Javier M. de Pisón discusses a Vedic Smile approach to dentistry

A n extremely skilled clinician with more than 17 years of experience in cosmetic dentistry, Dr Su- shil Koirala says that technology should work to improve health, never to compromise it. His Minimally Invasive Cosmetic Dentistry (MiCD) treatment protocol is based on consciousness, nature and evidence-based technology that really respects the patient’s long-term health and needs.

Koirala, who is the founder and president of the Nepalese Academy of Cosmetic Dentistry and of the South Asian Academy of Aesthetic Dentistry, combines in his MiCD protocol philosophy and ethics, scientific research, and what can be described as a Vedic Smile or holistic approach to dentistry.

Worried about the rapid advance in aesthetic procedures, Koirala began to question if the aim of many dental techniques was to improve health or just to offer the patient a quick makeover, regardless of their long-term consequences.

Years of practice led him to develop his guidelines for MiCD, a set of principles that stress early diagnosis, disease intervention, selection of minimally invasive treatment procedures, and use of evidence-based materials, taking into account as well the psychological aspects, ethnic background, and actual health needs of the patient.

A Pioneer Paper

In a groundbreaking article entitled “Minimally Invasive Cosmetic Dentistry: Concept and Treatment Protocol,” Dr Koirala offered a much-needed guide to minimally invasive cosmetic dentistry, a discipline that up until now has been more concerned with appearances than with clinical evidence.

The article, published in Cosmetic Dentistry magazine, was translated in many languages and attracted many followers eager to at last have a clinical protocol for many dental cosmetic procedures that stressed something that while obvious was not widely followed—preserving as much natural tissue as possible.

The ability to differentiate between what a patient wants and what he or she actually needs is a large ethical question in cosmetic dentistry. In order to address this issue Koirala has developed what he calls a simple self-consciousness pre-treatment test, “whereby I ask myself four simple yet hon- est questions”:

• How would I treat my own family members?
• Will the treatment plan remain the same regardless of who the patient is?
• Am I competent and happy enough to take up the case?
• Is the patient happy with the Biological, Financial and Time (BFT) cost estimation of the treatment?

Koirala explains that “what a patient wants and what a patient needs are two different things. The needs are the basic treatments a dentist can provide. But the wants are of a different variety, like choosing clothes in a store: you choose the colour of the teeth, the texture of the teeth, the shape of the smile.”

What is Beauty?

Since the definition of beauty is different in each culture, it also affects cosmetic procedures.

“For Western-style contemporary smile aesthetics, beauty is white long teeth and a straight smile, but the same parameters don’t apply in Asia,” he explains. “In fact, Asian patients don’t mind having a little bit of overlapping teeth, which they see as natural. So we cannot use the same formula globally in cosmetic dentistry.”

Studies have shown that the dental pulp of Asian patient is generally wider, in comparison with European or American patients, and Koirala points out that “preparations with wide shoulders could be a hazard to the pulps in Asian pa- tients.” Even so, many dental techniques follow Western standards for non-Western patients.

Koirala warns that “you need clear consciousness while choosing the right technology for your practice. Technology may not always be health-ori- ented”. As a sample, he thinks that CAD/CAM restoration tech- nology still has to be refined in order to be adopted fully in re- storative dentistry. “CAD/CAM presently demands extension for insertion, strength and aesth- etics,” thus, “we are compro- mising health for technology.”

“Clinicians still believe that articulating paper mark gives them ideal force component in occlusal adjustment,” continues Koirala. “The ‘big mark big force, small mark small force’ concept has no scientific evi- dence, but most cosmetic den- tists rely on articulating paper marks to do occlusal force ad- justment. Computerised Occlu- sal Analysis System, which can objectively measure occlusal forces of each tooth with the time sequences of occlusal con- tact, was developed almost 15 years ago. It is hard to under- stand why clinicians neglect sci- entific facts about articulating paper marks and still believe in it for balancing the force com- ponent in smile design. This is why I advocate consciousness in dentistry, because technological information is not enough; you need consciousness to rightly use it for mankind.”

This is the background against which Dr Koirala re- volted and led him to de- velop the MiCD t reatment pro- tocol, which he summarises as bringing consciousness, na- ture and technology to- gether”.

