



# Dentistry before and after cone beam

By Joseph Allbeury

Cone beam computed tomography systems have now become commonplace in many dental practices, particularly where clinicians are regularly placing implants. To this end, it was not unusual for Bendigo dentist Dr Graham Robertson to decide to invest in the technology. That decision, however, has proven to be a watershed moment in his career.

“We do quite a lot of implants, so the reason we were considering a 3D cone beam x-ray system was to enhance our ability to diagnose and treatment plan those cases,” Dr Robertson said. “Plus, we could also see broader applications for 3D imaging as well. This led us to purchase a Morita Veraviewepocs 3De system which delivers both a true OPG and a small field of view 3D image.”

“Now that we’ve used this technology first hand in the practice, however, it’s been like taking a blindfold off to do dentistry. There is literally life before and life after cone beam. The diagnostic capabilities of these systems are simply amazing and you start to wonder how you ever practised without one.”

Bendigo, in country Victoria, 150km north west of Melbourne, is a veritable hive of activity in dentistry. Apart from being home to a new dental school at Latrobe University, the town of 100,000+ plays host to a number of high-end, high-tech dental practices including three owned by Dr Robertson.

“Bendigo is a great place to practice,” Dr Robertson said. “But space is at a premium! Ideally, we’d love to have one large practice that could accommodate everything under the same roof, but finding suitable space in a busy town like Bendigo is difficult.

The result is that we now operate 3 practices that are 500-600m apart in roughly a triangle.”

Dr Robertson stressed that even with three locations, it was still very much a family business, with his wife, Lesley, as the group manager and daughter Leanne and son-in-law Michael working as practice managers.



Figure 1. Dr Graham Robertson with the Morita Veraviewepocs 3D x-ray system at Dental Innovations on Condon in Bendigo.

“Two of the practices already have OPGs that are upgradable to 3D, so when we set up the third practice, I was initially contemplating taking that path and then buying just a standard OPG for the new practice,” Dr Robertson said.

“However, when I looked around and saw the clarity of the images produced by the Morita Veraviewepocs 3De, I changed my mind. The clarity of the true OPG it produces alone was far superior to the units we’re using now and the 3D render is simply amazing. On top of that, the Veraviewepocs 3De uses a very low radiation dose, equivalent to two standard OPGs, to produce three dimensional images. These two points combined with competitive pricing sold me on the system.”

Dr Robertson was so enamoured with the Morita x-ray unit that he fitted out the entire practice, known as Dental Innovations on Condon, with Morita equipment purchased from Henry Schein Halas.

“I really didn’t expect it to be so good,” Dr Robertson said. “The amount of information it provides just blows me away. It’s literally been like taking a blindfold off to do dentistry and it’s probably one of the best investments I’ve ever made.

“Working with the 3D image is like completing the surgery before you start. It allows you to deliver treatment far more predictably and with minimal risk. We do a lot of surgery including bone grafting and the system is ideal for this.

“It takes very accurate slices and when you do the 3D render, it’s like having the jaw in your hand. You can place implants virtually in perfect position for the available bone and see their relationship to the nerve.”

Dr Robertson said that while the Veraviewepocs 3De was purchased as a diagnostic aid for placing implants, it has also proven very useful for imaging wisdom teeth prior to extraction, checking bone levels on patients with periodontal disease, looking for the fourth canal in endodontic treatments and generally investigating bony pathology.

“The unit is very easy to use. The main dentist who works with the system is from Ireland and is dual qualified as a radiographer, so he was particularly excited when we invested in the system.

“Apart from that, everyone using it at the practice finds it very easy and intuitive. The patient positioning system is probably the best I’ve seen.

