

**Sinonasal Disease
EVIDENCE TABLE**

Reference	Study Type	Patients/ Events	Study Objective (Purpose of Study)	Study Results	Strength of Evidence
1. Lanza DC, Kennedy DW. Adult rhinosinusitis defined. <i>Otolaryngol Head Neck Surg</i> 1997; 117(3 Pt 2):S1-7.	12	N/A	Review literature and clinical experiences of a task force on rhinosinusitis to define acute rhinosinusitis, subacute rhinosinusitis, recurrent acute rhinosinusitis, chronic rhinosinusitis, and acute exacerbation of chronic rhinosinusitis in order for physicians to make the right diagnosis.	The definitions are mainly based on temporal and clinical factors that help identify the presence of rhinosinusitis. Patient history and physical examination are adequate for the routine diagnosis of most forms of rhinosinusitis.	2
2. Fagnan LJ. Acute sinusitis: a cost-effective approach to diagnosis and treatment. <i>Am Fam Physician</i> 1998; 58(8):1795-1802, 1805-1796.	12	N/A	To review a cost-effective approach to diagnosis and treatment of acute sinusitis.	Most clinicians recommend good history and a thorough physical examination for diagnosis of acute sinusitis. For initial diagnosis, radiographs and CT are not helpful.	4
3. Anzai Y, Weymuller EA, Jr., Yueh B, Maronian N, Jarvik JG. The impact of sinus computed tomography on treatment decisions for chronic sinusitis. <i>Arch Otolaryngol Head Neck Surg</i> 2004; 130(4):423-428.	13	27 patients 3 observers	Prospective cohort study in a medical center to determine the impact of sinus CT on treatment decisions by otolaryngologists and to explore the factors leading to choice of surgical treatment for patients suspected of having chronic sinusitis.	The treatment decisions were changed in 9/27 patients after the sinus CT scans were reviewed. Agreement of treatment decisions among the 3 surgeons was improved after they reviewed sinus CT scans. Study concludes that decision to perform surgery was changed by CT in a substantial number of patients.	2
4. Ray NF, Baraniuk JN, Thamer M, et al. Healthcare expenditures for sinusitis in 1996: contributions of asthma, rhinitis, and other airway disorders. <i>J Allergy Clin Immunol</i> 1999; 103(3 Pt 1):408-414.	15	N/A	To estimate the 1996 total direct health care expenditures for the treatment of sinusitis. Study determined: <ul style="list-style-type: none"> • Direct expenditures of medical and surgical encounters where sinusitis was primary diagnosis. • Attributable expenditures when related airway diseases were the primary diagnosis and sinusitis was a comorbid condition. (Used Delphi technique.) 	Estimated total health care expenditures in 1996 were \$5.8 billion, of which \$1.8 billion (30.6%) was for children 12 years or younger. Study concludes that economic burden of sinusitis is significant.	2
5. Batra PS. Radiologic imaging in rhinosinusitis. <i>Cleve Clin J Med</i> 2004; 71(11):886-888.	12	N/A	To review imaging options and their recommended use in rhinosinusitis.	Imaging of rhinosinusitis is important in patients whose condition is refractory to treatment and those with chronic or recurrent acute rhinosinusitis or acute rhinosinusitis with complications.	4
6. Murphy MP, Fishman P, Short SO, Sullivan SD, Yueh B, Weymuller EA, Jr. Health care utilization and cost among adults with chronic rhinosinusitis enrolled in a health maintenance organization. <i>Otolaryngol Head Neck Surg</i> 2002; 127(5):367-376.	15	20,175	To measure the impact of chronic rhinosinusitis on the use and cost of health care by adults in a health maintenance organization (HMO).	Adults with chronic rhinosinusitis had higher costs due to increased non-urgent outpatient visit and pharmacy fill utilization. Total direct cost of chronic rhinosinusitis in 1994 is estimated to be \$4.3 billion.	2

