

## Prosthodontics Practice Guideline

All students must read the clinic guidelines along with studying the materials from all the courses from prosthodontics department. Furthermore, students should take time to search extended information regarding their clinical work in each visit.

In the beginning of every visit, students must always report clinical advisor in charge for beginning check and at every step of clinical work. Beginning check may include patient's vital signs, brief medical or dental issues and work for that visit. Students should always prepare necessary documents, casts, designs and lab papers required for that visit, furthermore, medical records should always be brought in to the clinic.

### Clinical guideline for Prosthodontic Chart Record

#### Oral examination

Students should study regulations and procedure in accepting and returning (การรับและคืนเคสผู้ป่วย) patient cases and clinical work. When a patient is accepted under your name, student should appoint them for an oral examination. Topics (หัวข้อ) under oral examination should be completed along with necessary radiographic requests and impressions for study casts. Nevertheless, sequence of examination and extra requests is up to clinical advisor's consideration/ discretion (ดุลยพินิจ).

If patient is required to have preprosthetic surgery such as Torectomy, Frenectomy, students must write a refer on the Interdepartment Communication page and let the clinical advisor sign. Student must then bring the patient and take the medical record down to Oral and Maxillofacial Surgery (3rd Floor) Patient unit for appointing a date for consultation and operation.

For radiographic requests, students should examine patient thoroughly and consider the most suitable amount, technique and location of radiographs to be taken. Students should let clinical advisor check the plan before filling in the radiographic request form. When the form is completed, let clinical advisor sign and

#### **Materials and Instruments**

1. (ชุดตรวจ) Examination set
  2. Metal Tray
  3. Metal Cup
  4. Tools for cleaning teeth : Prophy cup/ Rubber cup, Dappen Dish, Pumice
  5. Tools for Periodontal examination: Periodontal probe, Naber's probe
  6. Electronic pulp tester
  7. Tools for occlusion examination: Arti-forceps, Articulation paper, Artifoil
- Tools from 5-7 should be requested upon the need of each patient.

## **Preliminary Impression**

Students should choose the correct tray size and type for primary impressions. Full tray size ranges from the smallest size of #13 up to size of #10 and types include perforated trays, edentulous tray and rim-lock trays. Students should try-in the trays in patient's oral cavity before performing the real impression. Students should check whether the tray size are under or overextended or causes pain. Underextended flange of tray could be extended using periphery wax or melted compound. Therefore, alcohol lamp and lighter should also be requested. Preliminary impression material are likely to be alginate and trays should be lined with alginate adhesive before impression. In case that patient has minimum tooth left and occlusion during mounting will be hard, students could use bite registration materials under the supervision and consent of the clinical advisor.

## ***Required Material and Instruments***

1. Tools for cleaning teeth : Prophyl cup/ Rubber cup, Dappen Dish, Pumice
2. (Correct size and Type) Impression trays
3. Bowl and spatula
4. Impression set
5. Alginate
6. Periphery wax
7. Tray adhesives and microbrush (disposable)
8. Blade holder
9. Blade (Blade no. 15): Request for blade must be signed by clinical advisor under the correct use and supervision.

Tools from 6-8 requested upon the need of each patient and clinical advisor.

## ***Recommendations for Alginate Impression***

1. All materials and tools should be prepared at the unit
2. Try-in the selected tray and check that the tray fits well and covers all wanted tissues
3. Mix alginate and water with the correct ratio at a fast speed to make sure powder is fully reacted with water
4. Mix until smooth
5. Load the mixture on to the tray once or twice to prevent air entrapment
6. Carefully place the tray into the patient's mouth. Be careful of the mixture that may flow into the patient's throat and cause shortness of breath.
7. Border and muscle molding should be done as well.
8. First impression should be assessed by the student first, and check with the clinical advisor every time before performing another impression.

9. Impression should be washed with water, drained the excess water out and placed on a tray when given to the clinical advisor.
10. When impression is completed, wet gauze or paper should be placed on top to prevent impression drying out.
11. The distal end of the impression should not touch any surface as it could cause distortion.
12. The impression should be disinfected with Umonium spray placed in the wet lab for 3-5 minutes before making a cast out of it.
13. Impression should be poured in to a cast by 15 minutes to prevent distorted study model.
14. Gypsum selection should be chosen to suit the type of work and step. For example, Plaster of Paris is suggested for complete denture study cast but if there are some teeth left, dental stone should be used to prevent fracture of cast.

### **Diagnosis and Treatment planning**

After collecting all information of the case (oral, radiographic examinations and study model) student should fill it in the prosthodontic record and initially plan the treatment. (บันทึกการตรวจประวัติ). Students should prepare all necessary dental diagnosis, radiographic records, study models and initial treatment plans and designs to discuss with the clinical advisor of the case. After completing, the final treatment plan should be proposed to the patient. Both patient and clinical advisor should sign to acknowledge the treatment plan.

Mounting and surveying of cast should be done along with the design of the prosthesis to present to the clinical advisor before appointing patients in for preprosthetic treatment such as fillings, scaling and extraction. Prosthesis design and treatment plan should always be completed and discussed before initiating first treatment.

### **Preprosthetic Treatment**

Students preparing to conduct preprosthetic treatment in prosthodontic periods must prepare all required materials and tools, and must always report treatment plan to clinical advisor incharged before beginning.

## **Clinical guideline for Complete Dentures/ Complicated Acrylic Partial Dentures**

\_\_\_\_\_ Prior to proceeding with the prosthodontics treatment, the treatment plan, prosthesis design and preparation on duplicated cast must be approved by the student's clinical advisor. In the case that change must be made to the design during treatment, the student must note down the change in the design form with the signature of the clinic advisor, for every change that is made.

### **Fabrications of custom trays**

After study model has been approved, students must draw the boundaries of the tray and stops onto the cast as designed, and send it to their clinic advisor for approval. Once approved, the cast can be sent to the laboratory for the fabrication of the custom tray.

### ***Recommendations for designing custom tray***

1. Students should survey the cast before drawing out the boundaries in order to locate undercuts
2. In case of a spaced tray, tissue stops must be drawn for fabrication. Stops should be placed at canine and first molar with a size of 3 x 8 mm covering the ridge in B-Li aspect as well. If t
3. For lower complete denture, finger rest should be fabricated as well. Finger rest should be placed around premolar and first premolar to help stabilize tray during border molding.

After completing the designs, student must fill in laboratory request form with all necessary informations. Additional request such as tray handle could be noted down as well. Clinical advisor should sign the request form before sending the form and casts to the lab.

### **Custom tray try- in**

Students should check over and correct defects that may arise during fabrication before sending it to clinical advisor for approval.

