2016 *CDA Presents* in Anaheim

Provisional Restorations for Today's Restorative Practice

Thomas R. McDonald, DMD

Saturday, May 14, 2016
8 – 11 a.m.
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California Dental Association
1201 K Street, 14th Floor
Sacramento, CA 95814

916.443.0505
800.232.7645
916.443.2943 fax
cda.org

California Dental Association Meeting

May 14, 2016

Provisional Restorations for Today's Restorative Practice

Thomas R. McDonald, D.M.D.
1010 Prince Avenue
Athens, Georgia 30606
706-543-8208
tmcdent@aol.com
drthomasmcdonald.com

Provisional restorations provide many valuable functions in restorative dentistry. They can be used to diagnostically establish vertical dimension of occlusion, tooth contour, tooth position, incisal edge position, incisal guidance, phonetics, and esthetics. More directly, they provide sealing of the prepared tooth structure for pulpal protection. Maintenance of tooth position and enhancement of gingival health are also advantages of well-constructed provisional restorations.

Provisional restorations may be fabricated directly in the mouth or in the laboratory on stone casts. Diagnostic desires, complexity, and provisional time determine the technique used for fabrication. The following is a clinical guide for fabrication of customized provisional restorations.

Clinical Guide

Direct Technique

INDICATIONS: One and two teeth crowns, inlays, onlays, and short bridges.

MATERIALS: Matrix Button®, mineral oil, bis-acryl provisional material, burs, flour pumice, lathe with rag wheel, articulating ribbon, provisional cement.

ADVANTAGES: Quick, simple technique. Minimal preparation prior to patient appointment. Can be used when fractured teeth are present.

PROCEDURE: 1. Heat Matrix Button® hot tap water, fold and knead to create a ball.

2. Form (by hand) over the tooth or teeth to be prepared or over a stone cast of the teeth to be prepared. Ignore fractured cusps or missing restorations. Make sure to include adjacent teeth. If the matrix is formed on a model, place it into the mouth prior to tooth preparation to confirm fit and practice path of insertion.
3. Trim/scoop out areas that are fractured and gingival neck around the tooth with a hot wax spatula.
4. If necessary, trim the matrix with wax scissors 3 mm. below the gingival margins.
5. After tooth preparation and retraction cord placement, lubricate the preparation ***and the matrix*** with mineral oil on a cotton pellet.

6. Mix provisional material and place a small amount on the patient napkin.
7. Fill the appropriate tooth area of the matrix.
8. Place matrix onto the quadrant of the prepared teeth, place a cotton roll over the matrix and instruct the patient to close lightly.
9. Test the piece of material on the patient napkin. Use this piece as an indicator of setting time (usually approximately 30 seconds).
10. Remove the matrix from the teeth.
11. In most cases the provisional will come out in the matrix.
12. Set aside in a cup of chemical disinfectant/water.
13. Mark proximal contacts with a red wax pencil. Trim margins with a large acrylic carbide bur. Relieve the occlusal surfaces 0.5 mm. With the same bur. Relieve internal line angles with a #6 or #8 round bur.
14. Polish with flour pumice on a rag wheel.
15. Return to operatory in the same disinfectant cup.

Hybrid Technique

INDICATIONS: Multiple Individual crowns and short bridges, usually within one sextant.

MATERIALS: Diagnostic cast and/or wax-up, silicone putty, mineral oil, bis-acryl provisional material, burs, flour pumice, lathe with rag wheel, articulating ribbon, provisional cement.

ADVANTAGES: Efficient chairside technique for multiple units. Can be used for anterior esthetic cases.

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PROCEDURE:

1. Form silicone material (by hand) over the tooth or teeth to be prepared. Make sure to include adjacent teeth. After the matrix is formed on a model, place it into the mouth prior to tooth preparation to confirm fit and practice path of insertion.
2. Trim/scoop out the sulcus area inside the matrix with a bard parker knife.
3. Trim the extension of the matrix 1½ teeth beyond the teeth to be prepared and 3 mm. below the gingival margins.
4. After tooth preparation, lubricate the preparation with mineral oil on a cotton pellet. Do not lubricate the silicone matrix.
5. Mix provisional material and place a small amount on the patient napkin.
6. Fill the appropriate tooth area of the matrix.
7. Inject provisional material into the proximal spaces of the prepared teeth.
8. Place matrix onto the quadrant of the prepared teeth. Hold in place firmly.
9. Test the piece of material on the patient napkin. Use this piece as an indicator of setting time (usually approximately 30 seconds).
10. Remove the matrix from the mouth.
11. In most cases the provisional will come out in the matrix.
12. Set aside in a cup of alcohol.
13. Follow trimming steps below.
14. Polish with flour pumice on a rag wheel.
15. Return to operatory in the same disinfectant cup.

