

Advances In Prosthodontics™

New Findings & Best Practices for Cosmetic & Restorative Dentistry

INSIDE THIS ISSUE

CASE SUMMARY:

Details for this Replacement of a Mandibular Prosthesis...

Background
page 2

Treatment Sequence
page 2

DENTAL JOURNAL BRIEF:

Quickly Get the Latest Research on Procedures & Materials For Better Outcomes...
page 3

COMPLEX CASES:

Dr. Jacobs' Specialized Training & Skill Help with Patients in These Situations...
page 4

© Sams Media Group, LLC

Do You Have a Patient with Failing Restorations?



Here's the story of a patient who was referred from another dental professional...

If you have a patient with several missing, broken or severely worn teeth — they may be a candidate for an oral rehabilitation with the assistance of an advanced Prosthodontist.

Read more on the next page...

◆ Do you want another opinion on a complex case? Or to talk and share ideas?

There are many ways we can help each other by working together on complex cases and by sharing knowledge and experience. With your reputation for quality dental care, and my experience with restorative treatments, we can work together on advanced cases and both benefit! If you'd like to discuss a treatment, or talk on the phone about how we can help each other, please call or email my office with specific days and times when you're available.

Prosthodontic Publication

Want to see recent issues?

Stay informed on new findings and best practices for cosmetic and restorative dentistry. See more examples of complex cases online at:

AdvancedProsthodontist.com
/ Jacobs



CASE SUMMARY: Replacing a Mandibular Prosthesis

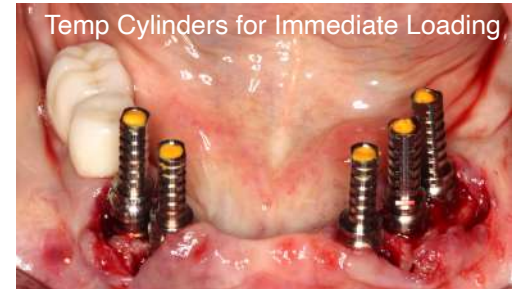
by Bryan Jacobs, DMD, MS, *Board Certified Prosthodontist*

Patient “Edith” was 83 year when she was referred to us by her general dentist for treatment of a failing mandibular FPD: x-x-22-x-x-x-27-28. All three abutments were carious and deemed non-restorable. Her remaining mandibular dentition consisted of single implant restorations at #29 and #30. Her maxilla was highly restored, with a non-ideal occlusal plane, but otherwise without disease and functioning comfortably.

As a prosthodontist, I have experience planning multi-stage treatment plans over several months, sometimes years, and can coordinate with a patient’s general dentist and other dental specialists.

After a thorough exam and treatment planning, Edith opted for a fixed solution. Due to living over 2 hours from our office, her priority in treatment was to minimize the number of visits. To achieve this, her case was planned for three visits, as follows:

1. A single surgical appointment, consisting of extraction of #22, 27, 28... placement of five implants using a fully guided approach... grafting of residual sockets... and immediate provisionalization with a milled PMMA prosthesis.
2. Three months later: digital final impressions of the adjusted provisional and implants, using intraoral scan bodies.
3. Seating of the final zirconia prosthesis and delivery of an occlusal guard.



Pro Prosth Tip: Fully guided surgery makes for easy immediate provisionalization. Digitally milled provisionals, with precise relief, require minimal material to attach to temporary cylinders - making for fast and easy conversion. When designed right, they can sit extremely stably on the adjacent teeth, so that positioning isn't dependent on just-manipulated soft tissues.

If you have comments / questions about this example, or my digital protocols, please email me:

bryanjacobs@dentalprofessionals.com

◆ Do you have a patient in Edith’s situation? Or another complex case?

If you have a question about a case and want another opinion, give my office a call. Or, if there’s a case that you want to work together on, please fill out and send in the enclosed referral form.

My office and I will take great care of your patient and keep you informed. Dental professionals refer to me as **The Complex Case Specialist™** because I perform complex cases every day.

Quickly Get the Latest Research On Procedures & Materials For Better Outcomes...

Reliability and Failure Modes of a Hybrid Ceramic Abutment Prototype

Silva, N et al. J Prosthodont 2018; 27: 83-87

Purpose

A ceramic and metal abutment prototype was fatigue tested to determine the probability of survival at various loads.

Material and Methods

Lithium disilicate CAD-milled abutments (n = 24) were cemented to titanium sleeve inserts and then screw attached to titanium fixtures. The assembly was then embedded at a 30° angle in polymethylmethacrylate. Each (n = 24) was restored with a resin-cemented machined lithium disilicate all-ceramic central incisor crown. Single load (lingual-incisal contact) to failure was determined for three specimens. Fatigue testing (n = 21) was conducted employing the step-stress method with lingual mouth motion loading. Failures were recorded, and reliability calculations were performed using proprietary software. Probability Weibull curves were calculated with 90% confidence bounds. Fracture modes were classified with a stereomicroscope, and representative samples imaged with scanning electron microscopy.

