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Creating the ultimate implant practice

An interview with Simon Oh — DDS, FICOI

PROMOTING EXCELLENCE IN IMPLANTOLOGY

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What can you tell us about your background?

I grew up in Maryland where I received my Bachelors of Science from the University of Maryland. After graduating with honors from the University of Maryland Dental School, I trained in oral and maxillofacial surgery at Hahnemann University Hospital and St. Christopher's Hospital for Children. During high school, I enjoyed lacrosse and wrestling. I played trumpet in a jazz band and guitar in a rock band called InciDental.

What originally attracted you to the implant specialty?

Seeing a patient's transformation from not having teeth to having a brand-new set in a day appeals to me. My most rewarding patients previously have been turned down by multiple other surgeons or dentists. The clinicians say the patients' cases are impossible to treat because of issues with the amount of available bone, but now there are special implants for people with insufficient bone. These implants can be placed in the cheek (zygomatic implant), in the pterygoid bone, or in the nasal area. We can use these in concert to fill patients' needs. It is unconventional, but we have gotten positive results. Dr. Ole Jensen, a Brånemark award-winning oral surgeon, is one of the pioneers of these techniques. A close friend of mine, Dr. Robert Mogyoros, was one of Dr. Jensen's fellows. So now Dr. Mogyoros and I are the only two dentists in the Philadelphia market who place these special types of implants. Dr. Jensen also introduced me to Ditron Dental implants.

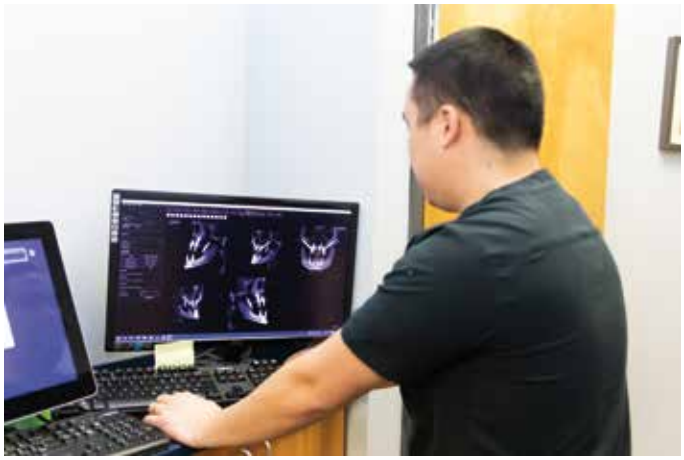
What prompted you to try Ditron Dental implants?

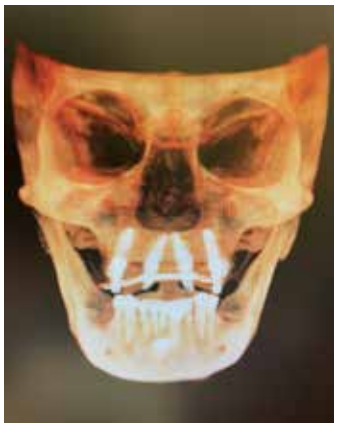
Dr. Jensen is the founder of Ditron Dental USA. He told me that Ditron was dentist-driven, dentist-oriented as well as

Dr. Simon Oh received his Bachelors of Science at the University of Maryland — College Park in Physiology and Neurobiology. He then graduated with honors at the University of Maryland Dental School, where he achieved the highest national board scores in his class. After finishing his dental education, Dr. Oh furthered his training in Oral and Maxillofacial Surgery at Hahnemann University Hospital and St. Christopher's Hospital for Children. Here he received extensive training in conditions ranging from impacted wisdom teeth and dental implants, to major facial reconstructive surgery. Dr. Oh is also a published author in the *Journal of Maxillofacial Trauma*. Today, Dr. Oh serves as Chief Clinical Officer of ProSmile, one of the largest DSOs in the USA. As a Fellow in the International Congress of Oral Implantologists, Dr. Oh has special interest in extramaxillary dental implant surgery, the All-on-X full mouth reconstruction concept, teeth in a day, and bone regeneration. Dr. Oh lectures and trains doctors on implant surgery on a regular basis.

