Safe, accurate, simplified sinus-lift technique for general practitioners

Part 2: Introduction of surgical technique combining CAD/CAM surgical guides with hydraulic intracrestal approach sinus lift

By Virgilio Mengalo, DMD, and Jae Chang, DDS

In Part 1 of this three-part series, published in the November 2012 Dental Tribune U.S., we presented a sinus lift technique involving hydraulic pressure to elevate the floor of the maxillary sinus. Many respected clinicians and researchers have taken the task to compare the effects as it is related to a percentage of sinus perforation using existent intracrestal sinus lift techniques. These proven surgical techniques include the use of osteotomes (Summers — and its multiple variations), balloon lift, hydraulic sinus condensing technique (Chen and Cha) and motor-driven drilling systems. Scientific articles published in 2012 by Loma Linda School of Dentistry (Garbacea and Lozada) and the Department of Periodontics and Oral Medicine, University of Michigan School Dentistry (Chan and Avila), assessed crestal sinus floor elevation using cadaver heads and endoscopes to study the incidence of maxillary perforations. Both studies concluded that perforations can occur with any technique but are more likely to happen when the membrane is raised past the 10-mm mark measured from alveolar crest. A recent prospective study published in 2012 by the Division of Prosthetic Dentistry, Maxillofacial Unit in Sweden (Fornell and Johanson) presented a CBCT-guided osteotome sinus elevation technique that shows improvement over conventional techniques in that there is decrease in the percentage of perforations.

The purpose of this article is to introduce a surgical technique that combines planning and drilling using CAD/CAM surgical guides with hydraulic intracrestal approach sinus lift. This technique is a combination of creative thinking from the authors and innovative instrumentation developed by Hiossen Implant Systems.

Four patients were treated using this technique; 20 taper-hydrophilic implants (Hiossen ET-III) were inserted and integrated over a period of six months. Two patients were par
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Study reveals how automated patient appointment reminders affect dental practice no-show rates and production

By Diana P. Friedman, MA, MBA, and Tim Williams, BA, MS

The internet age has dramatically altered communication patterns. Face-to-face interactions continue to give way to digital message exchanges. Channels for these digital communications have rapidly morphed and expanded over the past years toward a faster, more interactive means of exchange.

This is the reality that faces dental practices: Interaction with current and prospective patients increasingly takes place online. In order to maintain a productive level of engagement, dental practices have to identify effective ways to leverage these new channels of communications.

Patient engagement not only drives retention, but new patient acquisition — two cornerstones of a profitable practice. Research has consistently shown patients welcome the adoption of digital interchanges. A national research study by Sesame Communications documented that 97 percent of dental patients would rather check in to their dental practice than wait in the chair or on the phone calls from the practice.

Automatization reduces no-shows

Sesame Communications pioneered the first automated appointment reminder system for dentistry in 1999. Automated reminder programs enable practices to confirm scheduled appointments via email, text messages or automated voice reminders. Sophisticated patient portals let patients define their preferred method of contact. This service not only provides great convenience and benefit to patients, it can dramatically improve efficiencies for the practice.

A recent Sesame Communications study analyzed five years of patient-attendance rates based on 1,604,184 appointments across 64 dental practices. The study found that no-shows were reduced by 22.95 percent following implementation of automated appointment reminders. Chart/Provided by Sesame Communications

In tooth-bearing patients, the sinus membrane was not perforated. The floor of the sinus was imploded using non-cutting end drills (CAS) (Fig. 6). Three cc of saline was used to create hydraulic pressure and elevate the membrane (Fig. 7). One gram of non-ceramic synthetic bioactive crystals (Osteogen by Implandent) was packed per implant site and fixtures were inserted at 20-30 Newtons (Fig. 8). All patients were scanned postoperatively to verify 360 degrees of bone spread surrounding the implant and to ascertain that sinus membrane was not perforated. Three-dimensional images revealed no perforation and excellent distribution of the synthetic bioactive material surrounding the implants placed.

Six months were allowed for bone remodeling and ossosintegration. While this prospective study represents a very small number of cases to come to any kind of scientific conclusions, we are excited with the prospect of being able to introduce a technique that might reduce the percentage of perforations as a consequence of intraradicular sinus lifts.

Conclusion

Automated appointment reminders dramatically reduce practice no-shows and positively impact production. They are the method of communications that patients prefer. They improve efficiency and profitability. And, finally, 90 percent of dental professionals agree that automating reminders gives them peace of mind that all patients are being consistently contacted prior to appointments.

