



# PROVISIONAL PROSTHODONTIC THEORY

*Instructor Guide*

2<sup>nd</sup> Edition

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# **Provisional Prosthodontic Theory**

## **Instructor Guide**

2nd Edition

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## **Course Provider's Responsibilities**

Using the course materials available as curriculum publications through Okanagan College bookstore, the course provider must coordinate the planning and delivery of the Prosthodontic Theory and Clinical courses. Management of the theory course includes registering participants, shipping course materials, providing a tutor and evaluating the practices exercises, assignment and final examination. A review session held at the course provider's facility is suggested. When participants successfully complete the theory course, they should be given detailed information about the clinical course, including course dates and locations. In preparation for the clinical sessions, the course provider must arrange a suitable facility, ensure that all supplies and equipment are available, hire qualified instructors, and manage the registration and sending out of clinical course materials.

The course provider is also responsible for tracking the evaluation of learners throughout all phases of the course. Providers are ultimately responsible for recommending to the College of Dental Surgeons of BC the names of successful CDAs who will receive the prosthodontic designation on their certificate.

## **Instructor's Responsibilities**

Instructors are responsible for teaching the clinical skills to course participants. Most instructors will have teaching experience and some formal instructor education, and they will have at least a basic level of competence with the prosthodontic skills.

Instructors are responsible for maintaining current theoretical knowledge and for evaluating participants' clinical skills using the evaluation forms in Clinical Course Study Guide. Instructors are expected to monitor the professionalism and safety of learners.

When instructors and participants are working in a clinic, they must wear a uniform (uniforms should not be worn outside of the clinic), proper duty shoes as described by WCB (for example, white leather shoes with a low heel dedicated to the work environment and not worn outside), safety glasses, mask, gloves and a name tag.

## **Equipment and Supplies Needed**

### **Facility**

Dental Operatory with chair, light, evacuation system, slow and high speed handpieces, air water syringe, and counter space.

### **Equipment**

Vacuum formers, lathe, rag wheels.

### **Materials and Related Armamentarium**

- Coping material
- Impression material – examples include alginate, putty, polysiloxane, bite registration, wax and assorted mixing bowls, spatulas, disposable tips, measure devices, extruder guns
- Acrylic material with dappen dishes, spatulas, eyedropper
- Bisacryl material with extruder gun and disposable tips
- Lubricant/separating medium
- Provisional cement with mixing pads, spatula

### **Supplies and Instruments**

- Infection control supplies
- Disposable paper supplies
- Crown and collar scissors
- Quadrant trays
- Sandpaper disks in assorted sizes and grits
- Pumice
- Small brush for application of acrylic shades and refinement of margins
- Floss, bridge threaders and superfloss
- Articulating paper
- Instrument for applying provisional cement

- Instruments for removing provisional cement
- Instrument for removing provisionally cemented provisional restorations
- Instrument for packing cord
- Acrylic burs
- Diamond burs and disks
- Finishing burs
- Pencils for defining margins
- Bagged/sterilized mouth mirrors and instruments for intra-oral cement removal
- Preformed shells
- Gingival retraction cord

### **Teaching Aids**

- Models – one set Prepared and one set Unprepared per student minimum.  
Suggestion – have extra models in case one breaks or a provisional gets locked on.
- Models showing various margin designs
- Final impressions to demonstrate margin designs
- Various FPDs showing acceptable and poor pontic design
- Various single-units showing margin design
- Various gingival retraction systems



## **Teaching Plan and Strategies**

- Welcome and introduction of instructors and learners
- Tour of facility and work stations
- Any final registration/administration paperwork
- Hand out of health history forms to be completed
- Quick review of information received prior to the course
- Phases of the course
- Schedule and outline
- Responsibilities of learners
- Clinical course assignments and evaluation mechanics
- Pros and cons of working on models versus live patients
- Emphasis on learners being prepared for all sessions and ready to start on time

Assumption is that all students have limited prosthodontic experience and all have done the required prosthodontic exercises, assignment and observations.

## Answer Key to Case Study Assignment

Note: marks are indicated in brackets at the end of each answer.

### Initial Consultation Appointment

1. Preventive measures for latex allergy:
  - Avoid wearing latex gloves – use vinyl or nitrile gloves instead.
  - Use a non-latex dental dam.
  - The most desirable resin material for fabricating the provisional is a light-cured composite.
  - The most desirable procedure would be the indirect technique. (3 marks)
2. Shades should always be taken at the beginning of the consultation appointment. Teeth can dry out from exposure to air and the dental light during the appointment, and a shade taken later in the appointment will likely be too light. (2 marks)
3. The sequence of how the impression should be handled is: rinsed, disinfected, and gently dried. (3 marks)

### Prior to the Tooth Preparation Appointment

4. The custom tray should be fabricated on the original model. (1 mark)
5. The vacuum form should be fabricated on the model of the duplicate of the wax-up. (1 mark)
6. Kathy did not trim the vacuum-formed matrix correctly. The lingual and buccal extensions are too long. To smooth the edges, small scissors can be used. (2 marks)
7. In addition to a vacuum former, other indirect methods for fabricating an ESF matrix include: a preform system, putty and wax. (3 marks)
8. If Kathy was going to use reversible hydrocolloid for the impression, no custom tray would be required. (1 mark)
9. There should be three stops on the custom tray on teeth not involved in the preparation, such as #4.7, #4.5, #3.4 or #3.8. (2 marks)