Disclosure: Dr. Oh is on the advisory board of Ditron Dental.

Dr. Simon Oh during implant surgery





Dr. Oh speaking to a patient and reviewing patient imaging

dentist-focused. Since I trusted his opinion before, I knew that the products he endorsed were ultimately focused on helping the patients, not just the company's business bottom line. That was super appealing to me.

Besides practicing dentistry, I also oversee a group of 80 practices as Chief Clinical Officer and Chief of Implantology of the largest DSO in the region, ProSmile. I deal with a lot of implant companies. I have noticed a disconnect — many times there are no doctors making upper-level decisions. The businesspeople making those decisions don't understand the nuances and subtleties that really make a difference. To dentists, it's about the patient. We're not there to help the implant company become huge. We want to deliver products that are best for patients. When I am on advisory board conference calls with Ditron, I have noticed there are more dentists on the call than businesspeople. I can relate to these colleagues and talk shop about implants, and the engineers can hear us discuss our needs. We help determine the fundamental nuances in the implants that will make a difference to patient care.

What is your biggest challenge in educating implant specialists?

My approach is never to be pushy. Ditron implants speak for themselves. For example, colleagues see me using a sensible, practical system that works. With the one-size platform, there are no random parts and pieces like a lot of other implant kits. There's one implant insertion driver and one abutment driver. It's a condensed kit that doesn't take up a lot of space.

Why is the single platform system important to you?

I have a high-volume full-mouth implant practice. At that level, inventory is a headache. You can end up having a hundred types of implants with a hundred abutment pieces, and that really adds up. With Ditron, all implant sizes share a common platform — a single 2.45 mm platform regardless of the diameter of the implant. It's convenient, easy to use, and less inventory. It's simple and seamless. My assistants and associates don't get confused because there is only one answer. The "bottom line" of the practice ultimately has benefited from it.

What advice would you give to dentists starting with implants?

My best suggestion is to get a lot of hands-on training to promote muscle memory. You can see fancy PowerPoint programs and understand the philosophy but not have the clinical skill to place implants correctly. Find a mentor who can teach you one-on-one. Also, develop your skills in another country in a clinic in a philanthropic way. In the Dominican Republic, many impoverished people can't afford implants or other dental work. The clinic provides free care, and the dentists pay the clinic because they are learning. You can place many implants that way.

What is the future of implants?

At some point, I think we will be 3D-printing customized implants. Ultimately, we will be able to scan a patient's jaw, view the exact anatomy of the tooth, extract that tooth, and print an implant that is an exact duplicate of the tooth. Also, the future may hold regrowing teeth from stem cells.

How did you first learn about Ditron Dental USA?

I vetted the implants from a factual standpoint and did some background research. I started placing them on patients, waited 4 months, and was very pleased with the results. I was impressed with the Reverse Concave Neck (RCN) of the Ditron ULT™ Ultimate implant. The main issue with implants is crestal bone loss — the bone loss where the gums meet the bone. This is the smartest version of the type of implant that will eliminate or reduce crestal bone loss. It is based off of new information. The microgrooves on the Reverse Concave Neck create implant-to-bone contact that resists axial loads. The decreased pressure on the cortical bone and lack of vascular compression preserve the peri-implant marginal bone and soft tissue.

Ditron is known for precision manufacturing. Why is precision important with implants?

Ditron was founded to supply components for the aerospace and automotive industries. For aerospace and high-performance vehicles, a couple of microns can make a difference. And that is the same with implants. Bacteria can be 0.5 microns or larger; viruses are 0.2 microns. That's where precision gets vital. Food, saliva, and bacteria can get stuck in the smallest opening where it multiplies and seeps out right at the bone.

Does that relate to the implant/abutment junction and peri-implantitis?

