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## No turning back from 3D to 2D imaging

One of my top priorities when opening my endodontic practice was to integrate cone beam computed tomography (CBCT). The technology has changed the way we as endodontists are able to incorporate our knowledge of the root canal system into the true three dimensions the tooth encompasses. The benefits of CBCT imaging have immeasurable advantages in endodontics, as well as all other aspects of dentistry.

Like many advances that have benefited endodontic imaging, the CBCT gives us the ability to help diagnose complex endodontic cases. With 2D imaging, a substantial amount of anatomy and pathology is overlaid by the osseous structures of the maxilla and mandible. This makes complex diagnosis difficult in situations such as lesions that have not perforated the cortical plates or superimposition of the maxillary sinus over the apices of the maxillary posterior teeth inhibiting our ability to accurately visualize this region. Cracked teeth can now be visualized by the associated vertical bone loss adjacent to the tooth possibly not detected clinically. Resorptive lesions can be more completely diagnosed because the location, extent, and missed anatomy in retreatment cases can all be seen in the third dimension.

The patient experience is greatly improved using the CBCT as well. Visualization is key to proper discussion in endodontic treatment planning. Having the CBCT image provides this platform that allows patients not only to understand what the practitioner is relating to them but also to make better informed treatment decisions. The CBCT is also the ideal diagnostic solution for patients for whom 2D imaging is especially difficult. They include those with limited ability to open, but also children and patients who are phobic or prone to gagging. Because it is extraoral, CBCT is much more comfortable for all patients.

CBCT technology enables you to navigate these challenging situations in a much more efficient fashion by providing a map through the tooth's anatomy prior to accessing. Therefore, because we can see exactly what is going on, we are able to go into treatment with a game plan. This enables us to complete procedures more effectively because we have a majority of the information at our disposable preoperatively from the scan.

We chose the Sirona ORTHOPHOS XG 3D in particular based not just on its technology, which combines small and medium volume acquisitions and 100-micron slices, but also the reputation of the company. Dentists and dental specialists request scans for implant placement and TMJ imaging. The Orthophos XG 3D integration with CEREC allows compatible offices to plan implant placements, mill surgical guides, and fabricate crowns from the acquired CBCT image, thus allowing us to enhance the patient experience for our referring offices.

As I see it, there's no turning back from what this technology has to offer in terms of imaging for the dental world, especially endodontics. For me, practicing without the CBCT would be like reading a book with half the pages removed.

### Dr. Andrew Wiswall



Andrew Wiswall, DDS, received his dental degree at the University of Nebraska Medical Center in Lincoln, Nebraska, and then completed 1-year advanced education in the general dentistry program at the University of Missouri-Kansas City. Following his time in Kansas City, Dr. Wiswall completed a 26-month postgraduate residency in endodontics at the University of Minnesota School of Dentistry in Minneapolis, Minnesota. After earning his specialty certificate and a master's degree, he returned home to Sioux Falls to establish Wiswall Endodontics. Dr. Wiswall is board-eligible by the American Board of Endodontics.