

Advances In Prosthodontics™

New Findings & Best Practices for Cosmetic & Restorative Dentistry

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SPECIAL REPORT:

Grafting Considerations with Immediate Implant Placement in the Esthetic Zone



A Randomized Controlled Trial Evaluating Grafting the Facial Gap at Immediately Placed Implants

Shyam P. Jacobs, DMD, MS¹
Thommyon P. Zaki, DDS, PhD²
Jingcheng Du, MD, DDS, MEd³
Lynette Cooper, DDS, PhD⁴

Abstract: Immediate implant placement in extraction sockets requires management of postextraction alveolar resorption. This randomized controlled trial evaluated the facial alveolar bone dimension 10 months following immediate implant placement with or without the addition of autogenous xenograft at the time of implant, on-stage placement of a shaped platform implant. The primary outcome of facial metal-implant bone thickness revealed no difference in the mean thickness of graft (1.67 ± 0.03 mm, graft) 1.62 ± 0.71 mm (P = .95). Secondary outcomes, including graft esthetic zone, were not different between the two groups. This study suggests that bone formation does occur along the facial surface of implants placed in extraction sockets. *Int J Periodontics Restor Dent* 2020;45:383-392. doi:10.1177/0904132319874444

Introduction: Immediate implant placement in extraction sockets requires management of postextraction alveolar resorption. This randomized controlled trial evaluated the facial alveolar bone dimension 10 months following immediate implant placement with or without the addition of autogenous xenograft at the time of implant, on-stage placement of a shaped platform implant. The primary outcome of facial metal-implant bone thickness revealed no difference in the mean thickness of graft (1.67 ± 0.03 mm, graft) 1.62 ± 0.71 mm (P = .95). Secondary outcomes, including graft esthetic zone, were not different between the two groups. This study suggests that bone formation does occur along the facial surface of implants placed in extraction sockets. *Int J Periodontics Restor Dent* 2020;45:383-392. doi:10.1177/0904132319874444

Keywords: Dental Professionals of Chicago, Chicago, Illinois, USA; USC Institute for Translational Sciences, Mudd Hall, California, USA; Department of Periodontology, University of North Carolina - Chapel Hill, Department of Otorhinolaryngology, North Carolina, USA; Department of Oral Biology, University of Illinois at Chicago College of Dentistry, Chicago, Illinois, USA.

Correspondence to: Dr. Shyam P. Jacobs, Dental Professionals of Chicago, 1111 C. Hooper Drive, Suite 210, Chicago, IL 60606, USA.
 Email: sjacob@dmf.com
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Abstract: Treatment of tooth loss in the esthetic zone is a relatively frequent situation encountered by dental clinicians. Timely replacement of an extracted tooth is a primary concern of patients for both functional and esthetic purposes. Accepted treatment sequences range from separate extraction, grafting, and implant surgeries in the same visit. While each of these potential lines, wide varieties of techniques and protocols have been put forth, immediate implant placement (IIP) is a common treatment approach for tooth replacement. Survival and success are comparable to placement into healed ridges.¹ The Zemer (2004) and Bauer (2006) survival rates have been consistently high.¹¹ However, unpredictable bone and soft tissue outcomes in the esthetic zone following immediate placement are persistent concerns.¹² The well-documented postextraction changes to alveolar bone architecture underscore this challenge. Following extraction, the residual alveolar wall undergoes both quantitative and qualitative changes that are more pronounced on the facial surface.¹³ As a result, hard tissue loss was found to average 2.8 mm in the horizontal dimension and 1.2 mm vertically.¹⁴ Socket walls will be reduced both in height and

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Here are findings to help achieve esthetic outcomes for patients needing implant restoration in the anterior maxilla...

I recently had an article published in the International Journal of Periodontics and Restorative Dentistry (IJPRD). It was a randomized, controlled trial looking at immediately-placed sloped-platform implants with or without bone grafting. I'd like to share some of the key points of my research in this article and review a case that is in it, so that you can benefit from what we found.

Read more on the next page...