Peri-implantitis is definitely an issue. Most implant types (e.g., shoulder, hip, and knee replacements) are contained inside the body. With dental implants, we don't have that luxury as they are exposed to the oral cavity. So precision is important to minimize bacteria. MolecuLock™ technology on the ULT implant ensures a tight implant-abutment connection that reduces microgap and microleakage. It protects crestal bone and soft tissue from the risks of peri-implant disease.

How does Ditron provide initial stability for immediate load?

The Double-Stressless Sharp Threads (DSST) have an apical-coronal incremental thickness and a descending concave profile between the threads. The threads and extra groove allow for greater initial stability. Immediate loading is dependent on the initial stability of the screw. Having an implant that provides predictable high torque is a must in a full-arch implant practice. Without it, we wouldn't be able to deliver loaded teeth the same day.

What about costs?

There are companies that are riding the wave of having a recognizable big name that people pay for, but in many cases, the products have not advanced. Ditron is an excellent, high-quality, precision product for a reasonable price.

What are your hobbies, and what do you do in your spare time?

Right now my main hobby is making sure my 2-year-old daughter and 4-year-old son don't injure themselves. I like to travel when it's safe. I have a very exciting new hobby. A few dentist friends and I purchased a distillery in Harrisburg, Pennsylvania, and started a rum business. We launched in July. Called Klyr Rum, it is an American-made and extremely smooth silver rum.

What is your future goal clinically?

My main intention is to raise the bar clinically. If I am going to be an influencer, I want to do excellent work with innovative implants to inspire other dentists. Ditron is doctor-driven and receptive to dentists' and patients' needs. That's refreshing. That's why I became a part of the advisory board. Dr. Jensen is one of the fathers of implant dentistry, so just being a part of the Ditron team is a breath of fresh air and tremendous opportunity for me, and I am grateful for that. I believe that Ditron implants will make the future of implants even brighter with all the dentist-driven innovations to come. IP

Dr. Oh during implant surgery

Immediate implant placement and reestablishing vertical dimension

Dr. David Salmassy illustrates a complicated implant placement with the MPI™ Molecular Precision Implant by Ditron Dental USA

Patients don't come to dentists just for implants. They come to us for teeth and smiles. Some want to use those smiles to improve their life. This female patient, MC, is 30 years old and had a history of traumatic dental experiences that resulted in an extreme dental phobia. She had not seen a dentist in almost a decade, and her teeth deteriorated to a state of disrepair, broken off at the gum line. Her grandmother, already a patient of the practice, brought her to the office, asking me to "fix my grandbaby."

MC rarely spoke and never smiled. We took digital photographs and sent them to ROE Dental Laboratory in Cleveland, Ohio, for a PreVu™ Smile Simulation. This simulation allows us to show the patient his/her projected new smile at the outcome of treatment (Figure 2). Seeing the enhanced new smile before the implant procedure is like test-driving your new set of teeth. After viewing her Smile Simulation, MC and her grandmother accepted treatment, and we continued the process — taking traditional impressions, making models, and making the required measurements. We captured the proper and necessary intraoral photographs and CBCT imaging.

When the initial process was completed, we had a long-distance case-planning conference with ROE Dental Laboratory to design the placement of the implants. From the chart records and the CBCT, we elected to use the CHROME GuidedSMILE process to fabricate a virtual prosthesis for the patient. The surgical and prosthetic guides were fabricated so that we could position the actual teeth with a high degree of accuracy. All information was input into the computer based on the bite registration and the models that we sent. MC's dentition had some complicated aspects. Because her upper teeth were broken off so badly, her bite had become over closed. As a result, she had lost much of her vertical dimension, which needed to be reestablished. We needed to open up her bite 8 mm.

MC also needed a bone reduction. Since she needed proper vertical dimension and height for the actual prosthesis, the apical end of the appliance had to be between 13 mm to 15 mm. Hence, we needed to reduce the bone to accommodate for these measurements.

