

# **PRACTICAL CLINICAL COURSES**

A Service of the Gordon J. Christensen  
Career Development Program

## **V3514**

### **The NEW Glass Ionomers Really Work!**

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

**V3514 The NEW Glass Ionomers Really Work!**

Presented by Gordon J. Christensen, DDS, MSD, PhD & Rella P. Christensen, PhD

1. **Cavity Conditioner**  
GC America Inc.  
3737 W 127<sup>th</sup> Street  
Alsip, IL 60803  
(800)323-7063  
[www.gcamerica.com](http://www.gcamerica.com)
2. **ChemFil Rock**  
Dentsply Sirona  
13320-B Ballantyne Corporate Pl.  
Charlotte, NC 28277  
(844)848-0137  
[www.dentsplysirona.com](http://www.dentsplysirona.com)
3. **Composi-Tight 3D Fusion Matrix**  
Garrison Dental Solutions  
150 DeWitt Lane  
Spring Lake, MI 49456  
(888)437-0032  
[www.garrisondental.com](http://www.garrisondental.com)
4. **Dr. Colonna Series Placement Instruments**  
American Eagle Instruments Inc.  
6575 Butler Creek Road  
Missoula, MT 59808  
(800)551-5172  
[www.am-eagle.com](http://www.am-eagle.com)
5. **EQUIA Forte**  
GC America Inc.  
3737 W 127<sup>th</sup> Street  
Alsip, IL 60803  
(800)323-7063  
[www.gcamerica.com](http://www.gcamerica.com)
6. **EQUIA Forte Coat**  
GC America Inc.  
3737 W 127<sup>th</sup> Street  
Alsip, IL 60803  
(800)323-7063  
[www.gcamerica.com](http://www.gcamerica.com)
7. **EQUIA Forte HT Fil**  
GC America Inc.  
3737 W 127<sup>th</sup> Street  
Alsip, IL 60803  
(800)323-7063  
[www.gcamerica.com](http://www.gcamerica.com)
8. **Filtek Supreme Ultra**  
3M Oral Care  
2510 Conway Avenue  
St. Paul, MN 55144  
(800)634-2249  
(651)733-1110  
[www.3m.com](http://www.3m.com)
9. **Filtek Universal Restorative**  
3M Oral Care  
2510 Conway Avenue  
St. Paul, MN 55144  
(800)634-2249  
(651)733-1110  
[www.3m.com](http://www.3m.com)
10. **Fuji Automix LC**  
GC America Inc.  
3737 W 127<sup>th</sup> Street  
Alsip, IL 60803  
(800)323-7063  
[www.gcamerica.com](http://www.gcamerica.com)
11. **Fuji II LC**  
GC America Inc.  
3737 W 127<sup>th</sup> Street  
Alsip, IL 60803  
(800)323-7063  
[www.gcamerica.com](http://www.gcamerica.com)
12. **Fuji IX GP Extra**  
GC America Inc.  
3737 W 127<sup>th</sup> Street  
Alsip, IL 60803  
(800)323-7063  
[www.gcamerica.com](http://www.gcamerica.com)
13. **G5 All-Purpose Desensitizer**  
Clinician's Choice Dental Products  
167 Central Avenue, Suite 200  
London, ON N6A 1M6  
Canada  
(800)265-3444  
[www.clinicianschoice.com](http://www.clinicianschoice.com)
14. **GLUMA Desensitizer**  
Kulzer, LLC  
4315 S. Lafayette Blvd.  
South Bend, IN 46614  
(800)431-1785  
[www.kulzer.com](http://www.kulzer.com)
15. **Glu/Sense Dentin Desensitizer**  
Centrix, Inc.  
770 River Road  
Shelton, CT 06484  
(203)929-5582  
[www.centrixdental.com](http://www.centrixdental.com)

