Soft Tissue Engineering With Native Collagen Matrixes

By Dr. Hueskens

Mucogingival surgery can be divided into four objectives:
- Increase of keratinized tissue around teeth and implants
- Cover denuded root surfaces
- Augmentation of papillae
- Regeneration procedures as ridge augmentation.

All these indications have been treated in the past with free gingival, or connected tissue grafts harvested from the patient’s palate. The second surgical site is necessary and that due to complications as bleeding or pain, the procedure is not very comfortable for the patient and is often refused. The amount of harvested soft tissue material is very limited too. Therefore the use of xenogenous materials can be an very interesting alternative and was well investigated in the past.

Since 2010 we have now three years of experience with collagen matrices from native origin (MucoMatrixX, Dentegris Germany). These matrices are 1.2 to 1.7 in thickness and are available in the dimensions 15X20 mm, 20X30 mm and 30X40mm. As they come in a dry state they have to be rehydrated before use. Therefore the MucoMatrixX is hydrated with sterile, physiological saline solution for about ten minutes. It is bendable, sutureable and it can be shaped, both with scalpel or scissors. The matrix has two sides, one that shows little cuts is the bottom side, the upper side shows little pores. The time of resorption is six to twelve month.

In the following cases we show how the collagen matrix works as a perfect substitute for both, free gingival and connected tissue graft.

Case one: Increase of keratinized tissue around teeth.

In the sequence is shown how a matrix is sutured on a recipient site in region 45 to 47 (1a). Therefore a horizontal incision at the mucogingival junction is placed followed by a mucosal flap preparation (1b). The fixation of the matrix was made by some single sutures that can be removed after four days post operation because of the fast revascularization of the graft (1c). The next pictures show the site after two weeks (1d) and six month post operation (1e). A perfect result of enlarging the keratinized tissue could be achieved.

Case two. Root coverage.

In this sequence is shown how the matrix is used to substitute a connected tissue graft to serve in a root coverage procedure in region 35 to 36 (2a). After coronal repositioning of the flap, it is fixed with vertical mattress sutures (2b). The next pictures show the site after two weeks (2c) and six month post operation (2d). A perfect result of enlarging the keratinized tissue could be achieved.

Case three. Soft tissue ridge augmentation including reinforcement of the distal and mesial papilla.

This sequence shows the reconstruction of the resorbed ridge after an extraction of tooth 12, due to a bridge 13 to 11 and 21 (3a). In this case after a palatal incision a mucosal flap is prepared and enlarged direction labia (3b). Two layers of the matrix are positioned under the flap and the sutures fixing the flap (3c). The provisional shows the good primary success in reconstruction of the defect (3d/3e). The documentation of the following healing period showing a perfect long term treatment success. Remarkable is the gain of the papilla from picture 3g to picture 3h.

Case four. Closure of the socket during an immediate implant placement proce-
By Dental Tribune Middle East

**Dubai, UAE:** During the Bicon Short Implant Forum 2013 in Dubai, UAE we caught up with Dr. Michael Ziegler, Clinical Director of the American Dental Clinic in Dubai to understand his experience with Bicon.

DTME: Dr. Michael Ziegler, you have been here a long time in the Middle East and we are eager to learn more from you.

Dr. Michael Ziegler: Well I have been here for over 27 years, actually I opened my clinic when Emirates Airlines opened their office who grew into what is now Emirates Airlines. This has opened their office who grew into what is now Emirates Airlines.

How long have you been using Bicon?

For about 5 years now however I have known about Bicon for a long time but I just was not quite ready to embrace and take the jump into Bicon mainly due to the fact that I did not know enough about it and everybody was talking against the usage of short implants and I believed that too but a lot has changed since. What changed was that I am looking for something conservative and something that is consistent which works. These two points work for me and for my patient. Bicon is conservative because in my hands I had a lot of problems before to make bone. By using short implants you are much more conservative and it is a lot easier for the patient and with less time involved, risk with a consistent outcome. You can top these points and Bicon offers all of these.

Would you advise your dental colleagues to use Bicon? How is the learning curve?

When I started using Bicon I was on my own here. There is a learning curve but once you understand it, it becomes simple and you have more control compared with other systems. The is a learning curve because there is a different way of thinking. One system is a screw and one you tap in so these are two different total concepts, two different healing concepts and the healing process of Bicon is one of the greatest reasons why it is a wonderful implant. The Bicon implant provides room to form a clot or a callus with quick support whereas a screw in implant is very closely associated to the bone so it is a total different type of healing. I have put Bicon in a patient where after drilling the sight there was no blood after having lost two implants and absolutely no bleeding and to put a regular implant in there would have been a very scary thing to do. Two years I had put it in and recently the x-rays showed it is working and it is fine. Furthermore, it is suitable for many situations such as periodontal situations and one of the greatest benefits is for sinus lifts allowing predictability and easy on the patient.

More or less you have enough experience to share today during your lecture at the Forum?

