



Study Shows Emerging Cone-Beam Computed Tomography (CBCT) and Imaging Systems Allow Dentistry and Specialty Practices to Be More Profitable More Quickly Compared to Standard 2D Imaging Technology



Introduction

PreXion recently surveyed dentists and dental specialists across the United States to determine current perceptions on cost analysis from investment to return on Cone-Beam Computed Tomography (CBCT) and imaging systems as well as emerging ways to increase profitability on such investments in a shorter time.

The results of this study, published in this eBook, include insights from a pool of 45% oral surgeons, 32% general dentists and 17% orthodontists. Respondents hailed from across the nation, as specifically indicated below:



When asked how they would rate the importance of offering CBCT imaging in a modern dentistry or dental specialty practice, 97% of survey participants agreed it's very important or important.

In ranking the following types of dental imaging solutions in order of importance with 1 being "most important" and 4 being "least important," here's what our respondents shared:

	Most important	Important	Less important	Not at all important
Intraoral digital imaging sensor offering high-definition images	60%	40%	0%	0%
3D CBCT with integrated CEPH X-ray	57%	34%	9%	0%
3D CBCT with the highest diagnostic clarity and detail	57%	34%	9%	0%
Standard intraoral scanner	51%	46%	3%	0%
A complete CBCT, PAN and CEPH solution in a single product and upgradable from 2D to 3D	51%	34%	12%	3%
Base/Economy 3D CBCT under \$50k	37%	51%	12%	0%
Standard 2D Panoramic	29%	37%	29%	6%



Given economic pressures on practices today such as rising costs of supplies and increased competition, it's not surprising that the lower-initial-investment options like the intraoral digital imaging sensor and standard intraoral scanner ranked at higher importance to your peers than the standard 3D CBCT system. Indeed, in today's market there are more low-cost entry points to advanced imaging for the modern practice.

Furthermore, in ranking the following types of dental imaging solutions in order of likelihood they would invest in each technology in the next 3 to 6 months, with 1 being "highly likely" and 4 being "not at all likely," your peers had this to say:

	Highly Likely	Likely	Unlikely	Highly Unlikely
Intraoral digital imaging sensor offering high-definition images	80%	14%	6%	0%
3D CBCT with the highest diagnostic clarity and detail	60%	31%	9%	0%
3D CBCT with integrated CEPH X-ray	51%	34%	11%	3%
A complete CBCT, PAN and CEPH solution in a single product and upgradable from 2D to 3D	51%	37%	3%	9%
Standard intraoral scanner	51%	40%	6%	3%
Standard 3D CBCT	37%	49%	11%	3%
Standard 2D Panoramic	29%	40%	29%	3%

If you are considering upgrading your practice's CBCT and imaging systems, you will want to be equipped with all the latest insights into how best to earn a return on your investments. In this eBook, we will cover data from your peers in dentistry and specialty practice on these topics:

- Common Myths about CBCT Imaging in Dentistry and Specialty Practices
- The 2D Advantage: Your Peers' Insights on Using 2D Panoramic Imaging
- The 3D Advantage: Your Peers' Insights on Using 3D CBCT Imaging
- The Intraoral Sensor Advantage: Your Peers' Insights on Using an Intraoral Digital Imaging Sensor
- Increasing Profitability More Quickly with Emerging Cone-Beam Computed Tomography (CBCT) and Imaging Systems
- Conclusion: How Could CBCT Imaging Companies Be More Helpful to the Dental Profession Overall?

Let's get started.



Common Myths about CBCT Imaging in Dentistry and Specialty Practices

Accurately diagnosing dental pathology ensures effective treatment planning, contributes to positive patient outcomes and satisfaction and mitigates risk for the practice owner. Dentists and specialists must continually assess their confidence level in accurate diagnosis and leverage appropriate tools and technologies to enhance diagnostic capability.

When asked about their confidence level in accurately diagnosing dental conditions, 50% of our respondents reported feeling very confident, while the remaining 50% expressed feeling just somewhat confident. Our study further explored confidence level in using current technology for diagnosing dental conditions. While a significant percentage of respondents, 46%, reported feeling very confident in their practice's current technology, the other 53% expressed feeling only somewhat confident. What is the best way to boost confidence in those feeling somewhat confident?

Myth #1: Dental practices have limited access to CT imaging solutions.

It came as a surprise to us that 89% of our study participants still believed access to CT imaging solutions is limited. Here are a few facts to consider on this topic:

- CBCT provides detailed 3D images and is more accessible for dental offices due to its smaller size and lower cost compared to conventional CT scanners.
- CBCT technology has become increasingly common in dental practices, especially those specializing in implants, endodontics, orthodontics, and oral surgery.
- The cost of CBCT machines has decreased over the years, making it more affordable for dental practices to own or lease.
- Dental insurers increasingly recognize the importance of CT scans in dental diagnostics and treatment planning, which has led to increased reimbursement for CT scans and their interpretation.

