

Endodontics challenges: What do we need?

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Endodontics has been through great technological evolution, lately. The use of NiTi and its modifications, such as the heat treatment, allowed the development of instruments with great flexibility, which provided greater security and respect to the canal axis, even in the presence of severe curvatures.

Another significant evolution occurred on root canal irrigation, mainly with the new techniques. Sonic and ultrasonic methods have gained prominence. New inserts and tips were designed to be coupled to these sonic and ultrasonic devices, such as the Endoactivator. Other tools were created for irrigation, such as negative pressure (EndoVac).

The use of microscopy became primordial, once it provides magnification of the area to be endodontically treated, favoring the location of root canals and helping to avoid the iatrogenic consequences of endodontic procedures.

Photodynamic therapy, intending to reduce intracanal infection, became crucial to achieve greater predictability and success.

For diagnosis and follow-up analysis, CBCT favors greater accuracy in detecting periapical pathological processes, in addition to a better study of the endodontic anatomy. However, this exam has been little requested by clinicians, still. Although it is an expensive exam, it could be used in the beginning of the treatment and in follow-up, after the disappearance of periapical lesion in the radiograph, promoting the treatment success with greater accuracy.

Thus, we conclude that, today, with the technological advances, we are also facing a revolution in knowledge, although with a more technical than biological focus. We are witnessing many clinical/radiographical studies being carried out. The question coming up is: Does these methods of analysis represent the reality of the success rate?

There is a nearly 50% bias in the detection of lesions on the radiograph over CBCT. That is, 50% of the cases that may be classified as success, in the clinical/radiographic analysis, present apical pathology.

This is concerning, however does not condemn Endodontics, for as in any specialty, when the treatment is not correct, it will not succeed. This also occurs

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in Implantology, in Esthetic Dentistry, in Prosthetic Dentistry, and in other fields of Dentistry.

What does explain these failures? What does it take to avoid them?

In our understanding, we need to have a more biological view of the patient, that is, to perform the endodontic treatment based on scientific evidences, and have the clinical judgment to determine which protocol will favor greater predictability of treatment success.

New products and equipments are released without the proper scientific background. These products are clinically used without having been properly studied, often times due to great marketing strategies used to promote them.

These new technological resources came to help endodontists to preserve the original curvature of root canal and to promote a better antiseptics of areas with anatomical complexity.

However, even with all these resources, some considerations are required: Will it be possible to promote adequate root canal system cleaning and antiseptics, required for treatment, in a single appointment?

Will a newly graduated professional be able to carry the adequate cleaning and antiseptics in a single appointment?

Frequently, we celebrate the differences in Endodontics because of our ego, by vanity or to engage in controversies, but we must be aware and responsible, and every professional must keep in mind that, in each endodontic treatment, we are not treating the tooth, but the patient.

Paraphrasing the great professor Langeland: *"Who differs fact from fiction is the cell and the organism"*.

We need, therefore, more humanity, more dedication, more ethics. We live, today, a turbulent period, but we can not allow ourselves to be influenced by inappropriate examples. We must always preserve our conduct of respecting all mankind, and performing Endodontics with excellence and always supported by scientific evidence.

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