

# DENTAL TRIBUNE

— The World's Dental Newspaper · Middle East & Africa Edition —

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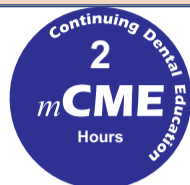
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## GSK Fined for Killing 14 Babies in Vaccine Trial

Vaccine and drug giant Glaxo-SmithKline (GSK) has been fined 400,000 pesos (around the equivalent of \$95,000) by an Argentinian judge for killing 14 babies during illegal lab vaccine trials that were conducted between 2007 and 2008. In addition to killing the children and experimenting with human beings, the judge asserted that the corporation actually falsified parental authorizations so that babies could participate without legitimate parental permission.

Judge Marcelo Aguinsky made the decision after a report was released on the subject by the National Administration of Medicine, Food and Technology (ANMAT in Spanish). Since 2007, 15,000 children below the age of one from Mendoza, San Juan, and Santiago del Estero have been participating in the illegal research. These babies were recruited by GSK from poor families that attended public hospitals. It was found that of the 14 baby deaths, 7 died in Santiago del Estero; 5 in Mendoza; and 2 in San Juan.

GSK Recruited Doctors, Pressured Illiterate Parents into Signing Over Children

Currently, it is unknown how many babies suffered serious side effects, adverse reactions, or if this is truly the total death count. As with many other vaccinations such as Gardasil, the official death count continues to rise as leaked reports from the FDA and elsewhere continue to surface.

GSK has zero regard for human health, morals, and will go to any length regardless of the casualties

One pediatrician working at the public hospital when GSK began recruiting babies for their illegal human trials said that not only did GSK force illiterate parents into handing over their children, but they also 'recruited' several doctors working at the hospital into their cause.

Ana Marchese, a pediatrician at the Eva Perón children's public hospital in Santiago del Estero, stated:

"GSK Argentina set an protocol at the hospital, and recruited several doctors working there. These doctors took advantage of many illiterate parents whom take their children for treatment by pressuring and forcing them into signing these 28-page con-



sent forms and getting them involved in the trials."

It is quite clear that GSK has zero regard for human health,

and will go to any length to experiment with their latest jab regardless of the casualties. Of the 15,000 babies that were re-

ported to be a part of the illegal trials, many may suffer from life-altering illness and serious side effects. Amazingly, many parents had no idea they were signing over the lives of their children to GSK, as they were completely illiterate. Meanwhile, GSK sells their latest shots and pharmaceutical drugs to United States consumers, raking in record profits each year as the second-largest drugmaker. **DT**

AD

## Flatworms could reveal secret of immortality



British scientists believe they may have identified how humans could potentially live forever - and it's all about flatworms

Experts at Nottingham University have been examining how two species of flatworms are able to regenerate themselves again and again - raising hopes that scientists could find ways of alleviating the effects of ageing in human cells.

Flatworms, known as planarian worms, have long fascinated scientists with their apparently limitless ability to regenerate.

During the study 20,000 new and fully-formed flatworms were created from just one original

worm by splitting it into tiny pieces.

The research team studied how the flatworms manage to replace aged or damaged tissues and cells in a bid to understand what drives their longevity.

Dr Aziz Abubaker, who led the study, said: "We've been studying two types of planarian worms; those that reproduce sexually, like us, and those that reproduce asexually, simply dividing in two.

"Both appear to regenerate indefinitely by growing new muscles, skin, guts and even entire brains over and over again.

→ **DTI** page 2

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# Oman to offer dental education through first national college

Daniel Zimmermann  
DTI

WATTAYAH, Oman: The Sultanate of Oman has opened its first college for dentistry. Inaugurated yesterday in presence of high political officials, the three-story building located in Wattayah near the capital Muscat will offer, for the first time, a

five-year Bachelor for Dental Surgery programme available to Omani and foreigners living in the country.

According to college dean Dr Mohammad Al Esmaily, the programmes follow international standards of dental education similar to those established in countries like India or the UK. It is supposed to provide job opportunities for young people and of-

fer treatment for the public through its integrated clinical teaching center, he said.

Dr Al Esmaily added that the college will be also able to conduct clinical research.

Prior, dental professionals in Oman had to receive their dental degrees from universities abroad. According to latest figures by the World Health Organ-



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**Dr. Samira Kathryn Al-Salehi, BDS, FDS (Rest Dent), RCPS (Glasgow), PhD (Sheffield), FHEA (UK)**  
Program Director  
Associate Professor of Endodontics  
European University College

### Overview

The overall Master degree Program goal is to provide the student with in-depth education and training in diagnosis, treatment planning and provision of comprehensive endodontic dental services. The Program outcome includes a critically thinking clinician who is ethical, socially aware and capable of delivering high quality endodontics services to a socio-economically diverse population of patients.

