

X-NAV TECHNOLOGIES

Going All-In on Navigated Implant Surgery

One dentist shares how the X-Guide 3D dynamic navigation system allows him to push the boundaries of implant placement while keeping him optimistic about the future of oral surgery

Dr. Laith Mahmood likes to use the X-Guide 3D Dynamic Navigation system for implant placements. And for bone grafts, sinus lifts, impacted teeth...and nearly every kind of implant surgery case that needs guidance. "As a matter of fact, I like it so much that just today I received my second X-Guide system," he said.

Manufactured by X-Nav Technologies, the X-Guide is a dynamic guided navigation system designed to provide more accuracy for a broad range of implant-related surgical applications, from single implants to full arch reconstruction. Using cone beam imaging and 3D treatment planning, it allows the clinician to control real-time movements of their drill and implant placement with remarkable 3D precision.

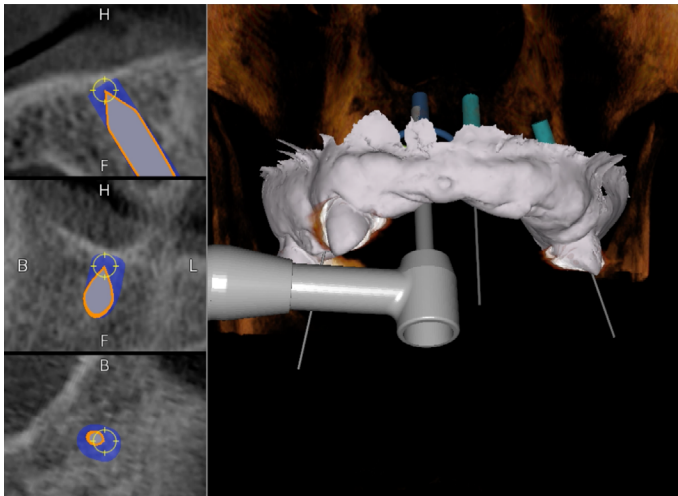
A board-certified oral and maxillofacial surgeon, Dr. Mahmood is the owner of Parkway Oral Surgery in Houston, TX. How many clinicians are in his office?

"Just me."

Wait, what? How does one man use two systems? Like, one in each hand, or what? He grinned.

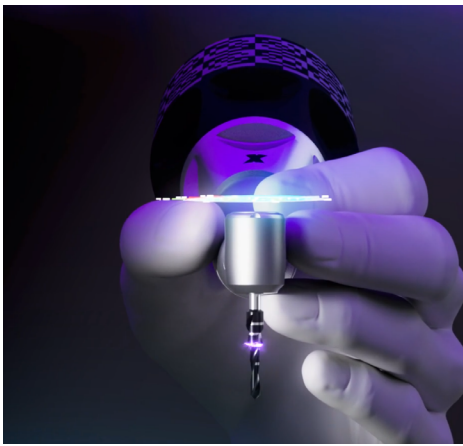
"Well, we have two operatories, and I've been so busy—it's been bonkers around here this last month. We used to have one room dedicated to the X-Guide, but we use it for so many cases that we now have an X-Guide in each room so we can do implant cases back-to-back with less downtime for disinfection between cases. More efficient for us, and for the patients."

In the 4 years he's owned his X-Guide system, Dr. Mahmood estimates he has done 250 cases a year, or about 1 per day. Even in 2020, when the COVID-19 pandemic restricted his caseload, he still did 150 cases, he said.



Laith Mahmood, DDS, MD
Houston, TX

"There are surgeries we can do now that literally we were never able to do before. New concepts are opening up. It's really exciting where this field is going, and what technology like X-Guide is enabling us to do. And the results are fantastic."



