PROVISIONAL PROSTHODONTIC THEORY

Assignment and Practice Exercises

2nd Edition

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Contents

Practice Exercises: General Directions

1. Make sure you and your sponsoring dentist sign the practice exercises right after you complete them. By having the dentist look at your practice exercises as you do them, you can take advantage of the dentist's experience and advice.

2. All of your signed practice exercises are to be submitted to your instructor at the end of the course. They are worth 5% of your overall grade.

Please Use the checklist provided to have all exercises signed off and then forward the checklist sheet to your Instructor via E-mail or fax, you will need to have all assignments and case studies submitted prior to proceeding to the Orientation and review session on Moodle.

Practice Exercise 1: Prosthodontic Tray Set-up

Directions

Type your answers to questions 1 and 2; print and attach to this practice exercise page. For example:

- Mouth mirror – to observe (indirect vision) retraction, light reflection and tissue protection.
- Explorer – a multifunctional instrument used in detection.
- Cotton pliers – used to carry, place and retrieve small objects to and from the mouth.
- Temporary cement ZOE – Tempbond – provisional cement.

Exercise

1. a. Your operator will prefer certain instruments over others. List in the order of use the complete armamentarium for a full gold crown preparation on tooth #2.7.

   b. Number the order of use of the instruments in the tray set-up that you listed in part a.

   c. What is the purpose of each instrument and material (include brand names)

2. Compare your office's instrumentation to that used in the textbook in Chapter 8. If your armamentarium varies from the textbook's, indicate in what way. Discuss with your dentist the reasons for his or her preferences and record the reasons.

Practice Exercise 2: Alginate Impressions and Occlusal Registration

Directions

Space is provided on this page for your evaluation of the alginate impression and subsequent occlusal registration. Submit this signed practice exercise to your instructor at the end of the course.

Exercise

In your career, you have probably taken many alginate impressions and occlusal registrations. In preparation for fabricating an alginate provisional matrix, take a single-quadrant alginate impression using the procedure below.

Armamentarium

- Alginate powder with measure
- Alginate bowl and spatula
- Water measure
- Quadrant alginate tray

Procedure

1. Ask a co-worker or colleague to be your patient for this impression.
2. Prepare the alginate.
3. Prepare the impression tray, checking for fit and comfort.
4. Take the impression on the maxillary left quadrant.
5. Care for your patient and disinfect the impression. Record the manufacturer's directions for disinfecting the impression.

6. Evaluate the impression according to the following criteria:
   - Is all necessary anatomy present?

     _____

   - Is tooth #2.7 free of voids and bubbles?

     _____

   - Is the impression distorted in any way?

     _____

   - Is there enough occlusal anatomy or will this require adjustment in the alginate?

     _____

7. Next, take an occlusal registration.
   Armamentarium
   Material: Select one
   - o Yellow occlusal wax in horseshoe shape
   - o VPS material in cartridge in combination with a disposable tip
   - o Other bite registration material _____

   Warm water if using wax
   Extruder gun if using cartridge
   Lab knife for adjustments

Procedure for Wax occlusal registration with some information for VPS material

1. The patient remains in an upright position.
2. Explain the procedure.
3. Try in wax to determine correct length. If correction is needed, use a lab knife to trim excess.
4. Remove wax and have patient practice biting to establish occlusion.
5. Heat wax in warm water.

6. Place the wax on the mandibular occlusal surfaces. If using polysiloxane material, the bite registration material is extruded from the disposable tip directly onto the occlusal surface of the mandibular teeth.
7. Instruct the patient to bite gently in proper occlusion.
8. The wax will take 1-2 minutes to cool, whereas the polysiloxane material must remain in the mouth until the material is set (see manufacturer's directions).
9. Once the material is set, the patient is instructed to open and the material is gently removed. Care for the patient, which includes offering a rinse and a tissue.
10. Inspect the bite registration to make sure all the teeth are included. The occlusal registration is then rinsed, gently dried, disinfected, labeled and stored for future use.

Discuss this evaluation of your impression and occlusal registration with your dentist to ensure that you have correctly judged the criteria. Under the HPA guidelines CDAs can take final impressions; discuss this with your dentist and comment on transferring the skill from using alginate to an elastomeric type of impression material.

Practice Exercise 3: Preformed Crown Forms

Directions

Space is provided on this page for your list of preformed crowns. Submit this signed practice exercise to your instructor at the end of the course.