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7. Okuyemi KS, Tsue TT. Radiologic imaging in the management of sinusitis. <i>Am Fam Physician</i> 2002; 66(10):1882-1886.	14	3	To review radiologic imaging of sinusitis.	Role of radiography is limited in the management of sinusitis. Non-contrast coronal CT images can define the nasal anatomy much more precisely. CT is usually used for difficult cases or to define anatomy prior to sinus surgery. MRI cannot define bony anatomy as well as CT. MRI is only used to differentiate soft-tissue structures.	4
8. Anand VK. Epidemiology and economic impact of rhinosinusitis. <i>Ann Otol Rhinol Laryngol Suppl</i> 2004; 193:3-5.	12	N/A	To review data regarding the epidemiology and economic impact of rhinosinusitis.	Rhinosinusitis is common in the United States (16% of the adult population is affected annually). It also has a huge economic burden.	4
9. Anzai Y, Yueh B. Imaging evaluation of sinusitis: diagnostic performance and impact on health outcome. <i>Neuroimaging Clin N Am</i> 2003; 13(2):251-263, xi.	12	N/A	To review role of imaging in diagnosis and treatment of sinusitis.	Sinus CT is the primary imaging modality and may provide pivotal objective information that affects treatment decisions for acute and chronic sinusitis.	4
10. Arango P, Kountakis SE. Significance of computed tomography pathology in chronic rhinosinusitis. <i>Laryngoscope</i> 2001; 111(10):1779-1782.	13	27	Prospective collection of data to determine the significance of CT pathology in patients with chronic rhinosinusitis.	<ul style="list-style-type: none"> • 27 patients with sinus complaints had normal findings on sinus CT scans. 26 patients with sinus complaints had disease on CT of their sinuses. • Higher symptom scores were seen in the patients with CT disease, and the differences between these two groups were statistically significant (major symptom, P=.000001; minor symptom, P=.02). Patient symptom scores did not correlate with extent of disease on CT as previously reported (r=0.16). • Study concludes that presence of CT disease translates to higher patient symptom scores compared with symptom scores of patients without CT disease. 	2
11. Bhattacharyya N. Test-retest reliability of computed tomography in the assessment of chronic rhinosinusitis. <i>Laryngoscope</i> 1999; 109(7 Pt 1):1055-1058.	10	45 patients had 2 CT scans	Prospective study to determine the reliability of CT in the assessment of chronic rhinosinusitis and see if CT findings in chronic rhinosinusitis are stable over time.	CT is a reliable test and the CT findings are stable over time.	2

