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A Peer-Reviewed Journal of Minimally Invasive Cosmetic Dentistry

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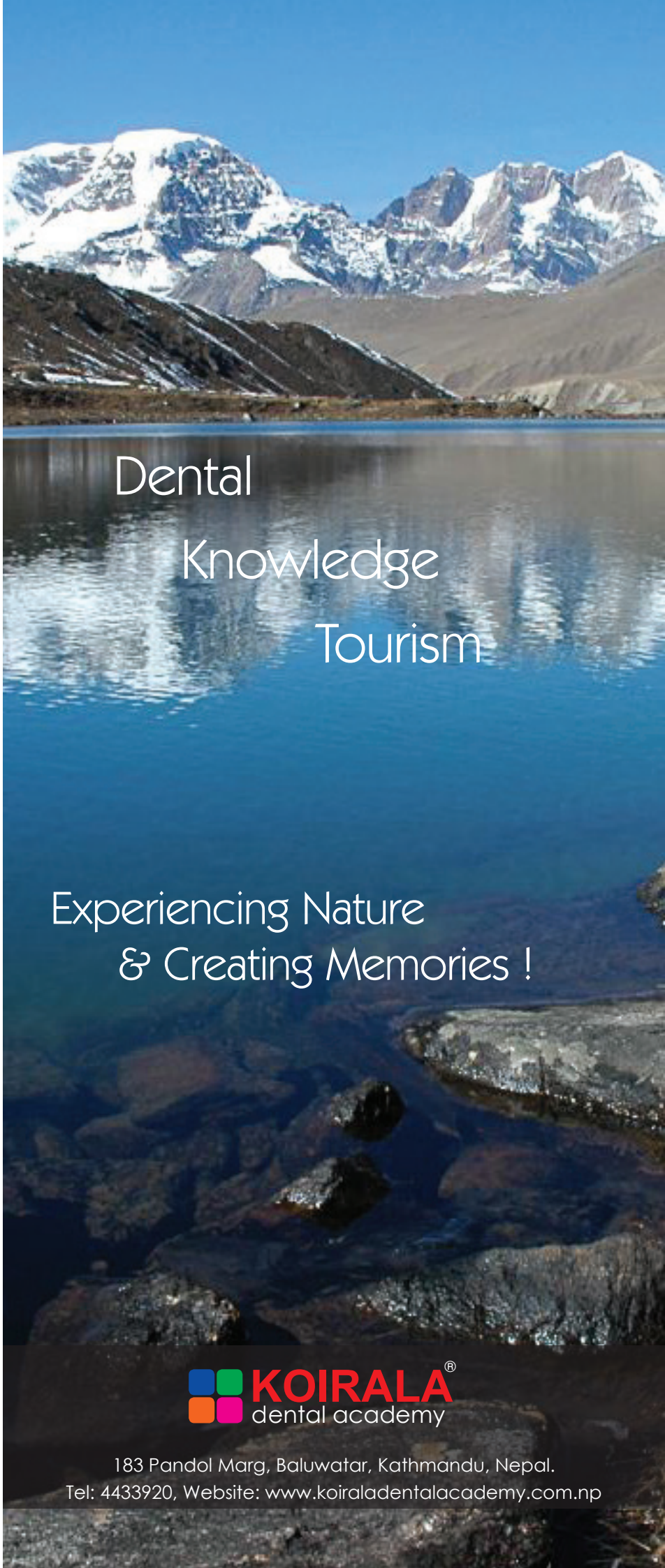


The Role of Magnification in Minimally Invasive Cosmetic Dentistry

Dentistry has come a long way from the past and for a long time it used metal based materials for restoring the lost function of missing teeth or a partially destroyed tooth. After the development of adhesion to enamel and then to dentin, and to new and better composites and ceramics, dentistry took a major turn, as dentists became able to restore not only the function, but also the appearance of the natural dentition, leading to a new philosophy of treatment called Esthetic Dentistry. Another important aspect is related to the fact that as metallic materials were cemented or adapted to the tooth, they would need additional retentions that in many situations would imply in removal of sound tooth structure. With adhesive technology, these extra preparations started to become unnecessary, and the preservation of intact dental structures started to become the standard of care. That's when the concept of Minimally Invasive Dentistry became "established as a systematic respect for the original tissue" (Ericson, 2004).

Esthetic dentistry and minimally invasive concepts made dentistry much more interesting and exciting as dentists became able to restore smiles and patients' self steam. However, it's a fact that adhesive techniques are much more critical then the ones used with metallic materials. This is because esthetic materials and dental adhesives must be carefully manipulated and precisely placed in a properly prepared substrate with absolutely no contamination otherwise they will fail rapidly. So, as dental procedures became more complex, and willing to preserve the most of natural teeth, many dentists started to use magnification in their practices beginning with loupes. Loupes are great instruments, enhancing visibility of the working field and enabling a more comfortable working position but they have limitations such as convergent vision, image distortion, color alteration, small depth of focus, reduced working field, and fatigue caused by extended use. Other professionals have decided to take an extra step towards precision and magnification and started to work with an Operative Microscope (OM).

We feel that Minimally Invasive Dentistry should always be done under some kind of magnification and we strongly advocate the OM, which has a great versatility in image magnification and amplification of details, excellent visualization of the working field, the best lighting possible, and the best working posture.

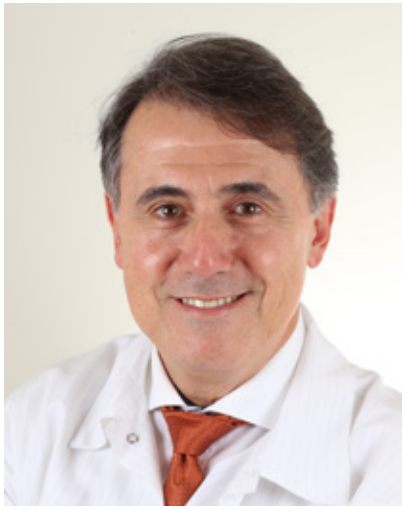
Working with the OM allows more conservative cavity preparations, more precise insertion of restorative materials, better finishing of restorations, and a more precise diagnosis of carious lesions and of old restorations that need to be replaced. In this case, the removal of old materials, especially the esthetic ones, will be done with less loss of sound tooth structure. Patients will benefit from the safety and quality of the procedures they receive, and dentists, as they are working with the best conditions of visualization and illumination, the possibility of achieving excellence is a lot higher.