### ***Required Material and Instruments***

1. Study cast
2. Custom tray
3. Tools for adjusting custom tray: Straight handpiece, acrylic burs (carbide bur, stone burs, polishing burs)
4. Edible pencil
5. Dappen dish
6. Disclosing paste
7. Flat brush

***Recommendations for custom tray try-in***

1. Margin of the upper custom tray should cover until patient's vibrating line and lower should cover  $\frac{1}{2}$  or  $\frac{1}{3}$  of retromolar pad. Custom tray should be above the vestibule by 2mm and should go over the frenum.
2. The handle of the tray should be adjusted so it does not irritate the lips.
3. Tray should be stable and should not rock during placement.
4. Overextended tray margin should be removed with carbide burs
5. Minor underextended tray could be corrected with compound stick otherwise new tray should be fabricated.

**Border molding**

Students should revise over the steps and clinical procedures of bordering at different areas and clinical advisors are suggested to give advice through out student's first attempt. After completion of one area of molding, students should let clinical advisor check before proceeding to the next area. Clinical Performance Assessment Rubric, the student's will be evaluated and scored under the topic of border molding after completing one jaw.

***Required Material and Instruments***

1. Compound stick (Green/ Grey)
2. Alcohol lamp and lighter
3. Alcohol torch
4. Water bath
5. Bowl
6. Blade holder and Blade No. 15
7. Striaight handpiece
8. Round steel bur no. 8

***Recommendations for custom tray try-in***

1. Soften the compound and add it on to the margin of the tray, only at the area border molding is going to be performed. Be careful not to over heat the compound.
2. Soften the compound by using alcohol torch and place it in the heated water bath to make sure the compound isn't too hot to place in patient's mouth.
3. After molding, the tray should be placed on to cold water to solidify the compound. The border should be smooth, rounded and matte surface.
4. Overextended compound could be remove using a no.15 blade.
5. Before performing final impression, a hole should be made at the upper tray in areas to relief pressure such as the incisive papilla using a round steel bur.
6. Do be careful of the fire from the alcohol torch and the use of blades.

## **Final Impression**

Students should study the steps, technique and materials used before appointing patient in for final impression.

### ***Required Material and Instruments***

1. Completed molding of custom tray
2. Tray adhesive (that suits the chosen material for impression)
3. Microbrush
4. Elastomeric impression material of the chosen type and consistency
5. Tools for mixing impression material : Silicone mixing set, paper, syringe, mixing machine.
6. Curved scissors

### ***Recommendations for final impression***

1. Tray adhesives should be applied thoroughly all areas of the tray and extend over the molded area by 5-10 mm. It should be dried before applying the impression material.
2. Vinylpolysiloxane impression material (Additional type) called Honigum-Mono is suggested to be used with a spaced tray.
3. Vinylpolysiloxane impression material (Additional type) in light consistency such as Silagum, Honigum (light) is suggested to be used with Close fitting tray.
4. For complicated APD, teeth preparation should be performed before final impression.
5. For teeth that has undercuts, consult with clinical advisor as periphery wax could be added to block out the undercuts before the impression. Without blocking out, unwanted impression materials could adhere to those undercuts making it hard to remove the tray out from patient's mouth.
6. Selective pressure impression technique should be done in all complete denture cases.
7. During final impression, muscle molding should be done to acquire all margins and border done during border molding.
8. Impression should be checked by student and the clinical advisor.
9. Curved scissors could be used to remove the excessed impression materials
10. If tissue stop appears on the impression, note it in the treatment record to help remind to remove it during bite block try-in.
11. Laboratory requests should be completed and signed by the clinical advisor.

## **Master cast**

Students should check over and correct defects that may arise during fabrication before sending it to clinical advisor for approval. 3 grooves to make a key should be before sending it

to clinical advisor for approval. It should be done on the master cast to act as a guide during remounting step.

For a complete denture case, students should survey for undercuts, draw out the design and a centered line on the ridge. Laboratory requests for bite blocks should be completed and signed by the clinical advisor.

### **Registration Blocks (Bite Blocks)**

Students should check over and correct defects that may arise during fabrication before sending it to clinical advisor for approval.

### ***Recommendations for bite blocks***

Students should check bite block's thickness, shape that goes well with patient's ridge, margins and surfaces for any irregularities.

### **Registration blocks try-in and Determination of OVD**

### ***Required Material and Instruments***

1. Upper and lower bite blocks : all should be approved from clinical advisor before appointing patient for try-in.
2. Tools and materials to indicate overextended areas of the bite block: disclosing paste, flat brush, straight handpiece, burs and polishing burs.
3. Ball burnisher
4. Fox's plate
5. Rulers or Willis' gauge
6. Wax shaping tools : Alcohol torch, lighters, wax knife, wax spatula, alcohol torch
7. Hot plate
8. Pink wax

### ***Recommendations for upper bite block try-in***

1. Examine the margins during try-in
  - a. Patient should be in supine position
  - b. Place the bite block and do muscle molding actions to see whether the bite block moves. If bite block moves, the margin may be overextended. Only apply disclosing paste to the area of interest. Do not apply it to all surfaces as it will appear very messy and hard to indicate the overextended areas.
  - c. Create a line indicating the vibrating line and check the distal ends of the upper bite block.
  - d. Go over and remove the areas with burs that may interfere with labial and buccal frenums.

- e. Check bite block's stability by alternatively placing finger at the occlusal surface of left and right molar areas.
  - f. When trying-in bite blocks on patient with torus palatinus, prepare to relief the areas around the structure.
  - g. Before insertion of bite block, the undercuts either side of left and right tuberosity should be indicated with disclosing paste, and relief before inserting.
2. Contour and occlusal plane
- a. The contour of patient's lip should conform to their facial appearance in seating position, that is up straight and comfortable. It could also be determined by patient's facial landmarks and previous picture of patient with teeth. The determination of occlusal plane level should be done laterally, meaning view the occlusal plane from lateral side of the patient. The occlusal plane should be below the upper lip 1-2 mm and parallel to the interpupillary line. Let the patient pronounce 'F' and 'S' sound to check that the upper bite block touches the junction between oral mucosa and epithelium of lower lip.
  - b. The height of the distal end of upper bite block should be around  $\frac{1}{2}$  to  $\frac{1}{3}$  of the retromolar pad or between half of the length between upper and lower ridge. The height should also be parallel to ala-tragus line (a line drawn from ala of the nose until superior border- middle of the tragus)
  - c. Draw a midline, canine line, high lip line on the labial surface of upper bite block.
  - d. Rest vertical dimension (RVD) could be determined by patient sitting up straight without leaning on the back support, let the patient say 'M' and touch their lips together gently or with the tip of their tongue, softly lick lower lip and relax. RVD could be determined using Willis' gauge or ruler to measure the length between tip of the nose and lower point of the chin. Small tape and a small mark could be placed at those area to ensure consistent reference point.