We chose the MPI™ Molecular Precision Implant System by Ditron Dental USA. The precision fit of the components and tight tolerances are very important to the long-term success of treatment. The implants' MolecuLock™ technology uses a biomechanical dental implant-abutment seal designed to reduce microgaps. Microgaps are reduced to less than 0.05 microns,

Figures 1A and 1B: 1A. Imaging — the panoramic image produced from the CBCT. 1B. Intraoral photo — pre-op of MC's upper jaw

David Salmassy, DMD, completed his undergraduate studies with honors at Carroll College in Helena, Montana, receiving a Bachelor of Arts degree with minors in mathematics and chemistry. He attended the University of California at Davis Medical School where he completed research in molecular genetics for his honors thesis. He received his DMD degree at Oregon Health Sciences University. Dr. Salmassy completed his surgical residency in Oral and Maxillofacial Surgery at the University of California at San Francisco. During his training, he also completed 1-year medical training in general surgery and training in anesthesiology. He practices exclusively in Auburn, California, and is part of the medical staff of Sutter Auburn Faith Hospital.

Disclosure: Dr. Salmassy is not compensated by Ditron Dental USA and is not an officer, director, employee, or consultant for the company.

Figure 2: Shows Smile Simulation before and after

Figures 3 and 4: 3. Surgical guide mount has been affixed to the upper jaw after removal of bone. Also shows the bite plane used to secure the teeth in place. We have to ensure that is fixed first before going to the implant placement. 4. Implant surgical guide with a guide sleeve and the guide holes in preparation for implant placement

which eliminate microleakage and bacterial penetration. This is critical for a patient who does not have direct access to hygiene under a prosthesis. Also, the better the tolerance, the better the fit. This facilitates a lack of movement of the components and the teeth, maintaining bone — an integral part of a successful implant.

The design features on the MPI include the unique Spherical Helix Chamber, which captures blood and bone fragments for assisted osseointegration, and the beveled collar, which shifts the dental implant-abutment junction inward away from the coronal bone, allowing you to achieve a platform-switching configuration that prevents coronal bone resorption.

Additionally, the MPI offers an expanding tapered dental-implant body with a self-tapping progressive double-thread design, which gradually condenses the bone-enhancing initial stability. The double threads result in an efficient insertion rate of 2.2 mm per revolution of the dental implant.

The MPI implant also has a single platform — one 2.45 mm dental implant-abutment internal hexagon connection for all diameters. This is huge for my office. It simplifies the restorative platform and provides a consistency and interchangeability of parts. That means there are fewer parts and pieces to keep track of and less inventory to maintain. It is easier to swap pieces out because it is one-size-fits-all, whether I use straight or angled abutments.

The surgery went according to plan. First, we extracted 11 of MC's teeth — Nos. 3, 5, 6, 7, 8, 9, 10, 11, 13, 14, and 15.

This implant procedure was "life changing" for MC. When she returned for her post-op photos, she described a conversation that she had with her 15-year-old son after surgery. She said, "He kept staring at me. He didn't realize that I didn't have any teeth before. I didn't smile, and I didn't show him that I didn't have any teeth. Now that he sees me talk like a normal person, and he sees teeth, he says it's amazing." She continued, "They are so beautiful. This is my biggest milestone in life other than having my children."

For me, implants are not just about speech, phonetics, appearance, and function, although those are all very important. We give a person back hope, self-esteem, and self-worth. The main reason that MC wanted her implants was her desire to return to the workforce. Before her surgery, she wouldn't smile. In her post-op photo, she is beaming. It is very rewarding to see my patients get the smile of their dreams. IP

Figures 5 and 6: 5. Using the surgical guide sleeves in the placement of the upper left posterior implant. 6. Surgical guide in place showing the placement of the implants through the guide

Figures 7 and 8: 7. Guide platform for placement of the prosthesis showing the multi-unit abutments in place. 8. The prosthesis on the guide platform and the alignment of the multi-unit abutments with the computer pre-planned and pre-positioned access holes in the prosthesis