### Program Length

The program consists of 3 years of full time study of which about 70% is dedicated to clinical activities. The Program is structured in four main categories: 1) theoretical training, 2) pre-clinical (laboratory) training, 3) clinical training, and 4) research. The research aspect of the Program provides the foundational knowledge to allow the student to do the following: 1) critically evaluate literature and conduct research, 2) become familiar with research design and statistical analysis, and 3) formulate a proposal, carry out a research project, analyze the results, and write the results in a publishable format.



## 3-YEAR MASTER DEGREE IN PEDIATRIC DENTISTRY

**Mark M. Roseman, DDS, CAGS**

Acting Director & Associate Professor of Pediatric Dentistry  
European University College  
Diplomate American Board of Pediatric Dentistry



### Overview

Pediatric Dentistry is an age dependent specialty and the Master degree in Pediatric Dentistry Program provides training in both primary and comprehensive preventive and therapeutic oral health care for infants and children through adolescence, including children with special health care needs. The program will provide the student with sufficient education and training for diagnosis, treatment planning and clinical dental care in younger and special needs patients. In addition, graduates will demonstrate critical thinking and decision making, and life-long learning skills.

### Program Length

The program consists of 3 years of full time study of which about 70% is dedicated to clinical activities. The Program is structured in four main categories: 1) theoretical training, 2) pre-clinical (laboratory) training, 3) clinical training, and 4) research. The research aspect of the Program provides the foundational knowledge to allow the student to do the following: 1) critically evaluate literature and conduct research, 2) become familiar with research design and statistical analysis, and 3) formulate a proposal, carry out a research project, analyze the results, and write the results in a publishable format.



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isation, the sultanate has slightly over 500 dentists to treat a population of 2.5 million people. DT

DT Page 1

Key to a flatworm's immortality lays in its telomeres – tiny sections of DNA that cap the ends of chromosomes, protecting them from damage and the loss of cell functions linked to ageing.

Each time a cell divides the protective telomere 'cap' gets shorter. When they get too short, the cell loses its ability to renew and divide. According to the study an immortal animal would expect cells to be able to maintain telomere length indefinitely so that they could continue to replicate.

Dr Abubaker predicted that planarian worms actively maintain the ends of their chromosomes in adult stem cells, leading to theoretical immortality.

Speaking about the findings, Dr Abubaker said: "Our data satisfy one of the predictions about what it would take for an animal to be potentially immortal.

"The next goals for us are to understand the mechanisms in more detail and to understand more about how you evolve an immortal animal." DT

DENTAL TRIBUNE

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## Cetylpyridinium Chloride, An innovative molecule

The use of physical and chemical components for oral hygiene dates back to approximately 3000 years before Christ. Throughout history, man has developed tools to take care of teeth and prevent bad odour<sup>1</sup>. Later, with the emergence of microbiology, it was found that those responsible for bad breath and the most common oral diseases were bacteria, and removing them with antiseptics was proposed.

Until now, a series of compounds with the ability to eliminate microorganisms have been tested; however, it has been discovered that not all of them can be used in the oral cavity, because they can potentially damage soft tissues, mucosa or teeth, or because they have an unpleasant taste or smell. These difficulties still exist today and should be resolved in order to come up with effective oral hygiene tools.

A series of compounds that are capable of combating dental plaque exist and have been classified as follows:

**Antiseptic agents** that prevent proliferation and/or eliminate microorganisms that form plaque.

**Antibiotics** capable of inhibiting or killing specific bacterial groups.

Enzymes or enzyme combinations that can break up or disperse the extracellular matrix of the biofilm or act upon the community physiology.

**Non-enzymatic**, dispersing, denaturalising or modifying agents that can alter plaque structure or the metabolic activity of plaque.

Agents that can interfere with the adhesion of the acquired pellicle.

Currently, a great number of toothpastes and mouthwashes are available on the market that are presented as products that are efficient in maintaining optimal oral health. Different antigingivitis and antiplaque products are formulated with active ingredients such as triclosan (toothpastes), stannous fluoride (toothpastes), a combination of essential oils (mouthwashes), alcohol (mouthwashes), chlorhexidine (CHX) (mouthwashes and toothpastes) and cetylpyridinium chloride (CPC) (mouthwashes and toothpastes).

### Pros and Cons of CHX, alcohol and CPC

Currently, the majority of mouthwashes use CHX, alcohol and CPC as their active ingredients or a mixture of these. However, different studies have found that alcohol can present some adverse effects, such as oral or oesophageal cancer and the deterioration of synthetic dental reconstruction materials and is contraindicated in patients with mucositis, immunocompromised patients, patients undergoing head and neck irradiation, sensitised patients and in children<sup>2,3</sup>.

### DIFFERENT STUDIES HAVE SHOWN THAT MOUTHWASHES CONTAINING CHX, CPC AND A COMBINATION OF BOTH ACT EFFICIENTLY AS ANTIPLAQUE AGENTS ON HALITOSIS AND ON GINGIVITIS.

