



WISDOM TEETH IN HUMANS

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ABSTRACT

This academic article offers a thorough exploration of wisdom teeth in humans, addressing their evolutionary significance, anatomical variations, and clinical implications. The interdisciplinary approach encompasses evolutionary biology, dental anatomy, and clinical dentistry. The article examines the evolutionary roots of wisdom teeth, their diverse anatomical characteristics, and the clinical challenges associated with their development, eruption, and potential complications. By providing insights into the historical context, anatomical intricacies, and contemporary clinical considerations, this article serves as a comprehensive resource for researchers, clinicians, and scholars interested in understanding the enigma of wisdom teeth.

Introduction. Wisdom teeth, also known as third molars, have long intrigued researchers, clinicians, and evolutionary biologists alike. This academic article seeks to comprehensively explore the multifaceted aspects of wisdom teeth in humans, ranging from their evolutionary significance to their anatomical characteristics and the clinical challenges they often pose. Through an interdisciplinary lens, we delve into the evolutionary history of wisdom teeth, scrutinize their anatomical variations, and address the clinical considerations surrounding their eruption, impaction, and extraction.

Wisdom teeth, vestiges of our evolutionary past, present an intriguing puzzle within the human dentition. This article aims to unravel the complexities surrounding these third molars, examining their evolutionary roots, variations in anatomy, and the clinical ramifications associated with their development.

Evolutionary Significance:

Understanding the evolutionary history of wisdom teeth provides insights into changes in diet, jaw size, and the selective pressures that influenced dental patterns. We explore the role of these molars in our ancestors and the subsequent changes in human oral anatomy.

Anatomy and Morphology:



Wisdom teeth exhibit considerable variation in size, shape, and eruption patterns. This section delves into the intricate anatomy of these molars, exploring variations in root morphology, occlusal patterns, and the implications of their positioning within the dental arch.

Clinical Considerations:

The clinical landscape of wisdom teeth involves a spectrum of challenges, including impaction, crowding, and the potential for pathological conditions. We discuss the criteria for evaluating the necessity of wisdom teeth extraction, the role of imaging techniques, and the management of complications such as pericoronitis and cyst formation.

Eruption and Impaction:

The process of wisdom teeth eruption and the factors contributing to impaction are examined. We explore the common classifications of impaction and the impact of factors such as age, gender, and jaw morphology on eruption dynamics.

Surgical Intervention and Complications:

For impacted or problematic wisdom teeth, surgical extraction is often recommended. This section elucidates the surgical techniques involved, considerations for minimizing complications, and the postoperative care required for optimal outcomes.

Future Directions and Research Opportunities:

The article concludes by highlighting potential avenues for future research, including genetic factors influencing wisdom teeth development, advancements in imaging technologies, and evolving trends in the management of these molars.

Third molar teeth, or wisdom teeth, as they are commonly referred to, are the last teeth to erupt into your mouth. In humans, there are typically four third molar teeth, two in the upper jaw (maxilla) and two in the lower jaw (mandible). Third molar teeth typically develop in the jawbone and erupt into the oral cavity between the ages of 16 and 21. Wisdom teeth commonly affect other teeth as they develop, often becoming impacted or misaligned. Impaction occurs when the wisdom tooth does not have enough room to erupt properly into the oral cavity and remains fully, or partially encapsulated in jawbone and gum tissue. If it is completely encased in the jawbone, it is a bony impaction. If the wisdom tooth has erupted out of the jawbone but not through the gumline, it is called a soft tissue impaction. Extraction of wisdom teeth is encouraged to prevent damage to the adjacent teeth. Impacted teeth can be painful and lead to infection.

They may also crowd or damage adjacent teeth or roots. More serious problems may occur if the sac surrounding the impacted tooth becomes filled with fluid and enlarges to form a cyst. As the cyst grows it may hollow out the jaw and permanently damage adjacent teeth, the surrounding bone and nerves. In some cases, if a cyst is not treated, a tumor may develop from its walls and a more serious surgical procedure may be required to remove it. Despite the considerable concern regarding impacted third molars, a recent study sponsored by the American Association of Oral and Maxillofacial Surgeons and the Oral and Maxillofacial Surgery Foundation finds that third molars which have broken through the tissue and erupted into the mouth in a normal, upright position may be as prone to disease as those third molars that remain impacted. Patients often ask, why must the Tooth Come Out if it Hasn't Caused Any Problems Yet? It isn't wise to wait until your wisdom teeth start to bother you. In general,