My lecture will explain a bit about my philosophy and I have been asked to show some of my cases and being amongst the pioneers to use it in the area I will show my experiences with Bicon in areas in which it is difficult to use other implants. My presence here today is not to teach the participants but to share my experiences and to show that using the Bicon system works for me and has led to many successful results. Bicon has been good for me.

**Dubai, UAE:** The Bicon Short implant event 2013 has been held on November 14th and 15th at Atlantis the Palm resort in Dubai, UAE. The main speakers were Dr. Vincent Morgan, President of Bicon LLC/Boston; Prof. Dr. Maurro Marincola, Clinical Director Bicon/Italy; Dr. Laura Murcko, Bicon consultant/ Boston; Mr. Paolo Perpetutini, Italy, Bicon International Technician. Additionally two local Implantologists Dr. Kadhim Hindani and Dr. Michael Ziegler spoke about their experiences with Bicon. Dr. Haider Khaider and Dr. Joji Markose assisted the hands on course which also took place.

The 2 day program was organized in Dubai for a delegation of 70 Iranian dentists and was co-organized with the help of the Iranian distributor of Bicon – Mehr Tahani Co. In addition, dentist from UAE, Kingdom of Saudi Arabia, Oman, Qatar and India formed the group of 142 dentist who attended the theoretical course on the first day with 75 dentist taking part in the hands-on course on the second day. In addition 18 lab technicians from UAE and Iran attended for education.

Bicon presented proven clinical studies on the 4.0 x 5.0 SHORT implant, TRINA the metal Free CAD/CAM Solution and Metal Free Fixed Restorations on short implants. Bicon presented guided surgery techniques for the first time to the Middle East dentists. The course attendees received 17 CE credit hours. At the end of the course the attendees received good exposure advantages of the only unchanged implant system since 29 years.

During the hands-on course on Bicon Surgical, Prosthetic, Guided Surgery and TRINA, dentist took advantage and learned about the product in a practical way. Based on the success of the Bicon Short Implant Forum 2015 in Dubai, Bicon would like to conduct more hands-on courses from coming year 2014 to dentists from the Middle-East region.

Since 1985, the Bicon Dental Implant System has offered dentists a proven solution for missing dentition. The Bicon implant design comprises pla- teau, sloping shoulders and a bacteriologically-sealed, and 1.5° locking taper implant to abutment connection. With the plateau design, cortical like bone forms around and between each plate. This Haversian bone allows for the routine use of 5.0mm short implants. The sloping shoulder provides the necessary room for bone to support interdental papilae that are gingival aesthetic. Bicon’s 360° of universal abutment positioning provides for the revolutionary cement less and screw less integrated Abutment Crown™, which consistently provides for a non-metalic aesthetic gingival margin.

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**Bicon Short Implant Event held in Dubai**

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The Scientific Session at Atlantis Dubai, UAE
“So many features in Bicon make it a unique implant”

By Dental Tribune Middle East


Since 1980, Dr. Al Himdani started practicing as Oral Implantologist in one of the most famous hospitals in Paris “Cochin Hospital”, he was one of the founders of the first University Diploma “Msc. Oral Implantology” in France & Europe. In 2002, Dr. Al Himdani arrived in the Emirates as a Consultant Implantologist & Maxillo-Facial Surgeon in Al Zahrah Private Hospital and in 2003 he established his own clinic “ French Center for Dental Implant” where actually practiced exclusively his speciality as Oral Implantologist.

DTME: When was the first time you started using Bicon?

Prof. K. Al-Himdani: About 6 years ago when my friend a Dr. M. Al Jablhami from U.K. “Whom I would like to thank him” introduced it to me and from that time Bicon solved approximately 90% of problems that I faced with all other implant system which I have used during my 30 years in this field.

What makes Bicon different from other implant systems?

So many features in Bicon make it a unique implant starting from:

1. Implant macro geometry;

* Its Platform switch & Sloping shoulder which enhances hard & soft tissue growth improving the quality of biological width and so the final Esthetic outcome.

* Its macro design which increases its surface area to 50% & improving the quality of bone regeneration around the implant, so behind these 2 features we find the huge success of its short implant & in Immediate placement after tooth extraction with Compromise bone to avoid the traumatic & caustic bone grafting procedures.

2. Surgical Kit which gives the ability for Manual Bone Manipulation “Splitting & Expanding” and the collection of precious Autogenous Bone, maneuvers which help to overcome “to a certain limit” ridge deficiency avoiding so bone grafting procedures. Beside that the 50 rpm of motorized surgical procedure decreases, if not eliminate the chance of bone damage during host preparation.

3. Prosthetic restoration with its unique Implant Abutment Connection especially with the absence of internal screw has advantage regarding crown’s reparations without traumatizing the implant and oral tissues. On top of that, the ability of the use of Integrated Abutment Crown to overcome the aesthetic result of the use of screw retained crown restoration in case of palatal oriented implant placement.

What is your advise for Dental Colleges?

Implant practice is very exciting field from all points of view “Functional, Esthetic, Healthy,...” and it seems to be easily achieved, but to obtain a durable successful result needs a proper implant selection with good understanding of patient risk factors which are susceptible to compromise our final result.

Contact Information

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