Exercise

1. Investigate the commercial preformed provisional crowns available in your office and record what is there. If crown forms are not available, talk to your dental supply representative about the various kinds, or refer to a dental supply catalogue and list the different types.

Types of preformed crowns:

Practice Exercise 4: Provisional Dental Materials

Directions

Space is provided here for your responses to questions on your experimentation with acrylic resins.Save the acrylic cube that you make in this exercise because you will need it in the next exercise.

Exercise

In *Provisional Prosthodontic Clinical* you will be fabricating provisionals using acrylic resin and bis-acryl materials. The materials vary depending on aesthetics, the location of the provisional, and the length of time the provisional will be in place. Investigate the resin materials in your office. If some common types of provisional materials are not available, talk to your dental supply representative or refer to a dental supply catalogue and list the different types.

Investigate at least two different brands.

Types of provisional materials.

_____

_____

_____

_____

_____

_____

_____

Note: Since all clinical activities should be done following the correct infection control and barrier techniques, you should be wearing safety glasses, a mask, and clinical gloves to do this exercise.

In preparation for using acrylic resin material at the clinical session, complete the following exercise with a methyl methacrylate or R-methacrylate material.

Armamentarium

- Acrylic resin material
- Manufacturer's directions
- Spatula
- Small disposable container for mixing such as a dappen dish

Part 1 Procedure

1. Measure a small portion of acrylic resin. You may find this material has a strong smell. Use in a well-ventilated area if possible.
2. In a container, combine the polymer and monomer according to the manufacturer's directions, and write these out on a procedure card.
3. Leave the mixture in the disposable container.
4. Time the set of the material.
5. Examine the set material:
   a. Describe what the material feels like. Smooth? Porous?

   b. Do you notice that the material has shrunk away from the sides of the container? What could this shrinking reaction do to a provisional matrix?

Part 2 Procedure

1. Measure out a small portion of acrylic resin, enough to make a half-inch cube.
2. Mix polymer and monomer following the manufacturer's directions.
3. Lubricate your fingers with petroleum jelly. When the material reaches the putty stage, remove it from the mixing container and shape it into a cube. Continue to manipulate the material during the setting process.
4. Once it is fully set, save your cube for the next practice exercise.
5. Record your observations:

a. Describe how the material felt as it changed from the putty stage to the hard-set stage.

_____

_____

_____

b. Did you notice an exothermic reaction? _____

c. How might this reaction affect the prepared teeth?

_____

_____

Practice Exercise 5: Trimming and Polishing a Block of Acrylic

Directions

Bring the acrylic “marble” that you fabricate to the clinical weekend to be reviewed by the instructors. Or take a picture of your fabrication and E-mail it to your Instructor prior to the clinic weekend for feedback.

Exercise

Armamentarium

- Acrylic cube fabricated in Practice Exercise 4
- Slow-Speed handpiece
- Coarse, medium, and fine sandpaper disks
- Pumice and a rag wheel

This exercise will give you the feel of using a handpiece to trim acrylic resin.

Note: Gloves, mask, and safety glasses should be worn. Care must be taken when using a handpiece to avoid accidentally cutting fingers. Fulcrum at all times.

Procedure

Take the half-inch resin cube and, starting with the coarse sandpaper disk, trim the cube into a spherical shape. If this is your first time using this armamentarium, use caution in manipulating the handpiece. Use small strokes and do not leave the handpiece in any one position too long. After you have roughed out the sphere shape with the coarse sandpaper, progress to the medium sandpaper, and then the fine sandpaper. Finish off the sphere by polishing it with pumice on a rag wheel. You want to end up with a smooth sphere of acrylic that looks like a marble.

If you do not succeed at first, try again. This practice will increase your skills necessary for the upcoming clinical course.

Practice Exercise 6: Incompatibility Effect of Eugenol on Acrylic Resin

Directions

Space is provided here for your responses to questions on your experiment with eugenol contamination.

Exercise

You know from your reading that certain dental materials are incompatible. If these materials are mixed or used together, the properties of the final product change. One area of concern when working with provisional restoration is the interaction between eugenol and acrylic resin. If these two materials come into contact during the mixing and setting process, the acrylic will not set properly. Or, if eugenol comes into contact with an acrylic object after the setting process, additional acrylic cannot be applied to the object because of its altered chemistry. The new resin won't bond properly with the eugenol-contaminated resin. This can be a problem with provisional restorations when repairs are required.