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12. Bhattacharyya N. Clinical and symptom criteria for the accurate diagnosis of chronic rhinosinusitis. <i>Laryngoscope</i> 2006; 116(7 Pt 2 Suppl 110):1-22.	8	703	Prospective, double-blinded study to define clinically based diagnostic criteria and to determine a classification scheme that would allow for the accurate diagnosis of chronic rhinosinusitis.	The diagnosis of chronic rhinosinusitis based on symptom criteria is difficult because most symptoms (except dysosmia) do not distinguish between radiographically normal and diseased patients. Classification analysis showed that presence of polyps, absence of dental pain, and low congestion/obstruction scores in the presence of dental pain predicted true chronic rhinosinusitis.	1
13. Bhattacharyya N, Fried MP. The accuracy of computed tomography in the diagnosis of chronic rhinosinusitis. <i>Laryngoscope</i> 2003; 113(1):125-129.	10	171 130 control group	Prospective dual cohort study to determine the sensitivity, specificity, and diagnostic accuracy of CT in the diagnosis of chronic rhinosinusitis.	<ul style="list-style-type: none"> • In the disease-positive group of patients with chronic rhinosinusitis, the mean Lund score was 9.8 (95% CI: 9.0-10.6). The mean inflammatory grade on histopathological study was 2.3 (range, 0-4). For the control group (without disease), the mean Lund score was 4.3 (95% CI: 3.5-5.0). • Sinus CT showed sensitivity of 94%, specificity of 41% for selecting a Lund score cut-off value of greater than 2 as abnormal. Increasing cut-off value to 4 changed the sensitivity to 85%, and specificity to 59%. • Study concluded that combining CT with history and physical findings may help in the diagnostic accuracy of chronic rhinosinusitis. 	1
14. Stewart MG, Donovan DT, Parke RB, Jr., Bautista MH. Does the severity of sinus computed tomography findings predict outcome in chronic sinusitis? <i>Otolaryngol Head Neck Surg</i> 2000; 123(1 Pt 1):81-84.	13	57	Analysis of data from a prospective, non-randomized clinical study to examine the association between the severity of pretreatment CT scan findings and the improvement in symptoms of chronic sinusitis after treatment.	Symptom severity based on CT findings emerged as a strong predictor of both improvement in symptom score outcome (beta=0.47, P=0.01) and absolute symptom level after treatment (beta=-0.58, P=0.001).	2
15. Stewart MG, Sicard MW, Piccirillo JF, Diaz-Marchan PJ. Severity staging in chronic sinusitis: are CT scan findings related to patient symptoms? <i>Am J Rhinol</i> 1999; 13(3):161-167.	13	254	Examine data from a prospective study at two centers to determine the relationship between symptom severity and CT scan findings in chronic sinusitis.	No relationship between CT scan findings and symptom severity could be identified using both CT staging systems and patient-based symptom instruments.	2
16. Tahamiler R, Canakcioglu S, Ogreden S, Acioglu E. The accuracy of symptom-based definition of chronic rhinosinusitis. <i>Allergy</i> 2007; 62(9):1029-1032.	13	768	To study, verify and evaluate the accuracy of the symptom-based definition of chronic sinusitis and compare this with objective tests.	73.15% of the non-allergic patients with symptom-based diagnosed chronic sinusitis and 65.34% of the allergic patients with symptom-based diagnosed chronic sinusitis had no CT and endoscopic pathology (Endoscopic score 0 + CT score 0).	2

* See Last Page for Key

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17. Zinreich SJ. Imaging for staging of rhinosinusitis. <i>Ann Otol Rhinol Laryngol Suppl</i> 2004; 193:19-23.	12	N/A	To review rhinosinusitis staging systems utilizing CT techniques.	<ul style="list-style-type: none"> • MRI is good for displaying soft tissue resolution and is superior in demonstrating the presence of neoplasia and fungal sinusitis, but has limited advantages over CT scanning in demonstrating the regional anatomy (bony structure) and in the diagnosis of chronic rhinosinusitis. • CT provides greater detailed information about the paranasal sinuses than radiographs. 	4
18. Rosenfeld RM, Andes D, Bhattacharyya N, et al. Clinical practice guideline: adult sinusitis. <i>Otolaryngol Head Neck Surg</i> 2007; 137(3 Suppl):S1-31.	15	N/A	To provide guideline on adult sinusitis to improve diagnosis of adult rhinosinusitis, reduce inappropriate antibiotic use, reduce inappropriate use of radiographic imaging, and promote appropriate use of ancillary tests (nasal endoscopy, CT, testing for allergy and immune function).	Panel did not recommend radiographic imaging for patients who meet diagnostic criteria for acute rhinosinusitis; unless a complication or alternative diagnosis is suspected. Recommends that clinician obtain CT of the paranasal sinuses in diagnosing or evaluating a patient with chronic rhinosinusitis or recurrent acute rhinosinusitis.	2
19. Sonkens JW, Harnsberger HR, Blanch GM, Babbal RW, Hunt S. The impact of screening sinus CT on the planning of functional endoscopic sinus surgery. <i>Otolaryngol Head Neck Surg</i> 1991; 105(6):802-813.	13	500	Review clinical and radiologic records of patients to assess the impact of screening sinus CT on the planning of functional endoscopic sinus surgery. The following questions were answered: <ol style="list-style-type: none"> 1. Can distinct radiologic patterns of inflammatory disease be identified on screening sinus CT (SSCT)? 2. If so, what are these radiologic patterns? 3. How do the findings seen on SSCT influence the endoscopic surgical plan? 	<ul style="list-style-type: none"> • 5 radiologic patterns of sinonasal inflammatory disease identified are: <ol style="list-style-type: none"> 1. Infundibular (129/500 or 26%), 2. Ostiomeatal unit (126/500 or 25%), 3. Sphenothmoidal recess (32/500 or 6%), 4. Sinonasal polyposis (49/500 or 10%), 5. Sporadic (unclassifiable) (121/500 or 24%) patterns. • 133/500 patients (27%) had normal SSCT. • Depending on specific sinus or sinuses involved, the sporadic pattern of inflammatory disease, when identified, creates unique functional endoscopic sinus surgery (FESS) challenges. Assignment of these patterns to the individual case also assists in patient management by grouping patients into nonsurgical (normal CT), routine and complex surgical groups. 	2
20. Aalokken TM, Hagtvedt T, Dalen I, Kolbenstvedt A. Conventional sinus radiography compared with CT in the diagnosis of acute sinusitis. <i>Dentomaxillofac Radiol</i> 2003; 32(1):60-62.	10	47	Prospective study to evaluate the accuracy of radiography in patients with clinical suspicion of acute sinusitis, using standard CT as a gold standard.	Specificity of radiographic examination was high, but sensitivity was low except for the maxillary sinus (sensitivity 80%). The sensitivity of radiography for detecting sinus opacifications was unacceptably low for the ethmoid, frontal and sphenoid sinuses.	2