16. **Harmonize**  
Kerr Corporation  
200 S. Kraemer Blvd, Bldg E2  
Brea, CA 92821  
(800)537-7123  
[www.kerrdental.com](http://www.kerrdental.com)
17. **IonoStar Plus**  
VOCO America, Inc.  
1245 Rosemont Drive  
Suite 140  
Indian Land, SC 29707  
(888)658-2584  
[www.voco.com](http://www.voco.com)
18. **IPC Instrument**  
Local Dealers
19. **IPC Instrument**  
Premier Dental Co.  
1710 Romano Drive  
Plymouth Meeting, PA 19462  
(888)670-6100  
(610)239-6000  
[www.premierdentalco.com](http://www.premierdentalco.com)
20. **Ketac Fil Plus Aplicap**  
3M Oral Care  
2510 Conway Avenue  
St. Paul, MN 55144  
(800)634-2249  
(651)733-1110  
[www.3m.com](http://www.3m.com)
21. **Ketac Nano**  
3M Oral Care  
2510 Conway Avenue  
St. Paul, MN 55144  
(800)634-2249  
(651)733-1110  
[www.3m.com](http://www.3m.com)
22. **Ketac Universal Aplicap**  
3M Oral Care  
2510 Conway Avenue  
St. Paul, MN 55144  
(800)634-2249  
(651)733-1110  
[www.3m.com](http://www.3m.com)
23. **Microbrush**  
Microbrush International  
1376 Cheyenne Avenue  
Grafton, WI 53024  
(866)866-8698  
(262)375-4011  
[www.microbrush.com](http://www.microbrush.com)
24. **MicroPrime G**  
Zest Dental Solutions  
2875 Loker Avenue East  
Carlsbad, CA 92010  
(800)262-2310  
(442)244-4835  
[www.zestdent.com](http://www.zestdent.com)
25. **Midwest 329, 330, ¼, ½ Burs**  
Dentsply Sirona  
13320-B Ballantyne Corporate Pl.  
Charlotte, NC 28277  
(844)848-0137  
[www.dentsplysirona.com](http://www.dentsplysirona.com)
26. **MTA Flow**  
Ultradent Products, Inc.  
505 West Ultradent Drive  
South Jordan, UT 84095  
(888)230-1420  
(801)572-4200  
[www.ultradent.com](http://www.ultradent.com)
27. **OptraSculpt**  
Ivoclar Vivadent Inc.  
175 Pineview Drive  
Amherst, NY 14228  
(716)691-0010  
[www.ivoclarvivadent.us](http://www.ivoclarvivadent.us)
28. **Politip Finishing Cup**  
Ivoclar Vivadent Inc.  
175 Pineview Drive  
Amherst, NY 14228  
(716)691-0010  
[www.ivoclarvivadent.us](http://www.ivoclarvivadent.us)
29. **Riva Self Cure HV**  
SDI North America Inc.  
1279 Hamilton Pkwy  
Itasca, IL 60143  
(800)228-5166  
(630)361-9200  
[www.sdi.com.au](http://www.sdi.com.au)
30. **Scotchbond Universal**  
3M Oral Care  
2510 Conway Avenue  
St. Paul, MN 55144  
(800)634-2249  
(651)733-1110  
[www.3m.com](http://www.3m.com)
31. **Tapered Diamond**  
Premier Dental Co.  
1710 Romano Drive  
Plymouth Meeting, PA 19462  
(888)670-6100  
(610)239-6000  
[www.premierdentalco.com](http://www.premierdentalco.com)
32. **Tapered Diamond**  
Various Manufacturers
33. **TheraCal LC**  
BISCO Dental Products  
1100 West Irving Park Road  
Schaumburg, IL 60193  
(800)247-3368  
[www.bisco.com](http://www.bisco.com)

34. **7901 Trimming & Finishing Bur**

Dentsply Sirona  
13320-B Ballantyne Corporate Pl.  
Charlotte, NC 28277  
(844)848-0137  
[www.dentsplysirona.com](http://www.dentsplysirona.com)

35. **Ultra-Etch**

Ultradent Products, Inc.  
505 West Ultradent Drive  
South Jordan, UT 84095  
(888)230-1420  
(801)572-4200  
[www.ultradent.com](http://www.ultradent.com)

36. **VALO Grand**

Ultradent Products, Inc.  
505 West Ultradent Drive  
South Jordan, UT 84095  
(888)230-1420  
(801)572-4200  
[www.ultradent.com](http://www.ultradent.com)

