

Insights From an Educator Who is Both Dentist and Ceramist

An Interview with Dr. Christian Coachman

Christian Coachman, DDS, CDT

Christian Coachman, DDS, CDT, will be presenting at the 28th Annual AACD Scientific Session in Washington, DC. On May 2, 2012, his topic will be "Contemporary Approach to Smile Design—Conservative to Comprehensive." On May 3, he will discuss "Esthetics with Implants, Periodontal Plastic Surgery, and Ceramics." In this interview, Dr. Coachman answers thought-provoking questions from the *jCD* Editorial Review Board. Dr. Coachman will also be giving an AACD webinar in February, presented by the *jCD*, about his Digital Smile Design concept.



Christian Coachman: Dentist, technician, and educator.

Q: It is obvious from your work that you know what “natural esthetics” is and your knowledge of its essential components lets you create it. Who and what inspire your work and daily life to get to this level?

A: I think it is most important to have good mentors, teachers, and models to follow (Fig 1). At the beginning of our career we need to identify and try to create a good relationship with them, showing motivation, respect, and humility; and make them feel we are worth the time they are investing in us, and to share their knowledge. The other important inspiration comes from the patient, knowing that we are treating a human being and that we are enabling them to have a better smile.

Q: How do you see the role of metal-ceramic restorations in the future, in light of the ever-growing metal-free technology that is currently embraced so widely by dentists worldwide? In your opinion, what are the major drawbacks of both the metal-based and the metal-free approaches and how do you work around them in the cases that you do?

A: I think that metal-free restorations are the future (Fig 2), but there are still some issues to be resolved. I still do some metal-ceramic restorations, mainly on implant screw-retained restorations. When doing single units and small anterior bridges, my choice is always metal-free restorations. One of the gaps in restorative dentistry today is how to achieve resistance and long-term stability in large bridges with zirconia. The day that we achieve this we will probably eliminate the need for metal. The other factor is the cost. In many countries, it is still much cheaper to do non-precious restorations than to do zirconia. So it is likely that when this technology becomes less expensive the metal will be eliminated from dentistry. I believe this will still take a couple of years or maybe a decade.

Q: Most of us would agree that fabricating multiple ceramic units for the anterior segment (crowns or veneers) does not pose a major challenge with regard to form and color, as the ceramist has the ability to be creative and generate results that are very pleasing. The single unit is the “Achilles heel” for clinicians and ceramists alike. Being one who combines both areas of expertise, what recommendations do you have for our readers to help them minimize errors and achieve the highest percentage of success in both arenas?

A: I really don’t agree with this statement. I believe that the most difficult thing in restorative dentistry is to make multiple anterior restorations look completely natural.



Figure 1: Dr. Coachman with Mr. Willi Geller, one of his mentors and sources of inspiration.

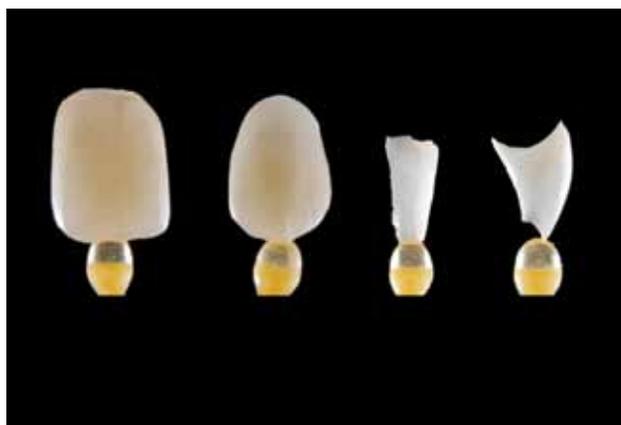


Figure 2: Metal-free restorations showing ideal light transmission.



Figure 3: Single-unit ceramic restoration with its specific challenges of matching color and texture.



Figure 4: Full upper restored with ceramic veneers. On these cases, the main challenge is to create ideal tooth shape and smile design.



Figure 5: CAD/CAM technology. The computer will take over many steps in the lab, but the need for a designer will always exist.



Figure 6: The Digital Smile Design protocol helps us with the esthetic planning process and with long-distance team communication.

On a single unit the challenge is the color (Fig 3); on a full upper case the challenges are shape and design (Fig 4). It is much more difficult to teach someone to see and achieve nice shapes than to work with color. The great ceramists are those that have a tri-dimensional vision of the smile; and the creativity, intuition, and hands-on skills to work with shapes and arrangements to become a "smile designer." People should think about that and change their focus. As a ceramist, I invest much more time in designing a smile that fits the patient's facial features and emotions.

Q: Due to your international cooperation, did you find different philosophies or techniques in terms of cosmetic dentistry in the various countries, or is there a general consideration?

A: I see both things happening. Most of the top dentists around the world have similar ways of working. The world is becoming smaller and smaller and information is very accessible. Therefore, the main techniques are similar everywhere among good dentists.

What I noticed are the different approaches to patients, and how esthetically driven these patients are. These factors depend more on the culture of each place. For example, in the United States and in Turkey, we usually see more patients asking for treatments purely because of esthetic reasons. In Europe, people are more conservative and it is harder to convince patients to have some procedures just because it will make them look better. I would say that in northern Europe people are more conservative and in southern Europe, for example, Italy, there is a slow move toward more esthetic treatments. Brazil is somewhere in between and I see a nice balance between functionally, biologically, and esthetically driven treatments.