Results

Fatigue results indicated that the limiting factor in the current design is the fatigue strength of the abutment screw, where screw fracture often leads to failure of the abutment metal sleeve and/or cracking in the implant fixture. Reliability for completion of a mission at 200 N load for 50K cycles was 0.38 (0.52% to 0.25 90% CI) and for 100K cycles was only 0.12 (0.26 to 0.05)-only 12% predicted to survive. These results are similar to those from previous studies on metal to metal abutment/fixture systems where screw failure is a limitation. No ceramic crown or ceramic abutment initiated fractures occurred, supporting the research hypothesis. The limiting factor in performance was the screw failure in the metal-to-metal connection between the prototyped abutment and the fixture, indicating that this configuration should function clinically with no abutment ceramic complications.

Conclusions

The combined ceramic with titanium sleeve abutment prototype performance was limited by the fatigue degradation of the abutment screw. In fatigue, no ceramic crown or ceramic abutment components failed, supporting the research hypothesis with a reliability similar to that of all-metal abutment fixture systems. A lithium disilicate abutment with a Ti alloy sleeve in combination with an all-ceramic crown should be expected to function clinically in a satisfactory manner.

◆ How can a Board Certified Prosthodontist assist you and your dental team?

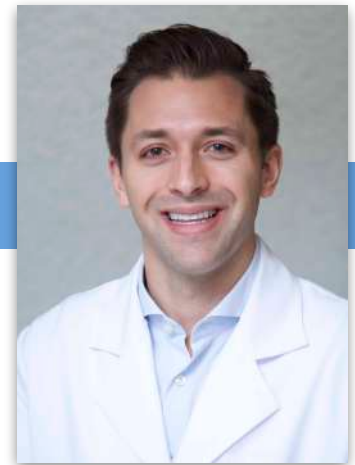
I specialize in the treatment of complex cases, usually involving several procedures over months of care.

The next time you see a challenging case, please feel free to call me and we can discuss treatment planning or I can help you with any part of the treatment.

My goal is to be a resource for your office by helping manage difficult and time-consuming procedures, restoring the function and esthetics that the patient desires, then referring them back to your office for their ongoing care.

Dr. Bryan Jacobs

DMD, MS, Prosthodontist ♦ The Complex Case Specialist™



About Dr. Jacobs' specialization:

As a Prosthodontist, Dr. Bryan Jacobs specializes in fixed and removable prostheses, dental implants, and all phases of esthetic dentistry. Dr. Jacobs is Board Certified by the American Board of Prosthodontics. His training and experience make treatments of complex cases more successful, including the following examples:

- Patients with ill-fitting dentures, severely worn or damaged teeth can receive a single dental implant or a full arch of natural-looking teeth.
- Patients who have suffered from traumatic injury, congenitally missing teeth, or a chronic condition can receive oral prostheses, which may be a combination of dental implants, crowns, bridges, or veneers.
- Patients with severe neglect of their oral health can receive a full reconstruction to restore function and esthetics.

Dr. Bryan Jacobs practices prosthodontics at Dental Professionals in Chicago and Skokie, working with GP's and other dental specialists to restore the smiles and confidence of patients facing a difficult diagnosis.

Personal Message To Fellow Dental Practitioners:

"As the referring dentist, you know your patient's mouth and have key insight into your patient's needs. I want to work with you to provide your patients with the best possible treatment outcomes. I will treat your patient in a manner that will reflect well on you and strengthen your relationship with your patient. I am here to make you look good! When your patient's care is completed, they are referred back to your office for their ongoing dental care. I am grateful for your collegueship and trust with your patients!"

Dr. Jacobs' online referral form at: DentalProfessionals.com/referring-doctors

Protho Pledge

When your patient is referred:

- ✓ I will only treat what's been referred.
- ✓ I will send you updates.
- ✓ I will be part of your team, not take over your patients.

◆ Why other dental professionals work with a Board Certified Prosthodontist

Board Certified Prosthodontists are specialists in implant, esthetic, and reconstructive dentistry.

- 1. You have a patient requiring treatment outside your typical scope of practice.**
Examples include patients with vertical dimension discrepancies, severely resorbed ridges, inadequate interarch space, severe bruxism, traumatic tooth loss, or congenital abnormalities.
- 2. You have a patient with complex needs that may drain your time.**
If your patient may require treatment from several specialists, Board Certified Prosthodontists can help because they are trained to appropriately stage and manage complex treatment plans.
- 3. You have a demanding patient who wants perfect esthetics.**
Examples include patients with a high smile line or needing a single tooth replacement in the esthetic zone. Board Certified Prosthodontists are trained in selecting the best solutions for high-demand patients.
- 4. You have a question and want to discuss a case with a colleague to ease your mind.**
Board Certified Prosthodontists can be an excellent resource for you to ask questions because they are trained in many types of complicated treatments. For example, you may want to consult a Board Certified Prosthodontist for complex implant-supported restorations. They can work with you or complete the treatment for you to achieve the best in both function and esthetics.