### ***Recommendations for lower bite block try-in***

1. Examine the margins and the adaptation between the two bite blocks
  - a. Disclosing paste should be used to indicate areas to relief as mylohyoid ridge may have irregularity and may cause pain to patient during try-in.
2. Contour and height
  - a. Height of -/B (lower bite block) labial surface must be leveled with the lower lip and corners of the mouth
  - b. Posterior height of -/B should be  $\frac{1}{2}$  or  $\frac{1}{3}$  of retromolar pad and does not extend over the height of patient's tongue.
3. Occlusal vertical dimension determination
  - a. Adjust the -/B until it seats well. Measure the VD once more. The result may be more than RVD initially calculated.
  - b. To adjust, lower the -/B's until it reaches the same level of calculated RVD. The height of freeway space should be set next (normal freeway space or FWS, interocclusal distance is around 2-4 mm) The height of -/B should be adjust until



OVD = RVD - FWS and B/B (upper and lower bite block) adapts well to each other.

- c. Guide patient in to their CR (centric relations) position, B/B adapts well and most posterior part of the bite block does not touch each other.
- d. Check VD once again along with facial appearance, phonetics and closest speaking space.
- e. Record the measured FWS. VD and FWS must always be re-measured every visit until delivery step.
- f. When patient is guided in to CR and approved by the clinical advisor, draw a midline, canine line at the lower bite block and adjust the overjet of lower bite block.

### **Tooth shade selection**

Students should not appoint patients in only for shade selection. Students should manage time well in order to complete it in a visit along with other steps. Color shade panels that are available in the main clinic are as follows; Cosmo, Major dent. Other brands other than this, patient must provide payment by themselves.

### **Occlusal Registration**

#### ***Required Material and Instruments***

1. Bite block (Adjusted)
2. Waxing tools
3. Petroleum jelly
4. Bite registration material (Aluwax is recommended. Other material is up to clinical advisor's judgement)

#### ***Recommendations for occlusal registration***

1. Guide patient in to CR
2. Cut the lower bite block's wax in to a key shape to retain the material
3. Coat the upper bite block with petroleum jelly only at the area where lower key occludes. Guide patient in to occlusion and ensure that patient occludes in the same position everytime. Check by using the midline and canine lines on B/B as a reference point.
4. Add the registration material on to the key on the lower bite block and guide patient in to occlusion. During registration student should hold the B/B in place until the material cools and sets.
5. Cut the excess material out from the bite block to be able to visualize the occlusal plane
6. Check the bite block in occlusion to see whether it occludes in the right position.

## **Mounting on articulator**

Students should use the registration to assist in mounting on the semi-adjustable articulator. After completion, send it to clinical advisor for approval before removing the registered material and replace it with wax.

## **Anterior teeth try-in**

### ***Required Material and Instruments***

1. Bite block with complete anterior teeth set up
2. Disclosing paste, flat brush, burs, polishing burs
3. Fox's plate or Occlusal plate
4. Ruler or Willis gauge
5. Waxing tools; alcohol lamp, lighter, wax knife, wax spatula no.7, roach carver
6. Pink wax
7. Mirror

### ***Recommendations for Anterior teeth try-in***

1. Evaluate occlusion of the bite block and correct it. Any uncorrectable errors may lead to re-doing the occlusal registration step.
2. Determine FWS once more, record it and verify pronunciation and the closest speaking space.
3. Examine the contour, midline and occlusal plane.
4. Check for appropriate size, shape and color of the artificial teeth. Ask the patient for feedback as well.

Set the incisal table angle right after anterior teeth try in is completed. Next, consider the appropriate size of posterior teeth with clinical advisor and complete the laboratory request.

## **Posterior teeth setup**

Students should check over and correct defects that may arise during fabrication and check whether the occlusal scheme's alignment is correct before sending it to clinical advisor for approval and appointing patient.

## **Posterior teeth try-in**

### ***Required Material and Instruments***

1. Bite block with complete anterior teeth set up

2. Disclosing paste, flat brush, burs, polishing burs
3. Fox's plate or Occlusal plate
4. Ruler or Willis gauge
5. Waxing tools; alcohol lamp, lighter, wax knife, wax spatula no.7, roach carver
6. Pink wax
7. Mirror
8. Ball burnisher (2mm diameter)
9. Edible pencil
10. Articulating paper

### ***Recommendations for posterior teeth try-in***

1. Evaluate occlusion of the bite block and correct it. Any uncorrectable errors may lead to re-doing the occlusal registration step.
2. Check the alignment of posterior teeth
3. Measure RVD OVD and FWS again and examine the closest speaking space.
4. After completing all teeth try-in, student should examine the margins and extensions including the posterior palatal seal's depth. Record all measurements in the treatment record.

### **Posterior palatal seal preparation on cast**

Before packing, students should create posterior palatal seal boundaries on the cast and should not appoint patient in for only this step. With the information gained, scrape off the cast to create a seal. Find clinical advisor's approval of waxing and it should be ready for flasking before sending it to the lab.

### **Waxing for flasking**

Students should check the occlusion and teeth set up whether it is in the correct position. After it's approved, send it to the lab for packing. Student must perform remounting step by themselves and must write a note on the laboratory request.

### **Occlusal Adjustment (Selective Grinding) and Denture Finished.**

After packing, student should adjust the occlusion as occlusal scheme is planned. Adjustments includes occlusion in centric and eccentric. Students should seek for advice and approval before sending it to the lab for finishing and polishing. Completed denture should be sent to clinical advisor before appointing patient in for delivery.

### **Delivery**

### ***Required Material and Instruments***

1. Finished and polished complete denture

2. Burs, polishing burs
3. Disclosing paste, dappen dish, flat brush
4. Articulating paper
5. Pliers (In case wires are used)

### ***Recommendations for delivery***

1. Examine the tissue surface to see any regularities that may cause irritation to soft tissues
2. Examine the margin and stability.
3. Check and adjust the occlusion using articulating paper.
4. Clinical remounting may be considered if a lot of adjustments are needed.
5. After adjusting, students should finish up and polish the denture.
6. Post-insertion instructions and denture maintenance should be advised.

### **Adjustment**

#### ***Required Material and Instruments***

1. Finished and polished complete denture
2. Burs, polishing burs
3. Disclosing paste, dappen dish, flat brush
4. Articulating paper
5. Pliers (In case wires are used)

#### ***Recommendations for adjustments***

1. Take history and chief complaint of the patient after the insertion. Check soft tissues for any change. Report patient's signs and symptoms along with plan for correction before adjusting.
2. In correction of occlusion, unstable denture or loose fit, please adjust under clinical advisor's suggestion.
3. In the treatment record, students should record the patient's signs and symptoms, results from the intraoral examination, adjustments made, and other recommendations reported to the clinic advisor.
4. Make appointments with the patient until there are no longer any signs or symptoms, no lesions or ulcers from the dentures, and the patient can use the dentures well.
5. Give home-care instructions and recommendations to the patient so the patient can look after their dentures themselves.