Our working philosophy is to do Cosmetic Minimally Invasive Dentistry whenever it's possible and always with the aid of a magnifying Instrument, believing that the OM is the best choice available to this day. We have been working under the OM for the past 18 years for every procedure we do, using it full time, and that's what we have been promoting in our training center Artis (Aesthetic Restorative Training Institute), in Taubate, Brazil and in lectures and hands on all around the world.

The final message I'd like to pass on to my friends and colleagues in Asia is that Dentistry is a wonderful and inspiring profession where we can use our skills to restore one of the most important features of the human being: the ability to Smile and we should do it preserving the most of what nature has given to our patients. Let's use all we can to do our best to them as an expression of our love to life.

Warm regards from Brazil.

Dentistry is a wonderful and inspiring profession where we can use our skills to restore one of the most important features of the human being: the ability to Smile and we should do it preserving the most of what nature has given to our patients.



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Particulated Teeth as a Source for Autologous Graft Material

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In our day to day practice, the teeth we extract do not get much attention. These are typically disposed of and rarely offered as souvenirs to patients who are interested in keeping them.

However, today we have extensive knowledge from a variety of animal experiments and clinical human studies which show that extracted teeth can be utilized as an ideal autologous material for ridge preservation right after the extraction or potentially for future augmentation for that patient. Therefore, extracted teeth should be seen as a promising and effective alternative to autologous bone or foreign bone graft.

Structurally dentin is similar to bone (10). Dentin matrix, like bone matrix, inherit osteoinductive and osteoconductive properties, which enhance and accelerate the process of bone healing and bone regeneration (13). The Transition from dentin into bone is a known fact and was shown in clinical and experimental studies in ankylosed teeth. Resorption of the root through osteoclasts was always possible in cases where direct contact between tooth and alveolar bone, by missing desmodont, was established (1,2,6). These properties are attributable to a large reservoir of bioactive, bone forming matrix proteins (BMPs) as well as various growth factors from dentin and root cement, which are released both under pathological conditions and in controlled manner(3,4,7,8,10,11,13). Additional mesenchymal stem cells from the pulp are also contributing to the bone regeneration process (11).

In addition to its strong biocompatibility (4), dentin exhibits at least equivalent results to materials such as bovine (12) and autologous (11) bone replacement with regard to wound healing, implant stability and histologically recognisable bone formation. Dentin is therefore being used as a demineralised dentin matrix or as a mineralised particulated graft (14). The properties of dentin as an autologous bone graft material can be leveraged easily and efficiently by implementing a new method. With the Smart Dentin Grinder by KometaBio Tissue Engineering, teeth can be converted to an autologous particulated graft material. The Smart Dentin Grinder is an electromotor with a sterile consumable grinding chamber. The camber is a single use product which creates uniform particulate dentin graft, and sorts the particles into separated containers.

Methodic protocol and procedure

Preparation of the teeth

An extracted tooth must meet certain prerequisites so it can be used for augmentation procedures. All impurities adhering to the tooth (e.g. subgingival calculus) as well as fillings and caries must be removed with diamond burs. Then the teeth are dried with air syringe.

Production of the graft

The grinding process takes place in the main chamber of the Smart Dentin Grinder and lasts

three seconds. Subsequently the fragments are sorted according to their particulate size during a vibration step of 20 seconds during which they fall through two sieves. In the top container, fragments of a particulate size of 250-1200 microns are collected. As animal studies have shown, this particulate size

appears to be best suited for bone regeneration when using mineralised dentin grafts (9). Smaller particles are collected into the bottom container of the chamber. This procedure can be repeated as often as desired until no dentin particles are left in the main chamber. The collected particles from the first chamber are then disinfected as they soak in a solution of sodium hydroxide and 20% alcohol (Dentin Cleanser) for ten minutes in a separate mixing dish. At that point, excess liquids are removed using a sterile gauze and the particulate is soaked for another three minutes in Phosphate Bufered Saline which neutralizes the pH of the graft. The material is then immediately ready for use after once again removing the excess liquids with another sterile gauze.

Case report

An 80-year-old patient, a former medical doctor herself, came to our office in May 2016 with the request for a new prosthetic reconstruction to replace her bridge in area 23-26. The general anamnesis did not reveal any conclusive findings. The specific medical history showed that the desired treatment was prompted due to persistent symptoms on the distal tooth 26. The metal-ceramically veneered bridge was originally created to replace the missing tooth 25 (after gap closure in the area of the missing tooth 24) and was fixed to tooth 26. To the mesial, the bridge was supported by a simple metal overlay on tooth 23. Since the patient refused an endodontic treatment of the tooth 26 as well as a conventional prosthetic restoration, we decided to remove tooth 26 and to solve the situation by placing two implants in region 25 and 27 with a fixed cemented full ceramic bridge. Since the patient wished that only her own biology (bio-matter) should be used in necessary augmentation measures, it was planned to use tooth 26 for the Smart Dentin procedure.

Surgical procedure

Initially 40 ml of blood was taken from the patient and used for the production of platelet-rich fibrin by the method of Choukroun (A-PRF). Creating the clean dentin graft took the necessary time of about 15 minutes. The bridge was removed after palatal and vestibular local anesthesia. The separation and removal of the roots was then carried out by means of a Lindemann cutter and in particular with respect to the vestibular bundle bone. The remaining pieces of the tooth contained in the removed bridge were also collected and mechanically cleaned together with the three extracted roots, air-dried and grounded and then chemically disinfected.