Q: Being a well-known ceramist and a dentist, what is the composition in your daily work? Does sharing the two worlds sometimes create conflicts?

A: No conflicts... I consider myself more a ceramist than a dentist. This will probably change now as I've been doing less ceramics and moving toward more clinical work. I would say that today the composition in my daily work is one-third dentist, one-third ceramist, and one-third lecturer.

Q: Dental manufacturers and many clinicians believe that the future is computer-assisted design/computer-aided manufacturing (CAD/CAM) and the digital ability to create lifelike ceramic restorations without using a master dental technician. What are your feelings on the future role of the dental technician, and will this job become obsolete in the future?

A: Great question. The future is definitely about the “digital world”: CAD/CAM, digital impressions, digital design, guided surgery, planning software, etc. (Fig 5). The goal should be to use technology to make the whole process easier and allow more people to perform high-quality work, and I think that this is happening. But, technology will never substitute for an artist. Someone will always have to be behind the machine, interact with the patient, have the feeling for beauty, the eye for esthetics, imagine and envision the ideal design, and do final adjustments when it comes to forms and colors. The point is that the technician of the future will be different... maybe more a “digital designer” than a waxer or ceramist. Technicians shouldn’t be scared, we just need to be ready to adapt and enjoy these changes. Good professionals will always have work and, when it comes to dental restorations, there will always be a huge need for people with artistic talent!



Figure 7: The pink hybrid restoration is a good alternative for very challenging ridge defect cases inside the esthetic zone.

Q: The U.S. is increasingly outsourcing dental laboratory work to offshore operations. Educational facilities, which formerly trained U.S. dental ceramists, have closed in massive numbers. How do you think this will affect the future of dental care in the U.S.?

A: Tough question. There are some things/processes that we just can't stop. The market will always demand better and cheaper products. When the issue of outsourcing started a number of years ago, the work coming from these places was very bad, but I have to admit that lately I've been seeing some very decent work with amazingly cheap prices. Some of these laboratories are very well equipped and have the quality control and the supervision of good and experienced European/Asian technicians. Again, as a ceramist, I'm absolutely not afraid of this. I think there is space for everybody and all levels of work. If a lab in China is doing less expensive work than I do with similar quality, congratulations to them! This should push people to do things differently. I do think there will be no room for average technicians working in average-size labs. Either you will have highly skilled technicians working in nice studios, or huge labs producing decent and less expensive work. So there are only two choices in my opinion: either you prepare yourself to be very good or you can work as an employee in one of these big labs.

Q: You are able to achieve amazing esthetic results even when working with counterparts in locations around the world. Can you share with us the communication protocols and tools you utilize to get these results predictably?

A: Yes, that's true. I've worked in different places around the world and the main issue was always how to manage the distance and communicate precisely, effectively, and quickly. This is so important that it became one of the main topics of my lectures. You have to develop protocols. In my case, digital communication became the answer. We developed the Digital Smile Design protocol to help us with that and it has been amazingly effective (Fig 6). The protocol consists of utilizing a simple slide presentation software in which to place patients' images, videos, notes, x-rays, etc. On top of these slides we develop some drawings and lines to better understand the esthetic issues and visualize the treatment options. These slide presentations are easily shared with the whole team through the Internet; it doesn't matter where the team members are. The key is to communicate visually instead of by writing or talking. In some situations we were able to do a case from A to Z in a very nice and smooth way without even talking among the team members because we had this online visual, digital communication.

Q: What do you feel are some of the most innovative and new options for dealing with ridge deformities and lost dimensions?

A: That's a delicate subject...The biggest challenge in esthetic dentistry is how to manage soft tissue defects inside the esthetic zone. As I learned working with some of the best surgeons in the world, there are huge surgical limitations when trying to vertically restore the ridge. Redeveloping papillae between two missing teeth is very difficult and sometimes impossible depending on the size of the defect. I hope that researchers and scientists will come up with a solution, but I don't see one in the near future. The problem is that the patients with these mutilations don't want to wait too long to be able to smile again and have a normal social life with confidence. For patients that are really looking for an esthetic solution and for whom more surgery is no longer the best option, we have been utilizing artificial pink materials to replace the missing soft tissue. We developed a technique that combines pink ceramics with direct pink composite to help us blend in these types of restorations (Fig 7).

Q: What do you feel are some of the most exciting and new technologies present or emerging in the near future? What new materials show the most promise?

A: I think that esthetic dentistry is very exhilarating. It is a stressful but captivating profession. Many exciting things are happening lately. I think one of the things that changed my professional life recently was the emergence of lithium disilicate (Fig 8). It really simplified my job in many different aspects. The improvement of zirconia is also very nice to see. Of course the CAD/CAM technology is amazing and it is now possible to do chairside CAD/CAM restorations in a couple of hours. Digital impressions and milled models also will completely change our restorative "life." **jCD**

Good professionals will always have work and, when it comes to dental restorations, there will always be a huge need for people with artistic talent!



Figure 8: Materials such as lithium disilicate and zirconia have changed the way we work, increasing treatment options and the esthetic quality of the restorations.



Dr. Coachman earned his DDS at the University of São Paulo, Brazil, in 2002, and his CDT in 1995. Dr. Coachman, who lectures and has been published internationally, is part of a family practice in São Paulo.

Disclosure: Dr. Coachman developed the Digital Smile Design protocol with the help of Dr. Marcelo Calamita and Mr. Livio Yoshinaga, both from São Paulo, Brazil.