

# **PRACTICAL CLINICAL COURSES**

A Service of the Gordon J. Christensen  
Career Development Program

## **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  
References  
AGD Post Test

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

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Gordon J. Christensen  
**PRACTICAL CLINICAL COURSES**

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**V4350 Socket Preservation and Bone Grafting**

Presented by: Gordon J. Christensen, DDS, MSD, PhD

1. **AccuFilm II**  
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Edgewood, NY 11717  
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(631)249-1134  
[www.parkell.com](http://www.parkell.com)
2. **Amalgam Condenser**  
Various Manufacturers
3. **Big Easy Periostomes**  
Premier Dental Products Co.  
1710 Romano Drive  
Plymouth Meeting, PA 19462  
(888)670-6100  
(610)239-6000  
[www.premusa.com](http://www.premusa.com)
4. **Bio-Oss**  
Osteohealth  
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P.O. Box 9001  
Shirley, NY 11967  
(800)874-2334  
(631)924-4000  
[www.ostehealth.com](http://www.ostehealth.com)
5. **Bioplant**  
Kerr Corporation  
1717 West Collins Avenue  
Orange, CA 92867  
(800)537-7123  
(714)516-7400  
[www.kerrdental.com](http://www.kerrdental.com)
6. **Blu-Mousse**  
Parkell, Inc.  
300 Executive Drive  
Edgewood, NY 11717  
(800)243-7446  
(631)249-1134  
[www.parkell.com](http://www.parkell.com)
7. **CollaPlug**  
Zimmer Dental Inc.  
1900 Ashton Avenue  
Carlsbad, CA 92008  
(800)854-7019  
(760)929-4300  
[www.zimmerdental.com](http://www.zimmerdental.com)
8. **Copper Bands**  
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300 Executive Drive  
Edgewood, NY 11717  
(800)243-7446  
(631)249-1134  
[www.parkell.com](http://www.parkell.com)
9. **Cotton Pliers**  
Various Manufacturers
10. **Directed Flow Impression Tray**  
3M ESPE Dental Products  
3M Center  
Bldg. 275-2SE-03  
St. Paul, MN 55144  
(800)634-2249  
[www.3mespe.com](http://www.3mespe.com)
11. **Disposable Scalpel**  
Various Manufacturers
12. **Elevators**  
Various Manufacturers
13. **Filpins**  
Filhol Dental  
19 West 34<sup>th</sup> Sreet  
Suite 916  
New York, NY 10001  
(212)714-9250  
[www.filhol.com](http://www.filhol.com)
14. **Foundation**  
J. Morita USA  
9 Mason  
Irvine, CA 92618  
(888)566-7482  
(949)581-9600  
[www.jmoritausa.com](http://www.jmoritausa.com)
15. **GC FujiCEM Automix**  
GC America, Inc.  
3737 West 127<sup>th</sup> Street  
Alsip, IL 60803  
(800)323-3386  
(708)897-4000  
[www.gcamerica.com](http://www.gcamerica.com)
16. **Gluma**  
Heraeus  
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South Bend, IN 46614  
(800)431-1785  
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[www.heraeus-kulzer-us.com](http://www.heraeus-kulzer-us.com)
17. **HemCon Dental Dressing**  
HemCon Medical Technologies  
10575 SW Cascade Avenue  
Suite 130  
Portland, OR 97223  
(877)247-0196  
(503)245-0459  
[www.hemcon.com](http://www.hemcon.com)
18. **Hemostat**  
Various Manufacturers
19. **Integra (Miltex) Sutures**  
Pearson Dental  
13161 Telfair Avenue  
Sylmar, CA 91342  
(800)535-4535  
(818)362-2600  
[www.pearsondental.com](http://www.pearsondental.com)

