

1. Parsonnet Jeffrey, "Chapter 120. Osteomyelitis" (Chapter). Fauci AS, Braunwald E, Kasper DL, Hauser SL, Longo DL, Jameson JL, Loscalzo J: Harrison's Principles of Internal Medicine, 17th Edition: <http://www.accessmedicine.com/content.aspx?aID=2893649>.
2. Alok Kapoor, Stephanie Page, Michael LaValley, Daniel R. Gale, and David T. Felson Magnetic Resonance Imaging for Diagnosing Foot Osteomyelitis: A Meta-analysis Arch Intern Med, Jan 2007; 167: 125 – 132.
3. J. Herman Kan, Melissa A. Hilmes, Jeffrey E. Martus, Chang Yu, and Marta Hernanz-Schulman Value of MRI After Recent Diagnostic or Surgical Intervention in Children with Suspected Osteomyelitis Am. J. Roentgenol., Nov 2008; 191: 1595 – 1600.
4. Kuo-Chen Lee, Yi-Ting Tsai, Chih-Yuan Lin, and Chien-Sung Tsai Vertebral osteomyelitis combined streptococcal viridans endocarditis Eur. J. Cardiothorac. Surg., Jan 2003; 23: 125.
5. D Allen, S Ng, K Beaton, and D Taussig Sternal osteomyelitis caused by Aspergillus fumigatus in a patient with previously treated Hodgkin's disease J. Clin. Pathol., Aug 2002; 55: 616 – 618.
6. M Ida, H Watanabe, A Tetsumura, and T Kurabayashi CT findings as a significant predictive factor for the curability of mandibular osteomyelitis: multivariate analysis Dentomaxillofac. Radiol., Mar 2005; 34: 86 – 90.
7. Jyri K. Koort, Tatu J. Mäkinen, Juhani Knuuti, Jari Jalava, and Hannu T. Aro Comparative 18F-FDG PET of Experimental Staphylococcus aureus Osteomyelitis and Normal Bone Healing J. Nucl. Med., Aug 2004; 45: 1406 – 1411.
8. Susan A. Connolly, Leonard P. Connolly, Laura A. Drubach, David Zurakowski, and Diego Jaramillo MRI for Detection of Abscess in Acute Osteomyelitis of the Pelvis in Children Am. J. Roentgenol., Oct 2007; 189: 867 – 872.

2.5 Sinusitis

2.5.1 Sinusitis, acute Acute sinusitis-defined as complicated sinusitis with headache or facial pain or swelling or orbital pain or purulent nasal discharge

2.5.1.1 Abscess formation suspected

2.5.1.2 Evidence of spread of infection to orbit or meninges

2.5.1.3 Immunocompromised host

2.5.1.4 Mental status change

2.5.1.5 Not responding to antibiotic treatment

2.5.1.6 Pott Puffy Tumor, osteomyelitis of the frontal bone

2.5.1.7 Diabetes

2.5.1.8 History of facial trauma or surgery

2.5.2 Sinusitis, Chronic (symptoms lasting 8 weeks or longer of varying intensity and not responding to antibiotics taken for at least 7 days)

2.5.2.1 Pain, purulence, tenderness, after a course of antibiotic therapy

2.5.2.2 Facial pain/pressure

2.5.2.3 Nasal obstruction

2.5.2.4 Decreased sense of smell

2.5.2.5 Nasal polyps

2.5.2.6 Septal deviation

2.5.3 Sinusitis, Recurrent

2.5.3.1 Three episodes in one year's time

2.5.3.1.1 Upper respiratory symptoms for more than 1 week

2.5.3.1.2 Poor response to decongestant

2.5.3.1.3 Facial or sinus pain

2.5.3.1.4 Nasal obstruction

2.5.3.1.5 Nasal discharge colored

References:

1. Manes RP, Batra PS. Etiology, diagnosis and management of chronic rhinosinusitis. *Expert Rev Anti Infect Ther*. 2013 Jan;11(1):25-35. doi: 10.1586/eri.12.151.
2. Setzen G, Ferguson BJ, Han JK, Rhee JS, Cornelius RS, Froum SJ, Gillman GS, Houser SM, Krakovitz PR, Monfared A, Palmer JN, Rosbe KW, Setzen M, Patel MM. Clinical consensus statement: appropriate use of computed tomography for paranasal sinus disease. *Otolaryngol Head Neck Surg*. 2012 Nov;147(5):808-16. doi: 10.1177/0194599812463848. Epub 2012 Oct 10.
3. Leo G, Triulzi F, Incorvaia C. Diagnosis of chronic rhinosinusitis. *Pediatr Allergy Immunol*. 2012 Aug;23 Suppl 22:20-6. doi: 10.1111/j.1399-3038.2012.01320.x.

References:

1. Rubin Michael A, Gonzales Ralph, Sande Merle A, "Chapter 31. Pharyngitis, Sinusitis, Otitis, and Other Upper Respiratory Tract Infections" (Chapter). Fauci AS, Braunwald E, Kasper DL, Hauser SL, Longo DL, Jameson JL, Loscalzo J: *Harrison's Principles of Internal Medicine*, 17th Edition: <http://www.accessmedicine.com/content.aspx?aID=2883486>.
2. Wein Richard O, Chandra Rakesh K, Weber Randal S, "Chapter 17. Disorders of the Head and Neck" (Chapter). Brunickardi FC, Andersen DK, Billiar TR, Dunn DL, Hunter JG, Matthews JB, Pollock RE, Schwartz SI: *Schwartz's Principles of Surgery*, 8th Edition: <http://www.accessmedicine.com/content.aspx?aID=802219>.
3. Scheid DC, Hamm RM. Acute bacterial rhinosinusitis in adults: part I. Evaluation. *Am Fam Physician*. 2004 Nov 1;70(9):1685-92.

