

PRACTICAL CLINICAL COURSES

A Service of the Gordon J. Christensen
Career Development Program

V1927

Alginate Impressions – Predictable & Accurate

Gordon J. Christensen, DDS, MSD, PhD

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Sources of Products Discussed in

V1927 Alginate Impressions – Predictable & Accurate

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

1. **Accu-Tray**
Ivoclar Vivadent, Inc.
175 Pineview Drive
Amherst, NY 14228
(800)533-6825
(716)691-0010
www.ivoclarvivadent.us.com
2. **AL-Free Oral Rinse**
Henry Schein, Inc.
135 Duryea Road
Melville, NY 11747
(800)582-2702
(631)843-5500
www.henryschein.com
3. **Alginate Spatula**
Dux Dental
600 East Hueneme Road
Oxnard, CA 93033-8600
(800)833-8267
(805)488-1122
www.duxdental.com
4. **Alginator II**
Cadco Dental Products, Inc.
600 East Hueneme Road
Oxnard, CA 93033-8600
(800)833-8267
(805)488-1122
www.cadcodental.com
5. **Alginot**
Kerr Corporation
1717 West Collins Avenue
Orange, CA 92867
(800)537-7123
(714)516-7400
www.kerrdental.com
6. **Almore Surfactant**
Almore International, Inc.
P.O. Box 25214
Portland, OR 97298-0214
(800)547-1511
(503)643-6633
www.almore.com
7. **Alpha Triple Tray**
Premier Dental Products Co.
1710 Romano Drive
Plymouth Meeting, PA 19462
(888)670-6100
(610)239-6000
www.premusa.com
8. **COE Alginate**
GC America, Inc.
3737 West 127th Street
Alsip, IL 60803
(800)323-3386
(708)597-0900
www.gcamerica.com
9. **COE Tray Cleaner**
GC America, Inc.
3737 West 127th Street
Alsip, IL 60803
(800)323-3386
(708)597-0900
www.gcamerica.com
10. **Combination Mixer**
Whip Mix Corporation
361 Farmington Avenue
P.O. Box 17183
Louisville, KY 40217
(800)626-5651
(502)637-1451
www.whipmix.com
11. **Crest Pro-Health**
Procter & Gamble
2 Procter & Gamble Plaza
Cincinnati, OH 45202
(800)543-2577
(513)983-1100
www.dentalcare.com
12. **Disposable Impression Trays**
Local Dealer
13. **Disposable Mixing Bowls**
Disposa-Bowl
P.O. Box 50154
Irvine, CA 92619-0154
(714)803-9837
disposabowl@aol.com
14. **Hold Spray-On Tray Adhesive**
Waterpik Technologies Inc.
1730 East Prospect Road
Fort Collins, CO 80553-0001
(800)525-2020
(970)484-1352
www.waterpik.com
15. **Impression Trays**
GC America, Inc.
3737 West 127th Street
Alsip, IL 60803
(800)323-3386
(708)597-0900
www.gcamerica.com
16. **Jeltrate Plus**
Dentsply Caulk
38 West Clarke Avenue
Milford, DE 19963-0359
(800)532-2855
(302)422-4511
www.dentsply.com

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|---|--|
| <p>17. Position Penta Quick
 3M ESPE Dental Products
 3M Center
 Bldg. 275-02-SE-03
 St. Paul, MN 55144-1000
 (800)634-2249
 (651)575-5144
 www.3mespe.com</p> | <p>21. Silgimix
 Sultan Healthcare, Inc.
 85 West Forest Avenue
 Englewood, NJ 07631
 (800)637-8582
 (201)871-1232
 www.sultanhealthcare.com</p> |
| <p>18. Preppies
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 361 Farmington Avenue
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 (502)637-1451
 www.whipmix.com</p> | <p>22. Status Blue
 Zenith Dental
 242 South Dean Street
 Englewood, NJ 07631
 (800)662-6383
 (201)894-5500
 www.zenithdental.com</p> |
| <p>19. ResinRock
 Whip Mix Corporation
 361 Farmington Avenue
 P.O. Box 17183
 Louisville, KY 40217
 (800)626-5651
 (502)637-1451
 www.whipmix.com</p> | <p>23. Triphasix Alginate
 Parkell Inc.
 300 Executive Drive
 Edgewood, NY 11717
 (800)243-7446
 (631)249-1134
 www.parkell.com</p> |
| <p>20. Rim-Lock Impression Trays
 Dentsply Caulk
 38 West Clarke Avenue
 Milford, DE 19963-0359
 (800)532-2855
 (302)422-4511
 www.dentsply.com</p> | <p>24. TurboMAX Raintree Essix
 Dentsply International
 221 West Philadelphia Street
 P.O. Box 872
 York, PA 17405-0872
 (800)877-0020
 (717)845-7511
 www.dentsply.com</p> |
| | <p>25. Utility Wax Round Strips
 Coltene/Whaledent
 235 Ascot Parkway
 Cuyahoga Falls, OH 44223
 (800)221-3046
 (330)916-8800
 www.coltenewhaledent.com</p> |

