

## **PRACTICAL CLINICAL COURSES**

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### **V4350**

## **Socket Preservation and Bone Grafting**

Gordon J. Christensen, DDS, MSD, PhD

#### **Materials Included:**

C.E. Instruction Sheet  
Products List  
Clinician Responsible  
Goals & Objectives  
Overview  
Supplemental Materials  
AGD Post-Test

**Gordon J. Christensen**  
**PRACTICAL CLINICAL COURSES**

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Gordon J. Christensen  
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*Sources of Products Discussed in*  
**V4350 Socket Preservation and Bone Grafting**  
Presented by: Gordon J. Christensen, DDS, MSD, PhD

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| 1. <b>3M RelyX Luting Plus</b><br>Solventum<br>2510 Conway Avenue<br>St. Paul, MN 55144<br>(855)423-6725<br>(612)842-1263<br><a href="http://www.3m.com">www.3m.com</a>   | 7. <b>Blu-Mousse</b><br>Parkell, Inc.<br>300 Executive Drive<br>Edgewood, NY 11717<br>(800)243-7446<br>(631)249-1134<br><a href="http://www.parkell.com">www.parkell.com</a>  | 15. <b>Foundation</b><br>J. Morita USA, Inc.<br>9 Mason<br>Irvine, CA 92618<br>(800)831-3222<br>(949)581-8811<br><a href="http://www.jmoritausa.com">www.jmoritausa.com</a>  |
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| 4. <b>Amalgam Condenser</b><br>Various Manufacturers  | 10. <b>Directed Flow Impression Tray</b><br>Solventum<br>2510 Conway Avenue<br>St. Paul, MN 55144<br>(855)423-6725<br>(612)842-1263<br><a href="http://www.3m.com">www.3m.com</a>                                     | 18. <b>HemCon Dental Dressing</b><br>Tricol Biomedical, Inc.<br>720 SW Washington Street<br>Suite 200<br>Portland, OR 97205-3504<br>(877)247-0196<br>(503)245-0459<br><a href="http://www.tricolbiomedical.com">www.tricolbiomedical.com</a> |
| 5. <b>Big Easy Periostomes</b><br>Premier Dental Co.<br>1710 Romano Drive<br>Plymouth Meeting, PA 19462<br>(888)670-6100<br>(610)239-6000<br><a href="http://www.premierdentalco.com">www.premierdentalco.com</a> | 11. <b>Disposable Scalpel</b><br>Various Manufacturers  | 19. <b>Hemostat</b><br>Various Manufacturers   |
| 6. <b>Bio-Oss</b><br>Geistlich Pharma North America<br>400 Alexander Park Drive<br>Suite 302<br>Princeton, NJ 08540<br>(855)799-5500<br><a href="http://www.geistlich-na.com">www.geistlich-na.com</a>            | 12. <b>Easy Cure 2 (Replacement for Triad 2000)</b><br>Henry Schein Dental<br>135 Duryea Road<br>Melville, NY 11747<br>(800)372-4346<br>(631)843-5500<br><a href="http://www.henryschein.com">www.henryschein.com</a> | 20. <b>Integra (Miltex) Sutures</b><br>Various Distributors  |
|   | 13. <b>Elevators</b><br>Various Manufacturers   | 21. <b>Luxator by JS Dental</b><br>Various Distributors  |
|   | 14. <b>Filpin by Filhol Dental</b><br>Southeast Medical Products, Inc.<br>5524 Commerce Drive<br>Orlando, FL 32839<br>(407)851-5848<br><a href="http://www.filhol.com">www.filhol.com</a>                             |  |

