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Editorial

Do No Harm . . . Is that Good Enough?

The differences in patient care between the time we entered our periodontal training in 1979 and now are dramatic and often awe-inspiring. Osseointegrated implants in the early '80s, guided tissue regeneration in the mid '80s, guided bone regeneration in the late '80s, and the introduction of newer implant designs—each of these treatment concepts has impacted patient care significantly. However, it is crucial to realize that while the technologies involved in each of these therapeutic modalities are important, it is the conceptualization behind these advances that is of the greatest significance.

The result has been a number of paradigm shifts, which impact our patients and practices dramatically. The pace at which such conceptualization is evolving, accompanied by technical and material advances, continues to accelerate.

The proven "postulates" on which many aspects of clinical therapy have been based for decades must now be reworked or abandoned. For example, no progressive researcher or clinician believes that osseointegrating implants must be at least 10 mm in length to survive over time, or that autogenous bone grafts must always be employed to effect the regeneration of lost hard tissues.

Treatment planning and the development of appropriate treatment algorithms for both the patient as a whole and when considering individual sites must keep pace with developing concepts, technologies, and materials. Diagnosis is a cruel master, placing limits on the clinician and the patient both conceptually and therapeutically. An incorrect diagnosis damages the patient on a number of levels, including the potential of the patient to be subjected to unnecessary or inappropriate therapy, and the expectation of a poorer prognosis. A poor prognosis damages both the patient and the clinician.

The speakers at the 10th International Symposium on Periodontics and Restorative Dentistry, held in Boston in June of 2010, underscored this fact repeatedly. As always, the symposium presented developing concepts in concert with proven therapies to help clinicians make informed decisions in their practices. Unique in both its approach and quality of speakers, the symposium challenged long-held beliefs through meticulous clinical research, placed newer technologies in the context of everyday clinical practice, and afforded tantalizing glimpses of future development in our field.

Drs Mauricio Araújo of Brazil and Ronald Jung of Zürich, in separate presentations, discussed the realities of postextraction remodeling in the presence and absence of graft materials and/or simultaneous implant placement. Following these presentations, clinicians were able to easily construct treatment algorithm trees for use at the time of tooth extraction, including the therapies to be performed and materials to be used.

The introduction and continued improvement of growth factors has the potential to influence regeneration and healing decisively. Regeneration of lost hard and soft tissues will continue to become less invasive, simpler to achieve, better controlled, quicker to attain, and more biologically grounded. In addition, continuing stem cell research promises to open a new era of tissue regeneration and transplantation into deficient areas.

A number of technologies were discussed in detail, which have already impacted clinical dentistry significantly and will undoubtedly continue to alter patient care.

Cone beam computed tomography radiology allows for the acquisition of volumetric, tridimensional images. This transition from 2D to 3D technology affords an accurate survey of the topographic anatomy, and collects details and information that enhance a thorough accurate diagnosis, development of an appropriate and detailed treatment plan, and provision of therapy as comprehensively and atraumatically as possible. Patients better understand the therapy they are about to undergo and clinicians are able to anticipate challenges to be encountered and plan for them accordingly.

The evolution of optical readers and computer-aided design/computer-assisted manufacturing further enhances our ability not only to plan treatment for patients with regard to the need or lack of need for regenerative therapy and ideal prosthetically driven implant positions, but also to take optical impressions of implants following osseointegration. Implants are better positioned, provisional prostheses are planned more efficiently and precisely, and treatment time is diminished. The final treatment results are optimized while the therapeutic insult to the patient is minimized.

However, the continued introduction of newer concepts, techniques, and materials has not altered the fact that successful therapy must be grounded in an understanding and management of the relationship between periodontics and restorative dentistry. The fundamentals of periodontal prostheses are well established and employed every day by conscientious clinicians. The basis of a periodontal prosthesis is thorough record taking, development of a proper diagnosis, and formulation of an appropriate interdisciplinary treatment plan. While these fundamental concepts have not changed, nor should they in the future, the specifics within which these concepts exist continue to evolve.

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