



Glidewell Laboratories: New Ideas Meet Proven

by Chelsea Knorr, Editor, *Dentaltown Magazine*

Glidewell Laboratories has remained near its original roots. Headquartered in Irvine, California, the company employs nearly 3,600 professionals, keeping many of its supply chain requirements in-house. Herein, we talk with Jim Glidewell, founder, president and CEO of Glidewell Laboratories about what's happening inside the walls of this cutting-edge lab.

I think most dentists are familiar with Glidewell Laboratories, but few are familiar with how it all began. Can you tell us how you got your start?

Glidewell: I started in the Navy right out of high school, serving in Southeast Asia during the Vietnam War as a boatswain's mate. At 21, I returned to the states and found work selling Prudential and New York Life insurance door to door in Las Vegas. It was then that I ran into an old high school friend, Rex Frehner, who first gave me a glimpse into the dental industry. Frehner ran a dental lab and paid his bill for the year, rather than by the month. Inspired by his success, my wife and I



simple goal of crafting high quality dental restorations at competitive prices.

Glidewell is known to be a proponent of advanced technology, and of CAD/CAM dentistry in particular. What have you seen in terms of development on that front?

Glidewell: Well, first of all, Townies are definitely the most progressive in this CAD/CAM digital arena. However, our commitment to technology stems from our continued desire to increase the quality of our restorations while also lowering costs.

This will help dentists to treat even more patients and enhance the value of their practices while also helping more patients afford treatment. CAD/CAM has proven to be extremely rewarding in that regard. When I visited with Dentaltown back in 2010, I mentioned that more than 45 percent of our entire fixed crown-and-bridge production was utilizing some form of CAD/CAM. Today, that percentage has climbed to more than 90 percent. That, to me,

speaks volumes as to the demand for these digitally produced restorations – or doctors wouldn't be requesting them in such record numbers. As we've seen from the beginning, the accuracy and precision of computers really is superior to that of traditional techniques, enabling our technicians to design contacts, margins and occlusion within a factor of mere microns – and to do so consistently, with processes that minimize exposure to human error. In the end, doctors get a better-fitting crown with little to no chairside adjustment.

Are there other ways in which you see digital technology impacting dentistry?

Glidewell: In addition to the desktop digital scanners we use to capture stone models in a virtual environment for CAD processes, the speed, accuracy and convenience of intraoral scanners continues to improve, offering doctors a real alternative to elastomeric impressions. From a

digital scan of the oral environment, sent and received directly from a chairside scanner, we can design and mill the restoration within hours, vastly improving turnaround time and further reducing the costs involved. If a physical model is desired, we can produce one using advanced 3D printers such as our Objet Eden500V by Stratasys. Our Perfactory 3D printer from EnvisionTEC allows us to create highly precise wax patterns at a fraction of the time required for a hand wax-up.



Rose Street Lab, 1978



R&D team meeting, 2000



Quality assurance of BruxZir blank.

Experience

packed up our Volkswagen and headed West for the dental technology program at UCLA. Unfortunately, we arrived in California only to learn that UCLA had shuttered the program. So I headed south to Orange Coast College in Costa Mesa, where they were starting up a new dental technology program. I graduated in 1969, initially finding work in a dental office—giving me firsthand experience in how a technician's efforts directly affect the doctor's chairtime. When that doctor abruptly closed up shop, I decided it was time to strike out on my own. In 1970, Glidewell Laboratories was born, with the

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What's it like to work at Glidewell?

Glidewell: I believe in creating long-term professional growth opportunities for everyone who joins us. A large number of employees have been with me for decades. By empowering individual growth, the company cannot help but follow. Wherever possible, we promote from within, recognizing the best and the brightest – the most initiated – and put them in positions that help to elevate those around them. At the same time, when looking to implement new technologies or processes, we're not afraid to go out and recruit folks who are recognized for their expertise in those fields. We certainly wouldn't want to become near-sighted, because remaining open-minded and adaptable is key to growth.



R&D department



Quality assurance of inclusive implant



3D printed models

recall study of our Inclusive Tapered Implants revealed a success rate of 97.6 percent.

You mention dental implants, a sector in which Glidewell has become well established. Can you tell us

Take us through the process of implementing a new technology at Glidewell.

Glidewell: It starts with recognizing a deficiency or need within the industry. With our BruxZir Solid Zirconia, for example, it was acknowledging demand for an aesthetic alternative to cast gold restorations – one that would withstand the rigors of functioning in the posterior without chipping or cracking. Or consider our Inclusive Custom Abutments or the Inclusive Tooth Replacement System, each of which resulted in part from the many horror stories we hear from restorative doctors – and see firsthand in our implant laboratory – about cases in which a dental implant is placed with respect to the available bone, but with little regard to the angle of the tooth it's meant to support. Given the time and expense of undergoing implant placement, we feel patients and restorative doctors deserve the satisfaction of an acceptable aesthetic result – complete with natural soft tissue contours – which can be difficult to achieve using conventional components or traditional protocols.

Once a need is identified, we set about through research and development to determine how to address a prospective solution. If this means augmenting our own materials sciences division, as in the case of BruxZir, we do it. If it means assembling an experienced team of engineers and machinists from the implant manufacturing industry, and then pairing them with respected clinicians and implant laboratory technicians to design a better abutment, or an all-in-one treatment protocol for a missing tooth, we make that investment. The adage that success is 10 percent inspiration and 90 percent perspiration seems to work for us. We simply look at the status quo, imagine how it can be improved from either a quality or efficiency standpoint, and then do what we must to build a better solution. After that, we continue to follow up with validation and performance studies, both independent and in-house. We're looking forward to a new four-year TRAC Research clinical study from Clinicians Report on BruxZir restorations, which to date have shown flawless performance. Meanwhile, a two-year clinical

about your experience in that regard?