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Study shows how to reduce no-shows

The study tracked no-show rate changes, both pre- and post-implementation, of automated appointment reminders. The study found that dental practice no-shows were reduced by 22.95 percent.

The financial implication of schedule compliance is significant. This research documented $34,456.88 in incremental production for dental practices due to schedule other- wise lost. The benefits of practice produc- tion improvements continued throughout the 36-month post-activation period.

The data clearly demonstrates a positive productivity impact when integrating automated patient appointment reminders into the practice. First-year fees for this service should be recovered within the first six months post-activation. Additionally, time previously used by the administrative team on confirmations can now be leveraged to build relationships with patients, market the practice and activate patients.

Increased production is at the epicenter of a practice’s financial performance, impacting cost-effectively and ultimately, profitability. Appointment no-shows have a devastating impact on practice financial performance. In 2012 national research study, 32 percent of dentists said their top need was to reduce no-shows in the practice. Automated reminders have the potential to cost-effectively and efficiently address this need.

Research shows that today almost 60 percent of practices have some form of automated appointment reminder solution. However, until recently there has been very limited research to document the impact these solutions have on no-show rates and practice production. With advanced systems costing $900 per month on average, the return on investment justification for this investment has, to date, been a challenge.

Sesame Communications recently announced the results of a breakthrough study measuring the impact of automated patient appointment reminders on practice production. The study analyzed five years of performance data and tracked the detailed confirmation and patient attendance rates on 1,604,184 appointments across 64 dental practices.

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DENTSPLY Tulsa Dental Specialties has introduced its newest innovation and an expansion of its world-renowned endodontic file system.

PROTAPER NEXT is the same variable taper design found in the original ProTaper that clinicians have turned to for more than a decade, but refined to improve performance.

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Four sizes of color-coded and precision-matched absorbent points, gutta-percha points and obturators fit all PROTAPER NEXT prepared canals. Together they represent the PROTAPER NEXT system-based approach to root canal therapy. For more information about the latest endodontic innovation from DENTSPLY Tulsa Dental Specialties, visit www.tulsadental specialties.com/protapernext.aspx or call (800) 662-1202.

About DENTSPLY Tulsa Dental Specialties
DENTSPLY Tulsa Dental Specialties describes itself as being the premier producer and marketer of endodontic dental systems in North America. It is a division of Pennsylvania-based DENTSPLY, a leading developer, manufacturer and marketer of products for the dental market.

For more details, visit www.tulsadentalspecialties.com or call (800) 662-1202. DENTSPLY International is a leading manufacturer of dental and other healthcare products. The company believes it is the world’s largest manufacturer of professional dental products.

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Headquartered in the United States, the company has global operations with sales in more than 120 countries. Visit www.DENTSPLY.com to learn more about DENTSPLY and its products.

(Source: DENTSPLY)
xpAPce is morphing into ‘Expert Dental CE’

Numerous online C.E. modules launched covering biofilm, bone grafting, smile design, facial pain and more

While the company name remains the same, xpAPce (www.xpapce.com); an online dental C.E. company whose name is taken from its mission — Expert Approved Continuing Education — will now refer to itself as ‘Expert Dental CE’. (www.expertdentalce.com will point to www.xpapce.com).

“It was a mouthful,” says xpAPce Co-Founder Dr. Alan Winter. “Everyone tried to pronounce it and stumbled over the letters because it was meant to be spoken. Knowing that ourselves, we found it difficult to refer to xpAPce when speaking to scholars and dentists taking our courses. We were fortunate to have the domain name ‘Expert Dental CE’ available, and this is how we will refer to ourselves in the future.”

“When it comes to our mission, Expert Dental CE is right on target,” says xpAPce’s other co-founder, Dr. Frank Murphy. “There are niche online C.E. companies that cater to one area of treatment. The obvious ones are implants or cosmetic dentistry,” Murphy explained. “Our focus is to be the go-to online C.E. company providing the broadest spectrum of programs. At present, we have 17 different departments. In six months we’ve launched more than 60 courses comprising 100 hours of CERP- and AADH-approved C.E. In the future, our library will offer more and more procedurally specific modules to enhance skills and improve patient outcomes.”

New courses launched
In keeping with xpAPce’s mission, recent course offerings have something for everyone.

Consider Dr. Deborah Stauffer’s course, designed for dental assistants and hygienists, which updates current thinking on plaque and biofilm and how best to teach and motivate patients to perform better oral hygiene.

Dr. James Fine, chairman of New York Presbyterian/Columbia PG perio program, provides a series of up-to-the-minute courses on bone grafting and bone substitutes.