## **Clinical Guideline for Co-Cr Removable Partial Dentures**

Prior to proceeding with the prosthodontics treatment, the treatment plan, prosthesis design and preparation on duplicated cast must be approved by the student's clinical advisor. In the case that change must be made to the design during treatment, the student must note down the change in the design form with the signature of the clinic advisor, for every change that is made.

### **Abutment Preparation**

Before the appointed visit, student must study the clinical steps of abutment preparation and all cast and design must be completed and approved by the clinical advisor.

#### ***Required Material and Instruments***

1. Study cast and duplicated cast with preparation
2. Burs (eg. PD bur set; must be sterilized before visit)

#### ***Recommendations for abutment preparation***

1. Sterile the burs before the visit.
2. Study the type and shape of burs used in abutment preparation
3. Students should inspect the condition of the burs and the performance the suction before starting.
4. Abutment preparation should be as planned on the design and duplicated cast.
5. Clinical advisor should do a beginning check and each step of abutment preparation.
6. Most of the time student must do an impression to check the abutment preparation, survey lines and undercuts that could not be determine intraorally.

### **Final impression and master cast**

For final impression of the teeth preparation, student should choose the appropriate size that covers the area of interest. If tray needs to be extended, compound could be added therefore tray adhesive may need to be added in those areas.

#### ***Required Material and Instruments***

1. Materials and tools to clean and polish patient's teeth: Prophylaxis cup, dampen dish, pumice
2. Tray
3. Alignate
4. Rubber bowls and spatula
5. Impression set
6. Compound

7. Tray adhesive and microbrush
8. Blade holder and blade no.15

### ***Recommendations for final impression with alginate and master cast.***

1. Students should follow the previous advice given for alginate impression.
2. Students should always remember to paste mixed alginate in to rest seat or areas that it is hard to cover with the tray to get an accurate impression.
3. Check the impression before handing it to the clinical advisor especially the areas associated with the denture. Students should always let the clinical advisor check every impression made. It is prohibited to perform another impression without clinical advisor's approval.
4. Completed master cast must completely imitate the impression.
5. Student should survey undercuts on the master cast and redraw the design. Seek clinical advisor's approval and laboratory request.

### **Wax pattern on refractory cast**

After receiving the refractory cast, student should check whether the wax is placed as designed, seek clinical advisor's approval and send it to the lab.

### **Framework try-in**

After receiving the framework, students should examine the framework, it's seating on the cast, correctness of design, clasps and rest seats. Students should check over and correct defects that may arise during fabrication.

### ***Required Material and Instruments***

1. Master cast, framework
2. Non-precious bur set
3. Articulating paper
4. Vernier caliper
5. Dappen dish, disclosing paste, wax
6. Pliers

### ***Recommendations for framework try-in***

1. Students should study the type of burs in non-precious set
2. Students should carefully polishing the metal framework to prevent unwanted errors.
3. Students should frequently measure the thickness of the metal framework to prevent insufficient thickness.
4. Clinical advisor should always be informed if any adjustments on the clasp using pliers should be made.

5. Student should inform clinical advisor if the framework is unable to be seat or inserted, becomes unstable or shows inadequate thickness of metal before proceeding to the next step.

### **Fabrication of custom trays (if indicated)**

For denture with distal ends, custom tray fabrication may be needed. Student must study the laboratory and clinical steps along with the step of creating an altered cast and function impression before proceeding to appoint patients.

### ***Recommendations for custom tray fabrication***

1. Students should pass framework try-in before proceeding to this step. Draw the design and boundaries of the custom tray on the master cast. Fill in laboratory request form and sign.
2. Custom tray should cover areas of interest. It should not be under or overextended, therefore students should study the steps of design and the extension of custom tray.

### **Framework with acrylic tray try-in**

Students should check over and correct defects that may arise during fabrication before sending it to clinical advisor for approval and appointing patient.

### ***Required Material and Instruments***

1. Framework and custom tray
2. Acrylic burs for adjustments
3. Straight handpiece, carbide burs, stone burs, polishing burs
4. Edible pencil
5. Dappen dish, disclosing paste, flat brush

### ***Recommendations for frame work try-in with acrylic tray***

1. Examine the extension of the custom tray with framework.
2. Overextended tray must be adjusted.
3. Soften compound could be added to the insufficient length of tray.

### **Border molding and functional impression**

Student should study the step of border molding which has similar steps to border molding in complete dentures. Before functional impression, student should examine the correctness of denture piece before proceeding to the next step. Student should prepare and study about materials, tools and clinical procedure used in this step before starting.

### **Jaw relation records and tooth shade selection**

Students should check over and correct defects that may arise during fabrication before sending it to clinical advisor for approval and appointing patient.

#### ***Required Material and Instruments***

1. Framework with bite block fabricated
2. Waxing tools
3. Petroleum jelly
4. Bite registration material (Aluwax)

#### ***Recommendations for Jaw relation records***

1. Some cases patient may show a stable occlusion during denture try in and student could record the jaw relation and mount on the articulator by using hand articulation without the need of bite registration.
2. Occlusion rims on baseplates could be used in case patient has unstable occlusion or rocking of the denture.
3. Prior to create rims on baseplate, student should check the margins and irregularities on the surface follow by creating a horse-shoe shape using pink wax. Its shape should adapt well to patient's individual ridge shape.
4. After jaw relation record is completed, student should proceed to mount it on the articulator, check the occlusal plane, replace the bite registration with wax and send it to the clinical advisor for approval.

#### ***Recommendations for tooth shade selection***

Students should not appoint patients in only for shade selection. Students should manage time well in order to complete it in a visit along with other steps. Color shade panels that are available in the main clinic are as follows; Cosmo, Major dent. Other brands other than this, patient must provide payment by themselves.

### **Teeth setup and try-in**

Students should check over and correct defects that may arise during fabrication before sending it to clinical advisor for approval and appointing patient.

#### ***Required Material and Instruments***

1. Alcohol lamp, lighters
2. Waxing tools, wax knife
3. Pink wax



4. Mirror
5. Articulating paper

### ***Recommendations for teeth try-in***

1. Examine the shape, size, alignment and color of the artificial teeth
2. Check occlusion to see whether bite was registered properly.
3. Teeth try in step may be skipped due to minimal teeth set up. The decision is made entirely up to the clinical advisor.
4. After completing teeth try-in step, student should send for packing before appointing patient in for delivery.