Glidewell: Roughly 20 years ago, in 1993, we actually took a step back from the restoration of dental implants due to limiting technological factors within the industry. The complexity and confusion that prevailed at the time too often resulted in unpredictable or compromised outcomes. Patients were unsatisfied, and doctors were losing money. Rather than take part in what we felt was a substandard level of care, we waited more than a decade for the implant industry to further develop its understanding of bone biology, grafting techniques, implant surface treatments and surgical protocols to the point where implant therapy had increased its viability as a widespread treatment option. Once we recognized this, we cautiously set about rebuilding our implant department, taking our time to make sure we did not promise something we couldn't deliver. Despite our slow, deliberate approach, the department flourished. With renewed confidence, we hired Greg Minzenmayer, former director of marketing for Nobel Biocare, to spearhead our continued development.

Fast forward to today, and we are restoring a lot of implant cases. This gives us tremendous visibility into the industry – both its successes and its needs. The demand for our Inclusive Custom Abutments continues to grow at a feverish pace. To these we've added Inclusive CAD/CAM Milled Bars to support and strengthen implant overdentures. Beyond that, we've established an ISO-certified (International Organization for Standardization) manufacturing facility to produce Inclusive Tapered Implants, Inclusive Mini Implants and Inclusive Prosthetic Components compatible with most major implant brands – providing clinicians and labs single-source availability and uniform pricing on implant components regardless of system. Unfortunately, we hear that many implant companies threaten to void the warranties of their fixtures for those doctors who choose to use custom or aftermarket restorative components. But we believe doctors shouldn't be limited in choosing

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the best solution for the patient. So we not only guarantee all of our abutments and restorations, we'll even replace any manufacturer's implant with one of ours.

What are some of the ways Glidewell extends beyond the lab setting?

Glidewell: Our extensive research, advancement of material sciences and manufacturing capabilities might seem to set us apart, but at the end of the day, everything we do here is still firmly rooted in the dental laboratory services designed to help dentists in providing a better restoration. From the digital treatment planning of implant cases to delivery of the final restoration, we're looking to streamline processes and improve chairside efficiency with predictable, repeatable outcomes. And we're not alone in this. From the beginning, we've been resolved to share what we learn with clinicians and fellow labs, be it through direct partnerships or through our many free or low-cost educational resources. We film weekly episodes of "Chairside Live," a show that tracks news stories in the dental world and features a case of the week from our lab, used to highlight tips and techniques that we hope viewers may find useful. Last year, we opened the Glidewell International Technology Center, a state-of-the-art education facility and full-service operatory, so that we can provide ADA-CERP and AGD accredited lectures and hands-on training programs for clinicians looking to expand their treatment services. The more we can share of what we've learned, the more patients and their service providers benefit.

Glidewell has its sights set high. What's on deck?

Glidewell: We certainly don't mean to rest on our laurels. In addition to the release of improved materials like BruxZir Shaded 16, we continue to invest considerable effort in simplified, fully integrated dental solutions. One example would be our family of Inclusive Tooth Replacement System packages for both partially and fully edentulous cases. We want to help specialists grow their referral bases with restorative-friendly protocols, and for more general dentists to expand their practices by adding implant placement to their list of services. Following in our mission to make implant therapy more convenient, more predictable and more affordable, we intend to introduce a guided surgery kit for our Inclusive Tapered Implant System, enabling clinicians to place implants with even greater confidence and efficiency. Another new service, the BruxZir Solid Zirconia Full-Arch Implant Prosthesis, is drawing attention as perhaps the toughest implant-supported restoration to date. It is completely monolithic—no acrylic, no porcelain veneering. And we remain heavily invested in nano-zirconia technology, which has enabled us to constantly improve the strength and translucency of our BruxZir zirconia and other materials that dentists and patients are asking for.



Townies love being involved in the research and development of products and equipment. How do you involve dentists in this early stage?

Glidewell: Our most direct involvement with dentists is still through the cases they entrust to us. Our customer service representatives are vigilant in addressing any difficulties, and in seeking evaluation of our services. We also invite clinicians to tour our facilities, subscribe to our magazines, or attend lectures or courses with us in order to better gauge what

we do and how we go about it. We attend the Townie Meeting along with numerous conventions throughout the year, and, yes, rely greatly on community forums like Dentaltown. Dentaltown does an outstanding job of keeping a finger on the pulse of the industry, helping us to keep abreast of needs and trends. The reverse is also true, as it provides a trusted communication channel through which to further the adoption of positive advancements. To believe that what we've done before is all that is required of us moving forward would be a disservice to our dentists and their patients. Townies are there to tell us just how we can improve.

A dentist's communication with his lab is essential. How do you ensure clear communication lines stay open and top of mind?

Glidewell: In addition to the tireless efforts of our customer service reps and technical advisors, we provide a direct online portal for doctors through a personalized "My Account" feature on our website. This enables us to document the status of cases in progress, complete with photos, so that the doctor is never left in the dark. Beyond that, we're constantly looking for new means of improving both the accuracy and efficiency of communications. For example, the custom impression coping available with the Inclusive Tooth Replacement System is designed to capture patient-specific soft-tissue contours so that the technician isn't left to guess where the margin lies around an implant site. In some respects, the best conversation a dentist can have with his laboratory is the one that never has to take place, leaving him more time to spend elsewhere.

What are you most proud of at Glidewell?

Glidewell: When all is said and done, I want the legacy of Glidewell Laboratories to mirror my goal when setting forth: to make quality dentistry more affordable for dentists and to help bring more patients into good oral health. We seem to be doing that, and in growing the careers of our customers, partners and dedicated employees in the process. I couldn't ask for much more. ■