Dr. Graz Giglio, president of the N.Y. Academy of Prosthodontists, delivers two outstanding programs on “smile design for anterior esthetics and laminate veneer preparations.”

And then there is Dr. Barry Rosenberg, president of the Academy of Orofacial Pain, with an introductory course on diagnosing and treating facial pain.

Additional upcoming courses will soon be available in oral pathology with Dr. Jon Svirsky, oral medicine with Dr. Jeff Burgess, prosthodontics with Dr. Charles Goodacre and Dr. Bruce Valuari, Periodontics and implant surgery with Dr. Federico Brugnami. Drs. Peter Cathro and Geoffrey Heithersay will provide courses on instrumentation and treating resorptions — additions to xpAPce’s comprehensive endodontic module.

xpAPce’s new price schedule and annual subscription makes courses more attractive than ever.

The eLearning takes place in a unique format: an online dental community. Dental professionals can earn C.E. credit, visit vendors at their leisure, view new products, download PDFs, contact a sales rep, attend a meeting and more.

Visit the Education and Vendor Hall for a list of scholars and courses — and to see the vendors that have booths inside the community.

For information about becoming a vendor, contact info@xpsquared.com. For a snapshot of both of the organization’s websites, visit www.xpsquared.com, where all courses and vendors are listed.

Courses also are available live and on demand on the Dental Tribune Study Club website, www.dtsstudyclub.com.
Five-Day Intensive Implant Placement Seminar with LIVE Patients

COURSE OBJECTIVES:
- Identify cases suitable for dental implants.
- Diagnose and establish a treatment plan for preservation and restoration of edentulous and partially edentulous arches.
- Demonstrate competency in placement of single tooth implants, soft tissue management and bone augmentation.
- Obtain an ideal implant occlusion.
- Work as a part of an implant team with other professionals.
- Incorporate implant treatments into private practice with quality results, cost effectiveness and profitability.

COURSE DESCRIPTION:
During the course clinician will learn how to perform preservation-oriented implant procedures with confidence and competency. Participants will learn how to make extensive treatments more cost effective, while adhering to currently accepted concepts of implant therapy.

The course includes: one day of lectures, half day of hands-on workshop on anatomic models and three days of implant placements on provided patients. Doctors will establish a treatment plan for at least 4 patients and place minimum of 4 implants. Cases will be selected based on participant’s surgical level of expertise. One-on-one instruction by course faculty is provided with procedures and techniques that can be immediately implemented into office situations.

COURSE INFORMATION:
July 4-6, 2013 (intermediate) and September 26-30, 2013 (basic)
School of Dental Sciences, Kingston, Jamaica
2 dentists per operatory

Price: $7,800 ($6,300) includes 5-day course tuition, hotel (7 nights), breakfasts, lunches and Island’s transfers.

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— Joe Bussell, DDS; Little Rock, Ark.

I took an impression today for the final ceramic restoration on one of my Inclusive® Tooth Replacement Solution patients. The site of the Inclusive® Tapered Implants healed wonderfully! This was due mainly to the patient-specific temporary components that provided my patient with a natural-looking temporary and tissue contours, and I couldn’t be happier. The custom impression copings were very easy to use, and they made the entire process a breeze. I would highly recommend the Inclusive Tooth Replacement Solution to every dentist looking for an efficient and effective way to practice implant dentistry.

— Robert Klein, DDS; Kansas City, Mo.

I would like to express my overwhelming satisfaction with the Inclusive® Tooth Replacement Solution, which made this one of the easiest implant cases I have ever done. Because I achieved primary stability and used the included custom temporary abutment and BioTempes® crown, I was able to achieve optimum esthetic results and cut down my chairtime. Now I can offer my patients a more esthetic and biologically superior result using the Inclusive Tooth Replacement Solution instead of the stock components normally used. It is, for me, a very cost-effective way to deliver superior treatment with custom components for each case. I used to spend more time and money with other systems, but now I have a great alternative!

— James Nicholson, DDS; Muskogee, Okla.
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![Image of a woman smiling with text and dental implants]

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BIOLASE hands-on showcase includes all-new EPIC laser

BIOLASE, a leading dental laser manufacturer and distributor — and distributor of NewTom and 3Shape TRIOS technologies in North America — will showcase its full line of award-winning laser systems, 3-D cone-beam devices and digital intraoral scanning technology at all major and regional 2013 trade events, including the 148th Chicago Dental Society Midwinter Meeting, from Feb. 21–23. The company will feature the products in its new Total Technology Pavilion, a large space with functioning equipment to allow hands-on demonstrations and discussion of the full range of applications. The pavilion also features an overview presentation of the total-technology concept, along with brief presentations by practicing dentists who have deployed such technologies in their practices.