Fig. 1

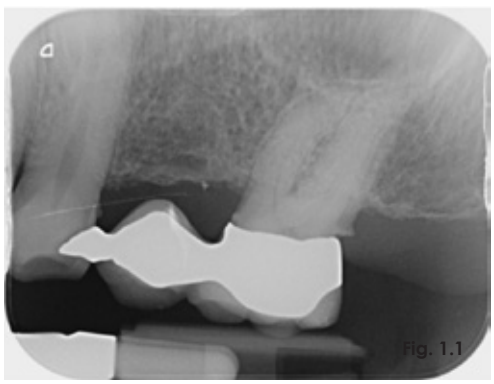


Fig. 1.1


Fig. 2


Fig. 3

Fig. 1 - Separation of the periodontal fiber unit with a Desmotome

Fig. 1.1 - Preoperative radiographs

Fig. 2 - Extraction of the bridge

Fig. 3 - Separation of the root

Fig. 4 - Extracted tooth prior to cleaning

Fig. 5 - Mecanical cleaning

Fig. 6 - Cleaned tooth prior to milling

Fig. 7 - Smart Dentin Grinder

Fig. 7.2 - Tooth inside the Smart Dentin Grinder

Fig. 8 - Autologus dentin graft after particulation

Fig. 9 - 10 minutes of chemcally ceaning with the dental cleanser

Fig. 10 - 3 minutes of neutralisation

Fig. 11 - Dentin graft ready to be used after cleaning

Fig. 12 - Sticky dentin graft on raspatory

Fig. 13 - OP Situs after implant placement and before defect filling

Fig. 14 - PRF mambranes

Fig. 15 - Defect-filled situs prior to installing the PRF membrane

Fig. 16 - First PRF membrane in situs

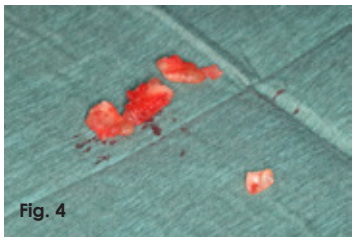


Fig. 4


Fig. 5


Fig. 6


Fig. 7


Fig. 7.2

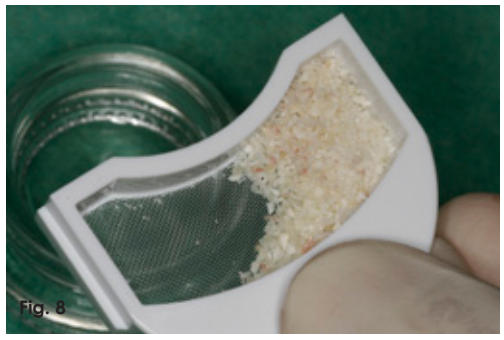


Fig. 8


Fig. 9


Fig. 10


Fig. 11

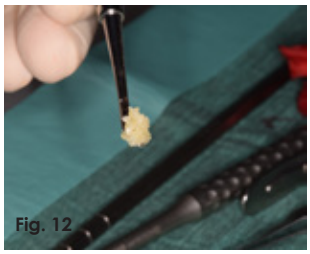


Fig. 12


Fig. 13

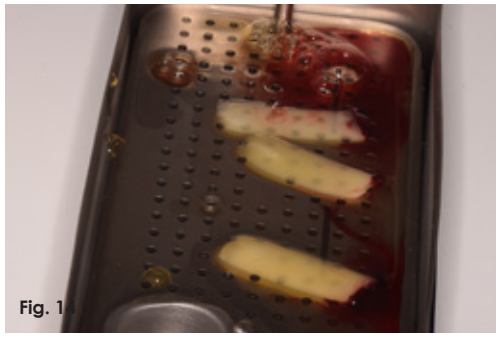
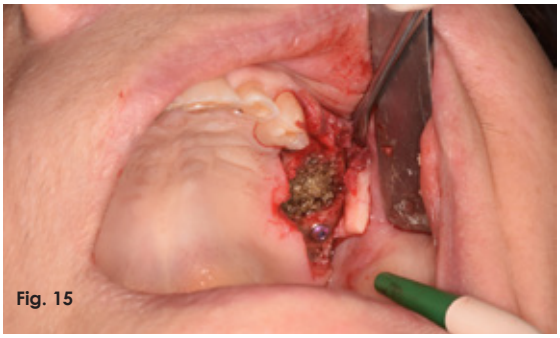


Fig. 14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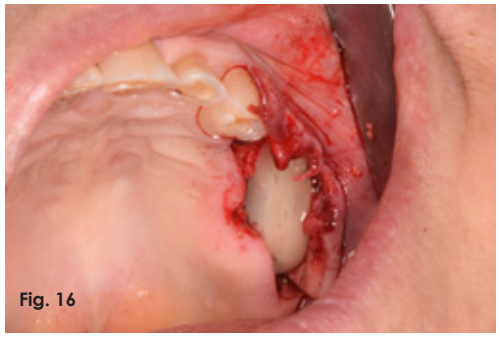
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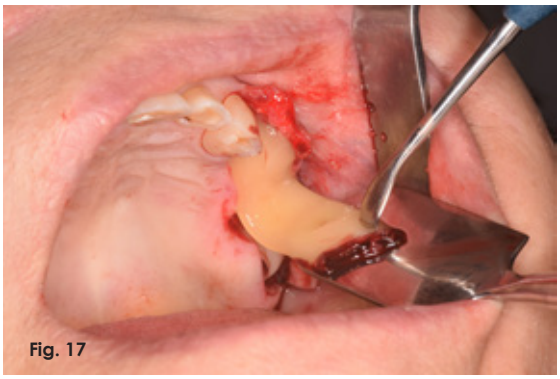
Fig. 17

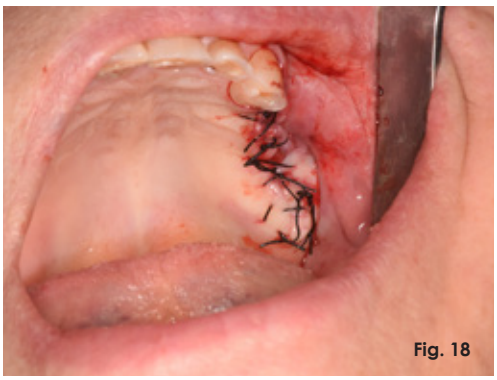
Fig. 18


Fig. 19

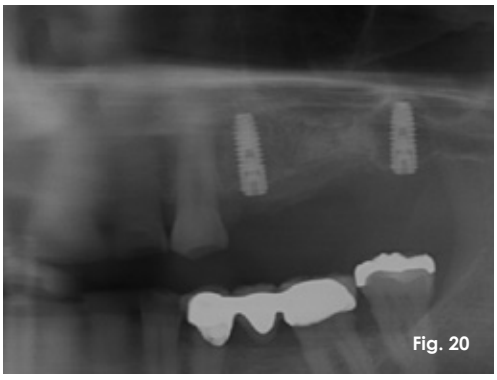
Fig. 20

Fig. 17 - 17 final PRF embrane in situs

Fig. 18 - Seam closure

Fig. 19 - Situation at exposure _ vital and well-perfused bone

Fig. 20 - X-ray post

During the period of chemical treatment, two titanium implants (Medical Instinct GmbH, Bovenden, Germany) having a length of 11.5 mm and a diameter of 4.0 mm were inserted after formation of a mucoperiosteal flap in regions 25 and 27. In region 25 there was a sufficient vertical and horizontal bone. Therefore, no augmentation measures were necessary. Due to the low alveolar ridge height in region 27, an internal sinus lift was performed. The sinus floor elevationwas performed without additional augmentation measures. The extraction alveoli of the tooth 26, on the other hand, were filled with dentin graft for the ridge preservation. The insertion torque was 40 Ncm in the region 25 and 25 Ncm in the region 27. The entire opened OP-situs was covered with three layers of A-PRF membranes and sealed after periosteal slotting.

