

# Evaluation and management of asymptomatic third molars: Watchful monitoring is a low-risk alternative to extraction

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**A**lthough indications for the removal of symptomatic third molars are well established, a convincing case for the routine removal of unerupted asymptomatic, pathology-free third molars has not been made.<sup>1</sup>

Unlike the claims of Drs White and Proffit, the evidence-based literature points toward the watchful monitoring of asymptomatic third molars when there is no pathology.<sup>1-4</sup> Despite the various guidelines, reviews, and risks associated with these extractions, many clinicians continue to routinely remove pathology-free third molars. Until recently, this practice has been predicated on reducing the risks of mandibular incisor crowding and other complications developing in the future. From an orthodontic standpoint, third molars have essentially nothing to do with mandibular incisor crowding.<sup>5-12</sup> Late incisor crowding is multifactorial, and factors other than third molars play important roles. The removal of third molars on the sole basis of preventing mandibular incisor crowding is unsubstantiated and unjustified. Furthermore, the low incidence (1%-2%) of complications developing from impacted third molars, such as odontogenic tumors, cysts, and mandibular angle fractures, also cannot be invoked to justify the removal of unerupted and asymptomatic third molars on the ground that at some point in the future these teeth will develop related pathology.<sup>13,14</sup>

According to Drs White and Proffit, there are 3 key criteria for the extraction of asymptomatic third molars: periodontal disease, age, and informed consent. Let us discuss them individually as they relate to the evidence.

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## PERIODONTAL DISEASE

Over the past 2 decades, numerous studies have reported an association between periodontal disease and adverse pregnancy outcomes,<sup>15,16</sup> cardiovascular disease,<sup>17</sup> diabetes mellitus,<sup>18</sup> various lung diseases such as pneumonia and chronic obstructive lung disease,<sup>19</sup> and Alzheimer's disease.<sup>20</sup>

Periodontal disease is a chronic disease state, and, although the mechanism behind the association with systemic diseases is still unclear, it appears to be linked to the production of cytokines and inflammatory mediators that eventually circulate systemically and possibly influence other disease states.

Due to the limitations of many of these studies, a true causal relationship has been difficult to establish and in some cases has been discredited. For example, some studies failed to show a relationship between periodontal disease and adverse pregnancies.<sup>21,22</sup> Regardless, patients should be encouraged to improve not only their oral health, but also their overall general health, including making appropriate lifestyle changes. This will improve their quality of life (QOL) as well as reduce the possible deleterious effects of poor oral health on their general health.

According to the latest results from the American Association of Oral and Maxillofacial Surgeons' (AAOMS) trials and the recent AAOMS Third Molar Multidisciplinary Conference, the AAOMS published new indications for the early removal of asymptomatic third molars.<sup>23</sup> These indications are based primarily on the assumption that third molars will most likely be a site of periodontal disease in the future that might then contribute to systemic disease. The AAOMS now recommends the routine removal of asymptomatic third molars virtually on this basis alone.

However, the key question here is how does the so-called medical significance of third molars fit into the overall scheme of dentistry and orthodontics?

There are many issues related to the latest AAOMS recommendations:

- The AAOMS has defined a pocket depth of 4 mm or more as pathologic disease. But is this depth really a health concern? Since some depth value must be assigned for investigative purposes, could not 3 or 5 mm easily be designated within a range of possible pathology? What about factoring the position and the unusual surrounding periodontal tissue configuration of especially the mandibular third molars?
- What is the biologic burden of a pocket depth of 4 mm or more in the overall general health picture? Let us put into perspective periodontal disease and its association with systemic diseases by using cardiovascular diseases, such as coronary artery disease, myocardial infarction, and strokes as examples. First, let us recall that studies to date have only shown an associational relationship between periodontal disease and cardiovascular disease. Second, in these studies, all the subjects exhibited moderate to severe periodontal disease, unlike those in the AAOMS trials. Knowing this, we can put into perspective the overplayed level of importance attached to a 4 mm pocket at a third molar in relation to the highly significant and well-established traditional risk factors associated with cardiovascular disease such as obesity, family history, diet, age, sex, and smoking.
- By placing an exaggerated emphasis on the relationship between periodontal disease and systemic disease and linking this to the AAOMS's self-serving arbitrary definition of disease (pockets of 4 mm or greater), the AAOMS claims that 70% of third molars will develop significant periodontal disease, therefore recommending the routine removal of asymptomatic third molars. This is misleading and inappropriate.
- Can we simply extract third molars on the basis that if and when they develop pocketing of 4 mm or greater in the future, they might indirectly initiate or influence a plethora of systemic diseases? What about other teeth with this degree of pocketing? Do they also need to be extracted?
- What about options? What about each patient? What about periodontal therapy, maintenance, or monitoring? What about recommendations regarding spending time educating our patients and preventing periodontal disease with proper oral and general health advice and management?
- Significant amounts of time and resources have been spent by the AAOMS producing and analyzing data to support the early routine removal of asymptomatic third molars. Little consideration has been given to other well-established guide-

lines and studies around the world that differ in their recommendations for the management of these teeth.

## AGE

Age is a common factor in determining when asymptomatic third molars should be removed. The rationale is that early extractions are easier, less traumatic, and reduce the likelihood of complications. These reasons at first seem reasonable; however, there are many other factors to also consider:

- Not all third molars become symptomatic or pathologic.
- Third molars generally improve in their angulation and position relative to the occlusal plane over time. This improvement usually occurs in the first 3 decades of life. Many unerupted third molars that appear to be in a mesioangular position, for example, will actually straighten and erupt.<sup>24,25</sup> Therefore, there is the potential of eruption in the fullness of time, and extracting them early when patients are in their teenage years requires a more invasive surgical extraction procedure, thereby increasing the likelihood of complications. On the other hand, many dentists and oral surgeons believe that extracting later when the roots are more developed will result in greater morbidity. A better way of assessing morbidity is first to consider the average proportion of third molars that can cause problems, which is about a third. We then weigh the pain associated with the extraction of all problematic third molars against the usually recommended prophylactic removal of all nonproblematic or asymptomatic ones. The morbidity associated with this assessment is actually much less.<sup>26,27</sup>
- Age per se is not a predisposing factor to increased complications, but, rather, with increasing age, there is an increase in health risk factors, which then influence postoperative recovery. Risk factors include smoking, sex, oral contraceptive use, experience of the surgeon, pathology associated with the third molars before surgery, mandibular third molars vs maxillary third molars, and deeper impactions.<sup>28-33</sup> Furthermore, the study mentioned in the Point article assessed the effects of age and sex on recovery after third molar surgery.<sup>34</sup> The study had some limitations and unaccounted confounding variables; however, between the 2 main age groups of 15.5 to 18 and 21 to 29 years, it showed that the difference, on average, in surgery time was a few minutes greater in the older group. The surgeons actually deemed the younger group slightly more difficult.

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