



Hands-on workshops create additional learning opportunities at the Osteogenics' 2011 Global Bone Grafting Symposium. (Photo/Provided by Osteogenics Biomedical)

Clinicians gather for Osteogenics' Global Bone Grafting event

More than 350 clinicians from 10 countries gathered in Scottsdale, Ariz., on April 1 and 2 to attend Osteogenics' 2011 Global Bone Grafting Symposium, a continuing education event focused on dental bone grafting and treatment planning.

At the event, hosted by Osteogenics Biomedical, world-renowned speakers led lectures, interactive treatment planning sessions and optional hands-on workshops offering a variety of treatment perspectives and protocols. This year's speakers included Drs. Paul Fugazzotto, Suzanne Caudry, Barry Bartee, Tom Wilson, Paulo Coelho, Sascha Jovanovic, Istvan Urban, Dan Cullum and Craig Misch.

"This year's symposium attracted a record group of doctors," said Shane Shuttlesworth, Osteogenics' president. "The growing success of our annual symposium is in a large part thanks to the quality, credibility and variety of speakers that we have been able to partner with."

"Every year the program is unique," said Dr. Stephen Folson, a periodontist from Peoria, Ariz. "They bring speakers in worldwide, and I take home to my office on Monday morning applications that I have gleaned from the meetings on an annual basis."

New to the symposium this year, clinicians had the option to choose one of three pre-symposium hands-on workshops. The limited attendance workshops, led by Caudry, Cullum and Jovanovic, sold out weeks prior to the symposium. Based on the positive feedback from attendees, Osteogenics plans to offer pre-symposium workshops again next year.

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Bone harvesting: nice and easy

By Dr. Steffen Hohl and
Dr. Anne Sophie Brandt Petersen

Introduction

The desire to use bone from your own body to build new bone in another place may be almost as old as humanity itself. We call this procedure autologous bone grafting.

In the case of autologous bone grafting, the bone is removed from the same organism that the graft is to be incorporated in. The body's own bone cells have the greatest potency for rebuilding of bones and are the gold standard in oral augmentation surgery. Donor areas are: the tuber maxillae, the retromolar space, the chin region or the iliac crest, the ribs or the shin.

Gaining the required quantity is sometimes elaborate (large surgical interventions, in-patient stay) and afflicted with particular problems,

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Figs. 1, 2: Initial situation. State three months after the removal of the teeth. The vestibular lamella has completely collapsed.

Fig. 3: Noticeably visible three-wall bone defect.

Fig. 4: After drilling the implant shafts, the areas showed to be significantly atrophied.

Fig. 5: The implant shafts are dilated using condensers and the periimplantational bone is condensed.

Fig. 6: Implant insertion. It is visible that a vestibular augmentation must take place.

Fig. 7: The implant body must be vestibularly covered with autologous bone over about two-thirds of its surface.

Fig. 8: Retromolar stab incision with an 11 scalpel.

Fig. 9: A conventional implant drill is used to drill directly in the area of the inea obliqua through the stab incision. A "two-spade drill" is excellently suited to bone extraction.

Fig. 10: Bone excavation via simple shaft drilling with the conventional "two-spade drill."

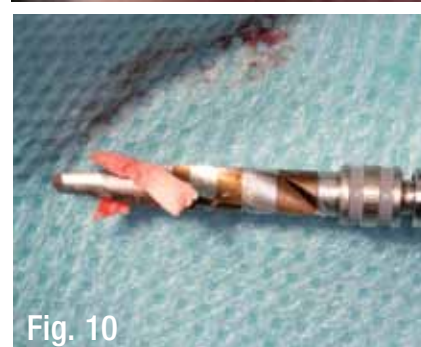
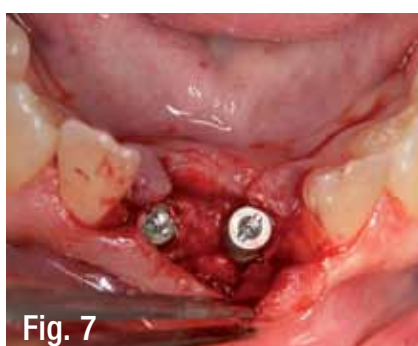
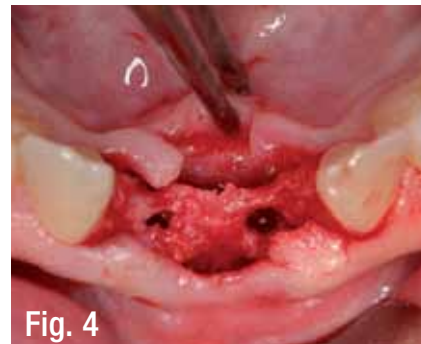


Fig. 11: Additional bone excavation by hollowing out the shaft drill hole in the linea obliqua with the excavator.