### **Delivery**

Students should check the occlusion and teeth alignment whether it is in the correct position. Finished and polished denture must be sent to clinical advisor for approval before appointing patient in.

### ***Required Material and Instruments***

1. Finished and polished complete denture
2. Burs, polishing burs
3. Disclosing paste, dappen dish, flat brush
4. Articulating paper
5. Non-precious set
6. Vernier caliper
7. Pliers (In case wires are used)

### ***Recommendations for delivery***

1. Examine the stability of the denture, clasps and rest seats and correct any complications. A uncorrectable errors seek advise from clinical advisor as they may decide to send the denture back to the lab.
2. Examine the tissue surface to see any regularities that may cause irritation to soft tissues
3. Examine the margin and stability.
4. Check and adjust the occlusion using articulating paper.
5. After adjusting, students should finish up and polish the denture.
6. Post-insertion instructions and denture maintenance should be advised.

### **Adjustment**

### ***Required Material and Instruments***

Material and tools are the same as complete denture adjustment step.

***Recommendations for adjustments***

1. Take history and chief complain of the patient after the insertion. Check soft tissues for any change. Report patient's signs and symptoms along with plan for correction before adjusting.
2. In correction occlusion, unstable denture or loose fit, please adjust under clinical advisor's suggestion.
3. In the treatment record, students should record the patient's signs and symptoms, results from the intraoral examination, adjustments made, and other recommendations reported to the clinic advisor.
4. Make appointments with the patient until there are no longer any signs or symptoms, no lesions or ulcers from the dentures, and the patient can use the dentures well.
5. Give home-care instructions and recommendations to the patient so the patient can look after their dentures themselves.

## **Clinical Guideline for Acrylic Partial Dentures**

\_\_\_\_\_ Prior to proceeding with the prosthodontics treatment, the treatment plan, prosthesis design and preparation on duplicated cast must be approved by the student's clinical advisor. In the case that change must be made to the design during treatment, the student must note down the change in the design form with the signature of the clinic advisor, for every change that is made.

### **Abutment preparation**

Before an appointment with the patient is made, the student must study the procedures of abutment preparation. For every prosthesis made, the treatment plan, prosthesis design and preparation on duplicated cast must be approved by the clinic advisor.

### ***Required Material and Instruments***

1. Study cast and Duplicated cast with preparation
2. Partial Denture Dental Bur Set
3. Wrought wire, size according to design (optional for design with wrought wire clasp)

#### ***Recommendations for Abutment Preparation***

1. Review procedure of abutment preparation from the Clinical Guideline for Co-Cr RPD (page 47)
2. For APD treatment or any prosthesis with wrought wire as component, students must prepare the required size of wrought wire, according to the prosthesis design planned.

### **Custom tray fabrication, try-in, and border molding (if indicated)**

If the fabrication of a custom tray is necessary following the discussion with the student's clinic advisor, the student must draw the boundaries of the tray and stops onto the cast and send it to their clinic advisor for approval. Once approved, the cast can be sent to the laboratory for the fabrication of the custom tray.

Students may proceed with the try-in of the custom tray only when the custom tray fabricated by the laboratory is approved by the clinic advisor. If the extension of the custom tray with compound material is necessary, the student must complete it before sending for approval by the clinic advisor. An appointment with the patient should only be made when all works are approved by the clinic advisor. Materials and recommendations on custom tray try-in and border molding can be reviewed from Clinical Guideline for Complete dentures/Complicated acrylic partial dentures (page 38)

### **Final impression and master cast**

Prior to making an appointment for the final impression with the patient, students must discuss with their clinic advisor about the choice of impression tray, the suitable impression material, and the impression technique to be used. Once the final impression is made, students

must make a working cast and send it for approval with the clinic advisor before proceeding to the next step.

### **Jaw relation records and tooth shade selection**

Once the work is received from the laboratory and approved by the clinic advisor, students must discuss with their clinic advisor on the suitable technique of jaw relation recording. Students must follow the recommendations from the Clinical Guidelines for Co-Cr RPD (page 47) on mounting the working cast on the articulator.

#### ***Recommendations on Tooth Shade Selection***

Students should not make an appointment with their patient only for tooth shade selection; students must plan their work for each clinical appointments and manage their time appropriately so the shade selection can be done with the patient in time as well as approved by the clinic advisor before the work is sent to the laboratory.

The acrylic teeth mould charts available in the main clinic are Cosmo and Majordent. If students wish to use other brands of acrylic teeth, the patient must pay for the additional cost for that set of acrylic teeth.

### **Teeth setup and try-in**

Once the work is received from the laboratory, students must check the quality of the work by themselves prior to sending it to their clinic advisor. Things to check for are the correctness of tooth position, tooth shape, and occlusion. Any corrections to the work must be made and approved by the clinic advisor prior to making an appointment with the patient. Students may review additional information on this step from the Clinical Guidelines for Co-Cr RPD (page 47).

### **Delivery**

When students receive the work from the laboratory, students must check whether the tooth set-up is still in the correct position. For the work that has been packed and polished, students must send it to their clinic advisor for approval before proceeding with the treatment.

### **Required Material and Instruments**

1. Denture that has been polished
2. Materials or instruments to check for pressure points or overextended flanges
3. Materials or Instruments for adjusting and polishing acrylic
4. Materials or instruments to check the occlusion
5. Wire bending pliers (for wrought wire adjustment in dentures with wrought wire clasp)

### ***Recommendations for dentures insertion in patients***

1. If there are issues with the denture ie. instability, rest or clasp not well seated or fit, denture base not seated, make the corrections and discuss with the clinic advisor whether laboratory adjustment is required or not.
2. Check the tissue surface of the denture for fins and beads that may cause irritation for the patient's oral soft tissue
3. Check denture flanges, retention, and stability
4. Check occlusion with articulating paper and make corrections if necessary
5. After adjustments were made, the dentures must be finished and polished until shine, home-care instructions for the dentures and oral cavity must be given to the patient as well.

### **Adjustment**

#### ***Required Material and Instruments***

Same as those required in delivery

### ***Recommendations for denture adjustment after delivery***

1. Ask patient whether there are any signs and symptoms and examine the condition of the soft tissue in the patient's oral cavity. Report to the clinical advisor on the signs and symptoms from the patient's subjective report and the intraoral examination as well as the possible causes for the condition and the suitable adjustment to be made prior to proceeding with the adjustment.
2. If there are issues with the dentures ie. incorrect occlusion, loose or unstable dentures, corrections are to be made according to the clinic advisor's recommendations.
3. In the treatment record, students should record the patient's signs and symptoms, results from the intraoral examination, adjustments made, and other recommendations reported to the clinic advisor.
4. Make appointments with the patient until there are no longer any signs or symptoms, no lesions or ulcers from the dentures, and the patient can use the dentures well.
5. Give home-care instructions and recommendations to the patient so the patient can look after their dentures themselves.

