

Orthodontic Myth Busting

“There’s a real market for straight teeth, but not for straight thought.” Lysle E. Johnston, Jr, DDS, MS, PhD, FDS



I’m a believer in what is called evidence based dentistry. Experience is great and I have over 25 years of that, but staying current with good research keeps our practice on the cutting edge and we’re less likely swayed by current fads brought on by marketing. Sacred cows don’t make good decision makers.

Myth: Damon Braces give better smiles with no expansion in shorter time, etc, etc

In the Edward Angle lecture by William Proffit, University of North Carolina at the 2011 American Association of Orthodontists Annual Session: “Damon cherry picked laboratory data” to sell their product. Proffit went on to state that “only 2 of 14 of Damon’s claims” have been proven to be true (such as shorter treatment times, better outcomes and arch development decreasing the need for extractions). He concluded: “there is nothing wrong with the brackets, it’s just that there is nothing magic about them”. Dibiase¹ stated: Use of the Damon3 bracket does not reduce overall treatment time or total number of visits, or result in a better occlusal outcome. According to Fleming²: “In total, 9 randomized controlled trials have been cited in this summary. The consistency of the findings from these prospective studies is remarkable, with **none** finding that self-ligating brackets (Damon) translate into enhanced efficiency”. Clearly marketing got ahead of proof with Damon brackets. No magic bracket can make up for wise treatment planning. This is a sacred cow that can be turned into:

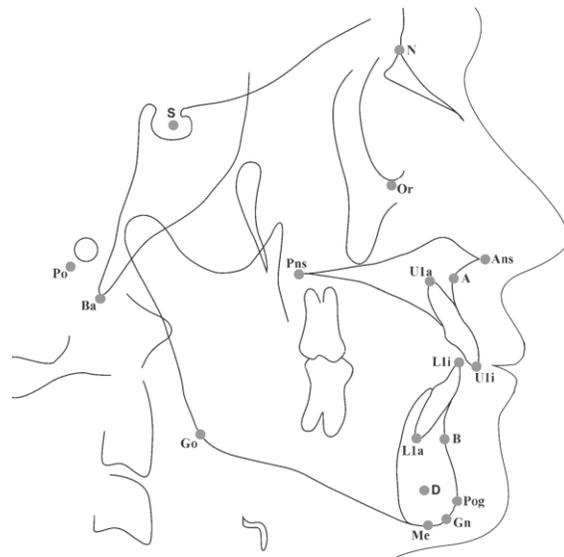
Myth: Wisdom teeth cause orthodontic relapse

In 1859, Robinson³ opined that wisdom teeth caused dental crowding. However, as far back as 1970, Fastlicht⁴ found that in orthodontically treated subjects 86% exhibited crowding but only 11% of the cases still had wisdom teeth. In an extensive literature review Bishara⁵ concluded that: “from the available data, third molars (wisdom teeth) do not play a significant role in mandibular anterior crowding.” In his own study, Bishara^{6,7} evaluated the changes in the lower incisors between adolescence and then at 45 years of age. Their findings indicated that crowding is a natural occurrence of aging. With age comes wisdom and dental crowding but wisdom teeth cause neither. Wisdom teeth may need to be removed for other reasons such as pain or infection but good retainer wear is the solution to maintain straight teeth.



Myth: Orthodontics causes or cures jaw joint problems (“TMJ” or “TMD”)

Donald Rinchuse⁸ is a prominent figure in the study and treatment of TMJ disorders. In a thorough review of the literature, including several meta-analysis articles, he concluded: “occlusion, once considered the primary and sole cause of TMD, now has at best a secondary role in the cause of TMD. Second, orthodontic treatment does not cause TMD. Third, the use of occlusal adjustments in orthodontic patients has no evidence-based support. Fourth, there is evidence-based support for the use of occlusal splints and biofeedback in the treatment of TMD.” Those conclusions may ruffle many feathers but it reinforces my common sense approach to TMD issues to manage the symptoms rather than promise cure. I believe that form follows function. A beautiful car like a Corvette cheats the wind aerodynamically and performs the best. The mouth in a similar manner performs the best when the teeth are beautifully in the right place through nature or careful orthodontic treatment.