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|---|--|--|
| <p>22. <b>Madame Butterfly Silk</b><br/>Almore International<br/>441 19<sup>th</sup> Street S.E.<br/>Hickory, NC 28602<br/>(800)547-1511<br/><a href="http://www.almore.com">www.almore.com</a></p>   | <p>27. <b>Needle Holder</b><br/>Various Manufacturers</p>  | <p>34. <b>Triad System (See Easy Cure 2 &amp; Megatray Custom Tray Material)</b></p>   |
| <p>23. <b>Maxcem Elite</b><br/>Kerr Corporation<br/>200 S. Kraemer Blvd.<br/>Building E2<br/>Brea, CA 92821<br/>(800)537-7123<br/><a href="http://www.kerrdental.com">www.kerrdental.com</a></p>  | <p>28. <b>OraGraft</b><br/>LifeNet Health<br/>1864 Concert Drive<br/>Virginia Beach, VA 23453<br/>(800)847-7831<br/>(757)464-4761<br/><a href="http://www.lifenethealth.org">www.lifenethealth.org</a></p>       | <p>35. <b>Vicryl (Ethicon) Sutures</b><br/>Henry Schein Dental<br/>135 Duryea Road<br/>Melville, NY 11747<br/>(800)372-4346<br/>(631)843-5500<br/><a href="http://www.henryschein.com">www.henryschein.com</a></p> |
| <p>24. <b>Megatray Custom Tray Material (Replacement for Triad TruTray)</b><br/>Henry Schein Dental<br/>135 Duryea Road<br/>Melville, NY 11747<br/>(800)372-4346<br/>(631)843-5500<br/><a href="http://www.henryschein.com">www.henryschein.com</a></p> | <p>29. <b>Periosteal Elevator</b><br/>Various Manufacturers</p>  | <p>36. <b>Wax Spatula</b><br/>Various Manufacturers</p>  |
| <p>25. <b>MicroPrime</b><br/>Zest Dental Solutions<br/>2875 Loker Avenue East<br/>Carlsbad, CA 92010<br/>(800)262-2310<br/>(442)244-4835<br/><a href="http://www.zestdent.com">www.zestdent.com</a></p>   | <p>30. <b>Proximator</b><br/>Karl Schumacher<br/>1666 East Touhy Avenue<br/>Des Plaines, IL 60018<br/>(800)523-2427<br/>(215)322-0511<br/><a href="http://www.karlschumacher.com">www.karlschumacher.com</a></p> | <p>37. <b>Zimmer Collagen Plug</b><br/>ZimVie Inc.<br/>4555 Riverside Drive<br/>Palm Bch Gardens, FL 33410<br/>(800)342-5454<br/>(561)776-6700<br/><a href="http://www.zimvie.com">www.zimvie.com</a></p>          |
| <p>26. <b>MinerOss</b><br/>BioHorizons<br/>2300 Riverchase Center<br/>Birmingham, AL 35244<br/>(888)246-8338<br/>(205)967-7880<br/><a href="http://www.biohorizons.com">www.biohorizons.com</a></p>   | <p>31. <b>Puros</b><br/>ZimVie Inc.<br/>4555 Riverside Drive<br/>Palm Bch Gardens, FL 33410<br/>(800)342-5454<br/>(561)776-6700<br/><a href="http://www.zimvie.com">www.zimvie.com</a></p>                       | <p>38. <b>Zimmer Socket Repair Membrane</b><br/>ZimVie Inc.<br/>4555 Riverside Drive<br/>Palm Bch Gardens, FL 33410<br/>(800)342-5454<br/>(561)776-6700<br/><a href="http://www.zimvie.com">www.zimvie.com</a></p> |
|   | <p>32. <b>Scissors</b><br/>Various Manufacturers</p>   |  |
|   | <p>33. <b>TempBond</b><br/>Kerr Corporation<br/>200 S. Kraemer Blvd.<br/>Building E2<br/>Brea, CA 92821<br/>(800)537-7123<br/><a href="http://www.kerrdental.com">www.kerrdental.com</a></p>                     |  |

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## **PROGRAM**

### **V4350 Socket Preservation and Bone Grafting**

#### **CLINICIAN RESPONSIBLE:**

**Gordon J. Christensen, DDS, MSD, PhD**

*Founder and CEO, Practical Clinical Courses  
Senior Consultant & Previous CEO, CR Foundation  
Practicing Prosthodontist, Provo, Utah*