## Clinical Guidelines for Fixed Partial Dentures

\_\_\_\_\_ Prior to proceeding with the prosthodontics treatment, the treatment plan, prosthesis design and preparation on duplicated cast must be approved by the student's clinical advisor. In the case that change must be made to the design during treatment, the student must note down the change in the design form with the signature of the clinic advisor, for every change that is made.

### **Tooth preparation**

Before an appointment with the patient is made, the student must study the procedures of abutment preparation. Students must prepare a provisional restoration from the laboratory, as well as check the quality of the work by themselves and send it in for approval by their clinical advisor. If there are any issues with the work, please correct and submit it for approval with the clinical advisor in charge before making an appointment with the patient.

### ***Required Materials and Instruments***

1. Local Anesthesia set (in case the abutment tooth is vital)
2. Study cast and duplicated cast with preparation
3. Crown and Bridge Dental Bur set

### ***Recommendations on Abutment Preparation***

1. Students must study the type and shape of the dental burs used for abutment preparation and prepare a sterilized dental bur set for the procedure before treatment in patients.
2. Students must check whether the airrotor, airmotor, and suction systems are functioning appropriately prior to every dental procedure.
3. In case the use of local anesthesia is indicated for vital tooth preparation, students must report to their clinical advisors the type and volume of local anesthetic agent and the injection technique they are going to use every time before injection in the patient. Students must make a record of local anesthetic usage by stamping and signing by their clinical advisors before taking the local anesthetic agent from the supply room.
4. If the abutment tooth has dental caries, abfraction or abrasion, or defective restorations, the students must ask their clinical advisors to check the tooth before preparation.
5. The preparation of the Finish line must be done correctly with appropriate characteristics, level, and position. If the finish line is designed to be located subgingivally, students must retract the gingiva with a cord to prevent damage to the surrounding gingiva.
6. If there are time constraints and the student is unable to finish preparing the tooth in one clinical session, students must make the initial preparation first so that the patient can be sent out with a provisional restoration placed. Students must spare some time for the

fabrication and placement of the provisional restoration, especially in the first abutment preparation visit.

### **Gingival retraction**

Once students have finished the preparation of the abutment tooth, the retraction of the gingiva is necessary to allow the flow of impression material into the area of the finish line for an accurate impression of the abutment tooth in the step of Final impression.

#### ***Required Materials and Instruments***

1. Retraction cord
2. Cord retractor
3. Hemostatic agent (if necessary, the main clinic uses Racestypine solution)

#### ***Recommendations for gingival retraction***

1. Students must prepare the impression material, impression tray, and instruments for the manipulation of the impression material prior to gingival retraction.
2. Before gingival retraction, examine the characteristics of the patient's gingiva and measure the gingival sulcus depth of the tooth to estimate the size of the retraction cord to be used.
3. Gingival retraction technique used must be discussed and agreed upon with the clinical advisor prior to the retraction in the patient.
4. Students must estimate the appropriate length of the gingival cord so it is not too long or short, and is capable of retracting the gingiva completely.
5. The hemostatic agent may be used in case there is bleeding from the gingiva in the abutment tooth area. However, students must take into account the systemic diseases and medical conditions the patient has before every usage.
6. Students must check whether the gingiva is properly retracted or not prior to making the final impression. A good gingival retraction must allow the clear visualization of the retraction cord in between the tooth and the gingiva as well as the entire finish line.

### **Final impression**

Students must study the properties of the impression material, the type of material, the technique, to make the appropriate choices to use in patients. The impression material and impression trays must be ready for use before completing the step of final impression.

#### ***Required Materials and Instruments***

1. Materials and instruments to clean the area of the abutment tooth in the patient
2. Impression tray with appropriate size for the patient
3. Impression material (Addition Silicone), the main clinic offers Silagum and Honigum

4. Materials and instruments for the manipulation and cleansing of the impression material (Silicone impression set)
5. Blade holder and Blade No. 15\*

\*Students must get permission and signature in the supply request form before retrieving the instruments from the supply room.

### ***Recommendations on taking Final impressions***

1. Students must clean the abutment tooth and the surrounding area prior to taking the final impression.
2. If the patient has any bony undercuts, students must discuss with their clinical advisors on how to correctly place the impression tray to prevent painful pressuring on the patient's oral tissue.
3. Students must understand the reason behind the use of Addition Silicone as impression material and the double mix double impression (putty wash) technique (the preferred final impression technique) as well as discuss with their clinical advisors before taking the final impression.
4. After the impression was taken, students must check the quality of the impression and its accuracy in replicating the details and shape of the abutment tooth themselves first before turning it in to their clinical advisors for approval.

### **Provisional restoration**

Students must prepare a provisional restoration from the laboratory and have already gained approval from their clinical advisor for the provisional restoration before proceeding with the final impression step.

### ***Required Materials and Instruments***

1. Cement spatula
2. Self-cured acrylic resin, the main clinic offers the brand Unifast Triad
3. Petroleum jelly
4. Burs for adjusting, finishing and polishing the provisional restoration
5. Temporary cement: Tempbond, Tempbond NE, Hy-bond Zinc Polycarboxylate cement
6. Silicone cup and brush

### ***Recommendations on fabrication of Provisional Restorations***

1. Students must plan their clinical sessions well so that there is enough time to complete all required steps.
2. Before relining the provisional restoration, students must apply petroleum jelly onto the abutment tooth and the surrounding gingiva to prevent the tight attachment of the provisional restoration after relining; so it can be easily removed for adjustments at chairside.



3. The mixing of Self-cured acrylic resin should start with the appropriate volume of monomer before adding the acrylic resin powder in the appropriate proportion.
4. After relining the provisional restoration, pencils may be used to mark and indicate the boundaries of the provisional restoration before removing the excess, and the finishing and polishing of the provisional restoration.
5. For provisional bridges, students must evaluate the joint areas and adjust them so that the embrasures are appropriate.
6. Students must study the properties and choose the appropriate type of Temporary cement, especially if there is a necessity to reline the provisional restoration again or the permanent cementation of final restoration in the next visit.

### **Bite registration**

Students must study the types and properties of bite registration materials in order to make the appropriate choice of material to be used in each patient case.

### ***Required Materials and Instruments***

1. Bite registration material, the main clinic offers the brand Occlufast (if the supply is unavailable, please ask the clinical advisor for permission to use other bite registration materials).