Trimming Procedure

1. Mark proximal contacts and margins with a wax pencil.
2. Hold restoration with incisal/occlusal surfaces down.
3. Trim outside accessible margins with large acrylic trimming diamond.
4. Trim proximal embrasures with diamond disc. Use both sides of the disc to avoid turning the restoration as much as possible.
5. Blend line angles, relieve occlusal surfaces, and relieve internal surfaces. Use second cast as a trimming/fitting die.
6. Smooth gingival embrasures with pyramid diamond. Leave teeth splinted if possible.

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7. Polish with flour pumice on a lathe/rag wheel.

Cementation Procedure

1. Seat crown and adjust occlusion.
2. Re-polish.
3. Isolate tooth and dry.
4. Apply two coats of cavity varnish or dentin sealant to the tooth.
5. Cement with Durelon®.
6. Remove excess cement at rubber stage.

Note: In critically esthetic areas, the opaque white shade of Durelon® may show through a thin section of acrylic. In most cases, cavity varnish and glass ionomer or clear resin cement may be used as a substitute

Provisionals for Bonded Restorations

Direct fabrication-Indirect trimming	**Direct fabrication-Direct trimming**	**Direct light-cured fabrication-Direct trimming**
Silicone matrix of wax-up, trimmed, and tried into the mouth	Silicone matrix of wax-up, trimmed, and tried into the mouth	Clear silicone matrix of wax-up, trimmed, and tried into the mouth
Lubricate teeth with mineral oil	Spot etch each tooth	Spot etch each tooth
Load matrix with bis-acryl and seat firmly into mouth	Apply enamel bonding agent	Apply enamel bonding agent
Allow for initial set and remove	Load matrix with bis-acryl	Load matrix with light-cured composite and seat firmly
Trim and polish	Allow for complete set	Cure through the matrix
Spot etch and bond with resin cement or cement alone	Remove matrix, trim, and polish with composite finishing instruments	Remove matrix, finish and polish

>>>>>>>>>>>>>>>>>>>>>>>>> Difficulty to remove >>>>>>>>>>>>>>>>>>

Trouble Shooting

Problem	Diagnosis	Solution
Bubble, hole, or crack in acrylic	Thin matrix, inadequate reduction, trapped air	Roughen area, apply bonding agent, add composite
Restoration will not seat in the mouth	Internal bubble, distortion or undercut preparation	Relieve acrylic aggressively on all internal surface
Lack of occlusion	Improper wax-up or mounting, over-seating of matrix	Add composite directly in the mouth
Open margin, short margin, open contact	Inadequate impression or over trimming	Add composite on model or in mouth
Occlusal surfaces and embrasures shifted	Matrix "frameshift"	Remake
Bubbles in model	Thick mix of stone	If not margins, fabricate and relieve
Esthetic discrepancy	Patient desires	Add composite/reshape

Materials

Cast stone	Silky Rock-White	Whip-Mix Corp. P.O. Box 17183 Louisville, KY 40217
Quick set stone	Kerr Sno-White #2	Kerr Manufacturing Co. 1-800-KERR-123
Quick set stone	Earth Stone	Tak Systems Densply Raintree Essix www.essix.com
Thermo-plastic matrix	Matrix Buttons	Advantage Dental Products Lake Orion, MI 48361 1-800-338-6319
Cast Lubricant	Separating Fluid	Ivoclar-Vivadent Inc. 1-800-5DENTAL

		ivoclarvivadent.com
Laboratory Putty	Sil-Tek	Ivoclar-Vivadent
Laboratory Putty	3M Express Bite Registration	3MESPE
Laboratory Putty	Genie	Sultan Chemists
Provisional Resin	Pro-Temp Plus (bis-acryl)	3M/ESPE St. Paul, MN 55144-1000
Provisional Resin	Systemp (bis-acryl)	Ivoclar-Vivadent
Provisional Resin	Luxatemp (bis-acryl)	Zenith/Foremost 1-800-622-6383
Provisional Resin	Versa-Temp (bis-acryl) TempArt (methyl-methacrylate)	Sultan Chemists 85 West Forest Englewood, NJ 07631 800-637-8582
Prefabricated Resin Crown	Protemp Crown	3M/ESPE St. Paul, MN 55144-1000
Provisional Resin Intra-coronal	Systemp Inlay-Onlay	Ivoclar-Vivadent
Characterizing Resin	Tetric Color	Ivoclar-Vivadent
Cement Separator	Handi Liner II Cavity varnish Copalite	Mizzy Inc. Cherry Hill, NJ 1-800-333-3131 www.keystoneind.com
Provisional Cement	Systemp Link	Ivoclar-Vivadent
Provisional Cement	Temp Advantage	GC America
Provisional Cement	Durelon	3M-ESPE
Contouring burs	H79EF.HP.040 Tapered carbide 6924.180 Diamond Disc H79GE.HP.070 Tapered carbide H1.HP.023 Round carbide H251ACR.060 Tapered carbide **Thomas R. McDonald DMD** **Provisional System Kit**	Komet USA www.komet-usa.com

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