A postoperative control on the following day and once again after 10 days during sutures removal showed no postoperative complications.

Uncovering of the Implants

After three months, the uncovering of the implants were performed by a crestal incision. The reconstructed bone area was vital, had good blood circulation (vascularization) and a maintained volume.

Conclusion

In this case, we were able to fulfil the patient desire to be treated with autologous material and without additional bone harvesting. This was possible by the use of dentin particulate, which was obtained easily, quickly and safely with the help of a patient's extracted tooth, which was no longer maintainable. Even though dentin has now proved itself as an augmentation material clinically, it remains to be seen whether the shown protocol could become a recognized alternative to other established replacement materials. ■

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For more clinical cases visit www.oralchirurgie.online

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MICD & ADSD : 3D visual perception from smile design to veneers cementation

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Introduction

Smile design is getting more popularity with advancement in digital imaging technology in dentistry. The parameters of beauty and aesthetics are actually are based on multiple factors like cultural trend, beauty perceptions and personal choices. Digital smile design process helps greatly in patient communication and allows clinician to demonstrate multiple options of smile design to their patients in advance.

There are various tools and dedicated software available in the market for digital smile design; however author has developed exclusive protocol which can be used in clinical practice using Photoshop tools. This article aims to explain the ADSD (Aesthetic Digital Smile Design) protocol with step by step procedures and clinical case examples.

Aesthetic Digital Smile Design ADSD: backgrounds

ADSD Philosophy is the linking element which uses image as an easy and decrypted language. Human eyes and brain which observe and analyze a face, sense it as three-dimensional object; the same perception is provided for the tooth, as they all are visible in daylight. Photography means "writing with light", so even a picture can have a "Three-dimensional visual perception".

Nowadays ADSD protocol prefers to use the famous worldwide image editing tool, Adobe Photoshop CC, because in this software contains many functions related to ADSD. For example is possible to obtain clinical picture in PIP work, united to analogic dentofacial parameters. ADSD method must be exclusively complementary to the other important diagnostic elements useful for diagnosis and prognosis aimed to the health and well-being of the Patient.

Adobe® Photoshop® CC set up is very important , because, when the project becomes interdisciplinary, ADSD need the same ergonomy for all smile designers and each component of team.

The steps of ADSD protocol are dependent on the complexity of aesthetic clinical cases. In simple cases it is not necessary to follow the entire procedure.

The protocol provides:

- Acquisition of photographs & videos
- Import of photographs & videos (ADSD iconography)
- Digital dentofacial analysis
  - → Digital face mapping (Macro, Mini, Micro Aesthetic)
  - → Face shape analysis
- Analogic transfer system communication
  - → FATS - Face Analogic Transfer Support (Clinical dentofacial param-

eters)
  - → Analogic clinic intraoral direct measures (Dental and gingival parameters)
  - → Analogic clinic intraoral models – indirect measures (Dental and gingival parameters)
  - → CAD 3D STL Clinic Implementation – Intraoral digital/analogic parameters (dental and gingival parameters)
- Digital dental image editing
  - → DDCT - Digital Dental Calibrated Transposition
  - → DDID – Digital Dental Image Distortion
  - → DDPD – Digital Dental Personal Database
  - → DDD – Digital Dental Design
- DOPP - Digital Orthogonal Projection Planning
  - → Clinic intraoral/extraoral Pictures
  - → Analogic clinic intraoral models
  - → CAD 3D STL Clinic Implementation
- DDFD – Digital Dental Functional Design
- ADSD aesthetic virtual planning

This article will not describe the entire ADSD protocol, but only a limited part will be described in the clinical case; for complete information, see the bibliography.

Clinical Case

A female patient of 40 years old, wanted to solve the obvious cosmetic problems on the upper front area (undersized teeth and multiple diastemas). The patient did not want to go for any type of orthodontic and aesthetic alignment treatment . Clinician explained to the patient about Minimally Invasive Cosmetic Dentistry (MICD) process by which the aesthetic treatment is possible with minimal biological cost , in this case represented by prep less ceramic veneers.

To achieve the best result and to dispel any doubt, clinician asked the patient to undergo the study of the aesthetic case with ADSD method. This would make it possible to get the virtual planning of the smile in relation to the face and it can try the mock up, functional clinic tests before final ceramic restoration. The detailed analysis and the project of the smile, indispensable to prepare the aesthetic clinical case, are the fundamentals of this delicate approach to the patient, who is the true protagonist of aesthetic and cosmetic dentistry.

In the analytical phase, the iconographic status is aesthetic clinical diagnostic element which is part of the clinical package, consulted by specialists referred to interdisciplinary vision; considering that, the patient's face is portrayed trying to keep her head in a position that will be replicated in the future to verify the topography in relation to smile design.

The most creditable position to retract the patient's face was that of the Aesthetic Photographic Plane (APP), which is the plane perpendicular to the ground that runs from the centre of the angle formed between the Frankfurt plane and the Camper plane. This plane corresponds to the Natural Head Position.

ADSD also considers possible connection between face shape & dental shape taking into account that many optimal aesthetic factors can influence the potential differences.

The Dentofacial Aesthetic Analysis (DAA) and Face Mapping (FA) is written into the file.PSD (Photoshop) through the use of tools such as "geometric shapes" (lines, ellipses, etc). After starting the software, the tools panel is displayed on the left side of the screen. Each tool provides more options with which the smile designer, can create different "Layers" in Photoshop. Layers are like overlays ; through the transparent areas of a layer one can see the elements of the underlying layers playing the opacity of images. Moreover, each level can be hidden or displayed enabling all cosmetic analysis elements to be within the file and can be easily viewed at any time.

The presence of grids and guides allows the operator for best positioning and overlap-

ping of 2D and 3D images in the software's workarea. The guides are displayed as lines extended above the image that can be moved, removed or blocked. The "Smart Guides" facilitate the alignment of shapes,

the selected measurement scale, sections and selections; these are displayed automatically while creating a form or a selection of a section.

All photographs of the dentofacial macro, mini, micro aesthetic of the patient, are the background on which the aesthetic analysis is drawn; through the "Selection Tools" and "Lasso Tools" creating areas on the photographs that become overlap levels on master image ADSD.

