

### SUCCESS

The true meaning of CEREC success

By Dr. Mark Fleming and  
Dr. Darren Greenhalgh

### THE ONE-VISIT CEREC: Standard Protocol vs. CEREC Protocol

An insightful look at the CEREC  
anterior central incisor

By Dr. Dean C. Vafiadis

### THE CEREC ADVANTAGE IN THE NEW LANDSCAPE OF DENTISTRY & THE MYTH OF CLIENT LOYALTY

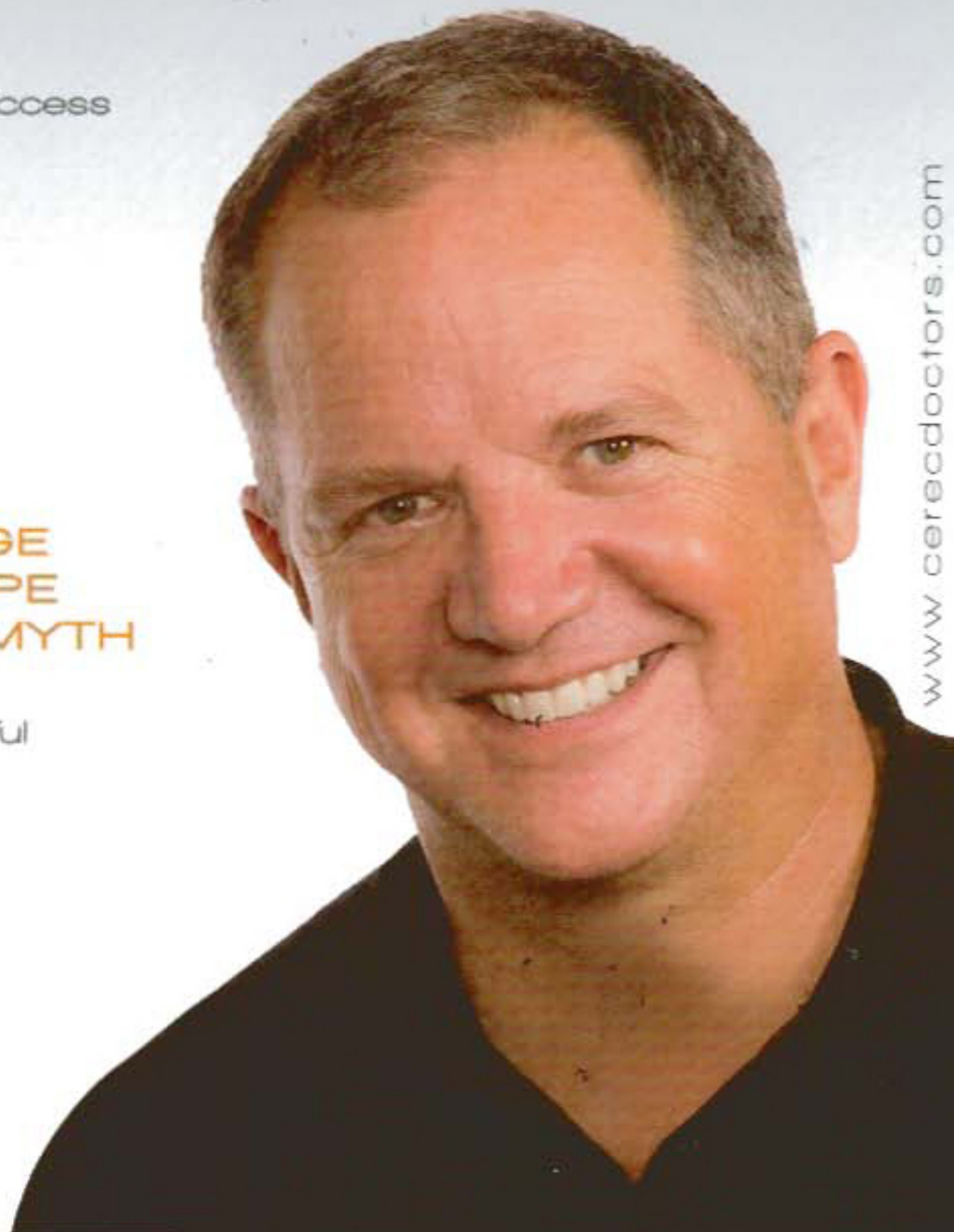
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An in depth interview on CEREC  
with Frank Spear, DDS, MSD



## Chief Complaint

A patient had full coverage crowns and implants that were treated 4 years before. (Figures 1-3). The patient presented with a fractured left central due to an accident where the lip was cut and the left central, all-ceramic crown fractured at the mid-portion of the tooth. (Figure 4). The patient was leaving for the holidays with his family the next day, so having the tooth repaired in a timely manner was of major importance.



