Inspyred
The alternative EAO voice

Clinical case
By special guest Marc Nevins

Highlights of Dublin 2013
Scientific prize-winners; social events; conference reports

Conference speaking
Tips from Ronald Jung on creating the perfect scientific presentation
Tips and tricks .... for preparing a presentation for a scientific meeting

The EAO’s annual scientific meeting features some of dentistry’s best-known speakers, discussing a variety of scientific and clinical topics. One of the goals of a successful scientific meeting is to bring together established speakers with those who have an important scientific or clinical message, but are at an earlier stage in their career. Getting this mix right is the key to creating a vibrant meeting that showcases emerging talent alongside established expertise.

Giving a presentation to a highly knowledgeable audience can be daunting. There are several criteria for success. The audience should be able to understand and follow the speaker’s arguments throughout; they should find the presentation entertaining; and they should be left with a clear conclusion and some practical take-home messages that they will retain for the future.

My approach to structuring a presentation is a little different from most people’s. It involves identifying a story that I can use as an analogy to help explain the clinical problem. The goal is to make the clinical and scientific elements easier to understand and remember, and also to add some humour. I have adopted this approach based on positive feedback from previous presentations. Several years ago I spoke about the criteria for selecting different implant systems and structured my presentation around a skier and their choice of skis. I linked the different types of skis to choosing the best implant for different situations. After five years I still meet people who recall the presentation and remember the skiing analogy. I think it made it easier for them to remember the clinical arguments, and hence achieve the learning objectives of the session.

As an invited speaker, it’s normal to be given a topic to speak on (rather than having the freedom to choose one yourself). For me, the first stage is to identify an appropriate story to illustrate the topic. I look for something with a strong narrative sequence that ends with a clear conclusion. I’m aware this approach is unusual and most colleagues start with the cases they have in mind and build a presentation round these. I prefer to do the opposite and match the cases to the narrative thread, breaking down the process of preparing a presentation into five stages:

1. Choosing a story that I can use to illustrate my argument.
2. Identifying clinical cases that are relevant to the theme of the presentation but have not proceeded optimally. This means finding cases where the outcome could be improved by following the recommended protocol.
3. Gathering evidence for the treatment protocol and carrying out a literature review.
4. Identifying clinical cases that support the evidence-base and which illustrate a successful outcome.
5. Ensuring the presentation finishes with a clear conclusion.

Using a story to support an argument can enhance associative learning. The audience is more likely to remember the non-clinical storyline, which then triggers a recollection of the associated clinical content.

I also believe a presentation often works best if it is formulated as a question that needs to be answered. The subject of my presentation at the EAO’s Dublin meeting was ‘Is hard and soft tissue grafting the key to success?’. Asking a question means the audience will clearly understand what is being discussed, and will expect to hear a series of arguments and a clear conclusion.

There are certain other techniques that can be helpful if you are preparing a presentation and don’t have much experience of conference speaking. To create a logical sequence of slides and to remind yourself what you want to say next, consider including a question at the bottom of each slide. You can then start the next slide by answering the question on the previous one. This technique works better than making notes to yourself or preparing a manuscript to read from. It is generally difficult to maintain the audience’s interest if you simply read out pre-prepared text.

Another technique is to include one or two complete sentences in each slide which you can then read out when the slide is displayed. This will provide the main framework for each slide, allowing you to elaborate on this core information without further notes.

When you have created the first draft of your presentation, go through it and see if any slides can be removed. If you repeat this process several times, you will probably find that several slides are not strictly necessary and your presentation still works without them. A presentation can be considered perfect when no more slides can be removed. This excellent piece of advice was given to me by Dr Franck Renouard. It is a powerful technique for making sure your presentation doesn’t include any unnecessary information that distracts from the main theme.

Bear in mind that your audience may have a short attention span and that people will also leave and join the presentation part way through. Introducing intermediate conclusions will make it easier for the audience to retain information. If your argument is divided into three parts, summarise after each part then give an overall conclusion at the end.