Figures 9 and 10: 9. Temporary cylinders attached to the multi-unit abutment. 10. Prosthesis in place and guide tubes in preparation for the placement of the bonding

Figures 11 and 12: 11. Bonding agent applied to the outside of the temporary cylinders to pick up the actual position of the teeth in the arch. 12. Closure sutures around healing sleeves

Figure 13: Immediately after returning the prosthetics to the mouth, attaching them to the multi-unit abutments

Figures 14 and 15: 14. Facial photograph showing the net increase in the vertical dimension and occlusion. There is a cotton tip applicator with a mark on the nose and a mark on the chin. The upper mark is the pre-op vertical dimension, and the lower mark is the postop vertical dimension. The VDO increased from 62 to 70. 15. MC 4 days after placement

Edward Goldin, DDS

Tell us a little about your background.

I have been on the faculty at New York University (NYU) postgraduate prosthodontics program for 12 years and am trained in prosthodontics and implant surgery. I graduated from Columbia University College of Dental Medicine and did my postgraduate prosthodontics training and implant fellowship at NYU. My family practice was started by my grandfather in the 1930s. My father continued in the 1960s, and I joined in 2000. Now my daughter, a senior in high school, is talking about studying dentistry. She would be fourth generation!

How does someone achieve the status of key opinion leader/influencer?

First, you really have to love what you're doing. When you go into the office every day looking forward to the next case, I think it brings you to a level where you can create excitement in other people. Influencers should be able to talk about their subject in a way that makes others excited about it as well. I teach residents at NYU. I see their cases as challenges and puzzles to solve. They see my enthusiasm when I get to treatment plan a new case.

You must have many choices of implant brands. Why have you chosen Ditron Dental implants as your implants of choice?

For me to consider switching, the implant must be not only less expensive than what I am currently using, but also better quality. I also look for a track record of successful osseointegration. I like implants with a simple connection. The implant should have many prosthetic options like angulated abutments, straight abutments, overdenture, or fixed components.

What features of Ditron Dental implants do you consider most valuable?

Placing as many immediate-load and full-arch immediate-load implants as I do, primary stability is critical. For example, when I extract a fractured tooth, I want to do immediate implant placement and immediate provisionalization. The Ditron implant's aggressive threads ensure that I will have good primary stability even when I place it into an extraction socket. Also, the implant's geometry provides a uniform dental implant-to-bone contact. I need to be confident that implants are going to be able to be loaded at the time of placement.

Ditron implants have a simple and reliable internal hex connection. There is one 2.45 mm dental implant-abutment internal hexagon connection for all diameters. Ditron's research found that platform-switching achieved with the implant-abutment connection prevents coronal bone resorption and promotes soft-tissue growth.

The components fit together really tightly, preventing microleakage. Ditron calls that "MolecuLock™ biomechanical dental implant-abutment seal." It was designed to reduce microgaps to less than 0.5 microns — too narrow for bacteria to penetrate.

Also, the aggressive thread design, called Double Stressless Sharp Thread (DSST), preserves the vascularity of the osteotomy and maintains the peri-implant marginal bone and soft tissue.

What advice do you have on how to keep current on the trends and changes in this rapidly evolving dental sector?

Keep up with the current journals and monitoring social media is an important part of staying current. Teaching at NYU and being involved with the residents helps me to learn. When they bring me information, it forces me to research and find out more. I recently heard about new stackable guides — some technologies didn't even exist 5 years ago.

