

## Should the development of third molars be prevented early in life?

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Anthony Silvestri and Igbal Singh recently revisited the problem of third molars in *The Journal of the American Dental Association*.<sup>1</sup> The authors concluded that third molars evolved because they were of enormous benefit for our ancestors. In modern humans, however, they are sometimes a problem and a source of pain because ‘jaw sizes have shortened over the ages’ and, as a result, so has ‘the space that is necessary for third molars’ inclusion.’<sup>1</sup> Based on this, they advocate that the dental-research community should develop new innovative ‘preventive’ approaches to deal with this problem, such as prevention of third molar development early in life before any third-molar tooth development begins.

Initiation of third molars occurs just millimetres below the oral mucosa in children. Silvestri and Singh suggest that electro surgery with lasers or locally delivered teratogens (chemicals that interfere with development, such as those that cause birth defects—the most famous example is thalidomide) can be used to block their development. The authors recommend experimentation with compounds such as retinoic acid and citral, which have been

shown to have ‘dramatic effects on tooth bud initiation and early tooth development’.<sup>2</sup>

They conclude that

‘evolution likely favoured the development of large third molars and the added chewing surfaces they provided when jaws were large and there was a survival advantage to possessing teeth.’<sup>3</sup>

### Has the jaw size gradually shortened in human history?

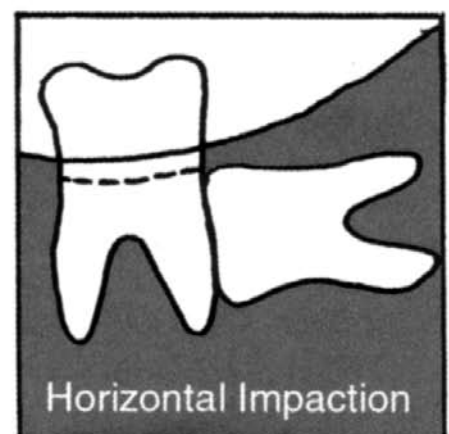
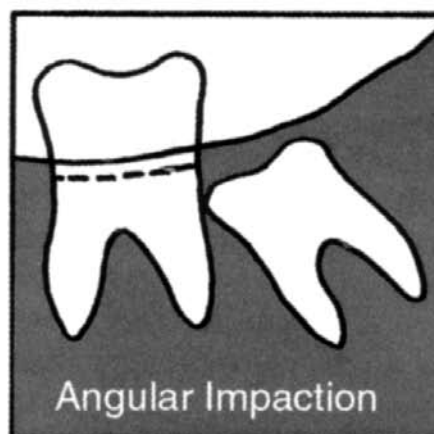
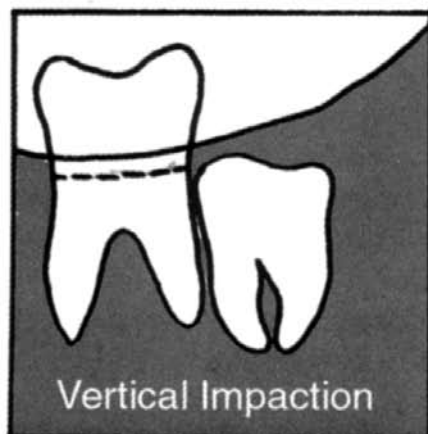
Given the evolutionary assumption that humans have evolved from a chimp-like common ancestor, the first question that must be answered is, has the jaw size, in fact, gradually shortened in human evolution? A comparison of modern-day chimps with humans (controlling for age and body size) shows that human jaws are clearly smaller. However, a literature review of the abundant humanoid fossils indicates a lack of such evidence in modern *Homo sapiens* in the time period evolutionists estimate (10,000 years). Silvestri and Singh admit that ‘evolution is a complicated subject with many differing theories that are being re-examined in the light of emerging genetic discoveries’,<sup>1</sup> and suggest that some of the work done by investigators, to explain evolutionary changes in teeth, amounts to ‘speculation’.