Eugenol can also be a problem with some permanent bonding cements. When the permanent crown is bonded to a tooth after coverage with a eugenol-based provisional cement, the bonding can be negatively affected.

The following exercise demonstrates the incompatibility effect of eugenol on acrylic resin.

Armamentarium

- Acrylic resin material
- Manufacturer's directions
- Spatula
- Small disposable container for mixing such as a dappen dish
- Liquid eugenol or a eugenol paste
- Coated paper mixing pad

Procedure

1. Mix acrylic material according to the manufacturer's directions.
2. When the material reaches a putty-like consistency, remove it from the mixing container and place it on the mixing pad.
3. Place a drop of eugenol or apply a small amount of eugenol paste to the putty-like material.
4. Time the set of the material according to the manufacturer's instructions. How long was the setting time? _____
5. Wipe off the liquid eugenol or, using a blunt instrument, remove the paste.
6. Compare the texture/hardness of the eugenol-contaminated resin with the uncontaminated resin marble you made and trimmed in Practice Exercise 5.

   a. Describe the texture/hardness of the acrylic marble you made in Practice Exercise 5.

   _____

   _____

   _____

   b. Describe the texture/hardness of the resin contaminated with eugenol.

   _____

   _____

   _____

   c. What do you conclude from this comparison?

   _____

   _____

   _____

   _____

   _____

Practice Exercise 7: Removing ZOE

Directions

Space is provided on this page for a self-evaluation of your removal of provisional cement.

Exercise

Armamentarium

- Dentoform
- ZOE luting agent
- Half-Hollenback, explorer
- Floss

Procedure

Obtain a dentoform. Mix a small amount of ZOE and, with a blunt instrument such as a half-Hollenback, wipe ZOE along the margins of two or three adjacent teeth and let it set. Following the removal technique given in Unit 2, use dental floss and a half-Hollenback to remove the large pieces of provisional cement; then use an explorer to remove the finer pieces.

Self evaluate to the following criteria.

- Is all cement removed from the facial surface? _____
- Is all cement removed from the lingual surface? _____
- Is all cement removed from the proximal surface? _____
- Is all cement removed from the gingival sulcus? _____

1. Did you keep the bladed instrument in contact with the teeth, and not place the instruments in a position that could perforate the epithelial attachment? _____
2. Did you use the instruments and floss safely so as not to damage the periodontal tissues? _____

Under HPA bylaws, a Practicing CDA who has successfully completed a Prosthodontic module can remove excess permanent cement using an appropriate hand instrument and excluding the use of dental handpieces. Discuss with your sponsoring dentist how you would transfer this skill and make your comments below.

Practice Exercise 8: Identification of Margin Designs

Directions

Fill in the chart provided for identifying the type of margin and restoration.

Exercise

In preparation for this exercise, you need to obtain a number of stone dies that were used for the fabrication of single crowns or fixed partial dentures. You may have old dies stored in your dental office, or you may need to obtain some from a dental laboratory. Once a crown or FPD or inlay or onlay is fabricated, the dies are no longer needed. Get dies for a least five teeth, and also obtain a magnifying glass.

When you have collected the dies, number them. Using the magnifying glass, locate the margins. Referring to Table 7-2 on page 220 of your textbook and Figure 7-17 on page 221, identify the margin designs. Discuss your identification with your dentist to make sure you have located all margins and identified them correctly.

In the chart on the next page, record the type of margin design for at least five teeth and state the type of restoration the margin is best suited for, according to your textbook. Try to include all margin designs.

Die No.	Margin Type	Type of Restoration
1		
2		
3		
4		
5		

Practice Exercise 9: Shade Selection

Directions

Use the drawings provided to indicate where your shade selections will go.

Exercise

Pretend that you (or a colleague) are missing tooth #1.2 and will be having an FPD made for teeth #1.1, #1.2, and #1.3. Using a shade guide, select shades for teeth #1.1 and #1.3 that blend with the adjacent teeth and choose shades for the pontic. Select as many shades as needed to duplicate the shades of the incisal edges, the body of the teeth, and the gingival margins. Also indicate if any customizing is needed and the shades you would choose. Next choose a shade for a ceramic onlay for tooth #2.6. Check your selections with your dentist. Record your shade selections on the drawing on the next page – use an arrow to indicate the area of the shade.