Different studies have shown that mouthwashes containing CHX, CPC and a combination of both act efficiently as antiplaque agents on halitosis and on gingivitis<sup>4,5,6</sup>. CHX is probably the most frequently used molecule in different health disciplines due to its excellent antibacterial effect<sup>7</sup>. Particularly in the oral cavity, it shows the best results for treating periodontal disease. However, it is true that it does possess some adverse effects, such as promoting the formation of calculus, tooth staining and a bitter taste. Also, some clinical studies have described that it may cause mucosal irritation and desquamation<sup>1</sup>. Because of CHX's side effects, certain molecules such as CPC have become very important. Currently, new formulations are being developed to improve the effectiveness of CPC either alone as the main active ingredient or in mouthwashes combined with CHX.

### DIFFERENT STUDIES HAVE SHOWN THAT CPC IN DIFFERENT CONCENTRATIONS IS EFFECTIVE IN REDUCING SUPRA AND SUBGINGIVAL DENTAL BACTERIAL PLAQUE

Nowadays, CPC is being used in various applications in the food industry, since it is capable of eliminating pathogens such as *Salmonella* spp. and *Campylobacter* spp., as well as killing *Staphylococcus* spp. bacteria in proportions of 1:50000 in merely 10 minutes. It is also used in the pharmaceutical and cosmetic industries and as a cleaning and disinfecting agent<sup>9,10,11</sup>.

### Cetylpyridinium Chloride (CPC)

N-hexadecylpyridinium chloride or CPC is classified as a cationic quaternary ammonium surfactant, is soluble in alcohol and in aqueous solutions; it can act as a detergent and as an antiseptic, it is non-oxidizing and non-corrosive and has a neutral pH8. Its molecular structure is made up of a polar and a non-polar region, as shown in figure 1.

This molecule has bactericidal and bacteriostatic activity against Gram positive and Gram negative bacteria, although evidence suggests that it is more effective against the first ones. It is thought that its mechanism of action on bacteria is at the plasma membrane level (Mandel, 1988) where the positive charge creates an attraction between the molecule and the negative charge of the phospholipids that make up the bacterial cell membrane. Once the molecule attaches to the membrane, the non-polar side of the CPC penetrates and alters the cellular membrane. This alteration causes an osmotic imbalance and causes loss of cytoplasmic material and then cell death.

Even though it can also stain enamel, it does this at a much lower degree than CHX. Different in vitro and in vivo studies have proven that CPC at different concentrations is effective in reducing supra and subgingival dental bacterial plaque, which in turn also reduces inflammatory response<sup>12,13</sup>. Likewise, work carried out by Roldán et al in 2003 clearly describes that a formulation with CPC, CHX and Zinc Lactate has very good results, significantly eliminating anaerobic microorganisms, such as *F. nucleatum* and *P. intermedia* from the tongue surface and from the saliva.

Similarly, a clinical study comparing different mouthwashes showed a reduction in anaerobic microorganisms in patients' saliva samples.

This same study also measured the quantity of volatile sulphur compounds (responsible for the bad odour of halitosis) and proved that they were reduced considerably when using mouthwashes with CPC as one of its active ingredients<sup>14</sup>.

In a review from year 2008, van den Broek et al compared results from different clinical studies where the activity of different mouthwashes against halitosis was tested. They point out that studies in which products like HALITA, which contains CPC, CHX and Zinc Lactate in its formula are the ones that yielded the best results.

Other clinical studies have tested mouthwashes with different formulations and concentrations of CPC<sup>15,16</sup>. In general, their results show that this compound, by itself at different concentrations has antiplaque effects. It has also been combined with Sodium fluoride, alcohol and CHX with the intention of reducing the concentration of the two latter compounds because of their adverse effects.

Thus, it has been proven that CPC can be used as a treatment for certain oral pathologies, like for instance, mucositis, especially in patients who have undergone irradiation for head and neck cancer or those who suffer from periodontitis or gingivitis.

### Dr. Rubén León

Director of R&D at Dentaïd. B.S. in Biology and PhD in Genetics.

### What research has Dentaïd carried out on the CPC molecule?

At Dentaïd, a number of studies have been performed using this molecule, that have led to the confection of diverse formulations that currently aid in human oral hygiene. Also, among these, we have studies on antimicrobial activity, stability studies of the formulations for replacing ethanol in mouthwashes and improving CPC's bioavailability.

We have also carried out different clinical studies with national and foreign universities that have shown that products containing this molecule are among the most efficient on the market.

### Having proven the properties of this molecule, how is Dentaïd applying it in its products?

Dentaïd has developed a line of products that contain CPC among its active ingredients, products that are meant for care and treatment of pathologies like periodontitis, gingivitis, halitosis or maintenance in patients that have been treated for periodontitis. Currently, a group of products is being developed where this molecule has greater bioavailability.

"Dentaïd has developed a line of products that contain CPC among its active ingredients"



# Halitosis ?



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## Twin brothers lose sight within months of each other

Twin brothers who lost their sight within months of each other have spoken of their determination to complete their education and start a career.