Myth #2: CT imaging for dental practices can lead to high radiation exposure for patients.

We were even more surprised to find that 57% of our survey respondents agreed that CT imaging can lead to high radiation exposure. Here are a few facts to consider on this matter:

- CBCT systems are designed with dose reduction technology, which means they can produce highquality images with a significantly lower radiation dose compared to traditional medical CT imaging.
- Dental CT scanners often use a smaller field of view compared to medical CT machines; in other words, they focus only on the area of interest, which limits radiation exposure for the patient.
- The scan time for dental CT imaging is generally short, which contributes to a lower overall radiation dose; in fact, the amount of radiation from a dental CT scan is generally comparable to, or sometimes even less than, the amount received from other dental X-rays over a series of routine checkups, such as periapical and bitewing X-rays.
- You and your peers routinely perform a risk versus benefit analysis before recommending a CT scan; what's more, the potential health risks from radiation exposure are weighed against the benefits of obtaining detailed information to guide diagnosis and treatment.



Myth #3: Dentists and specialists may be leery to invest in 3D CBCT imaging technology due to its high cost.

In our study, 97% of respondents believed this to be true and another 94% of survey participants agreed that CT imaging for dental practices is high in cost. Perhaps historically this has been true. But in today's market, new technology and lower price components make it possible to introduce high-tech imaging to the practice at a lower price point than ever, and the immediate advantages of those technologies – like affordability and speed of diagnosis – make it possible to earn a return on investment more rapidly than with traditional systems.

The 2D Advantage: Your Peers' Insights on Using 2D Panoramic Imaging



2D Advantage #1: Clarity

In our study, one of the most lauded benefits of 2D Panoramic imaging in your peers' minds was image clarity. Dentists and specialists reported seeing anatomical structures "very clearly" and "distinctively," which is paramount for accurate diagnoses and treatment planning. Moreover, respondents indicated the flexibility of 2D Panoramic provided clear, non-overlapping tomographic images and 3D reconstructions to elevate its utility for a variety of dental concerns, including implant planning, comprehensive diagnosis and orthodontic evaluations. The high-quality images provide measurements, which leads to more precise diagnoses, treatment plans and anticipate outcomes.



2D Advantage #2: Affordability

Of course, the financial aspect was also seen by your peers as a significant factor in the shift toward 2D Panoramic imaging. Its affordability, both in terms of purchase price and patient cost savings, made it a prudent choice when they sought to offer high-end technology without passing on excessive costs to patients. Additionally, the speed and accuracy of this imaging technique led to a more efficient workflow, further cutting down on costs and saving time.



2D Advantage #3: Improved Experience

Dentists and specialists who responded to our survey emphasized that the "improved experience" with 2D Panoramic was two-fold: it enhanced their ability to diagnose and plan treatment, and it met more basic needs without overcomplicating the process. The technology is not just advanced, it is also lauded for its reliability, which is essential in efficient and effective dental care.

Next up: the advantages of 3D imaging.



The 3D Advantage: Your Peers' Insights on Using 3D CBCT Imaging

3D Advantage #1: Multi-Dimensional Views with True Measurements

The standout feature of 3D CBCT heralded by most of our study participants was its ability to produce high-resolution images that offer a three-dimensional, all-around view of the patient's oral cavity. This depth of detail allows for a more thorough assessment of bone structures, nerve pathways and surrounding soft tissues, which is crucial for complex procedures like implant placement or endodontic therapy.



3D Advantage #2: Advanced Clarity

Like with 2D systems, clarity was another significant benefit seen by your peers with 3D CBCT. More than that, they indicated the intuitive nature of the imagery means that they can "move around" the digital slices, exploring various angles and depths, which is not possible with 2D imaging.

3D Advantage #3: Speed of Diagnosis

Unlike 2D imaging, 3D CBCT scans provide slices that can quickly be reconstructed (typically in under 30 seconds). The clinician can then scroll through the image views (axial, coronal and sagittal) to identify pathology and take accurate 1:1 measurements, which speeds up treatment planning.



3D Advantage #4: Evolutionary Advancements

The evolution of 3D imaging has spawned industry advancements that your peers particularly appreciated. One example is the development of self-developed oral panoramic imaging, which negates the overlapping and deformation issues associated with traditional imaging. In one respondent's words, this offered a "much more detailed view."

Read on for intraoral sensor advantages from your peers' perspective.



