# 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
Supplemental Materials
AGD Post-Test

# Gordon J. Christensen PRACTICAL CLINICAL COURSES

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#### Gordon J. Christensen

# **PRACTICAL CLINICAL COURSES**

Sources of Products Discussed in

# V4350 Socket Preservation and Bone Grafting

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

### 1. AccuFilm II

Parkell, Inc. 300 Executive Drive Edgewood, NY 11717 (800)243-7446 (631)249-1134 www.parkell.com

# 2. Amalgam Condenser

Various Manufacturers

#### 3. **Big Easy Periotomes**

Premier Dental Products Co. 1710 Romano Drive Plymouth Meeting, PA 19462 (888)670-6100 (610)239-6000 www.premusa.com

#### 4. Bio-Oss

Osteohealth
One Luitpold Drive
P.O. Box 9001
Shirley, NY 11967
(800)874-2334
(631)924-4000
www.osteohealth.com

# 5. Bioplant

Kerr Corporation 1717 West Collins Avenue Orange, CA 92867 (800)537-7123 (714)516-7400 www.kerrdental.com

### 6. Blu-Mousse

Parkell, Inc. 300 Executive Drive Edgewood, NY 11717 (800)243-7446 (631)249-1134 www.parkell.com

# 7. CollaPlug

Zimmer Dental Inc. 1900 Ashton Avenue Carlsbad, CA 92008 (800)854-7019 (760)929-4300 www.zimmerdental.com

# 8. Copper Bands

Parkell, Inc. 300 Executive Drive Edgewood, NY 11717 (800)243-7446 (631)249-1134 www.parkell.com

#### 9. **Cotton Pliers**

Various Manufacturers

# 10. Directed Flow Impression Trav

3M ESPE Dental Products 3M Center Bldg. 275-2SE-03 St. Paul, MN 55144 (800)634-2249 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

#### 14. Foundation

J. Morita USA 9 Mason Irvine, CA 92618 (888)566-7482 (949)581-9600 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

#### 16. **Gluma**

Heraeus 300 Heraeus Way South Bend, IN 46614 (800)431-1785 (574)291-0661 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

#### 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

#### 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

# 21. Madame Butterfly Silk

Almore International, Inc. P.O. Box 25214 Portland, OR 97298 (800)547-1511 (503)643-6633 www.almore.com

# 22. MaxCem Elite

Kerr Corporation 1717 West Collins Avenue Orange, CA 92867 (800)537-7123 (714)516-7400 www.kerrdental.com

#### 23. MicroPrime

Danville Materials 3420 Fostoria Way Suite A200 San Ramon, CA 94583 (800)827-7940 (925)973-0710 www.danvillematerials.com

# 24. MinerOss

BioHorizons 2300 Riverchase Center Birmingham, AL 35244 (888)246-8338 (205)967-7880 www.biohorizons.com

# 25. Needle Holder

Various Manufacturers

# 26. **OraGRAFT**

LifeNet Health, Inc. 1864 Concert Drive Virginia Beach, VA 23453 (888)847-7831 (757)464-4761 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

# 29. Proximator

Karl Schumacher Dental Instruments Company, Inc. 108 Lakeside Drive Southhampton, PA 18966 (800)523-2427 (215)322-0511 www.karlschumacher.com

#### 30. Puros

Zimmer Dental Inc. 1900 Ashton Avenue Carlsbad, CA 92008 (800)854-7019 (760)929-4300 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

#### 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

### 34. TempBond

Kerr Corporation 1717 West Collins Avenue Orange, CA 92867 (800)537-7123 (714)516-7400 www.kerrdental.com

#### 35. Triad System

Dentsply Prosthetics 570 West College Avenue York, PA 17405 (800)243-1942 (717)845-7511 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

# 37. Vicryl (Ethicon) Sutures

Henry Schein, Inc. 135 Duryea Road Melville, NY 11747 (800)582-2702 (631)843-5500 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.

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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 periotome.
- 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
- 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 Periodontal*. 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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