

Press Report

## Safe endodontics — every step of the way

Morita: Modern treatment systems for perfect procedures

**Endodontic procedures on the most delicate structures in confined spaces require a maximum of precision and tactility on the part of the operator. Safety will always have to come first — safety for the patient as well as safety for the dentist. Morita and its portfolio of endodontic solutions meet these requirements at the highest level, setting benchmarks for treatment perfection. The individual systems seamlessly integrate into the modern clinical workflow, from the initial clinical examination to complex chairside procedures and regular recall appointments.**

The first step in every successful endodontic treatment is a precise diagnosis based on accurate high-resolution 3D images provided by cone-beam computed tomography (CBCT). Morita supports these diagnostic efforts with its new Veraview X800 X-ray system for 3D, panoramic, and cephalometric images, slated to supersede the previous units. It offers a level of image quality that is unprecedented in a 2D/3D imaging system (resolution: 2.5 lp/mm MTF).

Safety always comes first – this versatile system not only produces quick and accurate images but also provides maximum operator and patient safety with minimum effective doses (ALARA, “As Low As Reasonably Achievable”). The system uses the proven dose-reducing R100 field with its triangular shape. Other advantages include exposures in both 180-degree and 360-degree mode, fast cephalometric exposures in just 3.5 seconds, or a zoom reconstruction function that derives an 80- $\mu$ m recording from a 125- $\mu$ m voxel recording without requiring a retake.

### **Functionality, ergonomics, esthetics**

Morita's Soaric treatment unit allows an ideal combination of diagnostic and therapeutic procedures. The high-quality dental chair with its award-winning design supports the endodontic treatment sequences with its integrated functions and modular extensions, such as the apex locator, the monitor, or microscopes by different manufacturers. The unit provides generous storage space and allows intuitive hand movements. Its ergonomic design offers protection for the dentist's muscles. For example, the hoses in the operator's element include a strain relief that minimizes muscle stress when using the instruments. Geriatric patients with reduced mobility will benefit from swiveling armrests and a fold-away footrest that facilitates access to the patient chair. The patient, the dentist and the dental team enjoy uncompromising comfort and functionality and optimum conditions for a harmonious workflow and excellent treatment results.

### **Precision and safety for the root canal**

Once the endodontist proceeds to the actual intraoral procedures, several high-quality instruments are available to assist his or her delicate work.

For convenient preparation of the access cavity, Morita offers the powerful TwinPower turbines and the handpieces of TorqTech and Tokyo series. Offering maximum torque at small instrument-head diameters, they provide a good view of the area to be instrumented as well as sufficient space when treating molars. The essential next steps of the treatment are measurement, instrumentation, filling, and polymerization. An innovative solution for all these three is the DentaPort ZX Set OTR that combines all these three functions in one and enhances endodontic treatment safety with the Optimum Torque Reverse (OTR) function.

Morita has now added its new TriAuto ZX2 cordless endo motor with apex locator. This successor to the TriAuto ZX is still the only system of its kind that integrates the tasks of apex localization and root canal preparation in a single handpiece. The TriAuto ZX2, too, was designed for maximum safety; it has both OTR and the new Optimum Glide Path (OGP) function already "on board." OTR changes the direction of rotation of the file as soon as "overtorque" occurs, i.e., when the individually preset torque level is exceeded. After turning back 90 degrees it again rotates in the cutting direction; if the torque is still too high, the process is repeated

after an additional 180 degrees. OTR also works with a very small angular rotation to minimize the risk of file breakage and microcracks. Moreover, the system preserves the original morphology of the root canal system and facilitates the reliable removal of debris. All these factors combine to shorten the treatment time.

OGP provides rapid and automated preparation of the glide path, which is the first actual preparation step, and thus prepares the root canal for safe endodontic procedures. In combination with the OGP function, the clinician can bring the endodontic instrument down to working length without fractures, blockage, or ledge formation. Ingeniously simple and absolutely safe. An LCD display provides full feedback from the root canal by showing the exact measurement data acquired by the handpiece, most importantly the distance of the file from the root apex. All in all, the TriAuto ZX2 conserves natural tooth structure and makes the treatment even more efficient because only a limited number of files is required. Another striking feature of this endodontic system is its small head and low weight (140 g), making it very handy to use. The future-proof cordless concept significantly improves treatment flexibility for the operator and optimizes the clinical workflow. Simple and intuitive operation and automated functions ensure reliable and safe results at all times.

### **Safe and reliable results with modern laser technology**

Laser dentistry is making ever greater inroads into endodontic practice. Morita has over 20 years of experience in producing efficient systems such as the AdvErL Evo Er:YAG laser, which provides relatively conservative treatment allowing for numerous indications. The laser system is used, for example, in surgical procedures (e.g. apical resections or the removal of cysts or tumors) and in the context of root canal treatments, to name just a few. The special advantages of the AdvErL Evo become evident in root canal debridement: Studies have shown that the Er:YAG laser is more effective in removing debris than alternative methods.<sup>1</sup> This high-tech instrument provides treatment outcomes that would be impossible to achieve with traditional methods. The treatment is minimally invasive, painless, and generates minimal vibration and heat and is therefore more comfortable for the patient.

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<sup>1</sup> Yao K, Ide A, Satake K, Ichikawa M, Watanabe S, Anjo T, Ebihara A, Kobayashi C, Suda H (2014). Er:YAG Laser-activated irrigation for lateral canals. 14th World Congress for Laser Dentistry, July 2–4, 2014, Paris. Abstract #64558. Download from: <http://www.wfld-paris2014.com/images/Abstracts%20book%20IWC%20&%20WFLD.pdf>

100<sup>Years</sup>  
+  
A Century of Innovation



## **Conclusion**

Morita offers a comprehensive high-quality product portfolio that covers all procedures from diagnosis to recall, allowing practitioners to work efficiently, ergonomically, and safely — always. Dentists will appreciate the convenience and patients will appreciate the improved treatment comfort. The new Veraview X800 2D/3D imaging system and the new TriAuto ZX2 endo motor with apex locator place the safety aspect in focus and set new standards in their segments. These solutions underline the Morita commitment: responding to the needs of users and patients at each step and continuing to deliver the “gold standard” for treatment success in the endodontic practice.