Rather than inflict- ing one’s own defini- tion of beauty on the pa- tient, the dentist must listen to and understand the personal with different facial features.

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Cover of Koirala’s book in Giomers

Indirect Restorative System combining unsurpassed aesthetics, the strength of ceramics, as well as the benefits of composites.

What’s good for the patient is good for the dentist

rather than follow the status quo of a broad, one-size-fits-all plan.

Regarding teeth whitening for instance, Dr Koirala says that while some people may need it, “more often than not the colour- ing of the teeth is a perfect bal- ance designed by nature. The eyes, teeth and skin tone should be in harmony. If the teeth are too white, it may look awkward and unnatural.”

Changing the Mindset

While the principles of MiCD may seem complicated, the protocol is easy to follow and very practical. The reason is that it doesn’t require chang- ing clinical techniques, but us- ing them in a consciousness way beneficial for both the pa- tient and the dentist.

“We don’t say, ‘Don’t cut the tooth this way’, we say, ‘Cut less,’” explains Dr Koirala. In fact, the MiCD protocol does not reject any contemporary proce- dure, including full crowns or bridges; it just asks the dentist to use their consciousness properly to think if invasive options can be avoided, and to use them only as a last resort.

In other words, the only thing a dentist has to do to comply with MiCD is to change the priorities for a given procedure, to alter his or her mind-set. The framework of MiCD establishes five golden principles:

1. “Sooner the Better” – early exploration of diseases and de- fects to minimise possible inva- sive treatment in future.

2. “Smile Design Wheel” – follow these principles (see image), and respect the psychol- ogy, health, function and aesthetics of the patient.

3. “Do no Harm” – select the healthiest treatment for the patient.
treatment procedures that maximise preservation of healthy tissue.

4 “Evidence-Based Approach” — selection of materials and equipment must be based on science.

5 “Keep in Touch” — focus more on regular maintenance, timely repair and strict evaluation, which should be understood by the patient.

As Dr Koirala says, they are simple guidelines to accommodate every treatment in a dynamic protocol because science constantly changes.

“A good protocol should incorporate changes based on scientific evidence,” he continues. “The philosophical part maybe the most difficult because it’s subjective, which is why we give a questionnaire to the patient whereby he decides what he wants. We give him the science and inform him about the technique, but he decides what type of aesthetics he wants.”

High-quality materials

When Koirala published his MiCD protocol in 2009 he not only gained a following among dentists, but also the respect of high-quality dental manufacturers.

“I met with Mr Patrick Loke,” Koirala says referring to Shofu’s Asia-Pacific Marketing Director, “who told me he liked the concept of MiCD because his company is concerned with the health of the patient, and with developing bio-aesthetic products in dentistry.

In Shofu he seems to have met his match and you can detect his dedication and conviction when he says, “I’m very happy using Giomers (a bio-aesthetic restorative material), so much so that it inspired me to write a book,” he adds referring to a new type of restorative materials whose name is a hybrid of the words “glass ionomer” and “composite.”

Koirala is now conducting long-term trials using various dental materials, with a focus on the MiCD protocol and its acceptance as a way to accomplish clinical results.

He believes he has developed a concept that is good for the patient, good for the dentist, and good for society. The MiCD protocol is in its preliminary stage worldwide, but the conferences he gave in South East Asia and South Asia have been widely accepted. “This is the right time to come out with this new philosophy,” he explains, “so that in four or five years a new generation can start talking about the preservation of health in the long run.”

Non-Invasive Health

The medical sciences are moving towards non-invasive procedures, and adequate ways of health promotion to avoid oral diseases. In dentistry, however, minimally invasive procedures are being used routinely only in carries management.

“In the medical sciences it is inherent not to cut tissue,” Koirala continues. “If patients knew that to place a crown you need to cut the tooth’s enamel, they probably would not accept the treatment.”

“You need to start at an early age, like six or seven, in order to detect various smile defects like orthodontic problems,” Koirala says. “Everything that can affect oral health, including cosmetics, should be thought about at an early age.”

