Biological allograft products applied to dentistry

By Jason M. Yamada, DDS, MS

The advent of human bone grafting has led to applications within the specialties of dental and sinus reconstructive surgery, for corrections to maladies such as ridge augmentations, sinus elevations and repair of other bony defects. There are a myriad of specialized allograft products for various dental, oral and sinus reconstructions. This article describes products for use by general practitioners, endodontists, oral surgeons, maxillofacial surgeons, periodontists and other related specialties.

The preparation of targeted bone grafts for the mandible and maxilla include the preservation of minerals and collagen while removing inactive pathogens, antigens, fatty tissues and other decayed materials. The minerals and collagen become the building blocks to complete and rapid bone regeneration as the expected outcome for your patients. Mandible and maxilla bone grafts can be applied to dental surgery procedures for needed graft areas to fill voids left by bone decay and loss, for sinus grafts or for implants.

Preservation of such grafts should include at least a five-year shelf life at room temperature. Specific types of biological allografts for these uses are next described.

The block allograft eliminates the need for autogenous bone harvesting as it includes implantable corticocancellous bone.

A secondary benefit of this allograft virtually eliminates the need for a follow-up surgery, improving efficiency and shortening the patient’s rehabilitation time. The block allograft comes sterile and ready to use when needed. It makes a fine, stable ridge augmentation in preparation for subsequent implants in patients with verifiable loss of bone volume due to atrophy. Typical sizes are between 10 to 15 millimeters.

The cortical allograft includes a high-quality, malleable bony structure that can be used to effectively maintain spatial volume, such as the cases of sinus elevation, extraction sockets and augmented ridges. When implanted, it acts as a barrier membrane to bacteria and other decaying agents. Subsequent dental implants are accomplished and supported by generation and remodeling of critical vascular bone tissues. Cortical allograft sizes range from 250 to 2,000 microns and volumes between 0.5 to 2.0.

The cancellous particulate allograft can absorb its own weight in fluid due to its malleability and elasticity. The allograft forms an exceptional biological incubation area via a de-mineralized matrix.
Legacy™3 All-in-1 Packaging
Includes: Cover Screw, Healing Collar, Transfer and Straight Preparable Abutment.
Surgically and Prosthetically Compatible with Zimmer's Tapered Screw-Vent®
Legacy3 USA price = $175
**Tapered Screw-Vent USA price = $584
* Includes similar components provided with Legacy3 implant.

Internal Hex Implants with Original Conical Connection (Niznick US. Pat. # 4,960,381).
Self-tapping for stability and Micro-threads for reduced bone loss. *SAVE 65-70% compared to Zimmer and BioHorizons.

Three Implant Designs and Packaging Options
Implants include Cover Screw and Healing Collar
Select Implant based on Price, Packaging and Thread Design
Legacy1: $125 Original “V” Thread with Plastic Carrier
Legacy2: $150 includes Temporary Abutment/Transfer
Legacy3: $175 includes Preparable Abutment/Transfer

Legacy1
Standard “V” Threads
Matches Screw-Vent

Legacy2
Spiral Threads for Increased Stability

Legacy3
Buttress Threads for Increased Surface

Prosthetic compatibility with Screw-Vent, BioHorizons® and MIS Implants

FREE Introductory Offers at www.implantdirect.com
Terms and Conditions Apply
Tri-Lobe Implants with Prosthetic Compatibility to NobelReplace Implant. Self-tapping for stability and Micro-threads for reduced bone loss. *SAVE 65-70% compared to Nobel Biocare, 3i & Astra.

Three Implant Designs and Packaging Options
Implants include Cover Screw

Select Implant based on Price, Packaging and Thread Design
1. RePlant: $150 includes Temporary Abutment/Transfer
2. RePlus: $175 includes “Snappy” Abutment/Transfer
3. ReActive: $200 includes Preparable Abutment/Transfer

RePlant®
Body Dimensions Matches Replace™
RePlus®
Body Taper For Bone Expansion
ReActive™
Buttress Threads For Increased Surface

ReActive™ All-in-1 Packaging
INCLUDES: Cover Screw, Transfer and Straight Preparable Abutment, With Platform Shifting, Micro-threads™, Deeper Threads and Round Apex. ReActive USA price = $200
**NobelActive USA price = $694

RePlant implant surgically compatible with NobelReplace® Drills

Compare US List Price

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List prices as of April 2008

FREE Introductory Offers at www.implantdirect.com
Terms and Conditions Apply
to allow the in-growth of red blood cells to aid the remodeling process. This allograft has been a reliable choice for many dental and oral surgeons as it is known for its effective and efficient bone regeneration properties.

During the regeneration process, healthy natural bone is incorporated into the remodeling. Future implantation for prosthetic therapy can be placed with great results due to the localized augmentation of the ridge.

Extraction sockets with osseous defects are also effectively filled using the cancellous particulate allograft. This unique allograft is also helpful in raising the floor of the maxillary sinus. Other applications include the reconstructive augmentation of the alveolar ridge and the reparation of defective infrabony periodontal structures.

If you are in the market to purchase human bone allografts, select products with the American Association of Tissue Banks accreditation to ensure you get the best uniform quality and standards.

For more information about these products or to order, please contact CK Dental Industries at (800) 675-2537 or visit the website at www.ckdental.net.

For more information, please e-mail conference organizers at nribas@kenes.com.

Italy
ICOI Affiliate society, SENAME, and its President Dr. Gilberto Sammartino, will be hosting SENAME’s eighth International Implant Conference and ICOI Italy and Europe second International Conference in Naples, Italy, from March 31-April 2.

The conference will be held in conjunction with the Italian Society of Oral Surgery’s 10th National Conference, and it will be held at the Naples Hotel Royal Inter-Continental.

The theme of this conference will be “Multidisciplinary Approach to Oral Surgery; From Endodontic Surgery to the Aesthetic Aspect in Implantology.”

A wide range of invited speakers are coming from Italy, Germany, Israel, Greece, Turkey, France and the United States.

For more information, contact Dr. Sammartino at Gilberto.sammartino@unina.it

Granada, Spain, (at right) will be the site of an ICOI affiliate event this spring. (Photo/stock.xchng)

Jason M. Yamada, DDS, MS, was born and raised in Honolulu and received his DDS degree from the University of Southern California and his specialty degree in periodontics and a master of science in oral biology from Northwestern University. He is currently assistant clinical professor in the advanced graduate education program in periodontics and implant surgery at Loma Linda University Dental School and has been a guest lecturer at both USC Dental School and UCLA Dental School. Yamada currently practices in Torrance, Calif., and Irvine, Calif., with an emphasis on implant surgery and restoration, microsurgery and periodontal surgery. He is the founder of the Implant and Periodontal Institute of Torrance (IPI) and has taught many general dentists as well as specialists on the topics of periodontal, cosmetic and implant surgery.