I also am on the clinic floor treating patients with the residents. So every student's experience with me is different because we focus on a particular patient's treatment. Today I treatment-planned a full-mouth implant case. Another patient had a congenitally missing tooth, and another needed dentures. The hope is that over the 3 years, each student will learn how to approach all of those types of cases — that is the goal of the prosthodontics residency. IP

ULT™ — The Ultimate™ Implant by Ditron Dental USA

An implant system that checks all the boxes

Founded by Brånemark award-winning oral surgeon, Dr. Ole T. Jensen, Ditron Dental USA is a dental implant company guided by a Clinical Advisory Board comprised of dental leaders. Ditron's roots date back more than a half-century, when Ditron Precision Ltd, a precision machining world leader, and the parent company for Ditron Dental and Ditron Dental USA, was founded to supply components for the aerospace and automotive industries, where failure is not an option. Today, engineers, micro-machining specialists, and top-notch clinicians drive the company's research, development, and production of high-end dental implant-based solutions. Ditron Dental USA's strong legacy of precision and relentless pursuit of innovation is behind its flagship product, ULT™ — The Ultimate Implant.

The Ultimate Implant was designed by legendary implant pioneer, the late Dr. Matteo Danza. He spent years searching for a manufacturer with the capabilities to fulfill his vision. Once he learned of Ditron's ability to manufacture to tolerances of less than three microns, he knew he had found his solution. In 2020 Dr. Jensen introduced this exciting technology to America.

"When I was introduced to Ditron Dental USA, I was amazed to see that this company had checked all the boxes necessary for an extraordinary implant system." Said Dr. Wayne R. Harrison, clinical advisor for Ditron Dental USA.

According to Dr. Harrison, attention to detail is the hallmark of a great implant company. Clinicians looking for an implant with greater initial stability for immediate load will find it with the ULT.

The ULT's distinctive benefits include:

MolecuLock™ Technology

Ditron's precision and high-quality manufacturing ensures a tight implant-abutment connection, reducing the risks of micro-movements under mechanical load that can lead to microbial leakage and implant failure. The tight fit also protects crestal bone and soft tissue from the risks of peri-implant disease.

Dr. Harrison says, "Form follows function. With this molecular precision, under the most adverse mechanical loads, you can reduce the chances of screw loosening, microgap and microleakage, and therefore mitigate the factors that lead to peri-implant disease."

Reverse Concave Neck (RCN)

Dr. Danza sought to create a dental implant-abutment connection that leaves a constant horizontal progressive space that prevents coronal bone resorption and promotes soft-tissue growth, a concept known as bone platform switching. The Reverse Concave Neck (RCN) with microgrooves creates an atraumatic dental implant-to-bone contact that resists axial loads. This decreases the pressure on the cortical bone while avoiding vascular compression that preserves the peri-implant marginal bone and soft tissue.

Double-Stressless Sharp Threads (DSST)

The threads with the concave profile have an apical-coronal incremental thickness. DSST combined with the descending concave profile between the threads generates a gentle and progressive horizontal and vertical bone compaction that preserves the vascularity of the osteotomy, maintains the peri-implant marginal bone and soft tissue, and enables greater initial stability for immediate load.

Dr. Harrison says that helical apico-coronal slots serve an important function when placing the implant in the osteotomy. Instead of producing a plunger effect that pushes all the blood and bone to the bottom of the osteotomy, the ULT slots allow the blood and bone fragments in the osteotomy to wash up the side of the implant.

One-Size Platform

All implant sizes share a common platform, providing convenience, ease of use, and less inventory. This is one of ULT implant's most popular features — and unique to Ditron Dental USA. ULT comes in a single 2.45 mm platform regardless of the diameter of the implant. The common platform simplifies the restorative process.

Dr. Harrison adds, "The ULT implant is a comprehensive restorative solution with fewer parts and pieces. The one-size platform means you don't need to choose between narrow, regular, or wide platforms. Instrumentation also is simplified. There is a single implant insertion driver and single abutment driver. No more confusing choices."

Surface Integrity

Ditron Dental USA's advanced quality assurance system has resulted in the product's performance of zero defects per million parts in a NAMSA study*. This phenomenal recorded performance is verifiable and sustained. Dr. Harrison notes, "The quality and inspection in the Ditron Dental USA manufacturing process is pristine. Their attention to detail is off the charts."

Schedule a private virtual consultation with Dr. Wayne R. Harrison at ditrondentalusa.com to learn more. IP

**Data on file*

This information was provided by Ditron Dental USA.