Fig. 12: Implants and autologous bone augmentation in situ. In order to achieve this result, it was necessary to drill only into the retromolar.

Fig. 13: Covering the implants and augmentations with a simple collagen membrane.

Figs. 14, 15: The stab incision of the retromolar extraction region is glued with cyanoacrylate. Hereby the patient only incurs a microscopic extraction defect.



Fig. 11



Fig. 12



Fig. 13



Fig. 14



Fig. 15

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especially when it comes from regions far away from the oral cavity (e.g., the iliac crest).

The extraction of autologous bone grafts from the retromolar space find the best acceptance with patients. Particularly in implantology, lateral augmentations are necessary in more than 75 percent of cases. These augmentative measures mostly require low bone volumes of less than 0.3 mg. If the decision is made intraoperatively that the patient's own bone must be used, as a rule the following question must be asked: "Which region should the bone be taken from and how can it

be removed quickly?"

The retromolar space is chosen here in more than 70 percent of cases. Until now, block grafts have been used exclusively,

Case description

The 36-year-old patient wants the gaps in his teeth to be filled with implants due to his otherwise intact dentition. However, in this situation, the question is raised of whether implantation and necessary augmentation of the crestal

jaw line can occur synchronously.

It was planned for the patient to have autologous bone adhered in the region of the 031 vestibular. Hereby the right retromolar space and the right tuber area were considered as donor areas.

The patient was assured preoperatively that an extraction defect would only involve minor postoperative symptoms. Intraoperatively, the crestal incision was begun in the areas 031 and 041.

After forming a minimally invasive mucoperiosteal flap, region 031 in particular showed strong vestibular atrophies. Initially implant drilling was carried out and the bore shaft was extended using a bone condenser, i.e., the periimplantational bone was condensed.

Subsequently, the implant bodies were inserted. Here it became obvious that the implant was two-thirds exposed on its vestibular side in region 031. Both implants were primarily stable.

After measuring the missing bone volume, a stab incision was made in the right retromolar. Then a conventional implant drill was driven through the gums and drilled precisely 9 mm deep. When withdrawing the drill, the bone meal was retained.

Additionally, further spongy bone was extracted with a mini-excavator. The transplant bone was able to be adsorbed into the implant body in an ideal manner. Finally, a thin collagen membrane was applied for complete coverage.

The soft-tissue defects were closed with absorbable materials. The stab incision in the retromolar was glued with cyanoacrylate. In regions 031/041, the wound closure was carried out using absorbable suture material and

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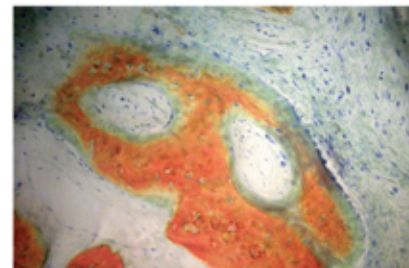
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*Clinical Histology: 5 Months

