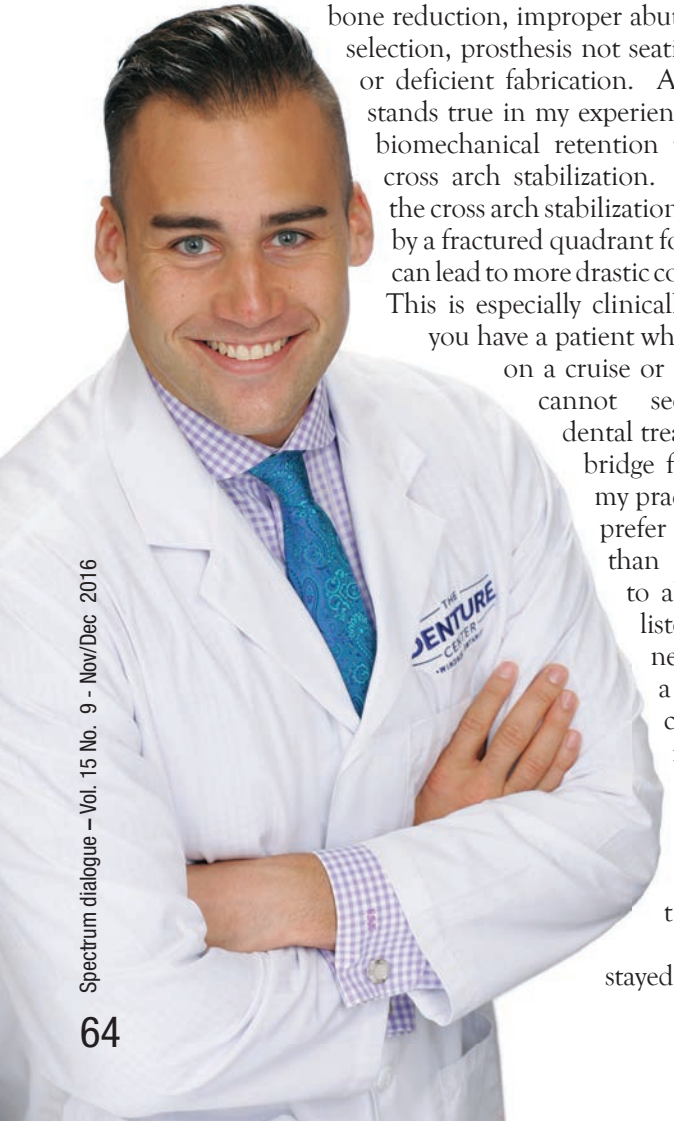
Eric Kukucka, DD

Discusses the role CST plays in the immediate hybrid protocol

Eric Kukucka is a denturist based in Ontario and owner of 3 denture practices. His main location in Windsor Ontario is heavily dedicated to various aspects of implant dentistry from both fixed and removable implant prosthesis. In this interview, we explore how CST has influenced his hybrid phase 1 interim implant denture cases.

Q. What first caught your interest in CST?

A. Often times when doing teeth-in-a-day cases unfortunately they are strictly fabricated with resin and supported by the temporary titanium cylinders. As we all know, metallic abutments do not bond well to acrylic. This is one of the factors that can fracture the prosthesis. Patients who are receiving teeth-in-a-day treatments are spending significant amount of money on their immediate solutions. Some may argue that the if the prosthesis fractures, it is due to imperfections in occlusion, insufficient thickness, not enough bone reduction, improper abutment height selection, prosthesis not seating passively, or deficient fabrication. Although this stands true in my experience, we attain biomechanical retention through our cross arch stabilization. However, if the cross arch stabilization is weakened by a fractured quadrant for a period, it can lead to more drastic complications. This is especially clinically relevant if you have a patient who is traveling on a cruise or overseas and cannot seek prompt dental treatment if the bridge fractures. In my practice, I much prefer being safer than sorry. Due to all the points listed above, I needed to find a solution that could assist in reducing fractures – that would offer the security of titanium. CST (cable-stayed technology) truly was the ideal material to suit my needs for immediate load hybrid cases.



Q. Were you reluctant that a fiber CST design would be strong and resistant enough to withstand the mastication forces applied to the stress areas for the prosthesis?

A. As I mentioned in previous question, I am using CST as an interim solution for same day fixed hybrid cases. I believe in the science and research behind the product. Seeing that glass fibers/composites are becoming leading materials in use today for various applications (aircraft, etc.), and the fact that CST would chemically and mechanically bond to PMMA, it was going to be an innovation to teeth-in-a-day procedures.

Q. Have you had any breakage or fractures?

A. I have had the opportunity to use CST even before its introduction to the market and have had a tremendous success with the material. Based on approximately 50 interim hybrids, CST has reduced fractures to 3% of the overall cases. Though we have found some great success in patients that were initially presenting with extreme parafunctional habits (bruxers or clenchers), this is where we have seen this small amount of fractures. Because fractures with immediate hybrid cases can be caused by so many various factors, CST fibers is now the standard for all of our hybrid dentures.

Q. What has been your experience with the fit of CST structures?

A. So far, with all the cases I have done, I have not experienced any rocking. All the dentures fit passively.

Q. Have you noticed any differences in the esthetic properties of a CST prosthesis?

A. It is obvious that with less grey/metallic background, the esthetic is improved and the result is shades that are more realistic and colors.