Michael and Dan Smith, 20, were living life to the full at university when they noticed their sight failing.

Michael, who had started a medical degree at Barts and The London School of Medicine was

diagnosed in November 2009 with Leber's Optic Neuropathy, an inherited form of sight loss for which there is no cure.

Around 150 people in the UK have the condition which affects men more than women and usually strikes young people in their teens and twenties.

University, was told there was a 60 to 70 per cent chance he would also lose his sight, which



he likened to a "dark cloud" hanging over him.

By Easter 2010, he began to struggle to see out of his left eye, and within two weeks his near perfect sight rapidly deteriorated.

Although Michael has been forced to give up studying medicine, he is now studying geography at King's College London. He also plays for the England Blind Football Squad and hopes to be chosen for this year's Paralympic Games. Dan is carrying on with his studies as a part-time student at Bristol University and hopes to take up a career in investment banking.

Both brothers, who live in Barnet, North London, are currently preparing for a 570km London to Amsterdam tandem bike ride on April 6 to raise money for Blind in Business, a charity which helps blind and partially sighted people into work.

They will be cycling 140km a day, and will be supported by friends who will be leading from the front and their parents, Steve and Su-Jan, who are going to be driving a support vehicle.

Daniel said: "There were some pretty dark moments when I had to come to terms with being severely visually-impaired. It was hard to come to terms with the fact that I could no longer do everyday activities. Going to the supermarket to buy food just isn't possible now.

"Coming back to university has been tough but the last thing I wanted to do was sit at home doing nothing. My tutors at Bristol University have been really supportive and the university as a whole has been fantastic in how they've catered for such a change. "Blind in Business has supported us in all aspects of my life, which is why we wanted to do something in return. Because it's a small charity, we can decide where the money is spent so our aim is to raise over £3,000 and enable them to help others who find themselves in a similar position as us."

Leber's Optic Neuropathy is the loss of vision as a result of the death of cells in the optic nerve, causing it to stop relaying vital information from the eyes to the brain.

Although it's a hereditary condition, linked to a number of genes, the brothers have been unable to find any family history going back four generations.

Dan Mitchell, training and fundraising manager at Blind in Business, said: "Having the Smith brothers embark on such a challenging journey to raise money for this small charity shows they always want to work towards bigger challenges.

"They have both been challenged academically and have pushed themselves as visually impaired people, working towards careers in engineering and law. "Blind in Business knows that these young men will challenge what visual impairment means and show how a group of people can work together in aid of a small charity to make a real difference to young visually impaired people." ■

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## Women more likely to have heart attacks without chest pain

**Two out of five women have heart attacks without experiencing chest pain, according to a study of more than one million people.**

The study findings may partly explain why middle-aged women are more likely to die from a heart attack than men, despite more heart attacks occurring in men of the same age.

Researchers from the Watson Clinic and Lakeland Regional Medical Centre, Florida, analysed data on more than one million heart attack patients seen at US hospitals between 1994 and 2006. Around 42 per cent of the patients were women. Women were, on average, older than men when they had a heart attack (age 74 vs. 67 respectively).

Overall, around 35 per cent of heart attack patients said they didn't have chest pain or discomfort, probably the best known heart attack symptom.

But when researchers looked at symptoms in both sexes, they found that 42 per cent of women didn't have chest pain, compared with 31 per cent of men.

Middle-aged women were also more likely to die as a result of a heart attack in hospital. Some 14 per cent of women under the age of 55 died compared with 10 per cent of men in the same age group. The gap between male and female death rates narrowed in patients older than this.

Heart attack patients without chest pain may receive less aggressive treatment in hospital, particularly if they are younger, and may also take longer to go to a hospital with their symptoms. This could explain the difference in mortality rates between the sexes, the researchers said.

The authors wrote: "Optimal recognition and timely management of myocardial infarction (MI; heart attack), especially for reducing patient delay in seeking acute medical care, is critical.

"The presence of chest pain/discomfort is the hallmark symptom of MI.

"Furthermore, patients without chest pain/discomfort tend to present later, are treated less aggressively, and have almost twice the short-term mortality compared with those presenting with more typical symptoms of MI."

Cathy Ross, senior cardiac nurse at the British Heart Foundation, said: "Contrary to popular belief, a heart attack doesn't necessarily mean dramatic and excruciating chest pains.

"Symptoms vary; for some the pain is severe and yet others may feel nothing more than a mild discomfort or heaviness

"Younger women may need to heed that advice more than most because they appear to be less likely to have chest pains.

"Their symptoms can be overlooked by inexperienced medical staff because heart attacks in young women are rare.

More research will hopefully identify why there are such variations in the way heart disease affects men and women.

"Interestingly, smoking was found to be the main cause of heart attacks among younger women, compared to high cho-

lesterol and narrowing of the heart's arteries in older women. It's a reminder that we should all try to eat a balanced diet, get active and stop smoking."