“We are proud to present the Total Technology Pavilion at the Chicago Dental Society Midwinter Meeting and beyond,” said John Bernhard, director of marketing at BIOLASE. “It represents the collective efforts of multiple teams to create an environment where dental professionals can spend time with these groundbreaking technologies to gain an understanding of their applications in the dental clinic.”

EPIC standard set for diode lasers

New to the Total Technology Pavilion this year is the EPIC Total Diode Solution, the newest laser from BIOLASE. It’s described as being packed with one category-exclusive feature after another, setting a new standard in diode laser performance and value. A graphical touchscreen gives dentists fingertip access to as many as 20 common soft-tissue procedure presets — plus 20-minute full-mouth whitening and FDA-cleared temporary pain relief. Additionally, EPIC can be a financial boon for many practices because of its integrated, FDA-cleared protocols for laser hygiene and periodontal maintenance as an adjunct to scaling and root planing. Plus, a new ComfortPulse setting reduces pulse length to as little as one ten-millionth of a second to avoid heat build-up at the surgical site — for fast tissue cutting with less patient discomfort.

3Shape scanner and WaterLase lasers

Another addition to the Technology Pavilion is the 3Shape TRIOS digital intraoral scanner system. The TRIOS digital solution, which includes a hand-held scanner, operator’s control cart and intuitive software, provides faster impression taking, improved accuracy and clinical results, reduced need for retakes and less adjustment and grinding. TRIOS’ unique features include: spray-free scanning; high accuracy optimized for an extensive range of indications; clinical scan validation; online communication with the dental lab; and intuitive Smart-Touch user interfacing.

Other products in the pavilion include WaterLase iPlus, WaterLase MDX and WaterLase MD Turbo, the company’s full range of all-tissue laser devices. WaterLase iPlus represents a pinnacle of 20 years of research to improve cutting speed to match that of a high-speed drill, with a fraction of the discomfort and ancillary challenges a dental drill creates, such as microfactors, smear layer and more. The WaterLase MDX and MD Turbo are described as ideal for practices seeking a basic, lower-cost entry point for all-tissue laser dentistry. "Although the WaterLase MD platform was first released in 2004, there have been many improvements and refinements, including a more flexible fiber, faster-cutting handpieces and many other
Latest from i-CAT: The i-CAT FLX
3-D scans customized to need, at low radiation dose

The i-CAT® booth at the Chicago Dental Society Midwinter Meeting will be buzzing with excitement with launch of the new i-CAT FLX. The cone-beam 3-D unit brings even more flexibility to Imaging Sciences’ family of 3-D imaging products to help clinicians scan, plan and treat with confidence. Born of i-CAT excellence, the i-CAT FLX gives dentists information that helps them provide better dental care for their patients.

Company representatives note that i-CAT scans already offer greater confidence and control for individualizing treatment to a specific patient’s needs; and the high-resolution, volumetric images enable thorough analysis of bone structure and tooth orientation. Treatment tools exclusive to i-CAT streamline workflow, allowing for smooth movement from scan to plan to treatment. Control over radiation dose is an important factor in the decision to add a cone-beam 3-D scanner to the practice. The all-new i-CAT FLX offers 3-D imaging at a lower radiation dose than a panoramic X-ray, with the all-new QuickScan+. This, combined with clear 2-D and 3-D images produced by Visual iQuity image technology, offer the optimal balance between image quality and patient safety. Add that to rapid reconstruction rates, and in less than 30 seconds, patient and practitioner can be in consultation-planning mode.

Optional i-PAN also offers traditional 2-D panoramic and cephalometric images. And, for a guided acquisition workflow, SmartiScan STUDIO has an easy-to-follow, touchscreen user interface. This customizable solution offers step-by-step guidance, allowing clinicians to select the appropriate scan for the individual patient at the lowest acceptable radiation dose.

i-Collimator electronically adjusts the field-of-view to limit radiation only to the area of scanning interest. In addition, the Ergonomic Stability System (ESS) offers easy patient positioning. The ESS includes seated positioning, robust head stability, and adjustable seating controls to minimize patient movement. This reduces the need for retakes, as well as providing wheelchair accessibility.

Of course, the i-CAT FLX also includes Tx STUDIO™, the advanced 3-D software designed exclusively for i-CAT. Tx STUDIO is beneficial from beginning to the end of treatment across a gamut of specialties, from diagnostics to implant and orthodontic treatment planning. In addition to facilitating communication with other clinicians, i-CAT scans help dentists educate patients about their dental conditions, thus improving case acceptance.