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21. Basu S, Georgalas C, Kumar BN, Desai S. Correlation between symptoms and radiological findings in patients with chronic rhinosinusitis: an evaluation study using the Sinonasal Assessment Questionnaire and Lund-Mackay grading system. <i>Eur Arch Otorhinolaryngol</i> 2005; 262(9):751-754.	13	22 patients 2 observers	To assess the correlation between preoperative symptom scores using the validated Sino-Nasal Assessment Questionnaire (SNAQ) and CT scores in patients undergoing endoscopic sinus surgery (ESS).	No statistically significant correlation between SNAQ and Lund-Mackay scores (P=0.5), but there was a very strong correlation (P<0.001) between the scoring of scans by the 2 observers, while there was a moderate degree of discrepancy in the grading of anterior ethmoid sinuses and osteo-meatal complexes. Significant inter-rater variability exists in the grading of pathological changes in anterior ethmoid sinus and osteo-meatal complex as recorded in CT scans.	2
22. Bhattacharyya N. A comparison of symptom scores and radiographic staging systems in chronic rhinosinusitis. <i>Am J Rhinol</i> 2005; 19(2):175-179.	9	200	Prospective study to determine if one of the popular CT scan staging systems (Kennedy, Harvard, and Lund) shows better correlation with sinonasal symptom severity in chronic rhinosinusitis.	<ul style="list-style-type: none"> • Mean Lund score for all patients was 10.0 (SD, 5.3). The Kennedy stage distributions were 40, 42, 84, and 34 patients for stages 1-4, respectively. The Harvard stage distributions were 17, 53, 85, and 45 patients for stages 1-4, respectively. • Lund staging system had the best correlation between nasal symptom scores and CT stage in chronic rhinosinusitis, although the degree of correlation was small. All 3 systems were lacking in staging value for non-nasal sinonasal symptoms. 	2
23. Bhattacharyya T, Piccirillo J, Wippold FJ, 2nd. Relationship between patient-based descriptions of sinusitis and paranasal sinus computed tomographic findings. <i>Arch Otolaryngol Head Neck Surg</i> 1997; 123(11):1189-1192.	9	221	To prospectively compare paranasal sinus symptoms with coronal CT findings in a blinded study.	<ul style="list-style-type: none"> • Sino-Nasal Outcome Test-20 (SNOT-20) scores ranged from 0 (normal) to 78 (mean=34). • CT scores ranged from 0 (normal) to 24 (mean=4.07). 75 patients (34%) had normal findings on the CT scan. • The SNOT-20 and CT scores failed to significantly correlate (r=0.11, P ≤.09). When the subset of patients with “positive” or “very positive” CT scans were considered, no significant correlation was observed (r=0.12, P≤.16). • For the 132 patients with facial pain, the mean CT score was lower than for patients without facial pain (3.78 vs 4.78, P=.21). • Study recommends that CT be reserved for delineating the anatomy and pattern of inflammatory paranasal disease prior to surgical intervention. 	1