GPS for Your Dental Drill

The X-Guide system boasts dynamic 3D navigation that delivers interactive, turn-by-turn guidance—giving the clinician the ability to improve the precision and accuracy of implant position, angle, and depth. Featuring a live, 360-degree single-view of drill position and anatomy during surgery, X-Guide allows the surgeon to confidently transfer the CBCT virtual treatment plan to the patient—from screen to mouth—with ease. X-Guide makes same-day guided surgery a reality for patients.

And paired with an intraoral scanner, the clinician can go a step further with 6 simple clicks and register the intraoral scan to plan an ideal restorative outcome with opposing teeth in occlusion.

Dr. Mahmood sees the X-Guide as the third generation of implant placement techniques. First came freehand implant placement, then static drill guides, and now dynamic real-time guidance.

"I think freehand placement is a dated concept. Now, don't get me wrong, you've got to know how to do freehand placement, but navigated placement should be your standard of care. And within guided, there was static, and now there's X-Guide," he shared. "What's nice about X-Guide is that it's a fully guided system. From your first drill to your last, and your implant, every single step is guided."

A Clear Path for Implant Placement

Dr. Mahmood went all-in on navigation early in his career. "I forced myself to learn and tried to do every case with it. With any new technology, it can feel easier to just do some cases here and there, but that makes the learning curve longer. If you force yourself to use it for every case, that's how you gain confidence to trust the process," he noted. "And when I upgraded to X-Guide, I saw results that were better than my static guided system. With a static guide, you cover the site with a 3D-printed sleeve and you drill through the plastic. You don't know for sure what you're getting into. With the X-Guide, you see it clearly."

He also noted the X-Guide system allows him to irrigate the site better, which reduces heat. The plastic sleeve of a static guide covers the site, making irrigation more difficult. "Heat is your enemy, so irrigation is crucial," he said.

The X-Guide's real-time feedback allows him to change the treatment plan on the fly. "In between drills, I can adjust my computer plan, move it millimeters distal or change angulation, and it instantly shows how to change my approach," shared Dr. Mahmood. "You can plan your surgery on a computer screen, and it may look great. But then when you're there in the chair, working on the patient, it's amazing how it will sometimes look different. So, you can say, 'You know what, I do want an angle that's a little more mesial,' and you can adjust on the fly. It's great."

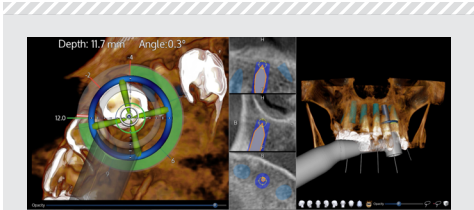
Expanding Treatment Possibilities

While setting up a treatment plan in X-Guide and syncing the system to the patient can take a bit more time than prepping for freehand implant placement, Dr. Mahmood estimates that 80% of the setup is handled by his staff. Additionally, he shared, the software is easy to use, especially for clinicians already familiar with static guidance systems.

For some cases, Dr. Mahmood incorporates his intraoral scanner into the plan. He stitches the CBCT image with the scanner image so he can do flapless surgery. "I can do flapless placement because I can literally see how deep into the gum the abutment should go. I can plan for it to be 3 millimeters below the gum line. And for some patients, that means you have to go a little deeper into the bone than you'd think."

Dr. Mahmood is excited about the future of oral surgery, thanks to the X-Guide system.

"There are surgeries we can do now that literally we were never able to do before. New concepts are opening up. It's really exciting where this field is going, and what technology like X-Guide is enabling us to do. And the results are fantastic," he said. "The X-Guide is just amazing. It's so nice that it's painful now to do implants without it."



X-GUIDE NAVIGATION: GLOBAL STRENGTH IN NUMBERS

- 150,000+ dental implants navigated by X-Guide customers
- Used in 42 countries
- Available in 22 languages
- Chosen by 31 universities
- Holds 30 patents
- The industry's first virtual patient registration for dental navigation to receive FDA 510(k) clearance
- The industry's only FDA-cleared dental navigation system for full-arch navigation
- 11x more accurate than freehand surgery