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PROGRAM

V1927 Alginate Impressions - Predictable & Accurate

CLINICIAN RESPONSIBLE

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, participants should be able to accomplish the following:

1. State the importance of alginate impressions in a typical practice.
2. List the major uses for alginate impressions.
3. List and discuss the most significant errors associated with alginate impressions.
4. Discuss differences among alginate impression materials.
5. Describe the characteristics of alginate alternatives.
6. Compare the cost of an alginate impression with the typical alginate alternative materials.
7. List and compare the various impression trays for alginate.
8. Describe fitting the impression tray into the mouth.
9. Describe the necessary characteristics of mixing alginate by hand.
10. Describe two mechanical alginate mixers.
11. Compare hand mixing with mechanical alginate mixing.
12. Discuss the psychology of making an alginate impression.
13. Discuss making alginate mandibular impressions.
14. Discuss making alginate maxillary impressions.
15. List, describe, and discuss the suggested technique for making alginate impressions.
16. Describe the eventual result of not washing out the alginate impression after taking it out of the mouth.
17. Describe how wet or dry the impression should be when storing it before pouring.
18. Discuss the challenges related to disinfecting alginate impressions.
19. Describe how to store alginate impressions before pouring.
20. List the characteristics of an ideal alginate impression.

OVERVIEW

V1927 Alginate Impressions - Predictable & Accurate

Alginate impressions are among the most commonly accomplished techniques in the dental profession. They are usually accomplished by dental assistants or dental hygienists, and occasionally by dentists. Many staff members making alginate impressions initially are relatively unfamiliar with the material or the correct procedure to make an impression, and the result can be an inadequate impression.

Alginate impressions influence all aspects of dentistry, with the major use being in all areas of prosthodontics, operative dentistry, orthodontics, and pediatric dentistry. Inadequate alginate impressions can cause misfitting tooth restorations or prostheses, improper forces in orthodontics, inadequate fit of occlusal splints, improper diagnosis and treatment planning, and many other undesirable situations. Making adequate alginate impressions is not difficult, but numerous careful steps and precautions need to be made to ensure that a good alginate impression is made.

Numerous replacement materials are available for alginate impressions, and they provide the following advantages:

- No Dust
- Fast Set
- Less Clean-Up than Alginate
- Can Be Repoured
- No Time Constraints on Pouring
- Can Be Disinfected without Distortion

However, most dentists continue to use alginate. Perhaps one of the reasons is cost. The following algebraic comparison shows the relative cost of alginate and the replacement products:

- The cost of a typical full-arch alginate impression is very inexpensive. We will give it a value of X or about one US dollar.
- When determining the cost of 5 current brands of alginate replacements, the costs were 2.52X, 3.24X, 4.14X, and 4.51X.
- Are the alginate replacement advantages worth the extra cost?
- The conclusion is that most dentists have preferred to use alginate.

The following characteristics exemplify an ideal alginate impression:

- There are no bubbles.
- Muccobuccal fold is recorded accurately.
- Muscle attachments are recorded accurately.
- The impression is smooth.
- The impression material is not separated from the tray.
- There is no debris incorporated into the material.
- There are no folds in the material.