Smile analysis is essential for aesthetic smile diagnosis, and dentofacial analogical measures [15] have an important clinical relevance;(Analogic Transfer System Communication). These will be the dimensional guide to the mock up and direct or indirect final ceramic veneers.

ADSD allows to import real measures of the captured subject establishing the parameters and setting them conforming to the value scales expressed in pixels, the ordinary measure of a digital picture; Adobe® Photoshop® CC PS presents a dedicated analysis tool through which the customized measuring scale can be set.

In order to photograph the analogical smile and face measures, some measurement devices such as squares, rulers and FATs are used. FAT is a ruler with a millimetric and centrimetric graduated scale, that may be worn by the patient as a normal pair of glasses. After having created the range, it is possible to measure height, width and areas of the elements, recording results by using

The digital elaboration of virtual teeth can be performed in various ways according to the requirements of the smile designer; with Adobe® Photoshop® CC PS, a famous software reserved for professionals like Graphics people, Photographers, Architects, ADSD assuring the verisimilitude between photographic result and the reality of the clinical images. Shapes, colour, composition, harmony of the aesthetic dental element, which is strictly related to the aesthetic of the face, have a fundamental role into the "Three-dimensional visual perspective", fulfilled by digital dental image editing.

In this particular case, Digital Dental Image Distortion (DDID) is used that is the deformation/ distortion, which allow altering and modifying the dental morphology of items being processed.

DDID is the most important part of the whole ADSD method, because "the plastic effect" of the digital modelling is the result of artistic sensitivity and clinical dental know how.

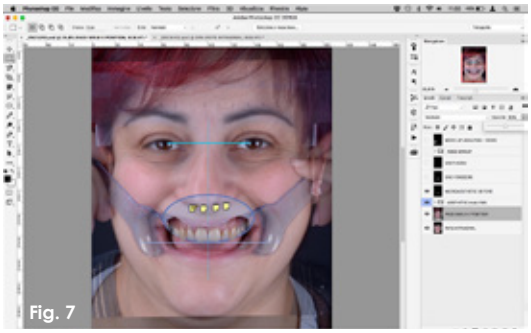
Clinical and dental technician can share visual perception of digital dental modelling.

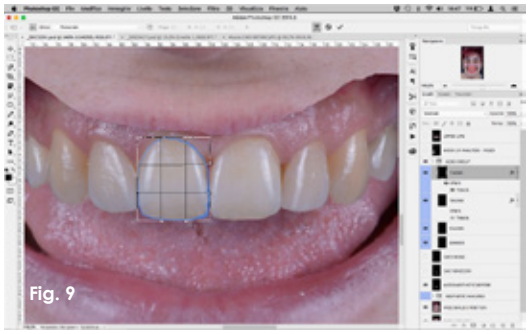
The dental technician can model the three-dimensional CAD design, by copying the set of two-dimensional morphology, whose 3D visual perception allows to model dental elements; the resulting file can be exported from the dental laboratory to Photoshop, where it can be opened and viewed as a overlaid level on the face and smile of the patient. In this way the clinician can verify the predictability of the project from a dimensional and volumetric point of view, offering the most virtually reliable smile design to the patient.

Since the smile design is information, it must be supported by clinical design fit test: the mock up. It is very important at this stage to record the final phonetic labial dental analysis through video and photographs.

The size of the mock-up is recorded by 2 silicone keys built on the wax up. One key is to place on the front side of denture, which only serves to fill the composite useful to mock up. The second silicon key will be useful up to the dimensional test of the definitive veneers before cementation.

The mock up is completed when it is possible to test the position and size of the future veneers clinically and functionally. Therefore, the patient may feel mock up in pro-





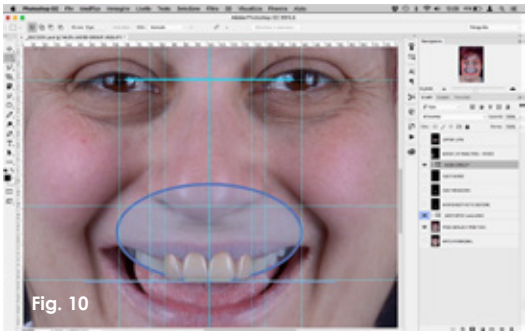


Fig. 1 - Patient before - Pictures for simple iconographic report

Fig. 2 - Intraoral front occlusion close up

Fig. 3 - Intraoral right 45° occlusion close up

Fig. 4 - Intraoral left 45° occlusion close up

Fig. 5 - Picture with FATS ruler for dentofacial measures

Fig. 6 - Other mode to import measures, comparable to FATS ruler

Fig. 7 - E position smile overlaying on FATS intraoral close up pictures

Fig. 8 - Front face mapping and aesthetic analysis

Fig. 9 - Digital modelling of the teeth (ADSD - DDID)

Fig. 10 - New aesthetic dental composition with aesthetic analysis

Fig. 11 - During digital modelling is necessary work with dimensional parameters of the dental elements

Fig. 12 - Overlap of 3D CAD Design on Adobe Photoshop CC work area equal dimension

Fig. 13 - ADSD virtual planning. Before and after E position smile

Fig. 14 - 3D visual perception of each single teeth after ADSD DDID

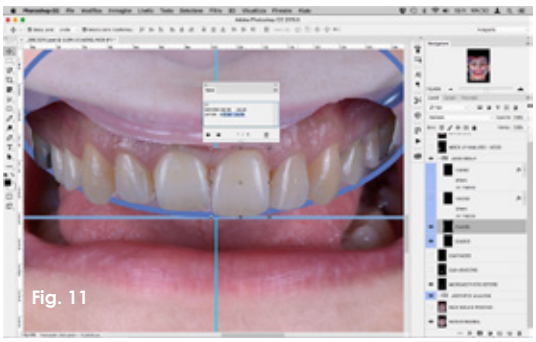
Fig. 15 - DOPP digital ortogonal projection Planning. Import of upper jaw occlusion view model

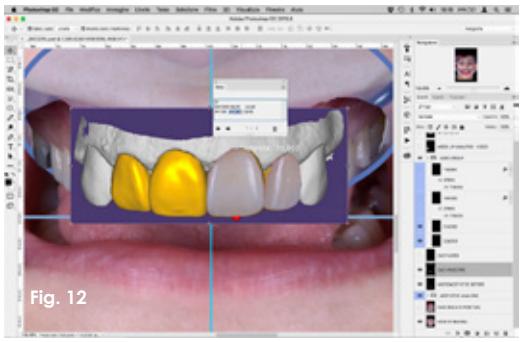
Fig. 16 - DOPP - Ideal curve for veneers thickness