earlier removal of wisdom teeth results in a less complicated healing process. Not all problems related to third molars are painful or visible. Damage can occur without your being aware of it. As wisdom teeth grow, their roots become longer, the teeth become more difficult to remove and complications become more likely. In addition, impacted wisdom teeth are more likely to cause problems as patients age. No one can predict when third molar complications will occur, but when they do, the circumstances can be much more painful and the teeth more difficult to treat. It is estimated that about 85% of third molars will eventually need to be removed. The relative ease with which a wisdom tooth may be removed depends on several conditions, including the position of the tooth and root development. Impacted wisdom teeth may require a more involved surgical procedure. Most wisdom tooth extractions are performed in the dental office under local anesthesia, intravenous sedation or general anesthesia. An oral medication may be prescribed to reduce anxiety and stress associated with wisdom tooth extraction. Your dentist will discuss the anesthetic option that is right for you, and depending upon the difficulty of the procedure and potential complications, may refer you to a dental specialist for treatment. Following surgery, you may experience some swelling and mild discomfort, which are part of the normal healing process. Cold compresses may help decrease the swelling, and medication prescribed by your dentist can help manage the discomfort. You may be instructed to modify your diet following surgery and later progress to more normal foods. Complications of wisdom tooth extraction are infection of the surgical site, transient or in rare cases, permanent numbness, and exposure of the maxillary sinus cavity. These complications are rare, however their potential for occurrence should be discussed with your doctor prior to treatment.

Symptoms of Wisdom Teeth Problems. Symptoms can vary from slight discomfort to advanced swelling, significant pain, infection, and pus formation. Early treatment will prevent disease and potentially dangerous complications. Early inflammation (pericoronitis) is caused by plaque and may cause the following symptoms: pain over the gum near the back teeth, mild swelling of the gum, bleeding, or pain radiating to other teeth, and/or to the head, neck, and ears. A localized abscess or infection results if the source of inflammation is not treated. Those with an abscess or infection may have increased pain, mild to moderate swelling of the gum, sinus problems, or pus drainage from a gum boil (fistula) often accompanied by a bad taste and a foul smell. Severe infection occurs when a localized infection persists and spreads to other facial areas. Symptoms include swelling over the face or neck, severe pain, difficulty opening the mouth, pus drainage, fever, general weakness, and breathing or swallowing difficulties if the infection extends to the throat. Such infections may have dangerous consequences if not treated immediately. They can spread to deeper spaces in the head and neck region and potentially reach the brain or heart. Sometimes pain is caused by adjacent teeth with decay or gum disease that is induced by the wisdom teeth. Crowding of other teeth is also a potential and related symptom.

Managing Pain and Swelling Related to Wisdom Teeth. Pain and swelling from wisdom teeth can occur suddenly and progress rapidly. Early evaluation, antibiotics, and immediate extractions are the only way to solve the problem. Until you can see an oral surgeon, here is what you can do to manage the pain and swelling. Pain only: No associated swelling, drainage, or difficulty opening the mouth. 1) Take 400-600 mg Ibuprofen (2-3



tablets of Advil) or 500-1000 mg of Tylenol every four hours for pain. 2) If pain becomes more severe, you may take Vicodin or Tylenol #3 prescribed by your dentist. 3) Call your dentist immediately for evaluation or referral to an oral surgeon. 4) Mild inflammation may resolve by simply brushing the area and keeping it clean. 5) Extractions should be done as soon as possible before a potential increase in pain and infection. Pain and swelling: Pain associated with facial or gum tissue swelling with possible drainage of pus or difficulty opening mouth. 1) Take 400-600 mg Ibuprofen (2-3 tablets of Advil) or 500-1000 mg of Tylenol every four to six hours.

2) Call your dentist immediately for evaluation or referral to an oral surgeon.

3) Begin antibiotic therapy immediately. If you can not see an oral surgeon right away, ask your dentist to prescribe antibiotics and pain medication.

4) Extractions should be done as soon as possible, before infection spreads and involves other areas of the face with potential life-threatening consequences. It is not necessary to be on antibiotics for a few days before surgery. This approach is outdated and no longer recommended.

5) Do not apply ice. It does not improve swelling caused by infection. 6) Do not place a heat pack on the face as it can draw the pus from the infection towards the skin and cause scarring

Conclusion: Wisdom teeth, though often considered vestigial, continue to captivate the interest of researchers and clinicians. This article provides a comprehensive overview of their evolutionary context, anatomical variations, and clinical implications. By delving into these aspects, we aim to contribute to a deeper understanding of wisdom teeth and their significance in the context of human oral health.

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