### ***Recommendations on Bite Registration***

1. Students must study the types and properties of the material used in the main clinic and are capable of choosing the suitable material for the case.
2. Students must assess and estimate the area and position of the bite registration before registration of the bite.
3. After bite registration is completed, the excess parts of the bite registration material should be cut and removed, for example, the area of bite registration that reaches below the height of contour and into the undercut areas or parts that contact with soft tissue. This is so that the bite can be correctly placed onto the working cast.

### **Die, Master cast and Lab prescription**

After taking the final impression, students must check whether the impression has completely replicated all the necessary intra-oral details or not and submit it for approval by their clinical advisor. Once the impression has been approved by the clinical advisor, students may proceed with the work.

### ***Required Materials and Instruments***

1. Gypsum Type 4 (Velmix)
2. Rubber bowl and spatula
3. Material for undercut block out
4. Bur set for working cast adjustment, finishing and polishing

*Recommendations in die and master cast fabrication and writing laboratory prescription*

1. Students may produce 2 sets of master cast for the fabrication of 1 set of removable die with Pindex system and 1 spare set. Students must perform the procedure of die trimming themselves and complete an evaluation with their clinical advisor for 1 piece of their work.
2. Once the die on the Pindex system is retrieved from the laboratory, students must mount the master cast on an articulator and measure the interocclusal space on the working model; it should be equal to that in the patient.
3. For bridges, students must submit the second set of master cast for confirmation of the pontic and the surrounding areas.
4. Students may send their works to laboratories indicated by the Prosthodontic Department only. When writing the laboratory prescription, students must fill in all information completely with clarity and precision, and signed by their clinical advisor before submitting it to the laboratory.
5. Laboratory submissions are conducted at the Laboratory on the 9th floor of the Dental Hospital. The record system of laboratory submissions and laboratory work retrievals is kept in the laboratory on the 9th floor and will serve as evidence for correct payment of all fees.

**Substructure try-in**

Once laboratory work was retrieved, students must check the quality and appropriateness of the work themselves before submitting it for approval with their clinical advisors. Any errors must be corrected before appointing with the patient for substructure try-in.

*Required Materials and Instruments*

1. Fit-checking Material, the main clinic offers in the brand of Fit Checker by GC (if supply is unavailable, ask for permission from the clinical advisor to use other materials such as Fit Tester by Tokuyama).
2. Articulating paper and Articulating paper forceps
3. Artifoil
4. Dental floss
5. Alloy finishing and polishing bur set, the main clinic offers both Non-precious and gold polishing sets.

*Recommendations on Substructure try-in*

Students must perform the substructure try-in in the correct sequence of checking the stability, margin, thickness of the metal, shapes and characteristics, and location of contacts. Students must be able to adjust the substructure until it is suitable while using the appropriate bur type after reporting the areas that need adjustments to their clinical advisor before doing so.

**Shade selection**

For shade selection of crowns or bridges, students must study the technique of shade selection by applying knowledge about the components of color and the natural characteristics of each tooth before comparing and selecting the shade that matches naturally with the patient's existing dentition.

*Required Materials and Instruments*

1. Shade guide
2. Mirror

### *Recommendations on shade selection for crowns and bridges*

1. Students must use shade guides that are universally approved such as the Vita 3D Master shade guide, and are able to properly select a color following the correct sequence of shades according to the color theory. This is so that students will be able to communicate effectively with the laboratory.
2. Students must adjust the position the patient, consider the surrounding lighting, and evaluate the moisture level of the natural tooth before shade selection.
3. Students must make the decision with their patient and their clinical advisor when selecting the tooth shade before submitting the work and desired shade color to the laboratory.

### **Full bake try-in**

Prior to full back try-in or the final restoration try-in, students must check the quality of the work retrieved from the laboratory; whether the shape, contour, color, and margins are correct or not. Errors should be corrected and the work should gain approval from the clinical advisor before making a try-in appointment with the patient.

### *Required Materials and Instruments*

1. Metal adjustment and polishing bur set and Porcelain adjusting kit
2. Materials and instruments to assess seating and fitting of the restoration: Dental floss, disclosing paste, fit checker, articulating paper, Artifoil, Articulating paper forceps

### *Recommendations in full back or final restoration try-in*

1. Students must check the fitting of the restoration following the correct sequence and use the suitable materials and instruments to do so.
2. If the color of the restoration does not match that of the patient's natural teeth, students must discuss with their patient and their clinical advisor before re-selecting the tooth shade and sending it to the laboratory for corrections.

### **Cementation**

In the step of cementing the final restoration on the abutment tooth, students must check the seating and fitting of the restoration on the abutment prior to cementation. The cement used must have properties suitable for the patient case.

### *Required Materials and Instruments*

1. Cement
  - Temporary cement: Tempbond NE
  - Permanent cement: discuss the choice of cement and select according to the clinical advisor's suggestion. The main clinic offers SS White Phosphate cement, Ketac Cem, RelyX Luting 2, RelyX U200, Panavia F 2.0, Variolink II
2. Materials and instruments suitable for the manipulation and cleaning of the cement chosen.

### *Recommendations on cementation*

1. Students must clean the abutment tooth before cementation of the restoration. Excess cement left after cementation (intra-oral) must be removed and cleaned to prevent the irritation of the gingiva surrounding the abutment.
2. Students must study the properties of the cement and the procedure in preparing the abutment for cementation of each type of cement and use the suitable cement for the case.

3. When changing from temporary cement to the permanent cement, students must prepare and clean the tooth surface of the abutment tooth and the tooth surface of the restoration before permanent cementation.

### **Recheck**

After permanent cementation of the restoration inside the patient's oral cavity, students must make another appointment with the patient to recheck and evaluate the restoration and oral condition.

#### *Recommendations on Rechecking*

1. Students must assess both the centric and eccentric occlusion of the patient.
2. Students must check the restoration quality, surrounding periodontal health and the condition of the opposing teeth as well as assess whether the patient has good oral hygiene or not.

### **Clinical Guideline for Post and core placement**

#### **Canal preparation**

The coronal preparation must be completed prior to the root canal preparation for post placement. The preparation must rid of all former restorations, carious tissues, and undermined tooth structures (tooth structure with less than 1mm thick based on the remaining tooth height). Smooth out the remaining tooth surface to serve as the vertical stop while conserving as much natural tooth structure as possible to provide a good ferrule for the restoration. The coronal preparation must provide sufficient tooth structure for maintaining the core on the vertical stop.