OVERVIEW (CONT'D)

V1927 Alginate Impressions - Predictable & Accurate

The following steps are necessary to make the ideal alginate impression:

- Select the proper tray.
- Rinse the mouth carefully before making the impression.
- Clean the debris off teeth.
- Use a mechanical mixer such as Cadco, Dentsply, or Whip Mix.
- Make the mandibular impression first.
- Blow the saliva and debris off teeth.
- Rub the alginate on the occlusal surfaces of the teeth.
- Seat the impression properly.
- Border mold the impression.
- Leave the impression in the mouth 2 minutes after the initial gel.
- Fill the lower lingual space with excess alginate from the maxillary impression.
- Rinse the impression thoroughly.
- Dry the impression until the shine is gone.
- Store the impression in a sealed plastic bag with a few drops of water.
- Pour the impression as soon as possible.

This program demonstrates all of the previously described characteristics in close-up live activity.

REFERENCES

1. A clinical and laboratory comparison of alginate impression techniques. Washington DC: Army Inst of Dental Research; September 1981. Accession Number: ADA105443
2. Hirobumi U, Hiraguchi H, Hisami N, Naoki T, Hiroyoshi H. A study on retention of impression trays. Retention of perforated metal trays to alginate impression materials as a function of combination of diameters and intervals. Japanese Journal of Conservative Dentistry 2001; 44 (1): 48-55.
3. Kim JH, Chung MK. Comparison of the accuracy of stone casts made from alginate impression material by mixing methods and application of tray adhesive. J Korean Acad Prosthodont. 2001 Oct; 39 (5): 492-501.
4. Ryu HS, LIM HS, Lim JH, Cho IH. A study on the void formation and detail reproduction according to the various impression materials and mixing methods. J Korean Acad Prosthodont 2002 Apr; 40 (2): 140-155.
5. Khaknegar B, Ettinger RL. Removal time: a factor in the accuracy of irreversible hydrocolloid impressions. Journal of Oral Rehabilitation 1977; 4(4):369-376.
6. Cohen BI, Pagnillo M, Deutsch AS, Musikant BL. Dimensional Accuracy of Three Different Alginate Impression Materials. Journal of Prosthodontics 1995; 4(3): 195-199.

POST-TEST

V1927 Alginate Impressions - Predictable & Accurate

1. Alginate impression materials can have:
 - a. color changing properties as the material sets.
 - b. fast or regular set.
 - c. hand or mechanical mixing.
 - d. color and taste added.
 - e. all of the above.

2. Positive bubbles on the surface of a stone cast were probably caused by:
 - a. improper pouring of the impression.
 - b. the alginate mix being too thin.
 - c. not rubbing alginate impression material on the occlusal surfaces of the teeth.
 - d. the alginate mix being too thick.

3. Negative bubbles (holes) in the stone cast were probably caused by:
 - a. the alginate mix being too thin.
 - b. not rubbing alginate impression material on the occlusal surfaces of the teeth.
 - c. the alginate mix being too thick.
 - d. improper pouring of the impression.

4. Alternative materials for alginate are usually:
 - a. polyether.
 - b. vinyl polysiloxane.
 - c. reversible hydrocolloid.
 - d. none of the above.

5. Mixing alginate mechanically can produce an impression mix that:
 - a. sets slower.
 - b. has less surface detail.
 - c. is extremely smooth.
 - d. is less expensive than hand mixing.

6. When making alginate impressions, the following is true:
 - a. the maxillary impression should be made before the mandibular impression.
 - b. the powder should be placed in the mixing bowl before the water.
 - c. the mandibular impression should be made before the maxillary impression.
 - d. the impression should be placed in the back of the mouth first.

7. Alginate impressions should be made:
 - a. with the patient in a supine position.
 - b. with cold water.
 - c. before cleaning the teeth.
 - d. with the patient in a sitting position.
 - e. with warm water.

POST-TEST (CONT'D)

V1927 Alginate Impressions - Predictable & Accurate

- 8. Washing the impression after taking it from the mouth:
 - a. removes all of the microorganisms.
 - b. removes the majority of the debris.
 - c. does not remove the mucous from the impression.
 - d. is not always necessary.

- 9. Before storing the impression, it should be:
 - a. dried thoroughly.
 - b. allowed to remain in a paper towel moistened with water.
 - c. placed in a very moist environment.
 - d. placed in a sealable plastic bag with a few drops of water.

- 10. When mixed with water, alginate impression materials have:
 - a. very good long-term stability.
 - b. poor long-term stability.
 - c. usefulness in only a few areas of dentistry.
 - d. the ability to be toxic, if swallowed.

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