The study is published in the Journal of the American Medical Association. [\[1\]](#)

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# Utilizing the ERA over-denture implant to create soft-tissue symmetry in the esthetic zone

(mCME articles in Dental Tribune (always page 6) has been approved by HAAD as having educational content acceptable for (Category 1) CME credit hours. Term of approval covers issues published within one year from the distribution date (September, 2010). This (Volume/Issue) has been approved by HAAD for 2 CME credit hours.

By Joe Carrick, DDS

**When doing a diagnostic work-up, if we line up each challenge that is an obstacle in our quest to provide both a functional and an esthetic end result, each solution we find brings us much closer to a predictable overall result.**

This article will address the challenge of soft-tissue asymmetry in the cosmetic zone with a new approach to a very challenging problem that, until recently, had few predictable solutions.

The area extends from molar to molar in the maxillae in patients with Type II and III lips. These are patients that show some soft tissue when smiling (Type II lip) to those that show significant soft tissue (Type III lip).

## Two cases

The first case will deal with the anterior segment of soft-tissue asymmetry caused by trauma. The ERA implant is used primarily to provide support for dentures in areas where the remaining bone will not support conventional implants without significant bone grafting and other invasive procedures.

It accomplishes this by reducing the size but not the material composition of the conventional implants while adding an aggressive thread design that provides a self-tapping feature to the implant.

The second case deals with a patient with a Type III lip, significant bone loss before implant placement and presents with an esthetic challenge.

## Case No. 1

The first patient presented with a bridge that had been placed after trauma to the anterior maxillae. Although one hard-tissue and two soft-tissue grafts had been performed and the new bridge constructed, the defect was still unacceptable to the patient. The hard- and soft-tissue defect was 6 mm inferior and 4 mm palatal to where it was necessary to create ideal tissue symmetry (Fig. 1).

After a complete work up, the patient also needed his occlusal plane leveled for ideal function.

While it would be relatively predictable to do an onlay graft to correct the facial defect, the vertical defect utilizing conventional grafting techniques was

not predictable, as the patient had already experienced.

We presented the patient with a treatment option that included orthodontics to correct the functional challenges, and offered him a treatment option that would incorporate a variation of distraction osteogenesis in combination with surgical vertical displacement of the previous onlay graft utilizing the small diameter ERA implants.

With their aggressive thread design and subsequent fine tuning with three-dimensional displacement of the bone, the ERA implant allows for conservative surgery to maintain blood supply while separating the cortical bone plates and allowing controlled movement of the bone in the healing surgical site. We divided the treatment into three phases.

## Treatment phase No. 1

We made a resin bridge from the upper left cuspid to the upper right central incisor, replacing the left lateral and central incisor

(Fig. 2). We then placed a 2.2 x 10 mm ERA implant in the area of the upper left central and one in the upper left lateral incisor, making sure that we engaged the previous graft site extending well into the residual bone that was grafted (Figs. 3, 4).

The resin bridge was cemented but out of contact with the implants that were placed without an incision with the abutment supragingival (Fig. 5). The orthodontic treatment was initiated during the four months while bone integration took place around the implants.

## Treatment phase No. 2

The pontics were removed and altered by measuring the clinical crown of the upper right central and lateral incisor (measured from the gingival crest to the incisal edge) then connected to the implants. This then created a step in the incisal edges in this

area corresponding to the hard- and soft-tissue defects (Fig. 6).

After connecting the new resin crowns that correspond in size to the adjacent central and lateral, a conservative vertical incision was placed mesial to the upper left central and distal to the left lateral. The soft tissue was raised via tunneling to bone on the facial, but not on the lingual, in an attempt to preserve the blood supply to the bone around the implant, and was also the reason no horizontal incision was placed.

The cortical plate was cut such that the implants and the bone between them was freed to allow us to pull the implants via altered resin crowns incisally to have the "in edges" as close to being level without blanching the tissue (Fig. 7). The area was grafted with mineralized and demineralized cancellous

bone, collagen membrane was placed and the vertical incisions were closed with 4-0 sutures.

The surgical site was stabilized using the wire that was secured to the adjacent teeth and orthodontic brackets (Fig. 8).

After the soft tissue healed and the sutures were removed, the active controlled orthodontic was reinstated.

## Treatment phase No. 3

After four months of orthodontic intervention to create an ideal functional occlusal scheme and osteogenesis in the anterior region (Fig. 9), we removed our ERA implants using a 2.4 trephine bur that was ideal for placing our 3.3 mm implant in the lateral area and 3.75 mm implant in the central incisor area.

We gained the necessary vertical height in bone via our combined surgery and small amount of orthodontic distraction, but were still deficient facially, which we achieved



Fig. 3

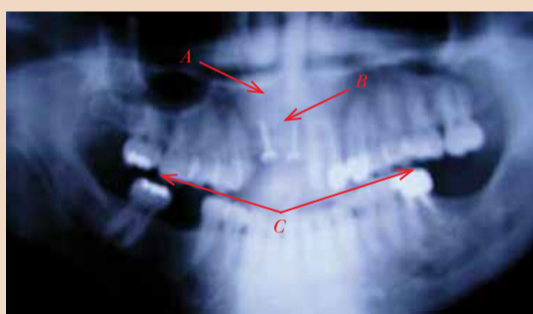


Fig. 4: A) Residual bone area; B) previously grafted bone area; C) exaggerated arch that will be addressed with orthodontics.

