

Orthodontics of the future: From fiction to reality

Renowned science fiction author Isaac Asimov once asserted that "whoever writes science fiction cannot help making predictions—not of what will happen but of what may happen". In fact, since researchers are often required to scan the present in order to shed light on the future, we could modestly compare ourselves to science fiction writers. This is the outlook I intend to adopt from now on in this editorial. I will try to answer a question someone recently posed to me.

What will orthodontics be like in 30 years?

In 30 years, the World Federation of Orthodontists (WFO) will have established guidelines for the course content of graduate orthodontic programs around the world. The number of courses comprising only a handful of credit hours in educationally developed countries will have fallen dramatically. In these countries courses will tend to last 2 to 3 years full time. Organizations such as the Brazilian Board of Orthodontics and the American Board of Orthodontics will be crucial in the process of professional quality assessment. The orthodontic community will become more globalized. Students worldwide will be able to simultaneously attend interactive classes.

Increased Information Technology skills will prove essential in daily practice. Study models will be digital, not only to speed up preparation and analysis but also because the cost of storing plaster models will become unreasonably high in major cities around the world. Three-dimensional printers will be used whenever physical models are needed. But there will be other reasons behind the need for increased Information Technology capability.

Three-dimensional image superimposition methods will be commonplace. Students of Orthodontics will have access to better designed

studies and evidence-based practice will be a routine. As a consequence, we will rationalize the use of X-rays in imaging exams.

Technological advances will enable convenient custom-designed treatments and thus we will be able to see more patients in less time and with a high level of excellence. This will mean greater access to treatment by the population. It will also demand some obvious adjustments. Countries such as Brazil, which already has more dentists than required to meet its population's oral health needs will see the size of its dental educational system shrink.

Orthodontic practice will undergo changes as well. Information Technology will bolster patient care by assisting the work flow. Tooth movement control systems will alert orthodontists whenever they divert from the treatment goals or delay in taking the necessary therapeutic measures. Patients, in turn, will interact more with the treatment, making even more informed decisions about what the treatment plan has in store for them.

All issues discussed here will lead to a single outcome, i.e., the quality of orthodontic services will rise as well as their beneficial impact on the global population.

Many of you may be wondering now what the relationship is between this fiction and today's orthodontics. The answer is that they are deeply entwined. Obviously, I only described one among many possible future scenarios. However, my vision is already materializing as you read this editorial and the fact that many young professionals are not aware of it should give us reason for concern.

Digital models are now a tangible reality at affordable prices. Furthermore, professionals are

incorporating them into clinical practice, making set-ups and increasing the quality of their presentations for both patients and dentists. Methods like the one presented by Motta et al in this issue of the Journal—for superimposing tomographic images—are part of a technology available to all interested parties.

The movement in search of evidence-based dentistry is irreversible and so is the need for a solid education capable of producing qualified professionals. Young dentists, newly undergraduated from schools of dentistry, should apply for a graduate course with an extensive workload that can endow them with the skills needed to enter the market with their heads held high. These truths can be found in the content of the interview featured in this issue. Our interviewee,

Dr. Turpin, editor-in-chief of the American Journal of Orthodontics and Dentofacial Orthopedics, also underscored the relevance of the Boards of Orthodontics for public recognition of orthodontists as successful professionals.

Thus, in line with Asimov, the predictions I made may not be what will happen, but what is likely to happen. Whatever the future may bring, preparing for it entails proper training and adequate continuing education.

Young dentists, brace yourselves for the future by attaining excellence in your training for you are the lead characters of my fiction.

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