Myth: Extracting teeth for orthodontics causes jaw changes which cause TMD

The definitive work on this subject was in response to legal disputes in the 1980s. Lysle Johnston⁹ attacked this question with scientific rigor and determined that in a sample of extraction cases, the mandible in a large majority of cases showed forward rather than distal displacement and there was no effect on the TMJ. Bone growth will win out over orthodontic forces.

Myth: Orthodontic extractions cause a less esthetic face

Since facial esthetics is such a subjective topic I like the way that Isiskal¹⁰ conducted this study. For a wide range of expertise they surveyed a panel of orthodontists, plastic surgeons, artists, general dentists, dental professionals, and parents for their opinion on a sample of nonextraction and extraction patients. They found that patients treated with or without extractions were not differentiated in smile esthetics by the panel of judges. Bowman¹¹ specifically addressed profile changes in extraction and nonextraction patients and used a range of dentists and laypersons to assess attractiveness. In patients with some combination of crowded and proclined teeth extractions positively affected the profile. Nonextraction therapy actually had a detrimental effect on the profile attractiveness. This makes sense if you consider that extraction patients tend to have protrusive teeth and incompetent lips that are improved by extractions whereas nonextraction therapy may push the dentition outward in an unattractive manner.

Myth: Expansion rather than extraction produces a more esthetic/wider smile

This has been a selling point of the extractions never crowd. In Isiskal's article cited above, he found that the extraction cases actually had a wider smile with less buccal corridor space. Gianelly¹² similarly found that extraction cases had about a 1mm wider smile at the canines.

Myth: 6- months smiles or 6-months braces

This falls into the "if it sounds too good to be true it is" category. This is outside the norms of orthodontic treatment so there are no research trials to evaluate 6-month smiles. The claim is that these general dentists have some special wires that can impressively shorten orthodontic treatment time. I assure you that orthodontists haven't somehow missed these special materials. They're called nickel titanium wires and the material was developed in a Naval lab in the 1960s. So yeah, you can straighten teeth quite a bit in 6-months. Here's the difference:

From 6-month smiles **own website** --

"an emphasis on the cosmetic appearance of your teeth rather than the position of your bite"

From Braces.org, the American Associations of Orthodontists public website --

"The goal of orthodontic treatment is a good bite—meaning straight teeth that mesh well with the teeth in the opposite jaw. A good bite makes it easier for you to bite, chew and speak. This can enhance your dental health and your overall health, and may improve self-esteem."

If level of training matters to you as a consumer:

Orthodontic residency = 2 to 3 years (I did a 3-year research based Masters at Ohio State)

versus

6-month smiles = 2 days training

So there you have it. The choice is between polishing up something that by design doesn't function well or a beautiful smile where form follows function. You wouldn't wax a car whose engine doesn't run.

And now for some real Mythbusters

Do All Toothbrushes Contain Fecal Matter If They're In The Bathroom?

As seen in ["MythBusters: Breakstep Bridge"](#)

Finding: CONFIRMED

Explanation: Every time you flush a toilet, it releases an aerosol spray of tiny tainted water droplets. So if, like many people, you leave your toothbrush in the vicinity of a toilet, does that mean it's regularly bathed in bits of fecal matter? MythBusters Jamie Hyneman and Adam Savage uncovered the dirty truth to this myth by covering a bathroom with 24 toothbrushes, two of which they brushed with each morning — the others they simply rinsed every day for a month.

As experimental controls, the MythBusters kept two untainted toothbrushes in an office far away from the lavatory. At the end of the month-long trial, they sent their toothbrush collection to a microbiologist for bacterial testing. Astonishingly, all the toothbrushes were speckled with microscopic fecal matter, including the ones that had never seen the inside of a bathroom. The confirmed myth unfortunately proved that there's indeed fecal matter on toothbrushes — and also everywhere else.

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