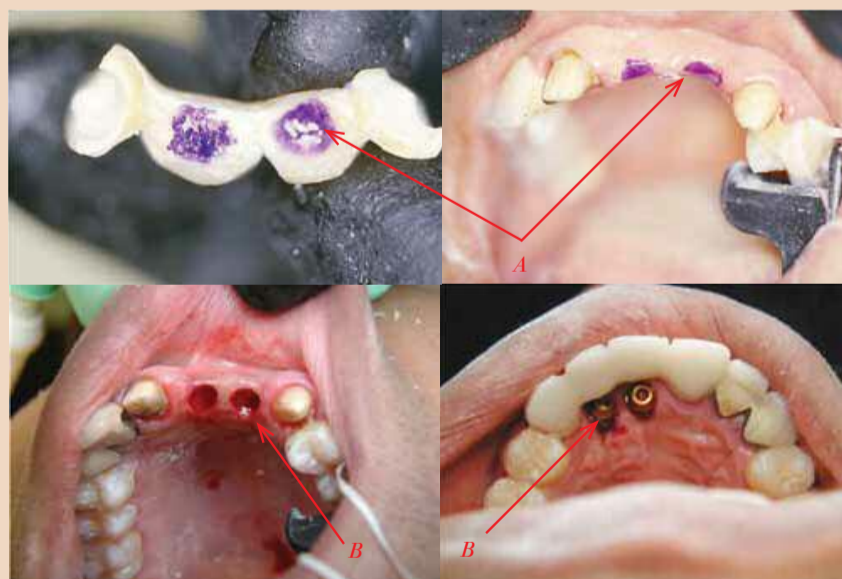


Fig. 5: A) Mark pontic position for implant placement; B) single-stage implant placement without incision, palatal to pontics.

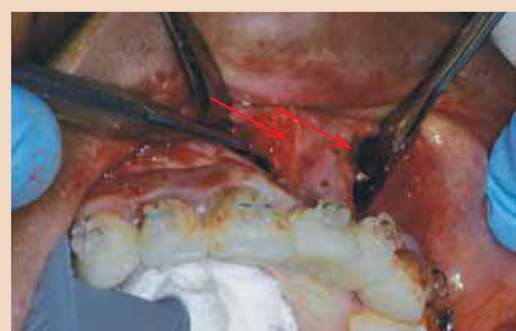


Fig. 7: The arrows mark areas of vertical incision.

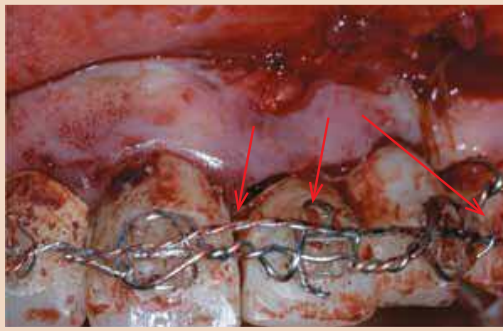


Fig. 8: Implants and bone secured using the orthodontic brackets.



Fig. 1: Case No. 1 — The patient already had one block bone graft and two soft-tissue grafts that produced this result. (Photos/Provided by Dr. Joe Carrick)



Fig. 2: We made a resin bridge from the upper left cuspid to the upper right central incisor, replacing the left lateral and central incisor.



Fig. 6: The altered crowns over the implants were made to the same size as the adjacent teeth and this created a step on the incisal aspect, which was the amount of movement necessary to move bone.



Fig. 9: Four months after ERA implant placement and prior to primary implant placement.

by expanding the ridge with the implant in the undersized osteotomy along with bone augmentation utilizing an autogenous block graft harvested from the mandible (Figs. 10-12).

It took another five months to finalize the orthodontic treatment, at which time the abutments were placed and the ideal soft-tissue symmetry and emergence profile was refined with the anatomically shaped resin transitional crowns (Figs. 13, 14).

In conclusion, while the total treatment was 15 months, utilizing orthodontics to correct not only occlusal disharmony but also help create hard-tissue support for the implants, soft-tissue symmetry was actually the conservative treatment option.

I believe that orthodontics will play a much larger role in providing new bone for cases requiring implant support.