37. **Vitrebond Plus**

3M Oral Care  
2510 Conway Avenue  
St. Paul, MN 55144  
(800)634-2249  
(651)733-1110  
[www.3m.com](http://www.3m.com)

***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  
Toll Free (800) 223-6569 or Utah Residents (801) 226-6569**

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## PROGRAM

### V3514 The NEW Glass Ionomers Really Work!

#### CLINICIANS RESPONSIBLE:

**Rella P. Christensen, PhD**  
Director, TRAC Research  
Co-Founder, CR Foundation (formerly CRA)

**Gordon J. Christensen, DDS, MSD, PhD**  
CEO, Practical Clinical Courses  
CEO, CR Foundation  
Practicing Prosthodontist, Provo, Utah

#### GOALS & OBJECTIVES

At the completion of this video presentation, viewers should be able to:

1. Discuss the historical perspective of glass ionomer.
2. List previous limitations of glass ionomer materials.
3. List advantages of glass ionomers.
4. Discuss differences between conventional glass ionomers and resin-modified glass ionomers.
5. Name three new brands of conventional glass ionomer.
6. List several old or new resin-modified glass ionomers.
7. Discuss the microbiology of dental caries.
8. Discuss the necessity for disinfection of tooth preparations.
9. Discuss using glass ionomer as a liner.
10. Discuss using glass ionomer as a base.
11. Discuss using **conventional glass ionomer** as a small tooth restoration.
12. Discuss using **resin-modified glass ionomer** as a small tooth restoration.
13. List the steps in the sandwich technique.
14. List the steps in using glass ionomer as a full dentin replacement.
15. Discuss the desirability of educating your patients about glass ionomer restorations.
16. Discuss the need or lack of it for using dentin conditioners before using glass ionomer.
17. List the steps for using glutaraldehyde-containing solutions before placing resin-based composite in a normal depth Class II prep.
18. List the potential reason why glass ionomer has had minimal usage in North America prior to the introduction of the NEW glass ionomers.
19. Discuss how the fluoride ions in glass ionomer can get to the tooth surface when used in the sandwich technique.
20. Compare the marginal adaptation of conventional glass ionomer with composite marginal adaptation.

## OVERVIEW

### V3514 The NEW Glass Ionomers Really Work!

Glass ionomer has not been a popular dental material in North America since its introduction in the 1970s. The reason is primarily the difficult working characteristics of the material. In the past few years, conventional glass ionomers have been significantly improved, allowing them to be reevaluated for use. This presentation includes the following topics:

- The historical perspective of glass ionomer
- Previous limitations of glass ionomer materials
- Advantages of glass ionomers
- Differences between conventional glass ionomers and resin-modified glass ionomers
- Three new brands of conventional glass ionomer
- Several old and new resin-modified glass ionomers
- The microbiology of dental caries
- The necessity for disinfection of tooth preparations
- Using glass ionomer as a liner
- Using glass ionomer as a base
- Using **conventional glass ionomer** as a small tooth restoration
- Using **resin-modified glass ionomer** as a small tooth restoration
- The steps in the sandwich technique
- The steps in using glass ionomer as a full dentin replacement
- Desirability of educating your patients about glass ionomer restorations
- Need or lack of it for using dentin conditioners before using glass ionomer
- The steps for using glutaraldehyde-containing solutions before placing resin-based composite in a normal depth Class II prep
- The main reason why glass ionomer has had minimal usage in North America prior to the introduction of the NEW glass ionomers
- How the fluoride ions in glass ionomer can get to the tooth surface when used in the sandwich technique
- The marginal adaptation of conventional glass ionomer with composite marginal adaptation