### Recent shifts in lifestyle

Silvestri and Singh’s accurate

summary of the literature may point to a solution. Rather than prophylactic removal, the solution is to determine the cause. Rather than looking at evolution as a means of understanding this problem, it seems far more fruitful to evaluate recent shifts in lifestyle. Diet has been closely linked with jaw development in children. Typically, a diet that requires more chewing causes the jaw to become larger, and wisdom teeth to be less problematic.<sup>4</sup> The authors agree with this observation, noting that evidence indicates dental pathology among ‘prehistoric people’ was relatively low. Assuming that this is correct, the next step is to determine why. They note that ‘toward the end of the 17<sup>th</sup> century, people experienced a dramatic increase in the prevalence of dental disease, most likely a result of a dramatic shift in lifestyles and diets’ which produced not only more third molar problems, but a ‘dramatic acceleration in the rate of dental disease associated ... with every other tooth’ as well.<sup>5</sup>

They also correctly point out that cooking techniques, such as boiling, soften foods greatly, and that foods today are processed to the degree that people can survive on certain diets even if they possessed no teeth at all. In addition, as a result of cultural changes, ‘people have experienced a decreased dependency on all tooth types, particularly third molars, over the ages’.<sup>3</sup> The problem, as they rightly conclude, involves less need for any teeth today, especially molars and ‘particularly third molars’.



Courtesy of orthodontist, Peter Grant



Full mouth x-ray scan showing impacted wisdom teeth (arrows).

This information points to a solution of the problem—evaluation of the soft, so-called ‘mashed potato diet’ that barely requires teeth in the first place. Just as many humans are less and less dependent on muscles for transportation (many of us drive almost everywhere, even to a neighbor who lives a block away), one could argue that surgical removal of excess muscle tissue will solve the problem of flabbiness common in our society (and the concomitant muscle problems)—a solution that is obviously foolish. The remedy is to use the body as it was designed, i.e. to exercise, as is universally recommended by the health community. Likewise, applying this same philosophy to the third-molar teeth problem, one solution may be a healthier diet, including one high in fibre, raw fruits and vegetables, which requires more vigorous chewing.

**Factors involved in the development of teeth problems**

A number of factors are involved in the development of teeth problems and, admittedly, the third molars have the highest frequency of problems. Yet as the authors note, around 35% of the population does not have *any* problems with even a single wisdom tooth by age twenty, and many people have problems with only one or two of them.<sup>1</sup>

The authors admit that alteration

of jaw-growth pattern, as well as changes in the migration of dental lamina (both problems related to third molar pathology) occur due to ‘environmental factors such as trauma and disease’. In addition, the reasons some people have third molar problems ‘remain elusive’.<sup>3</sup> Before we can attribute such problems to Darwinism, it is necessary to more fully understand the environmental factors (such as teratogens) that ‘have been shown to affect tooth development’.<sup>3</sup> Focusing only on a solution based on evolutionary ideas can detract from evaluating environmental factors with respect to their role in tooth pathology.

The authors also admit the third-molar problem is complicated by the fact that our understanding of the problem is very limited, based on not only ‘little or no histopathologic evaluation of tissue’, but also the fact that much of the morbidity data on wisdom teeth is ‘inherently flawed’.<sup>5</sup> As a result, a controversy even exists over when to extract wisdom teeth, and the whole question of how to handle problematic third molars.<sup>5</sup>

**Conclusion**

This article is an excellent example of the abuses to which evolutionary theory can potentially lead, as their recommendation for intervention is driven more by evolution theory

than by empirical evidence. It is also an excellent example of how Darwinism presuppositions can impede or misdirect research.

The focus should clearly be on nutritional factors, possible teratogens, or other factors that affect normal development. The literature of other cultures shows that diet is a critical factor, and this argues that part of the solution for unhealthy teeth is the same solution as that for many other modern health problems—i.e. good diet, exercise, healthy living, etc. Silvestri and Singh argue for an unspecified influence of Darwinism that is admittedly based on a great deal of speculation. Conversely, creationists argue that the problems can be explained by the Fall, primarily in the area of environmental and social factors, including nutrition, diet and teratogens.<sup>4</sup>

**References**

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