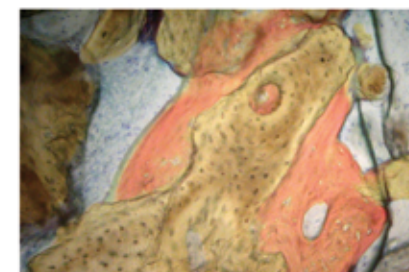
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* Rohrer, Michael, DDS, MS; Prasad, Hari, BS, MDT; University of Minnesota, Hard Tissue Research Lab
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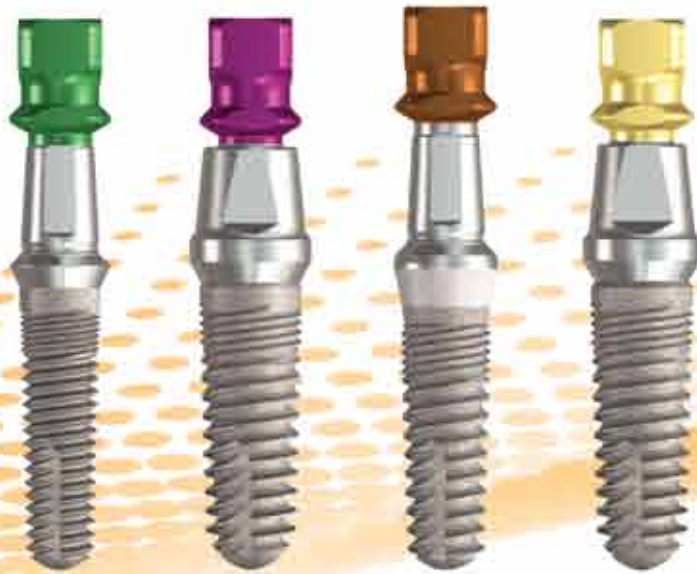
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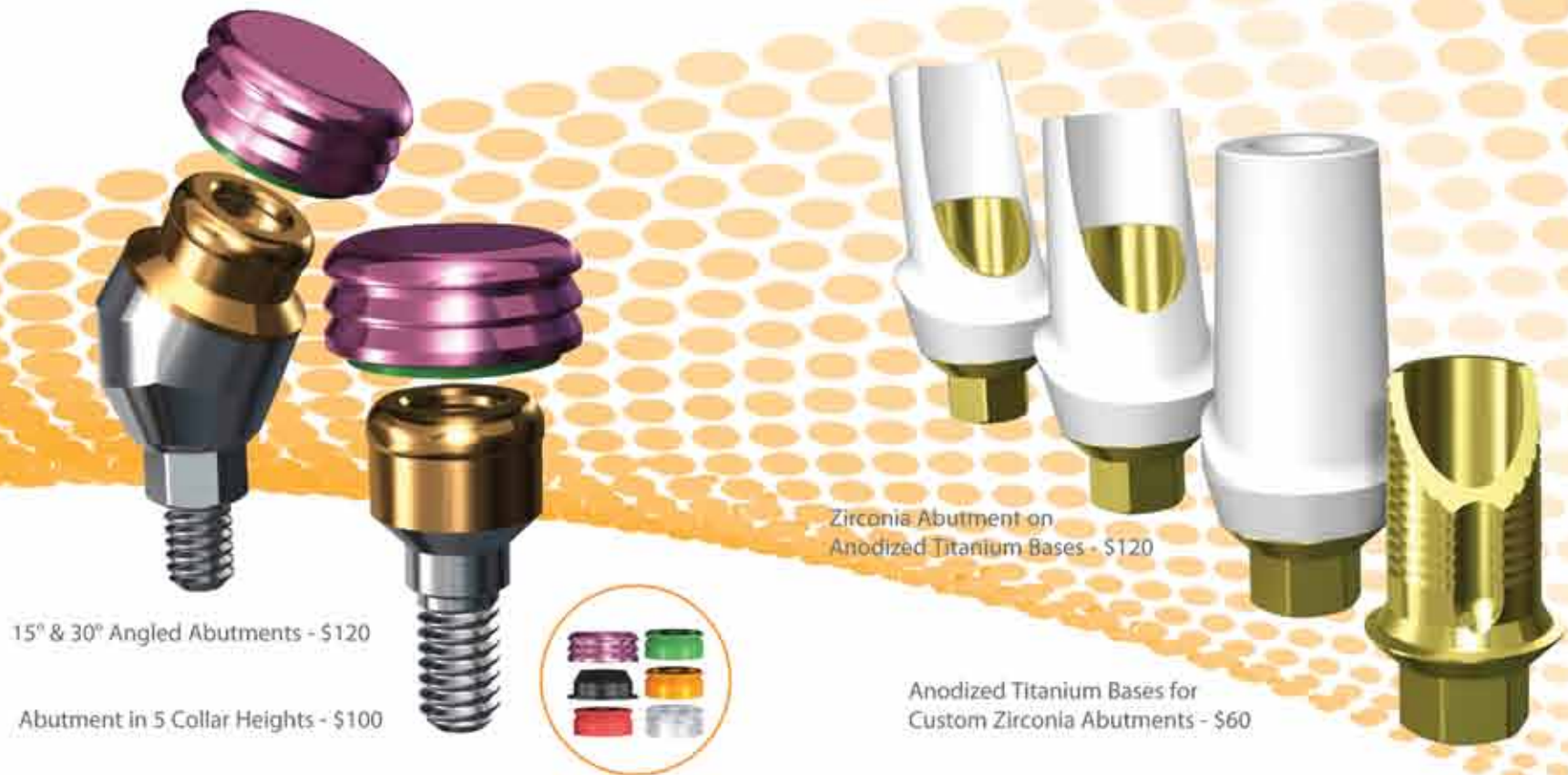