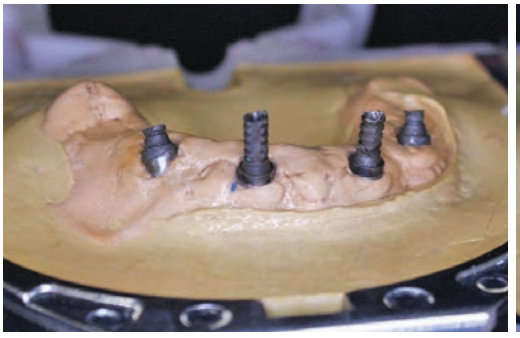


Fig. 1— Prepared titanium cylinders

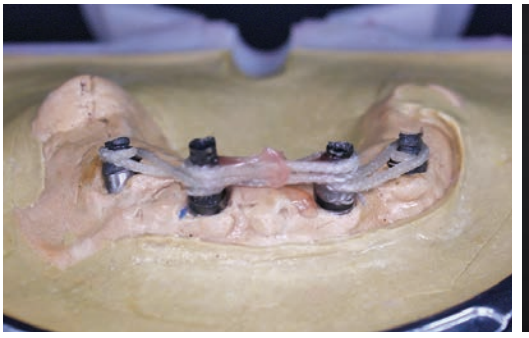


Fig. 2— CST framework for temporary

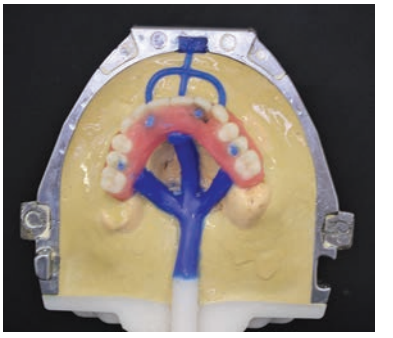


Fig. 3— Flasking

Fig. 4 - 5— Finished denture

Q. A CST structure can be made quickly and easily integrated into practices offering immediate implant dentures. How are you integrating CST into your workflow?

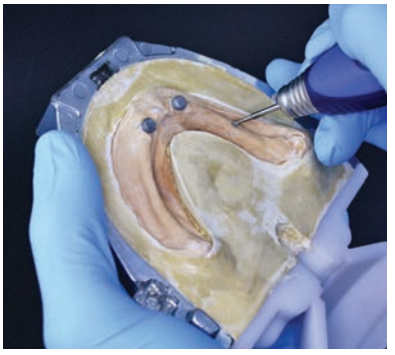
A. CST is part of our immediate hybrid protocol. Our workflow is improved due to the ease of controlling the material (see photos). There is no outsourcing, allowing us to deliver teeth-in-a-day, while providing the most durable phase 1 interim prosthesis. Throughout the healing process, both patients and clinicians are confident that they have a superior product that will reduce fractures to a minimum. This also saves time and frustrations of dealing with fractures.

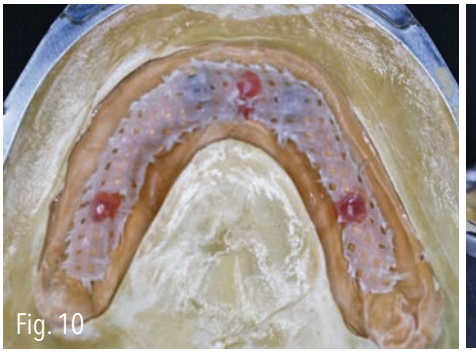
Q. How has CST changed the way you approach your patients? What impact has this had on your practice?

A. It is IMPERATIVE that patients are ALWAYS informed that regardless of CST or titanium, fractures might occur. As much as we stress and explain all of the factors to our patients that things can happen, once they happen, patients tend to forget that you have informed them.

CST has allowed me to be far more confident in the integrity and durability of my phase 1 interim immediate hybrid cases. This has influenced the practice in a very positive way. Having a product that can assist in reducing issues is truly wonderful.

Q. Are you still providing patients with unreinforced phase 1 immediate dentures?





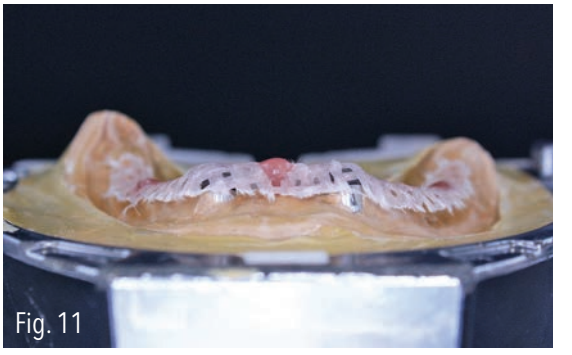


Fig. 9— Model with metallic housing Fig. 10 - 11— Finished Fiber Force mesh

A. No, I am not, no phase 1 immediate hybrid cases are fabricated without the use of CST fibers. CST is part of our protocol for fixed immediate hybrids and we will continue to ensure that we always provide our patients with the highest standards of care and quality available.

Q. Have you used Fiber Force for reinforcing locator implant dentures?

A. I have used Fiber Force for reinforcing locator solutions when the treatment plan incorporates two mandibular implants with locator abutments. I always reinforce the interim transitional, or the pre-existing "retrofitted" prosthesis, with a lingual strand of CST (similar technique to a braided lingual bar reinforcement). For the final definitive overdenture, I incorporate the Fiber Force mesh in conjunction with the IvoBase precision press technology injection system. This ensures and increased strength in the prosthesis.

CONCLUSION

Like everything in life, there are constant innovations. It is a matter of how you implement them and apply them to better you as an individual. I firmly believe CST is an innovation in dentistry and it has improved our success with fixed immediate hybrid cases. We as clinicians and professionals must have considerations for our patient's needs and expectations. They are investing substantial amounts of money in prosthetic restorations and rightfully expect the highest quality and standards of care. We must always do our best to provide our patients with durable long lasting prostheses. Sd