Turning Up the Volume on Panoramic Images

By Terry A Sellke

Dr. Terry A. Sellke has lectured worldwide on the science of clinical orthodontics as well as the art of applying business principles to the dental practice. Here, he answers some questions on the philosophy of his orthodontic practice and his experience with new 3-D imaging, including Tru-Pan™, the software program touted as the industry's first, patented one-click volumetric pan that yields precise "true" panoramic views from 3-D scans.

Question: First, tell us about one of the driving philosophies of your practice, the Bioprogressive Technique.
Dr. Sellke: Bioprogressive Technique involves moving particular groups of teeth in sequential order in a planned progression. To properly implement this method, we study the facial bones and the changes that occur during growth periods, and we also explore how teeth and bones move.

Question: How does this figure into your orthodontic treatment and what tools do you have to implement it?
Dr. Sellke: Since our goal is to ensure the best possible coordination between the teeth and jaw joints, we need very detailed images, which we achieve with our i-CAT® 3-D system. The Cone Beam scan provides a 3-D view of the teeth, supporting bone, jaws, jaw joints, and other bony structures important to the diagnosis and treatment of a wide variety of common dental problems. We can rotate the view and see cross-section anatomy, gaining more information than with other imaging methods. Another hallmark of the Bioprogressive Technique is the individualization of diagnosis, planning, and treatment. Our 3-D scan helps us to personalize each patient's treatment.

Question: How does this relate to panoramic images?
Dr. Sellke: Recently, as a part of my i-CATVision™ software, I began using Imaging Sciences' Tru-Pan to create a volumetric panoramic X-ray. With the capability of creating a clear volumetric pan from my 3-D scan, I don't expose the patient to additional radiation.

The Industry's First "True" Pan

Question: What are the attributes of a volumetric pan?
Dr. Sellke: Traditional panoramic X-ray machines follow a standard rotational path that was devised by obtaining average measurements of a group of people with varying jaw sizes and ethnicities. Issues can arise when the mouth is not symmetrical within this established framework called the "focal trough." That's where Tru-Pan software is especially helpful. Within 3-D imaging software, it can be challenging to extract an individualized focal trough that incorporates all of the teeth, especially when the patient has a malocclusion. Most of the time, this involves a time-consuming process of manually mapping the arches so that all of the teeth are in focus. The Tru-Pan software automatically detects the focal trough for each of the teeth using hundreds of slices, resulting in a great digital panoramic image comparable to the best 2-D digital X-rays available.

Question: Overall, how would you sum up your experience with this new technology?
Dr. Sellke: Since I have been working with the Tru-Pan software, I have noticed several improvements. First, it saves time for me, my staff and the patient. Besides saving the time it takes to manually map the focal trough from a scan, you can automatically gain a volumetric pan with one click of a mouse, and no additional training. Anything that you can do better and faster is a winner. Most of all, I consistently get a clearly superior pan. ConeBeam imaging was great, and Tru-Pan made it even better. It seems like a phenomenon of the future, but it's here today.

BIO

Dr. Terry A. Sellke is a native of Illinois. His fervor for his home state extends to his academic background, having enrolled in the University of Illinois Undergraduate and Dental School. He graduated from dental school in 1971. Two years later, he had achieved a Specialty Degree in Orthodontics. In 1974 he received a Master's Degree in orthodontics, the same year that he opened the first office of what was to become Drs. Sellke and Reily, Ltd.