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

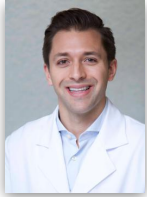
There are many ways we can help each other by working together on complex cases and by sharing knowledge and experience. With your reputation for quality dental care, and my experience with restorative treatments, we can work together on advanced cases and both benefit! If you'd like to discuss a treatment, 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 implant and restorative dentistry. See more examples of complex cases online at:

AdvancedProsthodontist.com
/ Jacobs



As a Prosthodontist, I work on challenging cases every day and coordinate treatment with general dentists and other specialists. I want to first talk about our research, then cover an example of a very odd case I performed as an application of our findings. I hope the following is helpful, and if you have questions or would like to discuss a specific complex case you have, please email at: bryanjacobs@dentalprofessionals.com

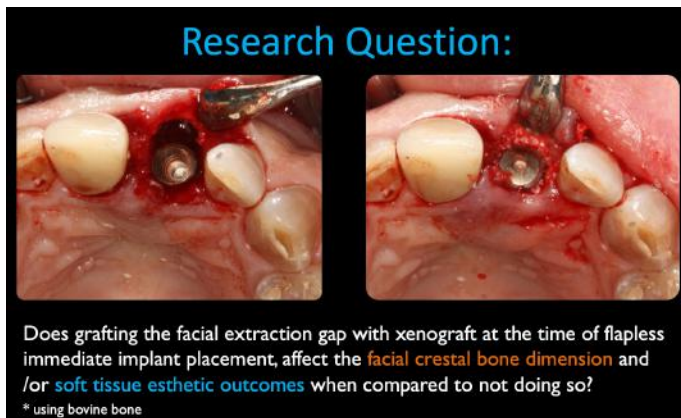
Bryan Jacobs, DMD, MS, Board Certified Prosthodontist

A Randomized Controlled Trial Evaluating Grafting the Facial Gap at Immediately Placed Implants

Bryan P. Jacobs, DMD, MS; Hodayoun H. Zadeh, DDS, PhD; Ingeborg De Kok, DDS, MS; Lyndon Cooper, DDS, PhD.
Int J Periodontics Restorative Dent 2020;40:383–392. doi: 10.11607/prd.3774

Abstract

Immediate implant placement in extraction sockets requires management of postextraction alveolar resorption. This randomized controlled trial evaluated the facial alveolar bone dimension 10 months following immediate implant placement with or without the addition of anorganic xenograft at the time of flapless, one-stage placement of a sloped-platform implant. The primary outcome of facial crestal alveolar bone thickness revealed **no difference in the mean dimension** (no graft: 1.47 ± 0.85 mm; graft: 1.63 ± 0.71 mm; $P = .950$). Secondary outcomes, including pink esthetic score, were not different between the two groups. This study suggests that bone formation does occur along the facial surface of implants placed into extraction sockets.



Study Design

- 33 patients randomized between two groups:
 - Control:** Extraction → immediate placement → no graft
 - Experimental:** Extraction → immediate placement → graft gap
- Records: pre-extraction, one year
 - Standardized photographs
 - Small volume CBCT

Continued on next page...

Research Conclusions with Case Example...

◆ Do you have a patient with an esthetic challenge? 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.

Research Conclusions

Our study demonstrated that mucosal and hard tissue alterations following flapless, immediate placement of sloped-platform implants were **not significantly different** with or without the addition of xenograft in the facial extraction gap.

The results of immediate placement of sloped implants into anterior maxillary extraction sockets for single-tooth replacement indicate high implant survival reported by others.

After 10 months, CBCT scans demonstrated that facial bone thicker than > 1 mm could be maintained facial to implants placed with or without grafting of the gap.

Clinical measurements of facial and interproximal tissues that reveal minor tissue changes during the study were associated with reported esthetic success, defined by PES evaluation.

Biologic and clinical outcomes that support esthetics can be realized when a protocol utilizing specific implant placement parameters, defined provisionalization procedures, and CAD/CAM abutments is consistently applied.