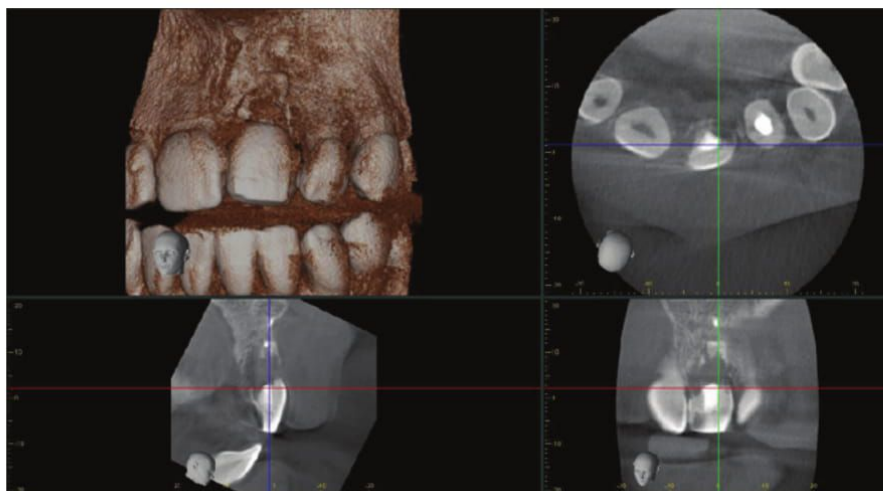


Figure 2. Morita’s i-Dixel imaging software - coronal, sagittal, axial and volume rendered view.

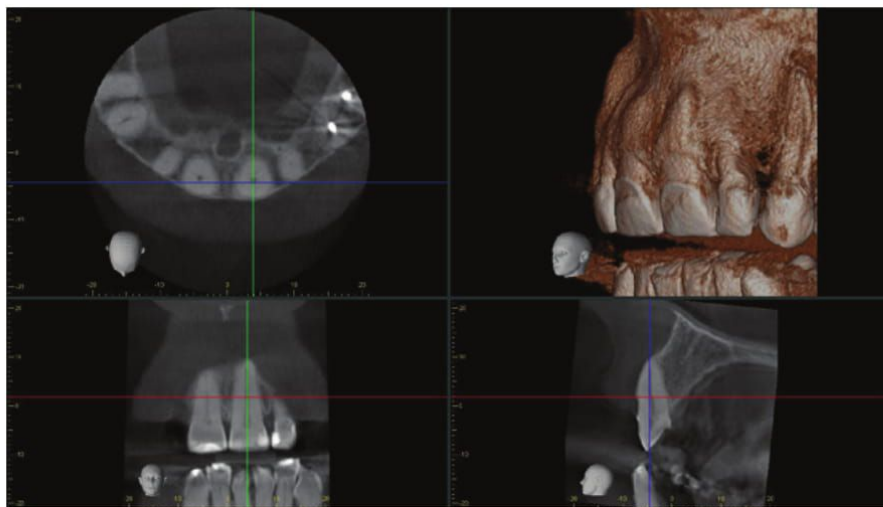


Figure 3. Periodontal scan using Morita’s Veraviewepocs 3De captured with i-Dixel imaging software.

“Like the 3D image it takes, the true 2D OPG only requires a very low dose and an excellent feature of the system is that you can take a ‘scout’ image in 2D and then use this to select areas to image in 3D.”

The Morita Veraviewepocs 3De offers a choice of a full size true OPG or a cone beam 3D image in two fields of view - 40 x 40mm or 40 x 80mm. A 3D scan only takes 10-15 seconds.

“90% of the 3D images we capture use the 40 x 40mm field of view,” Dr Robertson said, “and for our purposes, we never need more than 40 x 80mm. The 40 x 40mm field of view allows you to image 4-5 teeth into the maxillary sinus, locate the inferior alveolar nerve and image the TMJ. It will essentially do anything you need it to from a dental perspective.

“We can focus on the area we’re interested in and stay away from the brain, the

eyes, thyroid, etc. It gives us exactly what we need and nothing unnecessary.”

Dr Robertson said that there was a learning curve in moving from 2D to 3D images, however this was minimised thanks to comprehensive training on the system when the machine was installed together with excellent support from Morita’s direct representatives based in Sydney.

“The Veraviewepocs 3De has delivered a range of benefits to the practice, not least of which is engaging patients at a whole new level. They simply love it! When you’re explaining an implant and you can then do a virtual placement in their own jaw in the software, it removes a lot of their doubt. They love the technology, but when they see their jaw in 3D, they’re amazed. It reinforces their perception that we’re a modern high-tech practice and they appreciate that we’re investing in their health.”