Remember to follow the manufacturer's directions for sterilization of the shade guides after finishing this exercise.

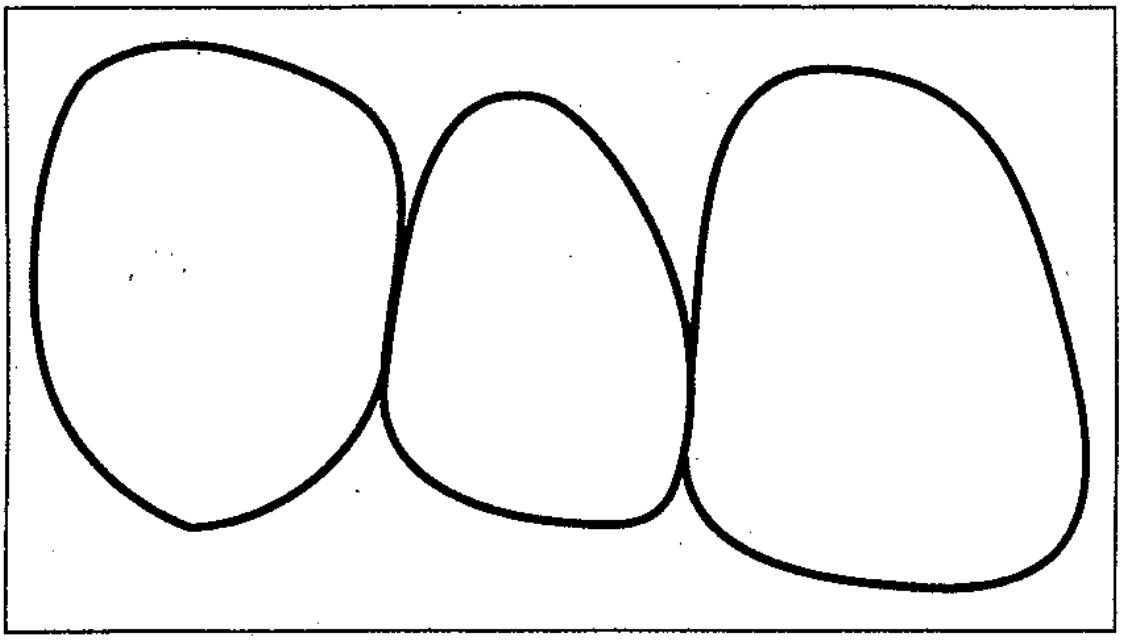
Shade guide used:

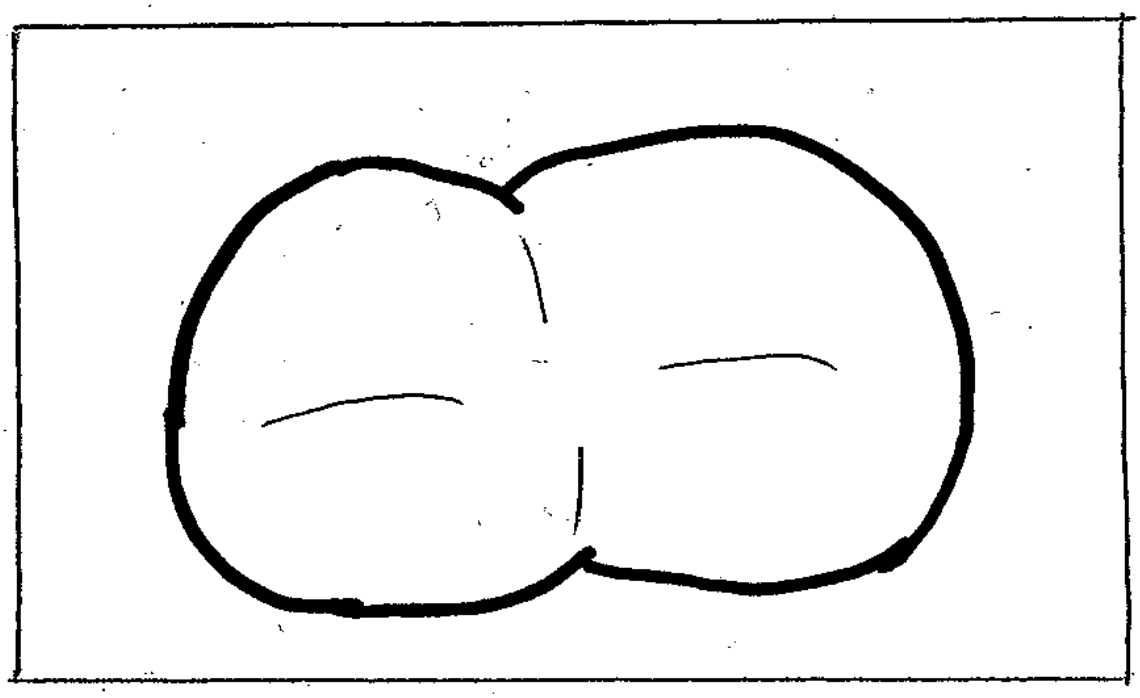
_____

Method recommended for sterilization of the shade guides:

_____

Use the drawings below for recording your shade selections:





Practice Exercise 10: Waxing Up a Model

Directions

Submit the stone duplicate of the waxed-up model that you fabricate in this exercise on the clinical weekend or take a picture and E-mail it to the Instructor prior to the clinical weekend for feedback.

Exercise

Armamentarium

- Model with one bicuspid or molar missing and appropriate unprepared abutments for an FPD
- Opposing model
- Wax (and Bunsen burner), or Plasticine, or light cure material and light carving instruments such as a half-Hollenback and discoid cleoid (see pages 562-563 of the textbook for a variety of waxing instruments)
- Tray and impression materials
- Stone or plaster material

Procedure

1. With a fairly large piece of material (wax, Plasticine, or light cure material), form a tooth shape that roughly fills in the pontic space of the model.
2. Using carving instruments, shape the material to form the tissue surface of the pontic. Once you are satisfied with the tissue surface, carve appropriate tooth morphology for the other tooth surfaces of the pontic. Refer to your text (pages 616-648 and Chapter 18) if you are uncertain of the appropriate shapes necessary to provide support on all surfaces. When shaping the pontic, follow the principles of tooth preparation design, remembering that the pontic must allow for healthy cleansable tissue and have thick, strong connection points to reduce the chance of fracture.
3. Occlude the model with the opposing model to check for occlusal harmony, and make adjustments as necessary.
4. Take an impression of the waxed-up model and pour a stone or plaster duplicate.

5. Practice exercise 11: Provisional FPD Design

Directions

Space is provided here for your evaluation of the acrylic trimming procedure. Submit this signed practice exercise to your instructor at the end of the course. Save this piece of trimmed acrylic resin as you will need it for the next practice exercise.

Exercise

Armamentarium

- Acrylic resin material
- Manufacturer's directions
- Spatula
- Small disposable container for mixing such as a dappen dish
- Slow-speed handpiece
- Coarse, medium, and fine sandpaper disks
- Burs

Procedure

Mix an adequate amount of acrylic resin to make three teeth and divide it into approximate thirds. Form each third into a tooth-sized ball and set the three balls on the lab counter. These forms do not need to include the apical area. Press the edges of the balls together so they are touching. Allow the acrylic to set.

Using disks and burs, trim the acrylic into any three connecting tooth shapes. Use a study model as patterns for your teeth. Ask your dentist for suggestions regarding appropriate disks, burs, and trimming techniques. Make sure you use a fulcrum when trimming the acrylic; you should feel that your hands are secure and safe at all times when using the instruments. Try to shape the three teeth as close as you can get to your patterns.

Record which 3 teeth you are copying_____

Evaluation

1. What burs and disks did you use? Which did you find most useful?

2. What trimming techniques did you use? Which did you find most useful?

3. What safety precautions did you take?

4. How close were you able to shape your teeth to the patterns you were copying?

5. What teeth or parts of teeth did you find easy to shape? What parts were more difficult?

6. Does the three-unit grouping look aesthetically pleasing? If not, how does it need to be changed?

Practice Exercise 12: Bead-Brush Method of Acrylic Repair

Directions

Bring the bead-brushed acrylic teeth that you work on in this exercise to your instructor during the clinical weekend or take a picture and e-mail it prior to the clinic weekend for feedback.

Exercise

Armamentarium

- Trimmed acrylic teeth from Practice Exercise 11
- Acrylic resin materials
- Brush
- Small container for monomer
- Small container for polymer

Procedure

Using the trimmed acrylic resin teeth from Practice Exercise 11, practice the bead-brush method of adding acrylic to a finished surface.