If you are an inexperienced speaker, I recommend that you rehearse your presentation by yourself, speaking out loud as if to a live audience and using the slides you have prepared. You may discover that your presentation takes more or less time to deliver than you expected. You can then refine it and re-rehearse it to make sure it is the right length.

Speaking at a scientific meeting can be daunting at first, but with preparation and experience it is enjoyable and rewarding. I hope these pointers will help those who are new to speaking at conferences gain the skills to become future presenters at EAO meetings.

Ronald Jung is Vice Chairman of the Department of Fixed & Removable Prosthodontics and Dental Material Sciences at the University of Zurich in Switzerland. He is a former member of the EAO Junior Committee and was elected to the EAO’s Board of Directors in 2012. At the EAO’s 2013 meeting in Dublin he gave a presentation entitled ‘Is hard and soft tissue grafting the key to success?’.

This was part of the plenary session on ‘Extended defects in the aesthetic zone – dreams, nightmares, reality’.
Welcome to the second issue of Inspyred! Here you’ll discover Marc Nevins’ case study describing a protocol for the minimally invasive placement of an implant immediately following extraction of an incisor. The case illustrates outstanding aesthetic and functional results.

Elsewhere in this issue you can read about the EAO’s 2013 scientific meeting in Dublin. Ronald Jung talks about what’s involved in preparing a paper for a major meeting like this. Ailsa Nicol describes the session she co-chaired on ‘Replacing a missing incisor’. You can also find out about the social events that took place during the meeting, and discover which scientists were honoured with prestigious prizes from the EAO.

Fasten your seat belt as Inspyred is already planning a new format for the third issue. We plan to double the number of pages, and also introduce a different theme for each issue. The next one will be ‘Things we stopped using in our practice (because they didn’t work)’. And on that note, we would like to hear your thoughts and receive your papers. So we have included guidelines for authors describing how to prepare and submit an article to Inspyred.

And finally, don’t forget that as an EAO member you can view additional editorial content and case photographs by logging in to the Inspyred website at www.eao.org/inspyred.

Editors welcome

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How to submit an article to Inspyred

Inspyred welcomes articles from clinicians and researchers working in the field of implant dentistry, as well as those whose work brings a new perspective to implant dentistry. Before submitting your article, please read the following guidelines.

Submission. Articles should be submitted to Inspyred by email at inspyred@eao.org, stating which of the three categories (below) they fall into.

1. Opinion articles should offer a new perspective on implant dentistry or challenge an existing viewpoint. A clear argument should be made demonstrating how the author developed their viewpoint.

2. Case reports describing either ongoing cases (illustrating the preoperative clinical situation plus treatment planning description, with the final outcome to be published in a future issue) or completed cases. Case reports must be accompanied by photographs illustrating the progress of the case from start to finish (see below for further guidance). Particular emphasis will be given to complex cases or unusual results.

3. Research papers should offer a new perspective on implant dentistry or describe a new technique. They should include appropriate study methods, data, and conclusions that are supported by the data.

All articles should be informative, entertaining and stimulate debate. Case reports and research papers should include an abstract of 100–200 words. The abstract should make sense on its own and be capable of standing alone.
Case presentation

Minimally invasive staged approach for aesthetic dental implant therapy – a case report

Abstract

This case report presents a staged approach for minimally invasive immediate implant placement for a maxillary central incisor. A preliminary procedure to enhance soft tissue thickness and volume was provided with a connective tissue graft via a tunnelling technique. A secondary procedure utilised piezo-surgery for atraumatic extraction, guided surgery for implant placement, and recombinant human platelet-derived growth factor-BB (rhPDGF-BB) with bone allograft to graft the peri-implant extraction socket. The staged combined treatment resulted in ideal biologic health and aesthetics for the implant supported restoration.

Introduction

Maintaining aesthetics for anterior dental implant rehabilitation remains a challenge due to the complexities of maintaining an adequate framework of hard and soft tissue architecture, which is ultimately required for the restorative phase of treatment. There are significant changes to the ridge form, bone, and soft tissue volume that begin almost immediately post-extraction (1). Thus, careful sequencing for surgical treatment planning and decision-making is essential to obtain optimal and predictable results.