Figure 1



Figure 2



Figure 3



Figure 4

## Standard Protocol

For patients in need of a front tooth, we would usually make a provisional crown and cement with a strong cement, make the impression and get back the final crown bisque-bake when the patient returned from the holiday. Usually we would have a second visit try-in for color and shape and maybe on the third visit the central would look acceptable. Many times though, the color is not acceptable and a fourth or fifth visit is necessary for the patient and the doctor. This happens to all clinicians because this is the most difficult restoration to get the color and shape to an acceptable aesthetic result. Because of the difficulty of shades and contours, the technician, the clinician and the patient may waste hours of time and effort trying to get the restoration to an acceptable level.

## CEREC Protocol

Because of the severity of aesthetics and time, it makes more sense to have the capability of fabricating a one-visit CEREC crown or veneer to better treat our patients. In addition, the technician and the clinician can also save hours of chair time and frustration trying to match colors and contours by following CEREC protocol.

Step 1- Prepare ideal dimension for all ceramic crown.

Step 2- Fabricate provisional with Luxa-Temp provisional material for ideal contours, incisal edge position and occlusion (Figure 5).



Figure 5

Step 3- Use putty matrix material on the lingual area with indexing holes to add to the scanning depth of area and better stitching of the scan.



Figure 6

Step 4- Scan in Master mode, Correlation mode "occlusion mode" with 5 images and confirm scan correlation (Figure 6).

Step 5- Remove provisional and scan preparation with the same matrix in place. This will correlate more easily. We scanned in 7 images to insure stitching.

Step 6- Design crown and confirm contacts

Step 7- Mill crown with Empress Multi-block

Step 8 - Adjust contacts, incisal edges and confirm contours

Step 9 - Glaze for overall color. Empress glazing program baked to 825° (Figures 7-8).



Figure 7



Figure 8

Step 10 - Stain and glaze with Empress Stain Kit to add characterization to match adjacent tooth (Figures 9-11).





Figure 9



Figure 10



Figure 11



Figure 12



Figure 13



Figure 14



Figure 15



Figure 16

## Cementation

The tooth was prepared with pumice and cleaned with chlorhexidine rinse and etched with 35 % phosphoric acid for 15 seconds. Excite™ (Ivolclar) dentin bonding agent was then applied for 15 seconds and then cured. Opti-bond (Kerr) Solo-plus bonding agent was placed and cured as well. Opti-bond 2FL was used on the internal of the crown and Luxa-core dual cure Cement was used as a luting agent. The crown was polished and finished intra-orally (Figures 12-16).

## Discussion

Over the past 20 years of clinical experience and clinical research, we have seen many difficult situations. Colors and shapes of anterior teeth will always give us the biggest challenge. The lab tech and the dentist continue to struggle with trying to match colors and shades that are just too difficult to communicate with a lab script or even with photos

and computers. We have all wasted countless hours to treat anterior teeth and we all wished we had the technician right there to view the colors as they were in our operatory.

With CEREC anterior crowns, this is not only a reality but it is a weekly occurrence. To be able to deliver these kinds of restorations in a one-visit protocol, saves everyone multiple visits and time. The most important factor is that we as clinicians finally have control over these difficult situations and can better deliver an anterior tooth that we can assure our patients that the color and shape will be to their high aesthetic demands.

## Conclusion

The timely manner of one-visit CEREC crowns and the ideal predictability of the color and shades is highly favorable and recommended. This benefits the patient, the lab tech and the clinician. After 24 anterior restorations fabricated with this technique we have realized the following: the amount of time that is saved compared to the normal protocol is a ratio of 1:8. It takes an average of 16 hours for all parties to fabricate an all-ceramic crown that is aesthetically acceptable. It takes an average of 2 hours to fabricate the same crown with the CEREC one-visit protocol.

Please see the following page for final case photos

## Acknowledgements

After taking the anterior proficiency course at the Scottsdale Center for Dentistry, we were able to fabricate 24 crowns and veneers and continue to treatment plan cases with the CEREC one-visit protocol.

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