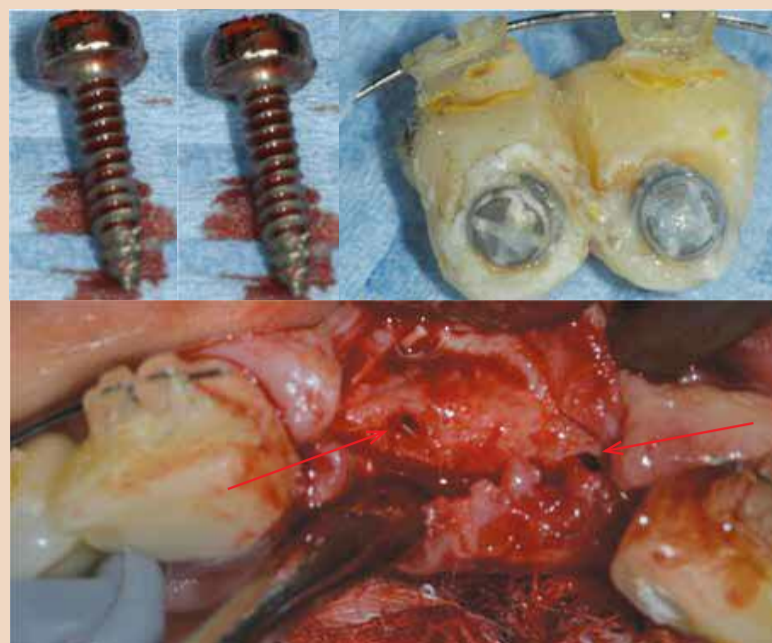


Fig. 10: Arrows show osteotomy sites utilizing 2.4 mm triphine bur to remove ERA implants. Narrow ridge regained height but not width.



Fig. 12



Fig. 13: Six-months post-implant placement. Two-weeks post second-stage abutment and temporization.

Case No. 2

In the second case, the patient presented with no complaints, having recently completed the restorative phase of her full-mouth rehabilitation. It was noted that she had an extremely short upper lip that revealed a very toothy smile. The maxillary incisors were supported with four individual implants and her final restorative result was functionally sound.

The esthetic result was compromised by extremely long incisors due to the loss of soft tissue (Fig. 15). Even if that had not been the case, she would have been compromised because of the amount of soft tissue visible. The patient stated that she had been presented with options such as soft-tissue grafts post implant

placement; repositioning the muscle attachments to minimize lip movement, thus exposing less soft tissue when smiling; and even an orthognathic procedure that would truly be the only way to predictable solve her esthetic dilemma.

The only procedure (Laforte) that would provide our patient with an ideal solution was very

expensive, invasive and had its own potential set of postoperative problems. As a result, the patient was content to do nothing because the only predictable option was financially out of reach: the functional restorative plan was itself a financial burden, not to mention the thought of yet another lengthy phase on top of what she had already been through.

Sometimes the “K.I.S.S. Theory” (keep it simple, stupid) is the best. If we could find a non-surgical, inexpensive and reversible procedure that could at least improve on some of her esthetic challenges, she would be receptive.

We took impressions and sent them to the lab to produce an insert (bumper) that has the ability to blend in with the underlying

soft tissue and make the junction invisible (Fig. 16). After placing the insert and adding some texture, the margins disappeared (Fig. 17). Although the lip still shows too much soft tissue, the teeth are now symmetrical (Fig. 18).

Summary

The use of the 2.2 mm ERA implant and orthodontics as tools to aid in bone augmentation — even though they are not thought of as conventional tools for this — proved to be very effective.

I believe we will see more situations where they will be thought of as a treatment of choice to produce more predictable results.

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Fig. 15: A short upper lip and loss of soft tissue created a significant esthetic challenge.



Fig. 17: A simple solution for a complex problem.



Fig. 16a



Fig. 16b



Before



After

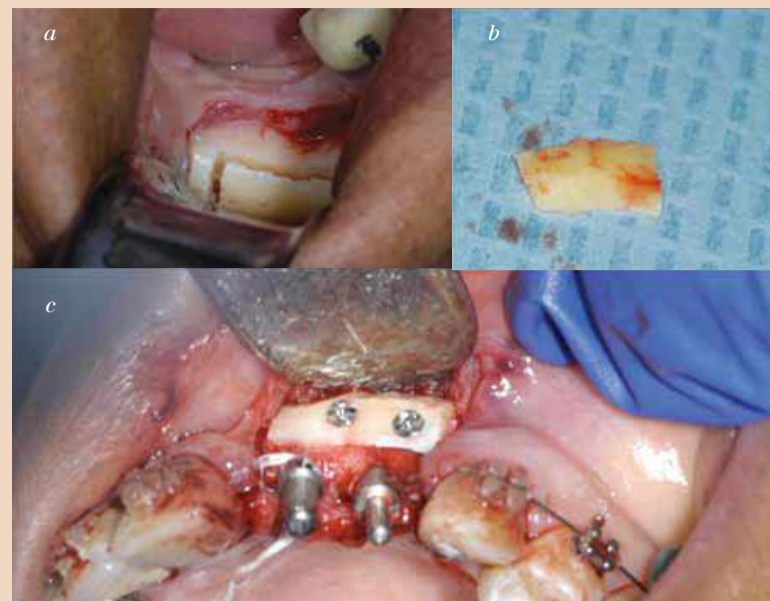


Fig. 11: a) Donor site; b) size and shape graft and c) block graft).