One treatment option that has been previously recommended is to provide a simple dental extraction and delay regenerative therapy until the soft tissue has healed (2). This delay may result in significant bone and tissue loss that could otherwise be intercepted via preservation procedures performed at the time of extraction (3). Maintaining bone dimension is not only crucial for a prosthetic driven implant placement but also aids in maintaining the soft tissue level (1).

The aim of this clinical report is to describe a sequence of minimally invasive treatment procedures for replacement of a maxillary central incisor with a dental implant. This report presents the transition from a maxillary right central incisor with soft tissue recession to a healthy dental implant with an aesthetic restoration and normal gingival contours.

Case report

A 47 year-old patient presented with mild discomfort and was concerned with the aesthetics of his maxillary right central incisor. He reported a history of endodontic treatment, crown lengthening, and a crown placement performed 15 years ago. During the examination, it was noted that the incisal third of the maxillary right incisor was not completely visible, resulting in an aesthetic compromise.

Figure 1A. Pre-operative photo.

Figure 1B. Pre-operative photo.

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past year, the crown had been re-cemented several times and the patient had constant mild discomfort. Clinical examination revealed soft tissue recession at the maxillary right central incisor (Figure 1A, B). Cone beam CT scan (CBCT) did not demonstrate any significant findings. It was determined that the tooth had a guarded prognosis and a treatment plan for implant placement was established. To address the patient’s chief complaint and request for minimally invasive procedures, a subepithelial connective tissue graft using a tunnel technique was planned followed by atraumatic extraction of the maxillary right central incisor and a guided immediate implant placement.

A soft tissue tunnel was prepared using microsurgical instrumentation extending from the maxillary right lateral incisor to the left central incisor. The tooth was scaled and root planed using curettes. The root surface was then treated using neutral pH 24% EDTA (PrefGel, Straumann USA, Andover, MA). The subepithelial connective tissue graft was harvested from the palate. The graft was soaked in recombinant human platelet derived growth factor-BB, rhPDGF-BB, (Gem 21S, Osteohealth, Shirley, NY) for 10 minutes. The graft was stabilised using sling sutures (6-0 Chromic gut, Ethicon, Ace Surgical, Brockton, MA) and the tunnel was then coronally positioned and stabilised using sling sutures (7-0 Premilene, Braun, Melsungen, Germany) (Figure 2).

A 3D software (Materialise Dental, Glen Burnie, MD, USA) was utilised to plan for the immediate implant placement at the maxillary right central incisor with a guided surgical flapless approach (Figure 3). This approach was chosen to aid in maintaining the hard and soft tissue anatomy. The tooth was extracted atraumatically using Piezo-surgical instrumentation (Mectron Columbus, OH). A horizontal root fracture was noted (Figure 4A-B) and the tooth was sectioned and removed atraumatically. Implant preparation and placement was performed utilising the Navigator surgical kit (Biomet 3i, Palm Beach Gardens, Florida, USA) (Figure 4C). This allowed for an accurate placement of a 4 by 15mm fixture (Figure 4D). The surrounding extraction socket was grafted with rhPDGF-BB and freeze dried allograft (RegenerOss Biomet 3i, Palm Beach Gardens, Florida, USA) protected by a collagen membrane (Bio-Gide, Geistlich, Princeton, NJ) placed over the socket (Figure 4E). The membrane was stabilized using PeriAcryl (GluStitch, Ace Surgical, Brockton, MA) (Figure 4F). A periapical radiograph was taken post-operatively (Figure 4G). Patient was provisionalised using an Essex retainer (Figure 4H).

The site was allowed to heal for 5 months prior to second stage surgery. The implant was then restored using a Lithium Disilicate pressed titanium abutment and Lithium Disilicate crown (Figure 5A-C). Periapical radiograph was taken (Figure 5D).