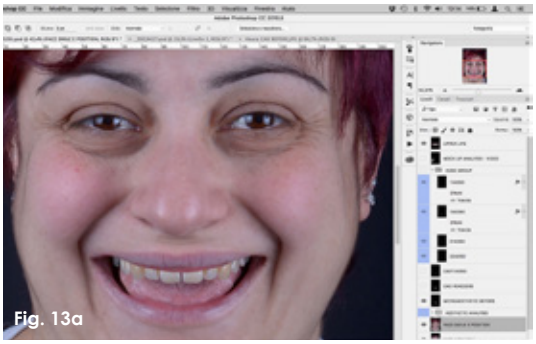
Fig. 17 - ADSD - Prescription with dimensional morphological indications to dental technician

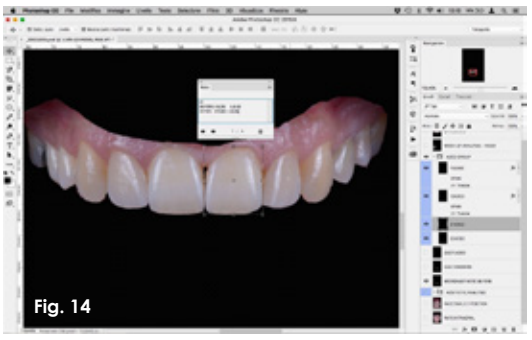
Fig. 18 - Wax up dimensional parameter by ADSD

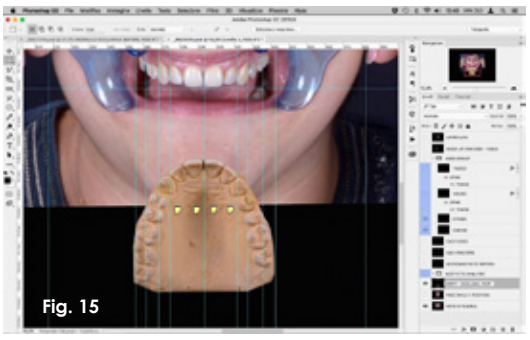
Fig. 19 - Silicon key by wax up

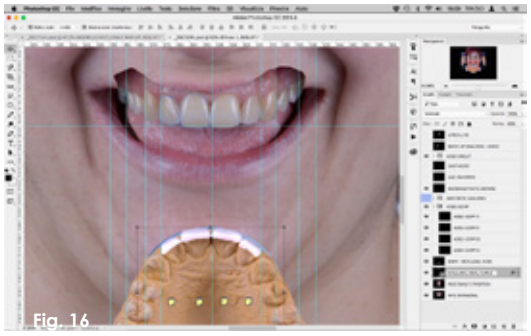












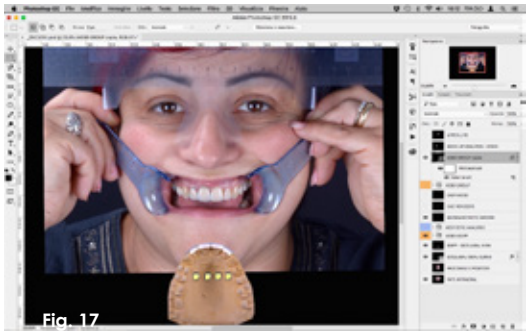
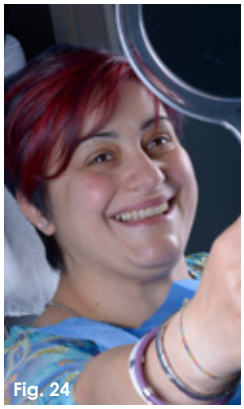



Fig. 20


Fig. 21


Fig. 22


Fig. 23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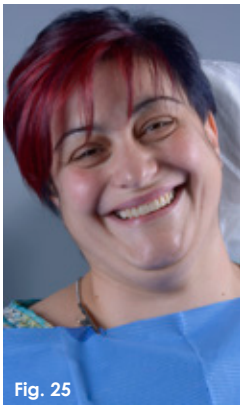
Fig. 25


Fig. 26


Fig. 27


Fig. 28

Fig. 20 - Rear silicon key

Fig. 21 - Front silicon Key with mock up

Fig. 22 - Close up of mock up

Fig. 23 - Mock up signed by protusion movements

Fig. 24 - Mock up - the patient can see and try future smile

Fig. 25 - Mock up smile

Fig. 26 - Silicon key guide from wax up to veneers cementation

Fig. 27 - Silicon key for clinical verify of veneers dimension before cementation

Fig. 28 - Try in cement through the lights

Fig. 29 - Try in cement lateral view

Fig. 30 - Try in cement front view

Fig. 31 - Prep less veneers by occlusion view

Fig. 32 - Prep less veneers frony view

Fig. 33 - Veneers after one week

Fig. 34 - Transillumination trought prepless veneers


Fig. 29


Fig. 30


Fig. 31


Fig. 32


Fig. 33

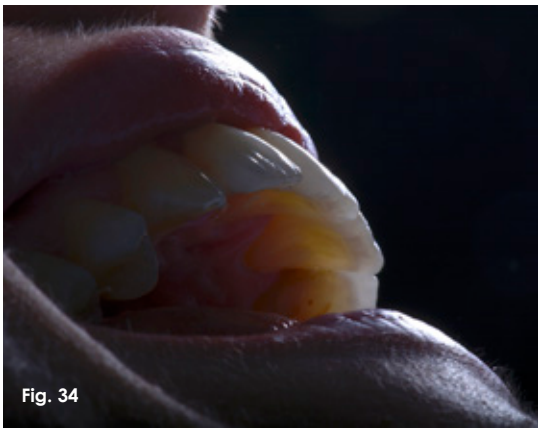
Fig. 34


Fig. 35


Fig. 36


Fig. 37


Fig. 38

Fig. 35 - Right Close up of Hard and soft tissue

Fig. 36 - Left Close up of Hard and soft tissue

Fig. 37 - E position Smile with Veneers after cementation procedure

Fig. 38 - Aesthetic integration of new dental cosmetic composition

Fig. 39 - Follow up after 2 Years

Fig. 40 - Follow up after 2 years - Close up


Fig. 39


Fig. 40

prioceptive way, being able to speak and look into the mirror. Videos and photos are recorded so that the patient can see each of his/her profile.

The patient claims to be very satisfied for the prototype of his/her new smile and agrees the veneers to be built, but slightly thinner on the distal embrasures of the central teeth.