3 Abnormal Physical Exam Finding presented as primary indication

3.1 Cranial nerve findings ONE

3.1.1 1st Olfactory Abnormal or absent sense of smell

3.1.2 2nd Optic Visual disturbances of various kinds

3.1.3 3rd Oculomotor Ptosis (drooping) of eyelid, lateral deviation of eye, dilatation of the pupil, diplopia

3.1.4 4th Trochlear Upward and outward deviation of the eye, diplopia

3.1.5 5th Trigeminal

3.1.6 6th Abducens Deviation of the eye outward, diplopia.

3.1.7 7th Facial Paralysis on one side of face

3.1.8 8th Vestibulocochlear Decreased hearing, dizziness, nausea and vomiting, tinnitus.

3.1.9 9th Glossopharyngeal Abnormal sense of taste. dysphagia

3.1.10 10th Vagus Hoarseness and dysphagia, dysarthria

3.1.11 11th Spinal accessory Drooping of the shoulder. Inability to rotate the head away from the affected side.

3.1.12 12th Hypoglossal Unilateral tongue paralysis or weakness with deviation to the affected side.

References

1. Dhillon Nripendra, "Chapter 1. Anatomy" (Chapter). Lalwani AK: CURRENT Diagnosis & Treatment in Otolaryngology-Head & Neck Surgery, 2nd Edition: <http://www.accessmedicine.com/content.aspx?aid=2823000>. 3/31/09
2. Saremi, F et al; MRI of cranial Nerve Enhancement; AJR 2005 185:1487-1497

3.2 CSF rhinorrhea

3.3 Mass on sinus imaging or endoscopy

3.4 Positive nasal endoscopy

3.4.1 NOTE: CT may be appropriate and necessary to further evaluate findings on nasal endoscopy especially if surgical intervention is under consideration

References:

1. Lustig Lawrence R, Schindler Joshua, "Chapter 8. Ear, Nose, & Throat Disorders" (Chapter). McPhee SJ, Papadakis MA, Tierney LM, Jr.: CURRENT Medical Diagnosis & Treatment 2009: <http://www.accessmedicine.com/content.aspx?aid=2356>.

3.5 Sinus mass on endoscopy or other imaging

3.6 Subcutaneous air after trauma

4 Abnormal Lab or Imaging presented as primary indication

- 4.1 Bony changes on X-ray
- 4.2 Mass on sinus imaging or endoscopy
- 4.3 Sinus mass on endoscopy or other imaging

5 Significant Prior Medical History presented as primary indication

5.1 Cancer, Head or neck

5.1.1 Initial staging, restaging after treatment, or interval follow up

Reference

- NCCN Clinical Practice Guidelines in Oncology Head and Neck Cancers V.2.2008 accessed 1/21/09

5.2 Facial trauma

5.3 Infections, recurrent of middle ear

5.4 Infections, recurrent of salivary glands

5.5 Mucocele

References:

1. Fischbein Nancy J, Ong Kenneth C, "Chapter 3. Radiology" (Chapter). Lalwani AK: CURRENT Diagnosis & Treatment in Otolaryngology-Head & Neck Surgery, 2nd Edition: <http://www.accessmedicine.com/content.aspx?aID=2825206>.
2. Akan, H, Cihan, B, Celenk, C Sphenoid sinus mucocele causing third nerve paralysis: CT and MR findings Dentomaxillofac Radiol 2004 33: 342-344

5.6 Osteomyelitis Known MRI PREFERRED

5.6.1 Interval follow up during and after treatment

5.6.2 Preoperative

5.6.3 Worsening clinical situation

References:

1. Parsonnet Jeffrey, "Chapter 120. Osteomyelitis" (Chapter). Fauci AS, Braunwald E, Kasper DL, Hauser SL, Longo DL, Jameson JL, Loscalzo J: Harrison's Principles of Internal Medicine, 17th Edition: <http://www.accessmedicine.com/content.aspx?aID=2893649>.
2. Alok Kapoor, Stephanie Page, Michael LaValley, Daniel R. Gale, and David T. Felson Magnetic Resonance Imaging for Diagnosing Foot Osteomyelitis: A Meta-analysis Arch Intern Med, Jan 2007; 167: 125 – 132.
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4. Kuo-Chen Lee, Yi-Ting Tsai, Chih-Yuan Lin, and Chien-Sung Tsai Vertebral osteomyelitis combined streptococcal viridans endocarditis Eur. J. Cardiothorac. Surg., Jan 2003; 23: 125.
5. D Allen, S Ng, K Beaton, and D Taussig Sternal osteomyelitis caused by Aspergillus fumigatus in a patient with previously treated Hodgkin's disease J. Clin. Pathol., Aug 2002; 55: 616 – 618.
6. M Ida, H Watanabe, A Tetsumura, and T Kurabayashi CT findings as a significant predictive factor for the curability of mandibular osteomyelitis: multivariate analysis Dentomaxillofac. Radiol., Mar 2005; 34: 86 – 90.
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5.7 Presurgical planning

5.8 Trauma