Figure 4A. Presence of a horizontal fracture on the maxillary right central incisor.  
Figure 4B. Presence of a horizontal fracture on the maxillary right central incisor.  
Figure 4C. Navigator implant guide utilized to place the implant.  
Figure 4D. Implant placement without elevating a flap.
Discussion

Aesthetic dental implants should meet the biological and functional needs to be sustainable over time. Establishing adequate bone and soft tissue is a necessity for the longevity and success of implants (4, 5). In an effort to achieve a minimally invasive treatment, a flapless approach may be desirable. However, this should not limit the overall surgical restorative and aesthetics goals.

A natural tooth with recession that will be transitioned to an implant supported restoration has additional considerations. This case report presents an alternative approach with staged treatment beginning with improving the soft tissue thickness and height via a minimally invasive tunnel approach connective tissue graft prior to extraction and implant placement. This will provide increased soft tissue to support the grafting in the extraction socket and around the immediate implant.

A minimally invasive implant placement should not limit the accuracy of a restorative driven treatment, nor the safety regarding anatomic limitations. The use of a guided surgical approach through a computerised simulation allows for the implant placement to be provided with around 98% accuracy (6,7). Guided surgery is advantageous for conventional implant placement, immediate implant placement, and for potential immediate provisionalisation. The case presented utilised immediate implant placement, with 5 months healing prior to second stage surgery.

Growth factor technology, such as PDGF, enhances regenerative potential for bone and soft tissue grafting procedures (8-11). The use of allograft and PDGF growth factor enhanced matrix increases the quality and volume of bone regeneration for a flapless extraction socket grafting (12).

The predictability and success of aesthetic implant treatment is dependable on an accurate diagnosis and development of a restorative driven surgical treatment plan. The use of technology such as CBCT guided surgery, growth factors, and combined with careful sequencing of treatment may enhance the results.

Figure 4E. Socket filled with freeze dried bone allograft and PDGF.
Figure 4F. Bone graft is secured by membrane and tissue adhesive.
Figure 4G. Periapical radiograph of the implant.
Figure 4H. Provisionalisation using Essex retainer.
References


Ailsa Nicol reports:

had the good fortune to co-chair one of the parallel sessions at the EAO's 2013 meeting in Dublin. Titled 'Replacing a missing incisor', it was an exciting session to be involved in as it had a significant clinical focus. It was co-chaired by Klaus Gottfresen and featured a range of excellent speakers who are experts in their fields.

Franck Bonnet spoke first on 'Clinical techniques for predictable results', providing a great introduction and overview of the topic. He described a number of different techniques to manage a lack of hard and soft tissues, illustrating his presentation with clinical cases showing both delayed and immediate implant placement. He described management of the 'pink volume', especially with immediate implants, and the use of palatal placement to minimise problems with uncontrolled bone and soft tissue resorption.

Markus Hürzeler's presentation was entitled 'Gingival recession on teeth adjacent to implants'. He described an approach that used tunnelling techniques as an alternative to lifting a flap involving papillae, supported by beautiful illustrations. He spoke about the difficulty in determining the wound healing capacity of patients, as this is usually unknown and can introduce problems with predictability of clinical outcomes. Using a tunnelling technique with connective tissue grafting can avoid this issue, and Markus Hürzeler described the ideal thickness of a connective tissue graft as 1.44mm.

Mariano Sanz then discussed 'Is immediate implant placement worth the risk'? He spoke about how he ensures predictability of results with immediate implant placement in his clinical practice, also advocating palatal placement of the implant when replacing a missing incisor. When placing a single immediate implant, if the buccal bone wall is intact and the patient has a thick gingival biotype, there is typically less than 1mm of buccal bone loss and recession of less than 10%. However, vertical bone resorption is more variable and appears to be more significant anteriorly than posteriorly. Mariano Sanz demonstrated his surgical protocol and referenced it to potential short- and long-term complications, particularly aesthetic ones.

Mauricio Araujo then delivered his presentation on 'The role of socket preservation'. He explained how immediate implant placement fails to prevent buccal bone loss, adding that socket grafts with non-resorbable bone substitutes can compensate for this. In approximately 85% of clinical situations, the buccal bone plate is less than 1mm. The shape of the maxillary alveolus, as well as the root inclination and location of the root apex, influence this buccal bone plate width. This was also a very well-illustrated presentation and concluded the surgical part of this session.