#### **GOALS & OBJECTIVES**

On completion of this video, viewers should be able to:

1. Discuss and support the need for socket grafting (ridge preservation).
2. List the four types of grafting material categories.
3. Describe an autogenous bone graft.
4. Describe an allograft.
5. Describe an alloplast.
6. Describe a xenograft.
7. Discuss methods to remove a tooth without breaking bone.
8. Describe Luxators.
9. Describe Proximators.
10. Describe a periosteal elevator.
11. Discuss selecting the most appropriate grafting material for specific situations.
12. Compare local anesthetic need and type of anesthetic for routine tooth extraction and socket grafting.
13. List the differences in socket grafting when planning to place an implant at a later date or placing a fixed partial denture.
14. Describe the forces and location of instrument placement applied to a Luxator or Proximator to remove a tooth broken off at the level of the bone.
15. Compare the placement of allograft bone chips with allograft putty with chips.
16. Discuss when a barrier membrane is needed in socket grafting.
17. Discuss how long allograft bone materials should be in place before placing an implant, assuming remote placement and not immediate placement of the implant.
18. Discuss how long soft-tissue healing of a pontic area should take place before making a fixed partial denture.
19. List the ADA insurance codes for socket preservation.
20. Discuss the necessity for patient education when presenting socket grafting to a patient.

## **OVERVIEW**

### **V4350 Socket Preservation and Bone Grafting**

Ridge preservation has been promoted for many years, but it has not become a mainstream technique, in spite of its value. There are numerous reasons related to why ridge preservation has not become popular. Among them are: there is an erroneous feeling that the technique is difficult and unpredictable; third-party payers do not pay well for the procedure; the grafting materials are relatively expensive; the waiting time between placement of the graft and being able to go ahead with the other procedures is a limitation, and the technique is not included in many dental school curricula.

Ridge preservation is an excellent, simple procedure that needs to become a commonly accomplished concept in general dental practice! This presentation shows the clinical technique for grafting an extraction socket and placing a fixed prosthesis from diagnosis, through tooth removal, grafting, healing, preparation for and placement of a fixed prosthesis over the healed, grafted pontic site. It includes the following topics:

1. Need for socket grafting
2. Types of bone grafts and the purpose for grafting
3. Autogenous grafts
4. Allografts
5. Alloplasts
6. Xenografts
7. Extracting teeth without breaking bone
8. Selecting the most appropriate grafting material
9. Anesthetic need for grafting
10. Impressions for provisional restorations
11. Preliminary tooth preparation
12. Atraumatic tooth extraction.
13. Placement of grafting material in a four-wall socket
14. Placement of wound dressing
15. Fabrication of provisional restorations
16. Seating provisional restorations
17. Analgesics necessary
18. Antibiotics necessary
19. The healed soft-tissue site
20. Impression for the provisional restoration for the final tooth preparations
21. Final tooth preparations
22. Final impressions
23. Seating the provisional restoration
24. The final fixed-partial-denture from the laboratory
25. Seating the final restoration
26. The completed healed graft and final restoration
27. Placement of grafts in 3-wall sockets
28. Placement of a socket repair membrane
29. Placement of grafting material in a 3-wall socket
30. Suturing the site
31. Fees for socket grafting