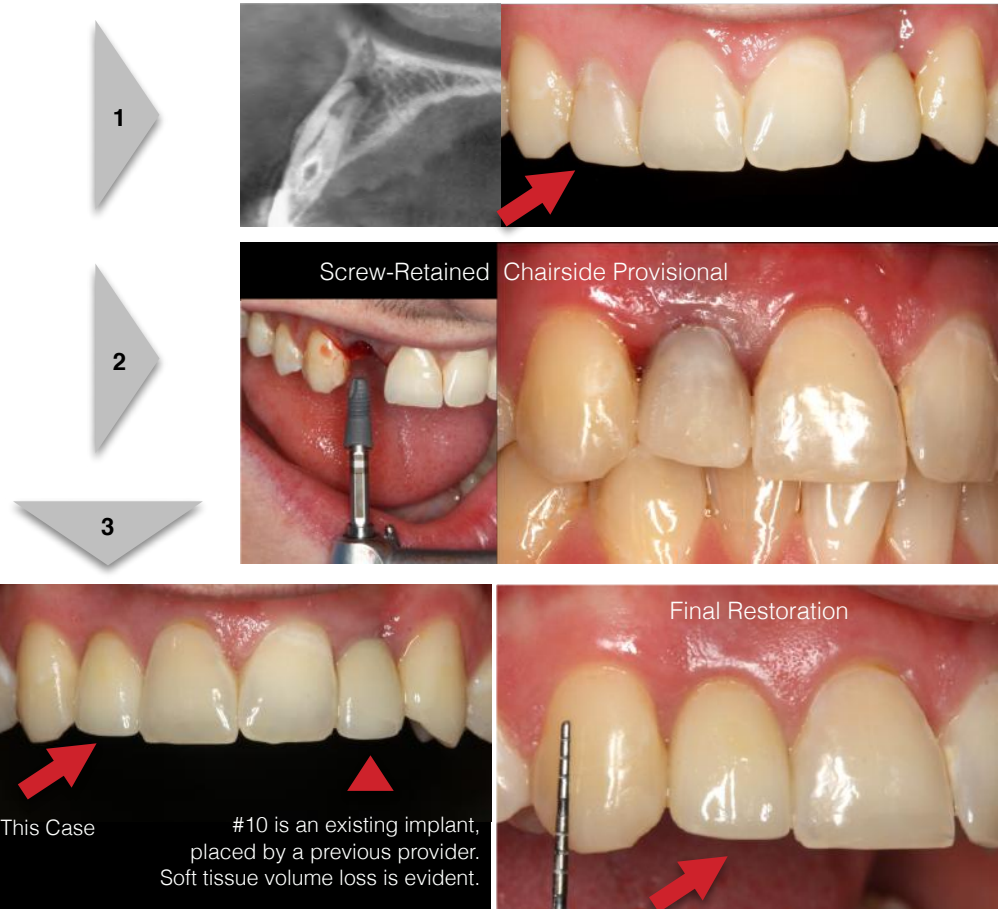
If you'd like a copy of the full journal article to read more about the discussion comparing our results to other studies, please email me and I'd be happy to provide it to you:

bryanjacobs
@dentalprofessionals.com

CASE SUMMARY: Immediate Implant Placement in the Esthetic Zone

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

This patient came to my office with tooth #7 non-restorable. I used a screw-retained chairside provisional, before delivering a final restoration. Here is the progression of this case example visually...



If you have comments / questions about this example, please email me at: **bryanjacobs@dentalprofessionals.com**

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

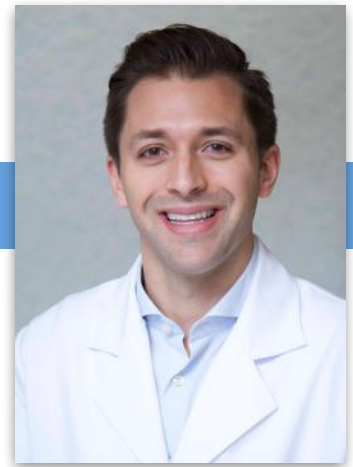
I specialize in the treatment of complex cases, usually involving several procedures over months of care.

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 has an easy online referral form at the following website:

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.