The dental technician can build feldspathic ceramic veneers with the help of the wax-up and the silicon dimensional key.

Ready veneers, are tested on the teeth with try-cement, to help select the color most chameleonic for definitive cementing. When all work is finished, it is easy to look the "biological integrity of the shapes and materials", confirmed predictability of ADSD and easy cosmetic resolution with MICD, represented by "Prep Less "Veneers.

Conclusions

ADSD aims to be a useful tool for cosmetic dentistry communication, which is able to set and share the treatment. This methodology allows the clinician to directly test the harmony and the functionality of the mock up, by setting the elaborated therapy through non-invasive methods only, such as digital elaborations of photographic pictures and creation of analogical or digital diagnostic wax ups. After this test, it is possible to measure and prepare interventions on gingival and dental tissues, which are the preparatory stage of the biological integration of the prosthetic-cosmetic products.

The possibility to gain tailored-made on personalized measures images, enables the complete 360° dialogue within the whole dentistry team, in particular with the dental technician, who can implement ADSD elaborated files, introducing them in 3D CAD software, which helps to carry out the overlapping of the images, determined by dimensional measures of the aesthetic project.

Once the operator has revealed the one-dimensional digital modelling, the analogic wax up or the 3D digital wax copy can be

modelled. It is also possible to export the 3D file into .jpg or .pdf format, and to import it into Adobe Photoshop® CC PS screen. ADSD is proved to be successful and reliable at MICD clinical case design because, once the smile design is approved, digital modelling measures and dental parameters can be shared within the dentistry team, where the available digital technology allows to elaborate the new smile design in order to prepare the mock up; these, once placed into the patient's mouth, shall be reviewed by the dentist; after confirmatory tests, everything shall turn into final prosthetic with a beautiful smile. ■

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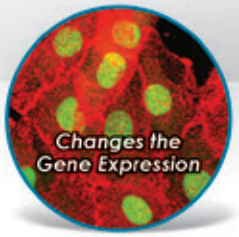

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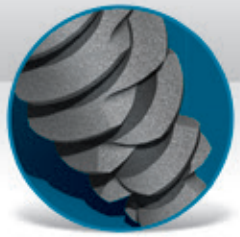

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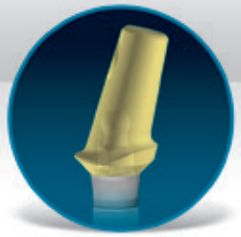

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Restoring of fractured anterior tooth using direct composite

Ronnie Yap, Singapore

Clinical History

Patient had a fracture of anterior tooth no 21, which was previously been restored several years ago. The tooth has been restored several times due to frequent dislodgement.

Patient's Need/Desire

Patient was more concern about immediate treatment with minimally invasive approach

Treatment Options

Option one

Indirect minimally invasive ceramic veneer

Option Two

Direct resin veneer

Selected Treatment Approach

Patient wanted a single visit solution and there was cost consideration as well. Patient was highly concerned about biological cost of the treatment. The previous restoration had lasted more than 5 years and she was happy with that time frame. She was happy with the color of the current dentition hence a decision was made to place a direct resin restoration with custom layering.

Technique Involved

A quick direct buildup was made so as to facilitate the fabrication of a customized putty matrix. Occlusion and anterior guidance /interferences were checked before the fabrication of the putty. Following that composite restoration was placed in layers utilizing Beautifil II composite resin from Shofu, Inc (Japan). Additional white opaque tints from Kerr were used to create mild fluorosis effects. Polishing was achieved using a combination of One Gloss aluminum oxide points and Super Snap Extreme polishing Disc form Shofu, Inc (Japan)

Treatment Duration

First appointment was of almost 2 hours including clinical photography and second with 20 minutes a week later for final contouring and polishing of restoration.

Fig. 1 - Patient presented with an old restoration that fractured.

Fig. 2 - Color selection done by placing some resin on the adjacent tooth

Fig. 3 - Mixing of putty

Fig. 4 - A quick build up was done using old resin and the putty stent made


Fig. 1


Fig. 2


Fig. 3


Fig. 4


Fig. 5


Fig. 6


Fig. 7

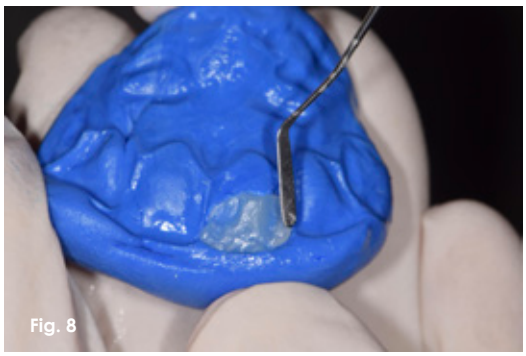
Fig. 8


Fig. 9


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Fig. 11


Fig. 12


Fig. 13


Fig. 14

Fig. 5 - Caries detector dye used

Fig. 6 - Large shallow bevel placed on buccal surface

Fig. 7 - Caries free

Fig. 8 - Very thin layer of transparent resin placed on putty.

Fig. 9 - Palatal shelf made

Fig. 10 - Incisal view of palatal shelf showing incisal edge

Fig. 11 - Curved sectional metal matrix placed on mesial contact point.

Fig. 12 - Buildup of mesial contact point and mesial wall with translucent shade resin

Fig. 13 - (Optional) Injectable resin used in case the defect is very narrow or deep

Fig. 14 - Mesial wall built completed

Fig. 15 - Beautifil II (Shofu, Inc Japan) AO3 opacious dentin used to block off light.

Fig. 16 - Ensure it is a thin layer so that body of tooth will be opaque

Fig. 17 - Occlusal view showing very thin layer of Beautifil II (Shofu, Inc Japan) AO3 dentin placed

Fig. 18 - Beautifil II (Shofu, Inc Japan) A2O opacious dentin placed

Fig. 19 - Mamelons are build up using A2O opacious resin

Fig. 20 - Injectible Beautifil II (Shofu, Inc Japan) BW shade used to create a "halo" effect

Fig. 21 - Injectible Beautifil II BW (Shofu, Inc Japan) lined across incisal edge

Fig. 22 - Beautifil II A2O (Shofu, Inc Japan) layer is thin to allow a layer of body shade

Fig. 23 - Beautifil II (Shofu, Inc Japan) A2 normal dentin is used to cover opacious dentin layer

Fig. 24 - A Uni brush (Shofu, Inc Japan) is used to flatten the resin and to spread it evenly