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Fig. 16



Fig. 17



Fig. 18



Fig. 19

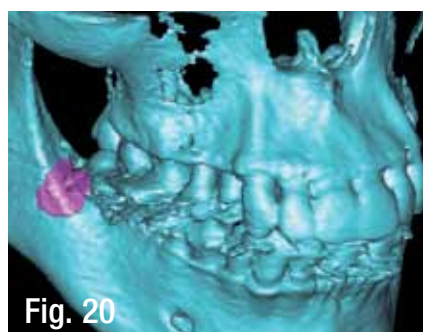


Fig. 20

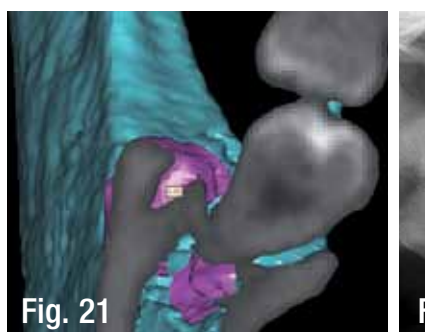


Fig. 21



Fig. 22

Figs. 16, 17: The soft tissue in the implant region is closed with absorbable suture material. The neighboring teeth (#43, #42, #32, #33) are lingually cauterized.

Figs. 18, 19: Insertion of a Maryland provisional prosthesis directly after the augmentative-implanto-logical intervention.

Fig. 20–22: Digital volume tomography of the excavation defect.

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horizontal mattress stitches.

Finally, as a provisional restoration, a Maryland temporary prosthesis was affixed, which additionally ensured good soft-tissue stabilization. A digital volume tomography (DVT) was produced in order to evaluate the removal defect and document the augmentative result.

Summary

Autologous bone grafting represents the gold standard in augmentation surgery. Particularly with implant operations, it is often only shown intraoperatively that a small quantity of autologous bone is needed for augmentation.

In this situation, a quick reaction is often indicated. The retromolar space is frequented most often for this purpose. As the patient should have the least possible discomfort because of the bone extraction, minimally invasive procedures are the means of choice.

The technique presented above is a new method, which is impressive due to its minimally invasive and simple characteristics. The procedure is especially ideal for augmentation planning with volumes up to 0.5 mg. Of course, larger bone volumes can also be extracted using this minimally invasive method.

Soft tissues can be closed discreetly using adhesive techniques that are hardly noticeable to the patient. Minimally invasive procedures in implantology can be perfectly planned and executed by including modern 3-D-diagnostics (DVT). ■

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Osteogenics Biomedical established Osteogenics Clinical Education in 2008 with a mission of providing interactive hands-on clinical education in bone grafting and implant dentistry. Since then, Osteogenics Clinical Education has hosted the Global Bone Grafting Symposium annually every spring. Each year the symposium offers clinicians the opportunity to improve their comprehensive treatment planning skills and integrate the latest technologies, materials and techniques into their treatment planning process.

About Osteogenics Biomedical

Headquartered in Lubbock, Texas, Osteogenics Biomedical is a leader in the development of innovative dental bone-grafting products serving periodontists, oral and maxillofacial surgeons and clinicians involved in regenerative and implant dentistry throughout the world. Osteogenics offers a complete line of bone grafting products including enCore™ Combination and Mineralized Allografts, Cytoplast® PTFE membranes, Cytoplast® collagen membranes, Cytoplast® PTFE suture and the Pro-fix™ Precision Fixation System.

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(Source: Osteogenics Biomedical)



Dr. Sascha Jovanovic, world-renowned speaker and editor in chief of Implant Tribune, lectures on horizontal and vertical ridge augmentation at the Osteogenics' 2011 Global Bone Grafting Symposium in April in Arizona. (Photo/Provided by Osteogenics Biomedical)

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