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24. Cousin JN, Har-El G, Li J. Is there a correlation between radiographic and histologic findings in chronic sinusitis? <i>J Otolaryngol</i> 2000; 29(3):170-173.	13	60 patients 131 sinuses	Retrospective analysis to determine if the degree of radiologic changes noted on CT scan correlate with the severity of histologic changes.	Of 51 ethmoid sinuses, agreement between the radiographic and histologic grading occurred in 32/62.7%. In the maxillary group, a 57.1% (24/42) correlation was noted. Of the 20 frontal sinuses, agreement occurred in 8 or 40%, whereas a 22.2% (4/18) correlation was present in the sphenoid group. Study suggests that the severity of sinus disease based on preoperative CT scan does not correlate with the histologic degree of disease.	2
25. Devaiah AK. Adult chronic rhinosinusitis: diagnosis and dilemmas. <i>Otolaryngol Clin North Am</i> 2004; 37(2):243-252, v.	12	N/A	To review criteria for diagnosing adult chronic rhinosinusitis and problems involved in using criteria.	Study suggests that a careful assessment of different subjective and objective measures together may improve diagnostic accuracy. Nasal endoscopy and CT are objective measures that can increase accuracy. Endoscopic observation of pus, polyps, or other significant mucosal derangements helps solidify the diagnosis. CT staging systems can improve reliability of disease detection. The most accurate method of CRS diagnosis may be outlining specific criteria for objective studies in the context of subjective patient symptoms.	3
26. Hwang PH, Irwin SB, Griest SE, Caro JE, Nesbit GM. Radiologic correlates of symptom-based diagnostic criteria for chronic rhinosinusitis. <i>Otolaryngol Head Neck Surg</i> 2003; 128(4):489-496.	13	125	Prospective blinded study to evaluate correlations between the Task Force on Rhinosinusitis (TFR) diagnostic criteria and radiologic findings on sinus CT scans.	115/125 patients met symptom criteria for chronic rhinosinusitis. 40/115 had negative scans despite meeting the diagnostic criteria for rhinosinusitis. 75/115 had positive scans. Of the 10 patients who had negative diagnoses for rhinosinusitis, 9 had a positive CT scan. The Kappa coefficient was -0.103 ($\pm 95\%$ CI: -0.201 to -0.004), indicating poor agreement between chronic rhinosinusitis positivity and CT positivity. The sensitivity of TFR criteria for detecting a positive scan was 89%, but the specificity was 2%.	1