The Intraoral Sensor Advantage: Your Peers' Insights on Using an Intraoral Digital Imaging Sensor



Intraoral Sensor Advantage #1: Speed

Speed and efficiency stood at the forefront of the intraoral sensor's benefits in the minds of your peers who took our survey. They said high-speed technology enabled images to be captured and displayed almost instantaneously, allowing for quicker diagnosis and treatment planning. This immediacy is not just a convenience, they said, it is a transformative tool that aids in the rapid identification of dental pathology, from decay to periodontal disease.



Intraoral Sensor Advantage #2: Clarity

Once again, clarity of image is another highly touted benefit in the eyes of your peers. Study participants said the intraoral sensor provides greater clarity, which they found invaluable for accurate diagnosis and patient education. The images produced are easy to interpret, ensuring that both doctor and patient can clearly see the anatomy and any issues present.



Intraoral Sensor Advantage #3: Convenience

According to your peers, the convenience of intraoral sensors cannot be overstated. They are cited as "more convenient" for everyday use than more advanced systems, and their intuitive nature means that they seamlessly integrate into the workflow of dental practices. For patients, they said, the sensors were less invasive and more comfortable, particularly for patients who require frequent imaging.



Intraoral Sensor Advantage #4: Reduced Radiation Exposure

Your peers appreciated that the intraoral sensor's design significantly reduced radiation exposure compared to traditional X-ray film, aligning with the principle of ALARA (As Low as Reasonably Achievable). This aspect is essential, not only for patient safety but also for environmental responsibility, as digital radiography does not rely on chemical processing.



Now that you are clear on your peers' perceived advantages of 3D CBCT, 2D Panoramic and intraoral sensor systems, let's have a closer look at emerging systems that bring even more clinical benefits according to dentists and specialists who participated in our study.



Increasing Profitability More Quickly with Emerging Cone-Beam Computed Tomography (CBCT) and Imaging Systems

The World's First 3D CBCT with Integrated CEPH X-Ray

In our survey, 94% of respondents were aligned that adding a CEPH attachment arm to the technology boosts a CBCT solution's diagnostic potential for cephalometric exams. Recently <u>the first</u> <u>3D CBCT with integrated CEPH X-ray</u> emerged on the market. This model combines the most precise 3D dental imaging, large image detail, low radiation exposure, reliable diagnostics and digital planning into one system that reduces the space requirement for use in practice up to 3 feet compared to traditional ceph X-ray attachment arms. Its patient management system is designed for secure and networked communication of patient data across multiple rooms within a practice and can be integrated into the existing infrastructure and practice workflow with ease.



Explore time to return on investment on 3D CBCT with Integrated CEPH X-Ray.

Upgradable 2D Panoramic Imaging Technology

In our study, 89% of dentists and specialists agreed that they may be more likely to invest in 2D Panoramic imaging technology at a lower price point if it can later be upgraded to CBCT. The newly launched Evolve CBCT and Evolve 2D (Pan) models are prepared for high diagnostic demands and provides a complete solution in a single product. The Pan model is upgradeable to 3D at any time and has enhanced filters to adjust images as well as multi-slice capability, which allows easy navigation through 41 panoramic slices, enabling precise visualization of desired structures. Moreover, the reconstruction algorithms ensure exceptional sharpness and contrast in every scan. Its specialized CEPH sensor creates high-quality images of hard and soft tissue with equal excellence. Collimation mechanisms and rapid scanning techniques minimize X-ray exposure.



Explore time to return on investment on upgradable 2D Panoramic imaging technology.

Starting with an Intraoral Sensor

Despite emerging technologies that lower the price to entry into the imaging space and more readily earn returns on investment, 94% of our study participants shared the perception that there are very few low-cost CBCT solutions on the market for dentists and specialists today. Starting with an intraoral sensor can be the lowest-price-point entry into predictable practice diagnostics. The newly launched <u>Evolve Intraoral Sensor</u> offers high-definition images, providing the precision needed for accurate and safer diagnoses. Your peers touted its seamless connectivity that optimizes intraoral radiography workflow and efficiently manages patient images. The PreXion Evolve Sensor is cost-effective compared to most competitive digital sensors on the market today. It's low price point only requires a single unit purchase to obtain the price, and its cord can be easily replaced, thereby saving even more.



Explore time to return on investment on an intraoral sensor.





In our study, 74% of participants said most investments in CBCT technology can become profitable more quickly than anticipated at time of purchase.



Another 94% said the right imaging technology allows dentistry and specialty practices to improve workflow and to efficiently manage patient images, both of which add up to faster profitability.

Conclusion: How Could CBCT Imaging Companies Be More Helpful to the Dental Profession Overall?

It is clear from our study that advancements in CBCT and imaging systems have paved the way for dentistry and specialty practices to increase diagnostic predictability and enhance revenue growth with greater speed and efficiency. However, feedback from the industry suggested that while the trajectory is positive, there was a collective call for continued improvements.