20. **Luxator**  
JS Dental Manufacturing  
196 North Salem Road  
P.O. Box 904  
Ridgefield, CT 06877  
(800)284-3368  
(203)438-8832  
[www.jsdental.com](http://www.jsdental.com)
21. **Madame Butterfly Silk**  
Almore International, Inc.  
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(503)643-6633  
[www.almore.com](http://www.almore.com)
22. **MaxCem Elite**  
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(800)537-7123  
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[www.kerrdental.com](http://www.kerrdental.com)
23. **MicroPrime**  
Danville Materials  
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Suite A200  
San Ramon, CA 94583  
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(925)973-0710  
[www.danvillematerials.com](http://www.danvillematerials.com)
24. **MinerOss**  
BioHorizons  
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(205)967-7880  
[www.biohorizons.com](http://www.biohorizons.com)
25. **Needle Holder**  
Various Manufacturers
26. **OraGRAFT**  
LifeNet Health, Inc.  
1864 Concert Drive  
Virginia Beach, VA 23453-1903  
(888)847-7831  
(757)464-4761  
[www.accesslifenethealth.org](http://www.accesslifenethealth.org)
27. **Periosteal Elevator**  
Various Manufacturers
28. **Protemp 3 Garant**  
3M ESPE Dental Products  
3M Center  
Bldg. 275-2SE-03  
St. Paul, MN 55144  
(800)634-2249  
[www.3mespe.com](http://www.3mespe.com)
29. **Proximator**  
Karl Schumacher Dental  
Instruments Company, Inc.  
108 Lakeside Drive  
Southampton, PA 18966  
(800)523-2427  
(215)322-0511  
[www.karlschumacher.com](http://www.karlschumacher.com)
30. **Puros**  
Zimmer Dental Inc.  
1900 Ashton Avenue  
Carlsbad, CA 92008  
(800)854-7019  
(760)929-4300  
[www.zimmerdental.com](http://www.zimmerdental.com)
31. **RelyX Luting Plus**  
3M ESPE Dental Products  
3M Center  
Bldg. 275-2SE-03  
St. Paul, MN 55144  
(800)634-2249  
[www.3mespe.com](http://www.3mespe.com)
32. **Scissors**  
Various Manufacturers
33. **Socket Repair Membrane**  
Zimmer Dental Inc.  
1900 Ashton Avenue  
Carlsbad, CA 92008  
(800)854-7019  
(760)929-4300  
[www.zimmerdental.com](http://www.zimmerdental.com)
34. **TempBond**  
Kerr Corporation  
1717 West Collins Avenue  
Orange, CA 92867  
(800)537-7123  
(714)516-7400  
[www.kerrdental.com](http://www.kerrdental.com)
35. **Triad System**  
Dentsply Prosthetics  
570 West College Avenue  
York, PA 17405  
(800)243-1942  
(717)845-7511  
[www.ceramco.com](http://www.ceramco.com)
36. **Unicem**  
3M ESPE Dental Products  
3M Center  
Bldg. 275-2SE-03  
St. Paul, MN 55144  
(800)634-2249  
[www.3mespe.com](http://www.3mespe.com)
37. **Vicryl (Ethicon) Sutures**  
Henry Schein, Inc.  
135 Duryea Road  
Melville, NY 11747  
(800)582-2702  
(631)843-5500  
[www.henryschein.com](http://www.henryschein.com)
38. **Wax Spatula**  
Various Manufacturers

***Product names, the products themselves, and company names change rapidly. Please contact the companies shown to confirm current information.***

**Gordon J. Christensen Practical Clinical Courses, 3707 North Canyon Road, Suite 3D, Provo, UT 84604  
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## **PROGRAM**

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

#### **CLINICIAN RESPONSIBLE:**

**Gordon J. Christensen, DDS, MSD, PhD**  
CEO, Practical Clinical Courses  
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

## OVERVIEW (Cont'd)

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

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

## REFERENCES

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2. Wang HL, Tsao YP. Mineralized bone allograft-plug socket augmentation: rationale and technique. *Implant Dent*. 2007;16(1):33-41.
3. McAllister BS, Haghghat 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. Noumbissi 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 Proximator on the facial and lingual root surfaces.
  - c. rocking the forcep in a facial-lingual direction.
  - d. using a Luxator or Proximator 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:
  - a. should always be provided.
  - b. should be the decision of the clinician after discussion with the patient.
  - c. should not be provided.
  - d. is not controversial.
  
9. Pain medications when grafting:
  - a. should be of a moderate level.
  - b. should be narcotic.
  - c. are needed only to a minimal level.
  - d. are not necessary.
  
10. Impediments for patients relative to grafting are:
  - a. this is a difficult time-consuming procedure.
  - b. minimal third-party payment coverage.
  - c. there is significant pain associated with the procedure.
  - d. the technique is not successful a significant portion of the time.

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