

Less is More medicine: Proposing a top-five list for choosing wisely in orthodontics

The concept of Less is More (LIM) medicine has emerged in North America in the last decade. It aims to expose the potential risks of overtreatment that may result in harmful or ineffective medicine rather than better health care, with a potentially unnecessary increase in cost.¹ In response, several quality-driven campaigns called Choosing Wisely have been launched across the world, and top-five lists of low-value medical interventions that should be used to help in making wise decisions in each clinical domain have been promoted.¹

Although the Choosing Wisely campaigns have been promoted in several medical domains, no similar initiative has been conducted for orthodontics, despite its necessity given the current clinical scenario. Indeed, the significant increase in the esthetic demands of patients for “straight teeth” and the simultaneous proliferation of appliance labs might expose patients to ineffective or unnecessarily costly (economically or biologically) treatments. Moreover, the development of innovative procedures is igniting enthusiasm for the myriad of available digital techniques, a phenomenon driven by the Digital Revolution.^{2–4}

In contrast, some questions have arisen that, unfortunately, remain unanswered: do these innovative procedures or techniques follow the LIM concept? Are these techniques essential for reaching the same outcomes with fewer risks and costs? What are the benefits and health value of the chosen orthodontic treatment in a specific patient in the long term?

To answer these questions, we should first clarify the principle of LIM orthodontics. Every clinical procedure should be based on the dual concepts of obtaining the best long-term health value at the lowest biologic cost. Those two concepts define excellence in orthodontics: expressing the full potential of orthodontic treatment to ensure the patient’s best possible oral-health–related quality of life. However, the definition of value is not straightforward, and both value and cost depend on the perspective we consider. When talking about value, we should aim for the best possible outcome because it could easily coincide with the greatest possible level of oral-health–related quality of life. To obtain the best value from our treatment, we should always keep in mind the

objectives of modern orthodontic treatment⁵: to favor facial esthetic and smile harmony, to obtain correspondence between centric occlusion and centric relation, to correct malocclusion, to keep the periodontal tissues healthy, and to obtain long-term results.

The concept of “cost” is not trivial. Monetary cost is part of the equation, but saving money should not be the primary endpoint unless it converges with the patient’s health interests and serves to improve medical quality as part of a sustainable global economy. Cost may be considered in the sense that all of the drawbacks, such as inaccuracy, ineffectiveness, inefficiency, risk of harm, and unmet expectations, should be kept “as low as reasonably achievable.” The concept of cost also relates to time management, which is fundamental from the point of view of the patient, whose compliance and patience could be reduced by excessively long treatments, as well as the clinician regarding practice management. In this sense, LIM also means a proper consideration of time.

To summarize, in LIM orthodontics, “less” should be interpreted as the best possible combination of efficacy and efficiency. Applying the concept of LIM orthodontics could mean using a more invasive procedure or device to obtain better outcomes and health value that could not be achievable through less invasive or expensive techniques, but it could also mean the opposite. High-cost interventions may provide good value because they are highly beneficial, whereas low-cost interventions may have little or no value if they provide little benefit or increase the cost downstream. The challenge of LIM medicine is to integrate value from all perspectives. In this regard, two orthodontic strategies could be used as examples: orthognathic surgery and orthodontic extractions. Both approaches are perceived as invasive and expensive. However, if excellent and stable outcomes are obtained and the patient’s expectations are met, then the health value and benefits impacting oral-health–related quality of life are high enough to justify their use. In contrast, even a simple procedure like closing an interincisal diastema could go against the LIM principle if it is carried out at the wrong time—for example, in a young patient with early mixed dentition.

In light of the previous considerations, we propose a top-five list of potential ineffective or harmful behaviors that, if avoided, could serve to make wise choices in orthodontics. Although some of these concepts are well known by every conscious practitioner, recent trends in marketing-oriented practices suggest the need to reestablish some ethical cornerstones. We want to underline that this list is only a proposal that we hope could serve to prompt discussion and provide food for thought. Such a list could not be defined by specific authors; rather, it should be derived from a shared and accepted consensus, perhaps through the Delphi approach. Nevertheless, we anticipate that this could be a first step in that direction.

Our proposed top-five list is as follows:

1. Do not use 3-dimensional imaging techniques routinely, even in children, without considering the cost-to-benefit ratio.
2. Do not visualize dental movements virtually without considering their predictability, effects on the face, smile, periodontics, and long-term stability in real life.
3. Do not develop a treatment plan without a deep understanding and respect of the patient's expectations and their biology (growth, phenotype, genotype, periodontics, expectation, socioeconomic status, etc).
4. Do not use new technologies and continuing innovations without a shared decision-making process that involves mutual interaction and information exchange between the doctor and patient.
5. Do not use more invasive approaches to achieve the same outcomes that are reachable with less invasive procedures, and do not use less invasive approaches in cases with less predictable outcomes to satisfy unrealistic requests of the patients.

In conclusion, the use of a top-five list may help orthodontists choose wisely, with the objective of maximizing the quality of the outcomes and related health value with the lowest cost. For these purposes, a consensus conference on LIM orthodontics should be auspicious in the digital era to define a universally recognized top-five list and to plan campaigns for improving orthodontic-related public health.

CONFLICTS OF INTEREST

All authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest, and none were reported.

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