The most common sentiment among our survey respondents was the need for cost optimization. Acquisition costs and prices were a significant concern for many, suggesting that continuing to make these systems more affordable could accelerate their adoption. Smaller, more durable machines could also contribute to reducing overheads and improving the feasibility for independent practices.

Dentists and specialists who participated in our study appreciated the current state of CBCT technology, citing the detailed scans of high-definition imaging as paramount in importance. Yet, they also pointed out areas for development, such as reducing image error, shortening imaging times and improving the cost-performance ratio for large field of view systems. Attention to these details could dramatically enhance the usability and functionality of CBCT, and manufacturers continue to make advancements in these areas.

Another perspective that emerged from our study was the call for better operability and convenience, making CBCT systems more user-friendly and accessible to a broader range of professionals. This would entail the physical design of the machines and the user interface and software that accompany them. Again, imaging research and development continues to take strides to improve functionality and accessibility of imaging systems.

As a final thought, we at PreXion are frequently asked if our systems use Artificial Intelligence (AI). The question makes sense, as dentists want more predictability and simpler reading and interpretation of CT scans. This, of course, must be balanced with continuing to allow the clinician to take the lead in making the diagnosis and suggesting treatment planning. It should be noted that while none of our study respondents mentioned the use of AI in imaging, <u>the National Institutes of Health is reporting on its</u> <u>possibilities in dentistry</u>.

While the current sentiment towards CBCT technology is largely positive, with users reporting positive feelings about its usage and facts about strong clinical outcomes, the pathway to perfection may be in the finer details. Namely, imaging manufacturers must continue to focus on reducing costs, enhancing machine durability and perfecting imaging quality. As these companies heed this feedback, the future of CBCT in dentistry looks bright.



About PreXion

Top-Quality Imaging

Diagnostically, precision imaging is a must-have in the clinical settings of today's world. PreXion offers the clearest, most precise image in the industry at an incredible price point. The clarity and precision of the image is unparalleled by competing solutions, and the contrast between bone and soft tissue is a true differentiator. Analysis of an image this sharp means more precise treatment planning and the best possible clinical outcomes. With most imaging solutions, higher image



quality means higher radiation. PreXion offers high imaging with low radiation levels. The PreXion3D Expedition CBCT features 360-degree rotation, 260-1,024 projected views, a dedicated 2D pan mode and exceptionally clear detail with its 0.3mm focal spot and 0.06-0.2mm voxel size. One clinician remarked, "This is truly impressive technology."

Unmatched Commitment to Education



PreXion has cultivated a tight-knit circle of key opinion leaders, specialty physicians who precisely understand the PreXion technology and resulting clinical outcomes firsthand. These doctors offer PreXion customers exclusive hands-on courses nationwide on topics like implant prosthetics, hands-on implant planning and airway analysis using CBCT technology. This is the most precise and comprehensive imaging education available today.

Online educational videos are also available, making it easy for PreXion customers and their teams to continuously access education. In the spirit of education, PreXion is committed to forming strong partnerships with continuing education organizations in the field of dental surgery and diagnostics, including American Independent Dental Alliance (AIDA) Education, Catapult Education, International Academy of Dental Implantology and Midwest Implant Institute (MII), among others.

Excellent Service

PreXion is deeply committed to listening to the customer voice. PreXion CEO Jeff Imada said, "Our team is always passionate about answering support calls." It is PreXion's vision to build trust across the industry by giving each customer the ideal treatment, precisely tending to every inquiry. PreXion customers have described the support team as steady, dependable and hardworking, with support technicians treating each customer as the most important one. While



competitors' customers must often go through distribution branches for support, PreXion customers are directly connected to headquarters to access robust, timely, precise and comprehensive support. PreXion never contracts out support roles and only employs certified technicians. This ensures the technology will be back in optimum working order as quickly as possible, often via remote computer access that takes just minutes. Once customers purchase PreXion, they never go to another brand, in part because of this unprecedented commitment to excellent customer service.

Learn more at <u>www.prexion.com</u>.



Ready to increase case acceptance rates now?

Enhance patient education and production with 3D cone beam computed tomography (CBCT) imaging.

Yes, I want to schedule a demo with a PreXion 3D cone beam specialist so I can get:

- A clear understanding of how easier-to-read images give way to improved diagnostic capabilities, increased revenue and easier treatment planning

Clarity on how to angle and zoom in on problem areas to help patients visualize their case and treatment

Insight into exactly how a fully three-dimensional rendering of a patient's dentition with quality images with easier pathology detection can encourage quicker patient treatment acceptance

A comparison of the attributes of various 3D CBCT scanners and how each stacks up in increasing practice production

GET MY DEMO SCHEDULED