## **Tooth Preparation Appointment**

10. When selecting the shade, the teeth should be wet and a dental light should not be used. (2 marks)
11. She should lubricate the prepared teeth. (1 marks)
12. Kathy should have applied the filled matrix to the prepared teeth after the material started to lose its shiny appearance. (1 mark)
13. Pressure should be applied over the abutment teeth when seating the matrix, not the pontic area. (1 marks)
14. Removing the acrylic-filled matrix as it undergoes its initial set will result in distortion. The acrylic will shrink and distort as it continues to set. (1 mark)
15. She should put the acrylic form in a warm-water bath. (1 mark)
16. Margins, contacts, and the pontic area should be marked with a pencil prior to trimming. (3 marks)
17. The criteria for meeting the three requirements for Ella's provisional pontic are:
  - Biologic requirement: the pontic is cleansable.
  - Mechanical requirement: the pontic is rigid and strong.
  - Aesthetic requirement: the pontic is aesthetically acceptable. (3 marks)
18. Safety precautions for intra-orally seating and removing provisional restorations include:
  - Positioning the patient's head so that if the restoration drops, it lands on the patient's tongue.
  - Orienting the restoration in the fingers so that it fits directly on the prepared tooth.
  - Having cotton pliers available on the tray set-up for emergency retrieval. (3 marks)
19. An explorer is appropriate for assessing marginal fit. (1 mark)
20. She should assess the contacts and occlusion. (2 marks)
21. She should use dental floss and articulating paper to assess the contacts and occlusion. (2 marks)
22. Kathy should have the dentist, Dr. Jamieson, check the fit prior to polishing the provisional. (1 mark)

23. When polishing a provisional, avoid the margins and contact areas because reduction of the acrylic caused by the polishing could alter the fit of the provisional. (2 marks)
24. Before cementing the provisional, Kathy checks for removal of the retraction cord. (1 mark)

### **Cementation of the Provisional Restoration**

25. ZOE is an ideal provisional luting agent because it:
- Is weak, allowing for easy removal.
  - Has a soothing effect on the pulp.
  - Acceptably seals the margins. (3 marks)
26. She forgot to slightly relieve the TSF with a bur to make space for the cement. (1 mark)
27. She didn't correctly apply the cement. She should have placed a small amount of cement in a ring around the inside of the retainers, just occlusal to the margins. (1 mark)
28. Kathy also needs to floss the area and use a floss threader or Superfloss to remove excess cement from under Ella's pontic. (2 marks)
29. Kathy can check for residual cement in the sulcus by:
- Feeling for cement using an explorer.
  - Looking for cement by directing a gentle stream of air into the sulcus. (2 marks)
30. Long-term consequence of leaving residual cement in the sulcus is inflammation, pocket formation, and bone loss. (1 mark)
31. Dr. Jamieson's final check of the cemented provisional FPD includes checking the:
- Provisional for any residual cement
  - Occlusion
  - Contacts
  - Margins
  - Aesthetics
  - Contours (5 marks)

32. Possible consequences of leaving the occlusion too high include:

- Discomfort
- Tooth sensitivity
- Irritation to the periodontal membrane
- Premature fracture of the provisional (3 marks)

33. The student should mention at least three of the following points. Ella's provisional:

- Protects the health of her teeth.
- Maintains her teeth in their current position, which is important for placing the permanent restoration.
- Protects her teeth, which are weaker because of reduced size, against fracture.
- Maintains function of her teeth so that she can eat as usual.
- Maintains her normal appearance so she doesn't feel uncomfortable or self-conscious about her teeth. (3 marks)

### **End of Appointment Procedures**

34. Kathy needs to ensure that Ella knows:

- Which teeth were involved and which tooth is the pontic.
- To avoid sticky foods and hard foods.
- To brush thoroughly around the FPD to remove plaque, but not brush so vigorously so as to remove the water-soluble cement.
- How to floss with a floss threader and to pull the floss through the embrasure rather than back up through the contacts. (4 marks)

35. Prosthodontic procedures included in the chart entry are:

- Shade selection
- All materials used
- Matrix fabrication method or identification number of the stock crown chosen
- Dental laboratory instructions
- Date/time of the appointment for placing the permanent FPD (5 marks)

36. To prepare the final impression for the dental laboratory, Kathy disinfects the impression with a compatible disinfectant and seals the impression in a plastic bag. (2 marks)

**Removal of the Provisional FPD and Cementation of the Permanent FPD**

37. Kathy should have removed the provisional FPD by loosening both retainers a little at a time, then removing the provisional along the line of draw, parallel to the long axis of the tooth. (2 marks)

38. Kathy could also have used a moist cotton pellet to remove the residual cement from the preparations. (1 mark)

39. Drying of the prepared teeth is dependent on the pre-cementation treatment and type of cement used. Some cements require a dry surface for adhesion, others a moist surface. Thorough drying may cause tooth sensitivity and pulpal irritation. (2 marks)

**Total marks: 80 (to be calculated to 40% of final grade).**