“Dentists may use MiCD or not,” Koirala adds, “but they all agree it’s the right approach. I want to encourage everybody to join the MiCD mission. Our MiCD Global Network (a web-based organisation) is a group of dedicated professionals who wish to improve the knowledge of the clinician and the patient. Information technology can help promote these ideas through networks of dentists, people, and like-minded companies. We need to change our mindset.”

Koirala plans to change the mindset through more international lectures, collaborating with like-minded clinicians and academicians, creating study clubs to exchange knowledge, and providing internet-based educational seminars.

“We are changing protocols for the health of the patient, and ultimately, dentists will win too, because it saves time on procedures and provides aesthetics and function. The type of material used is secondary to me, as long as it preserves health, a harmonious function (the force component), and promotes aesthetics. We are not promoting a company here, but promoting health. And that is our first responsibility as clinicians. It is something that can be the pride of the profession.”

Resources

• MiCD Website: www.MiCDglobalnetwork.org
• MiCD Protocol in “Cosmetic Dentistry”: www.dentaltribune.com/articles/content/id/1740/scope/specialties/region/international

SIDEBAR 1

Preserving Health, Enhancing Smiles

Patients today are much more educated and demanding regarding dental treatments. Amalgam is a perfect example. A high-percentage of patients demand not to have amalgam fillings for cavities, but request a tooth-colour material. In the past, a restoration with amalgam required cutting a lot of tissue, but the new direct tooth-coloured restorative materials cause less damage to the tooth and provide better aesthetics.

The developer of the MiCD protocol during the interview with Dental Tribune

The trend is growing.

The goal now is achieving good aesthetics with minimal invasive treatment with the support of MiCD instruments and bio-aesthetics material,” adds Loke.

“We are the official partner of the MiCD movement, Loke adds, which motto is ‘Preserving Health Enhancing Smiles.’ We are fully committed to support their educational events for both public and dental professionals, such as workshops, lectures and symposium.”

Shofu’s advanced restorative materials use S-PRG Technology (Surface Pre-Reacted Glass
Dr Sushil Koirala at the IADR meeting in Barcelona, Spain, surrounded by Wolfgang van Hall, left, Managing Director of Shofu Germany, and Patrick SC Loke, General Marketing Manager of Shofu Asia-Pacific.

Ionomer), which provides predictable aesthetics and better function. These are bio-aesthetics materials that allow fluoride release and recharge. You can restore a small cavity removing only the affected area because the S-PRG fillers help re-mineralise the tooth structure.

S-PRG Technology is effective and is based on eight years of clinical trials. The new ongoing studies use MiCD protocols and newly developed materials. They were introduced in 2010 at the main dental research venue, the congress of the International Association for Dental Research (IADR) in Barcelona, Spain.

The Giomer Family
The following are the second-generation giomers (advanced bio-aesthetic restorative materials) with S-PRG technology, which helps remineralise the tooth structure.

Beautifil II, ideal for restoring anterior and posterior teeth due to its excellent physical properties, outstanding handling characteristics, anti-plaque effect, fluoride release and recharge. Excellent natural shade reproduction can be achieved with a chameleon effect using any of the universal shades that blends well with surrounding teeth, making the restoration undetectable.

Beautifil Flow Plus, approved for all indications, including Class II, is a novel way to complete restorations quickly and easily using a single material, filled all the way up to the occlusal surface.

FL-Bond II, 2-step, selfetching, radiopaque, fluoride releasing adhesive system that features a unique primer and bonding agent to provide an excellent bond to both enamel and dentin with a secure marginal seal. The primer is acetone free with no incorporation of HEMA to minimise odor and post-operative sensitivity, while the bonding agent contains 40 per cent of S-PRG filler, which helps to reinforce and strengthen the hybrid layer. Its ideal viscosity enables the entire cavity surface to be uniformly covered in a single application. Fluoride release and recharge with easy handling and a short application time of only 35 sec.

Ceramage, a Zirconium Silicate Indirect Restorative System combining unsurpassed aesthetics and strength of ceramics, as well as the benefits of composite, which is less wear on opposing dentition. Excellent colour stability and easy fabrication, ideal for minimally invasive indirect restorations such as veneers, inlay/onlays and adhesive bridge.