Fig. 15


Fig. 16


Fig. 17


Fig. 18


Fig. 19


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Fig. 21

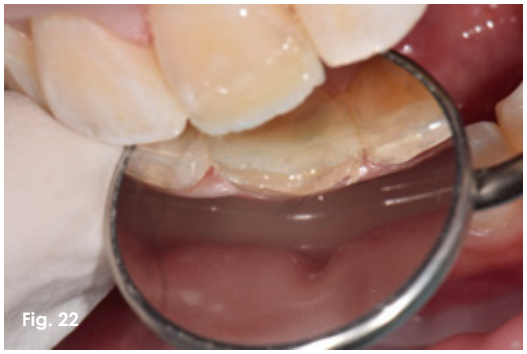
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Fig. 32


Fig. 33


Fig. 34

Fig. 25 - Stop short of the incisal edge to allow space for the final translucent layer

Fig. 26 - White opaque stains are added below the final restoration layer to create a fluorosis effect

Fig. 27 - Completed layer of opaque stains

Fig. 28 - Beautifill HVT enamel (Shofu, Inc Japan) is placed over the incisal edge and flattened with a brush followed by final light cure

Fig. 29 - Micro anatomy is drawn onto the tooth

Fig. 30 - Gross contouring is done using a fine diamond instrument

Fig. 31 - One Gloss (Shofu, Inc Japan) polishing tip is used to smoothen the resin and also to add some shape

Fig. 32 - If necessary perikymata effect can be added using a rough diamond

Fig. 33 - Initial polishing with Super Snap Extreme (Shofu, Inc Japan) green disc

Fig. 34 - Final polish with Super Snap Extreme Extra (Shofu, Inc Japan) pink disc

Fig. 35 - Gloss added using the SuperBuff (Shofu, Inc Japan)

Fig. 36 - Incisal view showing gross texture and anatomy

Fig. 37 - Final photo of restoration on 21


Fig. 35


Fig. 36


Fig. 37

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Twenty-six international speakers from over eighteen countries namely Taiwan, Malaysia, Sri Lanka, Korea, Cambodia, USA, Japan, Brazil, Italy, Greece, Germany, Bangladesh, Nepal, Indonesia, Philippines, India and Thailand and officials were present on the occasion of Asian Congress of Aesthetic Dentistry (ACAD), the 14th

biennial scientific meeting of AAAD and 1st global symposium of MICD held in Bangkok, Thailand on 13-15 Nov, 2016 jointly organized by Thammasat University, Thailand and Srinakharinwirot University, Thailand. The conference was conducted with a theme of "Enhancing Smile at Minimal Biological Cost".

A huge number of international participants exceeding over four hundred and twenty five were welcomed by the chairman of the organizing committee ACAD-2016, Dr. Lertrit Sarinnaphakorn and President of AAAD executive council 2014-2016, Dr. Sushil Koirala officially inaugurated the event by hitting a suspended bronze plate thrice with a drum stick in a special Thai traditional style followed by an opening speech.

The conference was completed with dietetic lectures from twenty six international speakers and was proved to be a milestone to connect and develop professional relationship among experts of various fields of dentistry from different countries and also created a forum for the young practitioners and clinicians to gather knowledge and treatment protocols in the field of dentistry.

On 14th, the second day of the event, an exclusive Gala Dinner with a special Thai cuisine was organized amongst a magnificent cultural program and celebration of a famous Thai festival Loi Krathong. During the ceremony, president Dr. Sushil Koirala handed over the AAAD Flag to Dr. Ronnie Yap Yi Roon, Singapore for the next two years' tenure of the academy.

In the same evening, Dr. Koirala on behalf of his executive council extended his sincere appreciation to Dr. Peter Tay from Singapore by honoring him with ACAD-Life Time Achievement award.

The managing Director of Shofu Dental Asia Pacific Pte. Ltd. Mr. Patrick Loke was also felicitated to officially recognize and appreciate his valuable contribution and continuous support to promote aesthetic dentistry & MiCD mission globally.

Also the executive committee extended its recognition to Dr. Napassaporn Chumnarnsit from Thailand for her outstanding achievement being the first Thai woman to conquer Mt. Everest.

This conference was a remarkable event as it also started a new process of digital poster presentation system for the first time in its history.


acad
Asian Congress of
Aesthetic Dentistry
WELCOME TO THAILAND


acad
2016
WELCOME TO THAILAND


Asian Congress of Aesthetic Dentisry
14th Biennial Scientific Meeting of AAAD & 1st MICD Global Symposium
13-15 November 2016, Bangkok, Thailand


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Congress of Aesthetic Dentistry
Gala Dinner


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Gala Dinner
14 November 2016


"SDR is an ideal post endodontic composite resin."


Gala Dinner


Gala Dinner


Gala Dinner


Gala Dinner


Congress of Aesthetic


Asian Congress of Aesthetic Dentistry
14th Biennial Scientific Meeting of AAAD & 1st MICD Global Symposium
November 16, Bangkok, Thailand


2016


Asian Congress of Aesthet entistry
Gala Dinne
14 November 2016


Asian Congress of Aesthetic Dentistry
Gala Dinner
14 Nove r 2016


Asian Congress of Aesthetic Dentistry
Gala Dinner
14 November 2016


Asian Congress of Aesthetic Dentistry
14th Biennial Scientific Meeting of AAAD & 1st MICD Global Symposium
PHILIPPINE ACADEMY OF ESTHETIC DENTISTRY
AFFILIATE, PHILIPPINE DENTAL ASSOCIATION
INSTITUTIONAL MEMBER, ASIAN ACADEMY OF AESTHETIC DENTISTRY
PAED GOES TO AAAD IN THAILAND
Asian Congress of Aesthetic Dentistry - 2016
14th Biennial Scientific Meeting of AAAD & 1st MICD Global Symposium


Gala Dinner


15th Biennial Scientific Meeting of the AAAD
9th Biennial Scientific Meeting of the ADSS
ADSS
30th Anniversary
18th Anniversary
29/30 September
2018
Singapore

IFED 2017 Toyama

The Heart and Harmony of Esthetic Dentistry

September 14 – 16 (17, JAED General Scientific Meeting only)

Welcome message from JAED and IFED

As the President of IFED, and on behalf of JAED, host member academy, I look forward to welcoming you to Toyama, the most exciting city in Japan. Hope you all come to join the 10th memorial IFED world conference, and would feel future developments of Esthetic Dentistry

Congress Chairman and IFED President 2014 – 2015
Professor Akira Senda

Organiser ADSS

Co-host JAD

Event Manager koelnmesse

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