## SUPPLEMENTAL MATERIALS

### V3514 The NEW Glass Ionomers Really Work!

1. Fuhrmann D, Murchison D, Whipple S, and Vandewalle K. [Properties of New Glass-Ionomer Restorative Systems Marketed for Stress-Bearing Areas](#). Oper Dent. Jan/Feb 2020;45(1):104-110.
2. Rajić VB, Malčić AI, Kötök ZB, Gurgan S, Jukić S, and Miletić I. [Compressive Strength of New Glass Ionomer Cement Technology based Restorative Materials after Thermocycling and Cyclic Loading](#). Acta Stomatol Croat. 2019 Dec;53(4):318-325.
3. Ilie N. [Maturation of restorative glass ionomers with simplified application procedure](#). J Dent. 2018 Dec;79:46-52.
4. Ching HS, Luddin N, Kannan TP, Rahman IA, and Abdul Ghani NRN. [Modification of glass ionomer cements on their physical-mechanical and antimicrobial properties](#). J Esthet Restor Dent. 2018 Nov;30(6):557-571.
5. Jones G and Taylor G. [Glass ionomer or composite resin for primary molars](#). Evid Based Dent. 2018 Oct;19(3):86-87.
6. Christensen GJ. [Ask Dr. Christensen: Resin-modified glass ionomer versus flowable as a liner or base](#). Dental Economics. 2012 Oct;102(10):36-43.
7. Christensen GJ. [Compomers vs. resin-reinforced glass ionomers](#). J Am Dent Assoc. 1997 Apr;128(4):479-80.
8. Christensen GJ. [Why is glass ionomer cement so popular?](#) J Am Dent Assoc. 1994 Sep;125(9):1257-8. doi: 10.14219/jada.archive.1994.0156.
9. Christensen GJ. [Glass ionomer-resin: a maturing concept](#). J Am Dent Assoc. 1993 Jul;124(7):248-9. doi: 10.14219/jada.archive.1993.0270.
10. Christensen GJ. [Glass ionomer as a luting material](#). J Am Dent Assoc. 1990 Jan;120(1):59-62. doi: 10.14219/jada.archive.1990.0005.



## POST-TEST

### V3514 The NEW Glass Ionomers Really Work!

1. Conventional glass ionomer in its original form was:
  - a. sticky.
  - b. difficult to adapt to tooth preparation walls.
  - c. opaque.
  - d. all of the above.
  
2. Conventional glass ionomers:
  - a. wear in service similar to composite.
  - b. have more opacity than typical composites.
  - c. are all triturator activated.
  - d. cannot be hand mixed.
  
3. Conventional glass ionomers:
  - a. are weaker than resin-modified glass ionomers.
  - b. can be cured with light.
  - c. have a short setting time.
  - d. none of the above.
  
4. The NEW generation of conventional glass ionomers is:
  - a. stronger than the older ones.
  - b. faster setting than the older ones.
  - c. more putty-like than the older ones.
  - d. all of the above.
  
5. The conventional glass ionomer brand used for the ART technique was:
  - a. Fuji I.
  - b. Fuji II LC.
  - c. Ketac Nano.
  - d. Fuji IX.
  
6. Resin-modified glass ionomers have \_\_\_\_\_% of resin.
  - a. 10
  - b. 20
  - c. 30
  - d. 40
  
7. Conditioners for resin-modified glass ionomers:
  - a. are mandatory.
  - b. are phosphoric acid.
  - c. are elective.
  - d. should be left on the prep for 40 seconds.

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

**V3514 The NEW Glass Ionomers Really Work!**

- 8. Glutaraldehyde-containing materials (Gluma, G5, MicroPrime, and Glu/Sense):
  - a. are not dangerous.
  - b. should not be allowed to get on soft tissue.
  - c. should be left on the prep for 2 continuous minutes.
  - d. need to be agitated when applied to the prep.
  
- 9. When applying glutaraldehyde and a liner:
  - a. the glutaraldehyde is the first material to use on the prep.
  - b. the glutaraldehyde and the liner material are mixed and applied together.
  - c. the liner goes on the prep before the glass ionomer.
  - d. the sequence of placement does not matter.
  
- 10. Use of conventional or resin-modified glass ionomer:
  - a. are both acceptable for all classifications of preps.
  - b. are only for Class V situations.
  - c. should be used primarily in only small Class I and II preps.
  - d. do not wear appreciably on occlusal surfaces.

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The test is complimentary for the purchaser. *If you require CE tests for staff members or an additional doctor to receive credit, the fees are:*

**Dentist** (limit 1 additional dentist per video purchase): \$25

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