Since the foundation of the orthodontic profession, there has been one fundamental assumption: Malocclusion, in particular crowded teeth, is caused by lack of space for those teeth (usually anterior) to align correctly.

From the initial expansion techniques practiced by Angle and even Tweed, there became a wave of extraction-oriented techniques prompted by Tweed and Begg’s theories in the 1950s.

According to Angle, this shift to the “unethical practice of orthodontic extractions” was pushed forward in the quest to improve stability.

However, now in 2008, there is little evidence to verify this assumption was actually evidence based.

Begg had an interesting theory of the cause of malocclusion based on the study of Australian aboriginal skulls and wrote extensive volumes to support this. If his theory was correct, then four bicuspids extractions would have provided sufficient space, and the remaining dentition could then spread out into correct alignment for life.

A study of extraction cases, now many years out of retention, would confirm crowding is as bad as, or perhaps worse than, pre-treatment in these cases. Certainly the Little studies are a thorn in the side of the “extraction equals stability” theory.

The popularity of removable expansion appliances promoted as an alternative to the great debate over the last three decades has prompted a renewed interest in non-extraction techniques. However, stability is still no better with GPs and orthos alike (with the self-ligating brackets) resorting to permanent retention for stability.

Glue is a very unscientific way of saying, “Maybe the teeth will be driven back to their original position,” whatever the skill of the orthodontists or the technology in the brackets.

Does the theory, “Malocclusion is caused by the teeth being too big for the jaws,” need scientific re-examination? If it were correct, the holy grail of stability would have been achieved on a consistent basis.

The new soft-tissue theory of malocclusion

What if the problem has nothing to do with the teeth and arch size at all? What if malocclusion emanates from an imbalance of the soft tissues that surround the very structures that so much research has been devoted to over the past century?

The dysfunctional forces of the tongue and lips drive the malocclusion and will perpetuate it until they are rendered functional.

Although retraining this soft tissue dysfunction has proven difficult in the past, when it is corrected, do we see a stable orthodontic result? The answer is an astounding yes.

Study of a normal occlusion indicates normal function is consistently associated. Severe malocclusion equally has severe oral habits. The author proposes we adopt a new theory of malocclusion based on soft, not hard, tissue and suggests we look objectively for the hard evidence.

We can no longer rely on the quality of bonding agent and longevity of retainers to hold together an outdated orthodontic theory. A future article will explore a clinical approach based on this new myo-functional theory of malocclusion. Testing the hypothesis objectives is the only scientific way forward.