Fig. 14: After shows post ERA implant distraction post. Primary implant placement integration and final temporization before final prosthesis.

## First dentist to visit Somalia refugee camps in Dadaab (Kenya)



I went from Bahrain to Kenya on October 2011, the area called DADAAB, it is a semi-arid town in the North Eastern Province in Kenya which contain the largest refugees camp in the world, more than 700000 refugees, 90 % were from Somalia.

I was the first dentist from Bahrain, from Middle East even, who arrived there, So it was very hard to take a decision to go or not. Honestly it wasn't a secure trip, because at that time a lot of terrorist threat happened in Kenya, and they were hardly looking for doctors, as very few organization that provide medical care exist there. ANYHOW, I take the challenge and risk and decide to go help and report that Dark area of the world

I called it later The DARK CITY, because they live in 2012 without any source of electricity, they die there for a small battery; they live after 6 pm in the darkness. Sadly their situation unhealthy at all, their way of living don't fit any human, not even animals!

I went there without any guarantee, took dozens of vaccines and went by myself to Nairobi (Kenya capital) and from there the representative of AID organization (Alliance of International Doctors) was waiting for me at the airport with other group of doctors from turkey. We rest overnight in Nairobi and moved all together to the refugees camp (DADAAB) early morning. The road was hard, humpy, and insecure so we drive morning time, and rest in evening. The road took two days to reach DADAAB.

We worked together in the medical camp, doctors from different specialty it was a simple medical tents with the basic medications. I suppose to do a dental care there, but then realize that nation they don't have enough food and water to think after that about their Dental health, I bet if I will do a research there, will not find more than 10 toothbrushes for the more than 700000 refugees!!!! **DT**

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The Oral Health Experts



## New A-Dec Led Light Unveils Brilliant Simplicity



Unveiled to the Middle East and Africa market at the AEEDC exhibition in Dubai, the new A-dec LED dental operating light is now available to dentists around the world.

“Designed for optimal visual acuity and treatment-room ergonomics, the A-dec LED is an outstanding solution that outperforms all other industry options,” says A-dec Product Manager Tom McCleskey. “By evolving LED technology, we’ve established a new benchmark for operator lighting.”

A-dec’s advanced light emitting diode (LED) technology has been optically engineered specifically for dentists and the dental operator. The A-dec LED stands alone in the market because of how well it reduces eye strain and provides optimal ergonomics while ensuring ample illumination, clarity and depth during treatment.

The new offering features multiple intensity levels, cure-

safe mode, low cost of ownership, and intuitive ergonomics.

Adjustable intensity levels of 15,000 lux, 25,000 lux, and 50,000 lux at 5,000K are able to flood the oral cavity with a consistently neutral white light for true-to-life tones, which help practitioners, diagnose clearly. The light’s cure-safe mode emits a brilliant yellow light at 25,000 lux, enabling the dental team to work effectively without curing photo-initiated resins.

McCleskey also mentions the solution’s ability to reduce eye fatigue because of how the light’s “stadium effect” mitigates shadows and maintains a uniform light pattern. Plus, its unencumbered controls, unparalleled positionability, and fluid movement, combine to create outstanding ergonomics.

This latest addition sets a premium standard for A-dec Dental Lights, a family of lighting solutions that also include the A-dec 500® Halogen 3-Axis and A-dec 500® Halogen 2-Axis. **DT**

## Bad breath gas used to make liver cells from teeth

TOKYO, Japan: A team of Japanese researchers has demonstrated that hydrogen sulphide, one of the main causes of bad breath, could be a key component in developing future medical therapies. In a recent study conducted at the Nippon Dental University in Tokyo, they reported that stem cells isolated from dental pulp transformed into liver cells after being incubated with the characteristically foul smelling gas for at least three days.

While dental pulp stem cells have been found to have the ability to transform into a number of different cells, including muscle and blood cells, this is the first time that researchers have claimed to have produced a huge number of cells that were able to store glycogen and collect urea—the two main functions of the liver.

They said that although more research might be needed on the possible carcinogenic effects of the method, results indicate that it produced cells with little po-

tential to differentiate, hence limiting the risk of developing tumours after transplantation.

“Hydrogen sulphide did not cause apoptotic changes in the cells,” the researchers stated in the report.

Common methods of producing hepatic cells for human transplantation include the use of foetal bovine serum, which is heavily regulated worldwide. The researchers however extracted stem cells for their study from patients undergoing regular tooth extractions. These were then divided into two groups, of which one was incubated with hydrogen sulphide and the other with a different medium.

Commonly associated with the smell of rotten eggs, hydrogen sulphide is produced in small amounts by the human body for signalling and other biological functions. In the oral cavity, where it is considered highly toxic to tissue, it is produced by forms of bacteria that do not require oxygen to grow. **DT**

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