Using the illustrations and description of the bead-brush technique from Figure 15-70 on page 500 of the textbook, add acrylic to any surface of your piece of trimmed acrylic as if you were simulating building up a contact, a deficient margin, or an occlusal surface. Try to contour your repairs to match the surface to which you are adding. Apply new acrylic to several different places on the acrylic teeth.

Discuss this exercise with your dentist and ask for suggestions and feedback on your bead-brush repairs. Also discuss how you would do a repair to a Bis-acryl provisional.

Evaluation

1. Write a list of the steps you used to add acrylic using the bead-brush method.

2. How easy or difficult is it to add new acrylic to an already hardened piece of acrylic?

3. What difficulties did you encounter? How did you overcome them?

4. Self assess your bead brush results, noting the amount of acrylic applied, the placement, and the contour.

Practice Exercise 13: Procedure for Endodontic Provisional

Chapter 12 of the textbook

Directions

Space is provided here to write a procedure card for fabricating endodontic provisionals.

Exercise

Discuss with your sponsoring dentist his or her procedure for fabricating an endodontic provisional, then develop a procedure card giving the armamentarium and a step-by-step procedure. The textbook is an additional resource for this exercise.

Armamentarium

Procedure

Endodontic Provisional Procedure (continued)

Practice Exercise 14: Procedure for Implant Provisionals

Chapter 13 of the textbook

Directions

Space is provided here to write a procedure card for fabricating implant provisionals.

Exercise

Discuss with your sponsoring dentist his or her procedure for implantology, the use of digital planning software, and the need for fabricating an endosteal implant provisional. Once you have researched how this is done, develop a procedure card listing the armamentarium and a step by step procedure. The textbook is an additional resource for this exercise.

Armamentarium

BELOW IS THE CHECKLIST FOR THE PRACTICE EXERCISES #1-14. PLEASE DATE AND SIGN. PLEASE NOTE: YOUR SPONSORING DENTIST WILL VERIFY THAT THE EXERCISES WERE COMPLETED AT A SATISFACTORY LEVEL AND THEN SIGN OFF.PLEASE E-MAIL OR FAX THIS TO YOUR INSTRUCTOR.
Jgibbons-smyth@okanagan.bc.ca or fax 1-250-862-5633

PRACTICE EXERCISES	DATE MM/DD/YY	STUDENT SIGNATURE	SPONSORING DENTIST SIGNATURE
1. Prosthodontic tray set up			
2 .Alginate Impressions and occlusal registration			
3. Preformed crown forms			
4.Provisional Dental Materials			
5.Trimming and polishing a block of acrylic			
6 .Incompatibility effect of Eugenol on acrylic Resin			
7.Removing ZOE			
8.Identification of Margin designs			
9.Shade selection			
10. Waxing Up a Model			
11. Provisional FPD design			
12. Bead –Brush method of acrylic repair			
13. Procedure for endodontic provisional			
14. Procedure for Implant Provisionals			

Case Study Assignment

The following case study describes prosthodontic treatment provided for a patient in a general dental practice. The information is grouped into treatment segments. At the end of the case study narrative, there are questions about the treatment provided and related procedures. Note that some procedures in the case study are done incorrectly or are missed out. You will have to read the case study carefully to answer the questions. Write your answers in a word document and submit your assignment to the course instructor for evaluation.

Total marks for the Case Study Assignment is 80. A passing grade of 75% is required.

You may use any resources to help answer the questions, including the Course Study Guide and the textbook.

You can E-mail the Case study alongside the practice exercises checklist to your Instructor once completed.

Case Study: Ella's FPD

Initial Consultation Appointment

Ella, a 42-year-old patient of Dr. Jamieson's, arrives for a consultation appointment. She recently fractured the large amalgam restoration on tooth #3.7. Tooth #3.6 has been missing for three years, and tooth #3.5 has a distal-occlusal amalgam. Tooth #3.8 is fully erupted and sound with an occlusal restoration. Ella's health is good, but she has a contact allergy to latex products.