The final presentation was by Irena Sailer who described a prosthetically-based approach to 'Restorative options for aesthetic defects'. She demonstrated some challenging situations where implant rehabilitation may have resulted in a compromised result, and where other restorative options such as resin-retained fixed dental prostheses resulted in improved aesthetic outcomes. She also presented some new research looking at pink aesthetics, in particular with pink-coloured ceramics and the challenges in matching these to the patient. It was interesting that pink colour changes seem to be (more) obvious to the patient and clinician. Also, those patients with thin soft tissue are more susceptible to these aesthetic challenges in replacing pink volume. Irena Sailer also demonstrated the importance of ensuring that restorations in challenging prosthetic and surgical implant situations can be cleaned without difficulty.

In summary, this was a great clinical session, with excellent speakers, which was well attended, with a lively interactive discussion to conclude.
Jaime Jiménez Garcia reports:

During the session titled ‘Replacing a missing incisor’ four important aspects were mentioned by most of the speakers:

- preservation of the alveolar ridge
- implant placement
- the importance of soft tissue
- the type of restoration

Preservation of the alveolar ridge (socket preservation) was recommended when the bone wasn’t present or in those cases where it was present but for some reason immediate implant placement was not an option.

The importance of placing the implant in the correct tridimensional position (medio-distal, apico-coronal and bucco-lingual) was also stressed, with reference to guidelines published by Grunder et al in the International Journal of Periodontics & Restorative Dentistry in 2005.

Timing of the implant placement was considered to be a critical factor in terms of achieving good long-term results. All the speakers agreed that although immediate placement (implant placed on the day of extraction) is preferred by many patients, it is a very delicate process that is not always appropriate. It has the advantages of reducing treatment time and the number of surgical intervention, but when opting for immediate placement appropriate case selection is critical to ensure high success rates.

The width of the buccal plate should be analysed, with treatment being more predictable when it of greater width. A study was described in which only 2.6% of buccal plates in the anterior region of cases sampled measured 2mm or more (Huyyn Ba G et al, Analysis of the socket bone wall dimensions in the upper maxilla in relation to immediate implant placement. Clin Oral Implants Res 2010;21(1):37–42).

Due to the importance of preserving the buccal plate, when an implant is placed immediately, the recommended position is slightly towards the palate to try to avoid damaging the buccal plate. It was recommended that the ‘jumping distance’ between the buccal plate and the implant should be grafted to avoid (as far as possible) the collapse of the buccal plate and therefore of the soft tissues.

For those cases where immediate placement is not appropriate, delayed or early implant placement was recommended. In both cases the use of guided bone regeneration (GBR) to over-contour the area – either before implant placement or at the time of placement – was recommended to achieve good long-term aesthetic results.

With regard to soft tissue volume, the importance of the width of the soft tissue was stressed in order to avoid recession. Microsurgical techniques using micro instruments and macro loops were recommended. Hürzeler MB et al (submitted for publication) recommended the tunnelling technique using the coronal advance flap technique.

The type of restoration is a critical aspect in achieving good final results. The timing of placement of the first temporary, the materials used, as well as the form, are the main aspects to be considered for achieving good responses in the soft tissue area.
Winners of scientific prizes announced

On 19 October, EAO President Dr Pascal Valentini announced the winners of the EAO’s three prestigious European prizes for research in implant-based therapy.

**European Prize for Basic Research in Implant Dentistry.** Awarded to: Ofer Moses (Israel). “Excessive Degradation of collagen membranes in diabetic rats is associated with increased infiltration of macrophages and capillaries.”

**European Prize for Clinical Research in Implant Dentistry.** Awarded to: Kees Stellingsma (Netherlands). “The extremely resorbed mandible; 10-year results of a randomised controlled trial on 3 treatment strategies.”

**European Prize for Research in Implant Dentistry: Poster Presentation.** Awarded to: Rubens Spin-Neto (Denmark). “Influence of fresh-frozen allogeneic bone grafts architecture on its incorporation: radiographic and histomorphometric comparison to the gold-standard.”

