Ortho Tribune

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FDI, FOLA, DTI launch campaign for Haitian dentists

By Javier M. de Bison, DT Latin America

PANAMA CITY, Panama — The president of the Haitian Dental Association, Dr. Samuel Prophet, has told Dental Tribune Latin America that he and several colleagues are fine after the devastating earthquake in his country.

"So far, we have reports of only two missing dentists," Prophet wrote in an e-mail a couple weeks after the quake.

The earthquake not only devastated Haiti's meager health resources, but also most dental practices. In a country where there were only 500 dentists for 9 million people before Jan. 12, the extent of the devastation has affected everyone.

The president of the Latin American Dental Federation (FOLA), Dr. Adolfo Rodríguez, launched a campaign immediately after the quake to help both the general population and dental professionals in Haiti.

Rodríguez, who's also the

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Polishing up your orthodontic finish

Simple, three-step system improves clinical efficiency

By S. Jay Bowman, DMD, MSD

The Axis Orthodontic Adhesive Removal Set* (featuring a series of three polishing devices) was designed to both effectively and efficiently remove adhesives and cements after the completion of orthodontic treatment and to produce a smooth final enamel finish.

This set consists of the following components: 1) H375R-016 (7675) Red Carbide, a gross adhesive removal bur; 2) H246L-012UF White Finishing Carbide, a 30-fluted finishing bur; and 3) P0153-031 Polisher, a green polishing point. All are conveniently maintained in an aluminum bur block that can be sterilized.

These three devices can be used with either low- or high-speed friction-grip dental handpieces (including electric handpieces). Using a high-speed handpiece to remove adhesives is more comfortable for patients due to reduced vibration compared to that from a slow speed. Lower vibration also produces a smoother surface finish.[1]

Clinical efficiency is improved with this simple, three-step system as a single contra-angle handpiece can be employed for the entire removal/finishing process.

Fig. 1: After orthodontic appliances have been removed, a (red) carbide bur (H375R-106-7675), installed in a high-speed dental handpiece, is used to dislodge gross, residual resin.

After orthodontic appliances have been removed, the 7675 Carbide (Red) is used in a contra-angle dental handpiece to dislodge gross residual resin tags from the enamel (Fig. 1). This round-end, tapered 12-blade bur is ideal for removing both orthodontic bonding adhesives and also cements that remain on the teeth after de-bracketing and de-banding. Eliades et al.[2] concluded that, "carbide burs are ideal cutting tools for

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Facing the facts

Differences between dental CBCT and medical CT scans

By Dr. Bruce Howerton

Before a practitioner performs surgery, he or she should be equipped with up-to-date knowledge regarding the possible conditions located under soft tissue within the oral cavity.

Three-dimensional data generated by cone-beam computed tomography (CBCT) technology offers a "surgical view" or slices of the entire field of view from the front, side and under the patient. Cone-beam scans assist with determining bone structure, tooth orientation, nerve canals and pathology; in some cases it may preclude the necessity for a surgical procedure.

In past months, media sources have published articles regarding high exposure of radiation from medical CT scans.

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Unfortunately, these have generated misconceptions about dental CBCT, or 3-D cone-beam computed tomography scans.

The dental CBCT imaging method allows orthodontists and dentists to obtain vital three-dimensional information without exposing patients to high levels of radiation that come from medical CT scans. An in-office imaging method is more convenient; it saves the patient travel time to and from the hospital and for follow-up examinations after treatment.

Orthodontists and other medical professionals ascribe to the ALARA (as low as reasonably achievable) protocol concerning radiation levels. This protocol guides practitioners to expose patients to the least amount of radiation possible while still gaining the most pertinent information for proper diagnosis.

The differences between dental and hospital scans derive, in part, from the method of capturing the information.

The average medical CT scan of the oral and maxillofacial area can reach levels of 1,200–3,300 microsieverts, the measurement of radiation absorbed by the body's tissue. These significant levels are attributed to the method of exposing tissues to radiation. With the hospital scan, the anatomy is exposed in small fan-shaped or flat slices as the machine makes multiple revolutions around the patient's head. To collect adequate formation, there is overlapping of radiation. In contrast, the dental scan captures all the anatomy in one single cone-shaped beam rotation, decreasing the exposure to the patient of up to 10 times less radiation.

For example, radiation exposure using the standard full field of view from an i-CAT® CBCT machine (Imaging Sciences International) is 36 microsieverts. These machines are also available in different fields of view, thereby reducing radiation exposure even more, depending upon the needs of the patient.

Effective Dose Comparison

	2D FMX (Full Mouth Series)	2D Digital Pan	Medical CT	i-CAT CBCT 3D
Radiation Dose (μSv)	150*	4.7-14.9*	1200-3300**	36†

* Dr. Sharon Brooks, Department of Radiology, University of MI

** Dr. Stuart White, Department of Radiology, UCLA - scanned area approximates MFOV

† Standard scan mode, medium resolution

For other comparisons of exposure, consider that a typical 2-D full mouth series runs 150 microsieverts while a 2-D digital panoramic image ranges between 4.7-14.9 microsieverts.

Researchers who have developed this technology have achieved the goal of allowing dentists to achieve the same information gained from a medical CT, without the additional radiation exposure.

Orthodontists who do not own their own CBCT machines can take advantage of this imaging method by referring patients to imaging centers to acquire this valuable information.

The knowledge obtained from capturing 3-D scans has the ability to influence the effectiveness and efficiency of dental treatment.

A dental CBCT scan offers the views and detail needed to perform the latest procedures, while avoiding the unnecessary higher levels of radiation emitted from hospital scans.

As the technology continues to evolve, the possibilities for improved dental care can only increase.

Increased software compatibility with surgical guides and orthodontic applications has made CBCT scanners an imperative for some dental offices.

As an oral maxillofacial radiologist and an educator, I firmly believe that with knowledge comes responsibility to provide patients with the best dental care in the safest way possible — a dental CBCT accomplishes this goal without the additional risks involved with hospital scans. OT

OT About the author

Dr. Bruce Howerton is a board-certified oral and maxillofacial radiologist who practices privately in Raleigh, N.C. He received a DDS from the West Virginia University School of Dentistry in 1985.

He completed a certificate in endodontics in 1987 from the University of North Carolina School of Dentistry and practiced surgical and non-surgical endodontics in Asheville, N.C. for eight years.

In 1999, he entered the UNC Oral and Maxillofacial Radiology graduate program and completed the master of science program. Howerton became a diplomate of the American Academy of Oral and Maxillofacial Radiology in 2003.

For more information, see *www.carolinaomfimaging.com*.