

HOW ORTHOPHOS SL 3D CHANGES PRACTICE LIFE

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I have been working with oral surgery for 20 years and with implantology for 15 years. Around the time that the editing software using CBCT scans for creating dental surgical guides first appeared, I was just starting to get acquainted with the 3D imaging technique.

Initially, the number of enterprises specialising in CBCT increased dramatically, and the first devices appeared in the major clinics. Soon after, manufacturers improved image resolution, offered selectable fields of view, introduced 3D Low Dose and software with extended ranges of capabilities. What kind of changes could we expect in the life of the practice? Among the most significant are the ability to provide an almost immediate diagnosis of uncertain cases, create a treatment plan accordingly, as well as to be able to show the patient the cause of the necessary intervention. The introduction of Orthophos SL 3D represents the greatest progress in my practice. When we cannot identify the cause of complaints through a traditional patient examination and the X-ray images taken by us or by others do not show any deformation, then it is appropriate to capture a CBCT image. Over the past year, the 3D imaging method provided completely clear answers to the origin of complaints and indicated the necessary therapy.

Sándor, 64 years old, has been wearing an upper circular bridge, free of symptoms for 8 years. In the course of the annual screening test, a panoramic X-ray image was taken which indicated periapical mutation around region 27 (Fig. 1). Questions arose immediately such as: What is causing the mutation? How many and which roots are involved and whether bifurcation is concerned? Can the mutation be treated surgically or is the bone structure of sinus maxillaris l.s. preserved? The CBCT image made clear that the tooth could not be saved despite the correct root treatment in the palatal canal and also in the buccal canal. The presence of bifurcation and the defect of bone structure in sinus maxillaris anticipates the need for removal of the tooth and subsequent reconstruction.

Mónika is a 42-year-old patient who came with tooth sensitivity (tooth 15). Taking a 2D image was not an option so we immediately captured a CBCT scan (Fig. 2) because of the tooth mobility and in view of the patient's request. She wanted to fill the gap with an implant after a potential tooth loss. Contrary to the previous case, the imaging technique here was not needed in order to decide upon tooth removal, however it was a great help in planning the reconstruction. The preserved buccal

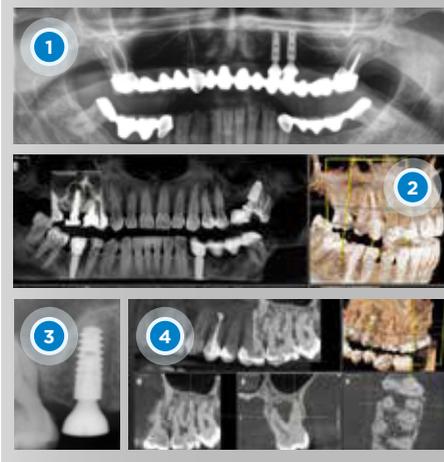


Fig. 1 The panoramic X-ray image (Orthophos SL) shows a periapical mutation around region 27.

Fig. 2 The scan of tooth 15 (Orthophos SL) shows a preserved buccal bone wall and the intact sinus.

Fig. 3 The image shows the control RVG after 2 months healing.

Fig. 4 The CBCT image (Orthophos SL) showed serious bifurcation on 27.

bone wall and the intact sinus were the key pieces of information in treatment planning. The scan shows the result of the tooth removal and the socket preservation 3 months following the intervention. Orthophos SL 3D now makes it possible to take a control scan in Low Dose mode. The implant was inserted on the date of the scan. An impression was also taken on the same day and 10 days later (Fig. 3), an Atlantis individual suprastructure and zirconia ceramic crown were placed. The patient visited our practice 5 times spending less than 5 hours in the practice in total. Within a short period of time, we managed to create an appropriate restoration from a near-loss situation.

Katalin is in her thirties. In the course of a screening test, I asked about a lilac pinhead size dot on her palate around teeth 27-28. She said, that occasionally she had a tiny swelling on her palate for several years, without any toothache. Tooth 27 is definitely vital, 28 is uncertain. The X-ray

image which she brought indicated the likelihood of periodontal origin, which seemed to be confirmed by the palatal probe analysis up to a depth of 7 mm. The CBCT image (Fig. 4) showed serious bifurcation on 27 however, the panoramic X-ray showed neither the bifurcation nor the nearly 9 mm horizontal defect. Two months after the extraction of 28, the fistula disappeared without any trace. Tooth 27 remained vital, not movable, and the patient is asymptomatic. In another two months we will take a low dose control scan.

In conclusion, precision imaging techniques with high resolution and excellent image quality provide reliability for the dentist in regard to diagnostics, treatment planning and even investigating complaints with an uncertain origin. Ensuring predictability is desirable to the patient during both long-term and short-term therapies. Such predictability has the added benefit of attracting patients to our practice.