



## Maxillary sinus disease

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### Perspective

The maxillary sinus is the Para nasal sinus that has the greatest impact on the dentist's profession, since they are frequently called upon to provide a diagnosis in cases of orofacial pain that may be sinogenic in nature. Maxillary sinus illness is frequently shown on radiographs, and dentists are frequently forced to develop diagnoses and treatment plans based on the image's interpretation. The purpose of this paper is to walk the dentist through some of the disease processes involving the Para nasal sinuses, namely the maxillary sinus. The goal is to encourage a thorough patient history and examination in order to assist an accurate diagnosis and successful therapy.

This paper will walk the dentist through some of the disease processes that affect the paranasal sinuses, namely the maxillary sinus. The goal is to encourage a thorough patient history and examination so that an appropriate diagnosis may be made and treatment can begin. The shape and structure of the face and paranasal sinuses may operate as a crumple zone after severe trauma, shielding the brain, despite the fact that this is unlikely to have been an evolutionary adaption or artistic element.

The lining of the sinuses (ciliated columnar epithelium) produces mucus, which is transported throughout the sinus by cilia in a synchronised pattern, frequently against gravity and not via the most direct route in the case of the frontal sinus, to the ostia, where drainage occurs into the nasal space. Mucus from the nasal cavity enters the nasopharynx and is ingested. Symptoms are caused by the stoppage of this essential mechanism in the presence of disease, which is usually caused by diminished ciliary activity or obstruction. Because the Ostia of the anterior ethmoid, frontal, and maxillary sinuses are so close together in the middle meatus, inflammation of middle meatal soft tissue frequently affects multiple sinuses.

The maxillary sinus ostium is located high on the medial wall and is 2.4 mm in diameter on average. The effective ostium is decreased by the uncinat process, an extension of the inferior turbinate, and the surrounding soft tissues, despite the fact that the bone window is significantly wider. The maxillary sinus can be missing or hypo plastic in rare cases, but it is normally the first to develop, with two significant growth spurts coinciding to the formation and eruption of the permanent dentition and

pubertal facial growth at 0–3 years and 7–12 years, respectively. The molar teeth are closest to the maxillary sinus, while the premolar teeth are farther away.

Ectopic canine teeth are sometimes associated with the maxillary sinus. The sinuses continue to grow throughout life due to a process known as pneumatization, which causes the roots of maxillary teeth to often protrude into the air space, and the sinus floor may be lower than the nasal floor following tooth loss. The diameters of the right and left sinuses are frequently varied. The maxillary sinus can be affected by a variety of diseases that originate in the sinus lining, neighbouring Para nasal sinuses, nasal space, dental and oral tissues, or nearby bone with expansion into the sinus.

The most frequent condition affecting the Para nasal sinuses is inflammatory sinus disease. 3 The maxillary sinus is the disease entity for which a dentist is most frequently requested to make a differential diagnosis when it is affected. The majority of inflammatory Para nasal sinus disease that causes discomfort occurs within one week of an upper respiratory tract infection, and is usually caused by a virus. Biphase illness is a word that is sometimes used to describe a patient who recovers from a head cold only to become ill a few days later with face pain, nasal congestion, and discharge. This is referred to as acute rhino sinusitis, and the goal of treatment is to alleviate symptoms once the diagnosis has been made. Treatment has little effect on the length of the sickness, which can last up to four weeks.

Chronic rhino sinusitis is a word that refers to nasal congestion or discharge that lasts for eight to twelve weeks. Discomfort is rarely a symptom of chronic disease, especially during acute exacerbations, and dentists are unlikely to encounter a patient with orofacial pain as a result of chronic sinus disease. The most common cause of chronic rhino sinusitis is bacterial rather than viral. 4 Stasis in the maxillary sinus as a result of diminished ciliary activity after an acute illness can predispose to bacterial infection. Because the ostium is located high on the medial wall of the maxillary sinus, it is prone to stasis.

Anatomical variations such as a deviated nasal septum or a concha bullosa, a bulky pneumatized middle turbinate, both of which obstruct drainage from the middle meatus, can cause stasis. The most common diagnostic difficulty that dentists face is determining the aetiology of orofacial pain. Interested

readers should refer to Scully and Felix's extensive study of orofacial pain in a prior issue of this journal. Acute sinusitis,

which occurs after an upper respiratory tract infection, might induce facial pain, although chronic sinusitis is unlikely to produce facial pain.