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27. Kenny TJ, Duncavage J, Bracikowski J, Yildirim A, Murray JJ, Tanner SB. Prospective analysis of sinus symptoms and correlation with paranasal computed tomography scan. <i>Otolaryngol Head Neck Surg</i> 2001; 125(1):40-43.	13	273	Prospective blinded study to determine if a correlation exists between the severity of sinus symptoms and the severity of paranasal CT scan.	Severity of 5 symptoms (fatigue, sleep disturbance, nasal discharge, nasal blockage, decreased sense of smell). correlated with severity of disease on CT scan. Headache and facial pain or pressure had no correlation. Study concludes that the certainty of a clinical diagnosis of rhinosinusitis requiring treatment is enhanced in patients with high severity scores for the 5 symptoms.	1
28. Wabnitz DA, Nair S, Wormald PJ. Correlation between preoperative symptom scores, quality-of-life questionnaires, and staging with computed tomography in patients with chronic rhinosinusitis. <i>Am J Rhinol</i> 2005; 19(1):91-96.	13	221	Prospective cohort study to evaluate the correlation between preoperative symptoms, quality-of-life questionnaires (chronic sinusitis [CSS] survey and SNOT-20), and staging with CT in patients with chronic rhinosinusitis.	<ul style="list-style-type: none"> No significant correlation between the SNOT-20 questionnaire and the Lund-MacKay CT score (P=0.026; P=0.764) and between the CSS and the Lund-MacKay CT score (P= -0.158; P=0.058). No significant correlation between a single visual analog scale (VAS) symptom score relating to overall sinonasal symptom severity and the Lund-MacKay CT scan score (P=0.135; P=0.121). Weak but statistically significant correlation was found between the VAS score based on the sum of 5 sinonasal symptoms and the Lund-MacKay CT scan score (P=0.197; P=0.020). 	1
29. Gwaltney JM, Jr., Phillips CD, Miller RD, Riker DK. Computed tomographic study of the common cold. <i>N Engl J Med</i> 1994; 330(1):25-30.	13	31 patients complete evaluation 79 patients no CT scan	Examine adult volunteers with self-diagnosed colds of 48 to 96 hours' duration for: information on symptoms, CT studies of the nasal passages and sinuses, mucosal-transport times, measures of nasal-airway resistance, and viral-culture studies.	Common cold is associated with frequent and variable anatomical involvement of the upper airways, including occlusion and abnormalities in the sinus cavities.	2
30. Holbrook EH, Brown CL, Lyden ER, Leopold DA. Lack of significant correlation between rhinosinusitis symptoms and specific regions of sinus computer tomography scans. <i>Am J Rhinol</i> 2005; 19(4):382-387.	13	94	To examine correlation between rhinosinusitis symptoms and specific regions of sinus CT scans.	There was no correlation when total Lund-MacKay scores, opacification of individual sinuses, and size of the agger nasi and ethmoid bulla cells were compared with Rhinosinusitis Outcome Measure 31 subset scores and areas of facial pain or pressure. Study concludes that although sinus CT scan is a necessary tool for preoperative planning, it should not be used to predict symptoms or to localize areas responsible for facial pain or pressure.	2

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31. Momeni AK, Roberts CC, Chew FS. Imaging of chronic and exotic sinonasal disease: review. <i>AJR</i> 2007; 189(6 Suppl):S35-45; quiz S46-38.	12	N/A	To describe the anatomy, pathophysiology, microbiology, and diagnosis of sinonasal disease (chronic and fungal sinusitis, juvenile nasopharyngeal angiofibroma, inverted papilloma, and chondrosarcoma).	CT and MRI are the two primary diagnostic imaging methods for evaluating paranasal sinuses. CT is recommended in both adult and pediatric patients.	4
32. Rao VM, el-Noueam KI. Sinonasal imaging. Anatomy and pathology. <i>Radiol Clin North Am</i> 1998; 36(5):921-939, vi.	12	N/A	To review anatomy and pathology of sinonasal inflammatory diseases and rationale behind endoscopic surgery. Emphasis on role of CT and MRI in evaluation of inflammatory and neoplastic lesions.	<ul style="list-style-type: none"> • High-resolution CT is recommended for the evaluation of sinus inflammatory diseases. • MRI is important in the evaluation of sinonasal tumors because of its ability to differentiate neoplasm from surrounding inflammatory changes, edema, and retained secretions. 	4
33. Younis RT, Anand VK, Davidson B. The role of computed tomography and magnetic resonance imaging in patients with sinusitis with complications. <i>Laryngoscope</i> 2002; 112(2):224-229.	9	82 (43 patients with orbital infections and 39 patients with intracranial infections)	Retrospective study to compare role of CT with MRI and clinical assessment in the diagnosis and surgical management of patients with sinusitis with complications.	<ul style="list-style-type: none"> • For orbital complications patients, the diagnostic accuracy was 82% for clinical assessment compared with 91% for CT. • For intracranial complications patients, meningitis was the most common diagnosis, and MRI was more accurate (97%) in determining the diagnosis than CT (87%) or clinical findings (82%). • Study concludes that CT is standard modality for diagnosing sinusitis, but MRI is usually necessary for patients with intracranial complications. 	2
34. Yousem DM. Imaging of sinonasal inflammatory disease. <i>Radiology</i> 1993; 188(2):303-314.	12	N/A	To review anatomy of the sinonasal cavity, imaging of uncomplicated and complicated sinusitis, and analyze the current role of each imaging modality.	FESS has increased the demand for coronal CT scan of the paranasal sinuses. Although MR has a limited role in uncomplicated sinusitis, it is of benefit in diagnosing intracranial, meningeal, vascular, and intraorbital complications of sinusitis.	4
35. Lai V, Wong YC, Lam WY, Tsui WC, Luk SH. Inflammatory myofibroblastic tumor of the nasal cavity. <i>AJNR Am J Neuroradiol</i> 2007; 28(1):135-137.	14	1	Examine a case of inflammatory myofibroblastic tumor in the left nasal cavity of a 13-year-old girl.	MRI revealed T1-weighted hypointense and T2-weighted intermediate-signal-intensity changes with homogeneous contrast enhancement. Angiography revealed the hypervascular nature of the tumor, with blood supplied by mildly hypertrophied terminal branches of the left internal maxillary artery.	4