At Dr. Jamieson's request, Kathy, the prosthodontic assistant, takes a radiograph of the area. Dr. Jamieson determines that the pulp and periodontium of #3.7 are healthy. He observes that the distal cusps are fractured in addition to part of the lingual wall. He discusses the situation with Ella and describes treatment options. The preferred treatment plan is a three-unit fixed partial denture from tooth #3.5 to #3.7. Tooth #3.5 would be a porcelain-fused-to-metal restoration (PFM), tooth #3.6 – the pontic – would be a PFM restoration, and #3.7 a PFM restoration with a gold occlusal surface. Tooth #3.7 requires a bonded composite build-up. Dr. Jamieson's treatment plan includes using the indirect-direct technique for provisional fabrication with a vacuum-form matrix.

Ella accepts the treatment plan. Kathy takes alginate impressions and selects shades for the provisional restoration. After Ella leaves the office, Kathy pours and trims the models.

Information is sent to Ella's insurance company for preapproval. Once approval is received, the receptionist will telephone Ella and schedule her appointments.

Prior to the Tooth Preparation Appointment

Before Kathy fabricates the vacuum formed matrix, Dr. Jamieson waxes up the original study model, adding the fractured cusp and creating a pontic. Kathy takes an alginate impression of this model and pours up a new study model. With this model, she fabricates the vacuum-formed matrix, using a vacuum former and plastic acetate coping sheets and following the manufacturer's directions. Kathy then trims the matrix so that it extends

distal to the #3.8, mesial to the #3.4, and bucally and lingually, 10 mm. Lastly, she smooths the edges of the matrix with scissors.

Dr. Jamieson sends out the models to the lab for a wax-up. For his records, he has Kathy duplicate the diagnostic model so that the lab will have a model to work on. The wax-up will include improved anatomy on #3.7 and #3.5 and a pontic for #3.6. When the case returns from the lab, Dr. Jamieson approves it and requests that Kathy continue with pre-appointment preparation.

Prior to the preparation appointment, Kathy must fabricate a custom tray. She uses the wax-up to fabricate the tray.

Tooth Preparation Appointment

Once Ella is settled in the dental chair, Kathy and Dr. Jamieson choose the porcelain shade for the PFM restoration on tooth #3.5 and for the pontic. Kathy ensures that the tooth is dry and free from saliva so that the dental light can reflect properly. After Dr. Jamieson builds up tooth #3.7 with a bonded composite resin and prepares teeth #3.7 and #3.5, retraction cord is placed.

Kathy assists with the final impression. After checking the impression, Dr. Jamieson instructs Kathy to carry on with the provisional fabrication. Kathy lubricates the prepared matrix and mixes a R-methacrylate resin. She immediately places the resin in the matrix and applies it to the prepared teeth, placing firm pressure on the pontic area.

After initial set of the resin, Kathy removes the provisional and places it on the tray. She then thoroughly rinses Ella’s mouth and sits her up for a rest.

Once the provisional completely sets, Kathy dries it thoroughly and marks the margins with a pencil. She then trims the provisional to the marked lines. After the bulk of the material is removed, Kathy repositions Ella and tries in the roughly trimmed form. Kathy

continues to trim until in her self-assessment the fit is acceptable. Finally, she polishes the provisional restoration with a rag wheel and pumice.

After disinfection, the provisional FPD is ready for cementation.

Cementation of the Provisional Restoration

Prior to cementation, Dr. Jamieson checks the provisional and asks Kathy to use ZOE as the luting agent. Kathy lubricates the ESF of the provisional, then isolates the prepared teeth with cotton rolls and gently dries them. She mixes the ZOE, partially fills the provisional retainers, and firmly seats the provisional FPD. She asks Ella to bite on a cotton roll. After 5 minutes Kathy removes the cotton roll and then uses a half Hollenback and an explorer to remove the excess cement. Kathy asks Dr. Jamieson to do a final check of the provisional FPD.

End of Appointment Procedures

Kathy provides instructions about possible tooth and tissue sensitivity and reinforces proper cleaning methods. She escorts Ella to the receptionist, who confirms Ella's appointment for cementation of the permanent FPD.

Kathy completes the chart entry and prepares the final impression for the dental laboratory. Dr. Jamieson completes the lab prescription.

Removal of the Provisional FPD and Cementation of the Permanent FPD

Kathy uses a Backhaus towel clamp forceps to loosen the provisional retainer on tooth #3.5, then pulls the provisional FPD occlusally to break the cement seal on tooth #3.7. She removes residual cement using a half Hollenback and an explorer. After removing all the cement, Kathy rinses the preparations with warm water and thoroughly dries them.