#### *Required Materials and Instruments*

1. Crown and Bridge preparation set, Peeso reamer with silicone stop
2. Instruments for root canal preparation ex. Endodontic plugger, Endodontic explorer
3. Alcohol lamp
4. Materials and instruments for irrigation and cleaning of root canal (metal cup for solutions, irrigation needle, paper point)
5. Periodontal probe
6. Finger ruler
7. X-ray film clip and x-ray film
8. Materials and instruments for temporary filling

#### *Recommendations for Root Canal Preparation*

1. **For Cast post & core, please complete the step of tooth preparation before proceeding to the following steps.**
2. Before starting root canal preparation, students must calculate the length of gutta percha from the existing radiograph (if not, they must take the radiograph first) that needs to be removed and inform their clinical advisors.
3. Removal of gutta percha can be performed by using a warm endodontic plugger or a peeso reamer. Length measurement must be performed constantly during this step.
4. When preparing the root canal, students must pay attention to avoid the formation of undercuts in the root canal. A peeso reamer is recommended for the removal of any undercuts. However, if the removal of the undercut with the peeso reamer will compromise dentine wall thickness, then the method of blocking out the undercut is

preferred. Undercut blockouts should be discussed with the clinical advisor and performed under their supervision.

5. Students must be aware of any contaminations from secretions such as blood or saliva into the root canal in every step of the procedure. If there is a necessity to take a radiograph to assess the level of the gutta percha, a temporary filling must be done prior to taking the radiograph.
6. For the preparation of root canal for prefabricated posts, students must use drills provided by the manufacturer of the prefabricated post following the preparation with peeso reamer so that the size and shape of the canal is suitable for the prefabricated post.
7. A radiograph must be taken to verify the length of the post after the root canal preparation is completed. For this step, a discussion with the clinical advisor is necessary before proceeding to the next procedure.

### **FOR CAST POST AND CORE**

After tooth and root canal preparation, for cast post and core case, please study the following information.

#### *Final impression*

#### Required Materials and Instruments

1. Impression tray
2. Impression material (addition silicone), the main clinic offers Silgum
3. Materials and Instruments to manipulate and clean the impression material
4. Metal core ex. Old, fractured endodontic file, adjusted paper clip
5. Adhesive and small brush for adhesive application

#### Recommendations on taking the impression for cast post and core fabrication

1. Double mis (single wash) impression technique is used for the impression for cast post and core fabrication. A partial tray may be used following the decision of the clinical advisor.
2. Before taking the impression, the metal core should be tried-in and adjusted to the suitable length and its diameter smaller than the root canal. The adhesive must also be applied onto the metal core.
3. The use of lentulo spiral in the root canal should be according to the suitable speed and direction.

#### *Working cast for post and core & Mounting on articulator*

After the impression was approved by the clinical advisor to be of appropriate quality (accurately replicate details of the prepared tooth and root canal with suitable length), students may produce a working cast from special gypsum stone. The working cast must be approved by the clinical advisor before mounting onto an articulator. The occlusion must be assessed and approved by the clinical whether the freeway space is sufficient or not.

#### *Wax pattern for post and core & Cast Post and core finished*

After the wax pattern for the cast post and core was retrieved from the laboratory, students must evaluate the quality of the work themselves to check whether the length of the post, the shape of the core, and the interocclusal distance are suitable or not before submitting it to their clinical advisor. Once approved, the wax pattern may be sent to the laboratory for

casting. The casted work must be evaluated in a similar manner as the wax pattern and must be submitted to the clinical advisor before an appointment is made with the patient for try-in.

#### *Post and core try-in*

Students must check the validity of the cast post and core retrieved from the laboratory and gain the approval of their clinical advisor before try-in in patient.

#### Required Materials and Instruments

1. Approved cast post and core
2. Materials and instruments for cleaning the cast post and core
3. Pressure point indicating material or instrument
4. X-ray film clip and x-ray film
5. Materials and instruments for root canal irrigation and cleaning (metal cup for solutions, irrigation needle and syringe)
6. Metal adjustment bur set

#### Recommendations for cast post and core try-in

1. Students must be able to choose the suitable materials for evaluating the seating and fighting of the cast post and core; the zinc oxide and alcohol mixture is used in the clinic.
2. The characteristics of a suitable cast post is the following:
  - a. Tip of post fits well with the gutta percha or the distance between the post tip to the gutta percha must not exceed 1mm.
  - b. Appropriate length of cast post
  - c. Core seats and adapts well to the tooth structure
3. The seating and adaptation of the cast post to the root canal is achieved through passive fit.
4. Before cementation of the cast post and core to the abutment, the root canal must be cleaned and a suitable cement must be chosen.

#### *Post and core cementation*

Students must plan the post and core cementation with their clinical advisor prior to doing so. The procedure of cementation must be well understood before treatment in the patient.

#### Required Materials and Instruments

1. Cast post and core that was already tried-in and approved
2. Materials and instruments to clean the cast post and core and the root canal
3. Cement: SS White Zinc Phosphate cement, use of other cements must be discussed and agreed upon with the clinical advisor.
4. X-ray film clip and x-ray film
5. Crown and bridge preparation set

#### Recommendations for cementation of cast post and core

1. Students must study the mixing, working, and setting time of the cement used and the technique of mixing and manipulation for each cement.
2. If the interocclusal distance after cementation was insufficient or the sprue had to be removed, students may use the bur for crown and bridge preparation to adjust the core. The cementation must completely set before the core adjustment.

#### **FOR PREFABRICATED POST**

Prefabricated post offered in the main clinic: 3M ESPE RelyZ post, D.T. light post

After the preparation of the tooth and root canal for prefabricated post are completed, please study the following instructions.

*Post try-in*

Required Materials and Instruments

1. Prefabricated post of the brand and size chosen with the clinical advisor
2. Silicone stop

Recommendations on prefabricated post try-in

1. The prepared root canal walls should be free of any gutta percha or residues.
2. The prefabricated post is able to fully reach the prepared length and size similar to the prepared canal.
3. A radiograph must be taken to ensure that the post is able to insert to prepared length.

*Post cementation & Core build up*

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Required Materials and Instruments

1. Prefabricated post that was tried-in
2. Materials and instruments to clean the post and the root canal
3. Material used for the adhesion of the prefabricated post:  
The material used in the clinic is Luxabond - Total etch and LuxacoreZ - Dual  
Students must discuss the choice and technique of the material used with their clinical advisor, and other material choice should be according to the clinical advisor's suggestion.

4. Crown and Bridge preparation set

Recommendations on luting of prefabricated post

1. Students should study the technique and instructions for luting of the prefabricated post in detail, including the method of preparation for root canal wall and of luting of the post.
2. Insert the Endotip into the root canal to completely fill in the root canal with luting material first, followed by the insertion of the prefabricated post to the prepared length.
3. If the material can be used for both the luting of the prefabricated post and the core build up, please inject the material until the post is covered and large enough so that it can be prepared to the designed shape of abutment (core).
4. If the loss of tooth structure does not have walls for core build up, please discuss the use of matrix and band with the clinical advisor in charge.