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36. Palacios E, Restrepo S, Mastrogiovanni L, Lorusso GD, Rojas R. Sinonasal hemangiopericytomas: clinicopathologic and imaging findings. <i>Ear Nose Throat J</i> 2005; 84(2):99-102.	14	7	Retrospective review of imaging characteristics, clinical and pathologic findings in patients with sinonasal hemangiopericytoma.	Hemangiopericytomas can occur in any part of the body. They are mesenchymal tumors that account for 3 to 5% of all soft-tissue sarcomas and 1% of all vascular tumors. They originate in extravascular cells (pericytes). Some 15%-30% of all hemangiopericytomas occur in the head and neck; of these, approximately 5% occur in the sinonasal area.	4
37. Serrano E, Coste A, Percodani J, Herve S, Brugel L. Endoscopic sinus surgery for sinonasal haemangiopericytomas. <i>J Laryngol Otol</i> 2002; 116(11):951-954.	14	5	To examine cases of haemangiopericytomas treated by a strict endonasal endoscopic approach.	Study suggests that when tumor is purely intranasal or strictly located in the ethmoid or sphenoid sinus, it can be removed via an endonasal approach under endoscopic guidance.	4
38. American College of Radiology. <i>Manual on Contrast Media</i> . Available at: http://www.acr.org/SecondaryMainMenuCategories/quality_safety/contrast_manual.aspx .	15	N/A	Guidance document on contrast media to assist radiologists in recognizing and managing risks associated with the use of contrast media.	N/A	3

Evidence Table Key

Study Type Key

Numbers 1-7 are for studies of therapies while numbers 8-15 are used to describe studies of diagnostics.

1. Randomized Controlled Trial — Treatment
2. Controlled Trial
3. Observation Study
 - a. Cohort
 - b. Cross-sectional
 - c. Case-control
4. Clinical Series
5. Case reviews
6. Anecdotes
7. Reviews
8. Randomized Controlled Trial — Diagnostic
9. Comparative Assessment
10. Clinical Assessment
11. Quantitative Review
12. Qualitative Review
13. Descriptive Study
14. Case Report
15. Other (Described in text)

Strength of Evidence Key

- Category 1 - The conclusions of the study are valid and strongly supported by study design, analysis and results.
- Category 2 - The conclusions of the study are likely valid, but study design does not permit certainty.
- Category 3 - The conclusions of the study may be valid but the evidence supporting the conclusions is inconclusive or equivocal.
- Category 4 - The conclusions of the study may not be valid because the evidence may not be reliable given the study design or analysis.