When directed by Dr. Jamieson, Kathy mixes the permanent cement and assists during cementation of the permanent FPD. She completes the chart entry and provides final self-care instructions to Ella.

Case Study Questions

(Total marks: 80)

Answer the following questions on separate paper, using any references you wish. The mark for each question is shown in brackets at the end of the question.

Initial Consultation Appointment

1. Since Ella has a contact allergy to latex products, what preventive measures should Dr. Jamieson and Kathy take during her appointments? (3 marks)

2. At what point in the consultation appointment should the shades for the provisional restoration be taken? Why? (2 marks)

3. After taking the impressions, how should they be processed prior to pouring? (3 marks)

Prior to the Tooth Preparation Appointment

4. On which model should the custom tray be fabricated? (1 mark)

5. On which model should the vacuum form be fabricated? (1 mark)

6. Did Kathy trim the vacuum-formed matrix correctly? What would you have done differently? (2 marks)

7. Kathy uses the vacuum former to indirectly fabricate Ella's ESF matrix. Name three other methods that can be used to fabricate a matrix. (3 marks)

8. If Kathy were going to use reversible hydrocolloid for the impression, what procedure would change? (1 mark)

9. When fabricating Ella's custom try, how many stops would be made and where should the stops be placed? (2 marks)

Tooth Preparation Appointment

10. What would you have done differently when selecting the shade? (2 marks)

11. What structure should Kathy lubricate? (1 mark)

12. When should Kathy have applied the filled matrix to the prepared teeth? (1 mark)

13. Where should pressure be applied when seating the matrix? (1 mark)

14. What is the result of removing the acrylic-filled matrix as it undergoes its initial set? (1 mark)

15. Where should Kathy put the acrylic form? (1 mark)

16. What areas should be marked with a pencil prior to trimming? (3 marks)

17. When Kathy is designing the pontic during trimming, she must meet biologic, mechanical, and aesthetic requirements. State the criteria for meeting each of these requirements while trimming a provisional pontic. (3 marks)

18. What three safety precautions should Kathy follow when seating and removing the provisional restoration in Ella's mouth? (3 marks)

19. What instrument is appropriate for the assessment of marginal fit? (1 mark)

20. What other areas of fit should Kathy assess? (2 marks)

21. What instruments or dental supplies should be used to check the areas mentioned in question 20? (2 marks)

22. What should Kathy do prior to polishing the provisional? (1 mark)

23. When polishing a provisional, what areas should you avoid? Why? (2 marks)

24. Before cementing the provisional, what should Kathy check for? (1 mark)

Cementation of the Provisional Restoration

25. What are three properties of ZOE that make it an ideal provisional luting agent? (3 marks)

26. What procedure did Kathy miss before applying cement to the provisional? (1 mark)

27. Did Kathy correctly apply cement to the provisional? If not, what should she have done? (1 mark)

28. What other instruments or dental supplies should Kathy use to remove any excess provisional cement from Ella's provisional FPD? (2 marks)

29. What are two ways that Kathy can check that no residual cement remains in the sulcus? (2 marks)

30. What are the long-term consequences of leaving residual cement in the sulcus? (1 marks)

31. What are five things that Dr. Jamieson checks when he does a final check of the cemented provisional FPD? (5 marks)

32. What are three possible consequences of leaving the occlusion too high? (3 marks)

33. Assume that Ella asks Kathy about the provisional and after hearing about the work that goes into it says, “Why do you go to so much effort for a covering that only lasts a week or two?”

    Answer Ella, explaining the purpose and importance of a provisional. (3 marks)

End of Appointment Procedures

34. Kathy reinforces proper cleaning methods with Ella. What, specifically, should Kathy ensure that Ella knows? (4 marks)

35. In addition to the usual items in a chart entry, what five items would Kathy record that relate directly to the prosthodontic procedures completed? (5 marks)

36. How does Kathy prepare the final impression for the dental laboratory? (2 marks)

Removal of the Provisional FPD and Cementation of the Permanent FPD

37. Does Kathy remove the provisional FPD correctly? If not, how should she have removed it? (2 marks)

38. How else could Kathy have removed the residual provisional cement from Ella’s tooth preparations? (1 mark)

39. What are the indications and contraindications for thoroughly drying the prepared teeth? (2 marks)