Winners of the EAO’s 2013 scientific awards were selected from among the hundreds of abstracts submitted to the annual scientific meeting in Dublin. After being reviewed by the Abstract Committee, a shortlist of 10 candidates was selected for the Basic Research and Clinical Research competitions. Each person then had the opportunity to present their work in front of an audience of their peers.

89 abstracts were submitted for the Poster Presentation Competition and 12 were shortlisted by the Abstract Committee, with two posters selected from each of six categories. Their authors also presented their posters at the scientific meeting. The winners of each of the three prestigious competitions received a €2,000 prize and a trophy.

During the scientific meeting, three candidates were also awarded the EAO’s Certificate in Implant-based Therapy. This is the only Europe-wide standardised assessment of skills and expertise within the field of implant-based therapy. Before being awarded their certificate, each candidate submitted six clinical cases, then sat a multiple choice examination, as well as being interviewed about their cases.

Commenting on the award ceremony, Pascal Valentini, EAO President said: ‘One of the EAO’s goals is to promote high-quality scientific research. It was a great pleasure to award the EAO’s prizes to these outstanding research projects. I am also delighted that three candidates received the EAO’s prestigious Certificate in Implant-based Therapy.’
Junior Committee appointments

On 17 October the EAO’s Junior Committee elected a new chairman and two new members. Dr Jose Manuel Navarro (Spain) took over as chairman from Dr Theo Kapos (UK) after being elected to the committee at the EAO’s 2012 scientific meeting in Copenhagen.

The eight-strong Junior Committee is a group of young scientists working in the field of dental implantology. They represent the junior section of the EAO and support the Board of Directors with a range of projects. These include developing new ideas for the growth of the association.

The Junior Committee is made up of eight members from eight different European countries. They are each elected for two years. Two new members were also welcomed to the Junior Committee in October: Katarzyna Gurzawska (Denmark), and Ferruccio Torsello (Italy).

Speaking about his appointment, Jose Manuel Navarro said: ‘It’s a great honour to represent the EAO as chairman of the Junior Committee. The committee has a unique role within the EAO. It’s our job to network with younger members of the dental community, listening to their views and developing initiatives that will encourage them to join the EAO.

‘During the EAO’s recent scientific meeting in Dublin, the committee chaired a parallel session called “Learning and sharing clinical dentistry in a virtual world”. This brought together experts in dental education to talk about new techniques that have the potential to revolutionise how we learn and continue to learn throughout our careers as practitioners. It’s an example of how the Junior Committee is contributing to the EAO’s goals.’

Cutting-edge science meets Irish hospitality in Dublin

Over 2,700 people recently gathered for the EAO’s 22nd Scientific Meeting at the spectacular Convention Centre in Dublin, Ireland (pictured on the front cover). Three days of cutting-edge presentations on implant dentistry were complemented by a packed social programme. Delegates from around the world had the opportunity to network with each other while experiencing Ireland’s legendary hospitality.

The meeting began with a cocktail reception on 16 October in the glass atrium of Dublin’s convention centre. EAO guests met old friends and made new connections while enjoying night-time views of the River Liffey and Dublin’s regenerated docklands.

The following evening guests gathered for the sell-out EAO members dinner at Royal Hospital Kilmainham. Built in the seventeenth century as a home for retired soldiers, this stunning Georgian building is now home to the Irish Museum of Modern Art. As guests entered the historic courtyard, they were greeted by fire-eaters and jugglers, while the EAO logo was projected onto the pediment of the hospital building.

Following cocktails in the splendour of the Baroque Chapel, guests took their seats in the Great Hall, surrounded by historic oil paintings and high, vaulted windows. Entertainment was provided by the magnificent Anuna (above, right) who performed classic and contemporary Irish music a capella.

The theme of Irish culture continued at the Congress Ceremony the following day. After a welcome introduction from EAO President Pascal Valentini, Rhythm Corporation (centre) performed routines from Riverdance. The energy of the dancers was infectious and the audience was enthralled. Later that evening parties were held in different locations across Dublin hosted by the event’s Founding Gold Sponsors.