Tx STUDIO software delivers confident planning of implants, airway, TMD, orthodontics and many surgical procedures.

- For orthodontists, Tx STUDIO has an optional 3-D cephalometric analysis package that allows for the creation of cephal tracings with greater accuracy and in less time than with traditional 2-D cephal tracings. The face-MATCH™ photo-wrapping feature allows easy and immediate wrapping of a facial photo taken with a standard digital camera onto the 3-D volume to visualize treatment impact on soft tissue and facial contour.

- For implantologists, Tx STUDIO includes a virtual planning feature that allows for planning of multi-unit implants, from diagnosis to final restoration.

The new i-CAT FLX cone-beam 3-D unit brings even more flexibility to Imaging Sciences’ family of 3-D imaging products. Treatment tools exclusive to i-CAT streamline workflow, enabling smooth movement from scan to plan to treatment. Photo Provided by Imaging Sciences International

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Report examines clinical performance of BruxZir Solid Zirconia and Bridges
Clinical study in The Dental Advisor measures performance over 18-month period

Purpose
The purpose of this clinical study was to determine the clinical performance of BruxZir® Solid Zirconia Crowns and Bridges (Glidewell Dental Laboratories, Newport Beach, Calif.) during an 18-month period.

Clinical Evaluation Protocol
At recall time, more than 390 full-contour, monolithic BruxZir restorations (crowns and bridges) were placed. All restorations were fabricated at Glidewell Dental Laboratories. Most of the restorations were cemented with self-adhesive resin cement or adhesive resin cement.

Placement
The following parameters were evaluated at placement: esthetics, marginal accuracy, fit, interproximal contacts and occlusion. Restorations were evaluated on a 1-to-5 rating scale: 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent.

Results at 18 months
In December 2012, 367 BruxZir restorations were recalled and evaluated. Of the 367 restorations observed (Fig. 1), there were:
- 287 posterior single crowns
- 36 units: 12, three-unit bridges
- 24 units: six, four-unit bridges
- 10 units: two, five-unit bridges
- One, three-unit inlay bridge
- Seven, implant crowns

Of the 367 restorations, 121 (33 percent) had been in function for 18 months and 124 (33 percent) had been in function for one year (Fig. 2). The recalled BruxZir restorations were evaluated in the following categories:
- Resistance to fracture or chipping
- Retention
- Esthetics
- Resistance to marginal discoloration
- Wear on zirconia/opposing dentition

Shipment
To view the full report, visit www.bruxzir.com.

Restorations were evaluated on a 1-to-5 rating scale: 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent.

(Source: Glidewell Dental Laboratories)

About BIOLASE
BIOLASE is a biomedical company that develops, manufactures and markets dental lasers and distributes and markets dental imaging equipment. Its laser products incorporate approximately 2,500 patented and other pending technologies that provide biological treatment and clinically superior performance with less pain and faster recovery.

Its imaging products provide cutting-edge technology at competitive prices for the best results for dentists and patients. BIOLASE’s core products include dental laser systems that perform a broad range of procedures (including cosmetic and complex surgical applications) as well as a full line of dental imaging equipment and CAD/CAM systems. BIOLASE has sold more than 21,000 lasers. Other products under development address ophthalmology and other medical and consumer markets.

(Source: BIOLASE)

About i-CAT
i-CAT, page A17

features. Other options include the ability to order virtual study models in occlusion that contain full dentitions (crowns, roots and bone) and tools to predict soft-tissue changes derived from orthodontic or surgical treatments. There’s also an anchor-pin library for virtual TAD placement.

• SOLUTION, page A16

important improvements,” said Dmitri Boutoussov, BIOLASE chief technology officer and long-time head of the company’s innovative R&D department.

NewTom compact CBCT technology
Finally, the pavilion has full-size models of NewTom Cone-Beam Computed Tomography (CBCT) technology. The technology, relatively new to dentistry, is a more compact version of standard imaging that uses a cone-shaped X-ray beam for multiple radiographs that construct digital 3-D models of maxillofacial ananatomies. The NewTom VGi is reported to have the finest image quality of any CBCT system in dentistry, with a minimal dose of radiation to patients.

Dentists using the NewTom CBCT technology report increased treatment plan acceptance, improved diagnostic capabilities and other advantages.

About Imaging Sciences International
Imaging Sciences International has built, markets and distributes a complete 3-D treatment solution.

To view the full report, visit www.imagingsciencesint.com.

Restorations were evaluated on a 1-to-5 scale: 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent.

(Source: Imaging Sciences International)