## **SUPPLEMENTAL MATERIALS**

### **V4350 Socket Preservation and Bone Grafting**

1. Christensen GJ, Child PL Jr. Bone Grafting Implants: Always the Best Treatment? *Dentistry Today*. November 2010.
2. Wang HL, Tsao YP. Mineralized bone allograft-plug socket augmentation: rationale and technique. *Implant Dent*. 2007;16(1):33-41.
3. McAllister BS, Haghighat K. Bone augmentation techniques. *J Periodontol*. 2007;78(3):377-396.
4. Irinakis T. Rationale for socket preservation after extraction of a single-rooted tooth when planning for future implant placement. *J Can Dent Assoc*. 2006;72(10):917-922.
5. Bader H. Immediate extraction site grafting: materials and clinical objectives. *Dent Today*. 2005; 24(7):86-89.
6. Sclar AG. Strategies for management of single-tooth extractions sites in aesthetic implant therapy. *J Oral Maxillofac Surg*. 2004;62(9 suppl 2):90-105.
7. Zitzmann NU, Naef R, Schärer P. Resorbable versus nonresorbable membranes in combination with Bio-Oss for guided bone regeneration [published erratum appears in *Int J Oral Maxillofac Implants*. 1998; 13(4):576]. *Int J Oral Maxillofac Implants*. 1997;12(6):844-852.
8. Noubissi SS, Lozada JL, Boyne PJ, et al. Clinical, histologic, and histomorphometric evaluation of mineralized solvent-dehydrated bone allograft (Puros) in human maxillary sinus grafts. *J Oral Implantol*. 2005;31(4):171-179.
9. Froum SJ, Wallace SS, Elian N, et al. Comparison of mineralized cancellous bone allograft (Puros) and anorganic bovine bone matrix (Bio-Oss) for sinus augmentation: histomorphometry at 26 to 32 weeks after grafting. *Int J Periodontics Restorative Dent*. 2006;26(6):543-551.
10. Vance GS, Greenwell H, Miller RL, et al. Comparison of an allograft in an experimental putty carrier and a bovine-derived xenograft used in ridge preservation: a clinical and histologic study in humans. *Int J Oral Maxillofac Implants*. 2004;19(4):491-497.

## **POST-TEST**

### **V4350 Socket Preservation and Bone Grafting**

1. The “gold standard” for grafting is:
  - a. autogenous bone.
  - b. allograft.
  - c. xenograft.
  - d. alloplast.
  
2. Socket grafting is most needed in:
  - a. maxillary molar areas.
  - b. mandibular anterior areas.
  - c. the smile zone.
  - d. upper anterior areas.
  
3. An allograft is:
  - a. the patient’s own bone.
  - b. usually cow (bovine) bone.
  - c. cadaver bone.
  - d. a synthetic material.
  
4. Extracting teeth broken off at the bone level without breaking bone is best effected by:
  - a. grasping the remaining coronal tooth structure with a forcep.
  - b. using a Luxator or Proximotor on the facial and lingual root surfaces.
  - c. rocking the forcep in a facial-lingual direction.
  - d. using a Luxator or Proximotor on the mesial and distal root surfaces.
  
5. Patients having a tooth extracted and bone grafting require:
  - a. routine block anesthetic delivery.
  - b. oral sedation.
  - c. general anesthetic.
  - d. minimal anesthetic, as deemed appropriate by the practitioner.
  
6. A grafted site is usually ready for an implant at:
  - a. 2 months.
  - b. 3 months.
  - c. 4 months.
  - d. 6 months.
  
7. The pontic form placed in a grafted site should be:
  - a. concave to simulate the natural ridge anatomy.
  - b. convex to fit into a concavity in the soft-tissue pontic area.
  - c. flat to allow easy cleaning.
  - d. relieved from the soft tissue by one millimeter to reduce gingival irritation.



**POST-TEST (CONT'D)**

**V4350 Socket Preservation and Bone Grafting**

8. Antibiotic delivery when grafting a socket:
- should always be provided.
  - should be the decision of the clinician after discussion with the patient.
  - should not be provided.
  - is not controversial.
9. Pain medications when grafting:
- should be of a moderate level.
  - should be narcotic.
  - are needed only to a minimal level.
  - are not necessary.
10. Impediments for patients relative to grafting are:
- this is a difficult time-consuming procedure.
  - minimal third-party payment coverage.
  - there is significant pain associated with the procedure.
  - the technique is not successful a significant portion of the time.

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