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| x/x/2015 | Date: |
| kefah | Doctor: |
| Lobna alhunaiti | Done by: |



Prosthodontics III

**University of Jordan**

**Faculty of Dentistry**

**5th year (2015-2016)**

Price & Date of printing:

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Designed by: Hind Alabbadi

***Types of RPD***:

Classification of RPDs according to the type of the base material :

1.Metallic RPD.

2.Acrylic RPD.

3.Flexible partial ( valplast , new integral )

\*Metallic RPDs :

1.Conventional co/cr. 2.Swing lock RPD. 3.Removable partial overdenture.

4.Implant supported RPD. 5.RPD with attachments. 6.RPD with telescopic crowns.

7. All cast , titanium RPD.

**\*conventional co/cr :**

It’s the oldest form of teeth replacement .

-main advantage : realignment isn't necessary and achieving parallism between abutments isn't that important ; because the retention in this type come from clasps.

-main disadvantage : appearance of metal clasps can be esthetically unacceptable( mainly if ant. Abutments are used ).

-it`s either tooth supported or tooth-tissue supported.

\***Swing lock RPD :** [**http://www.slideshare.net/indiandentalacademy/swing-lock-partial-denture-dentistry-dental-implants**](http://www.slideshare.net/indiandentalacademy/swing-lock-partial-denture-dentistry-dental-implants)**, recommended for reading**

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It’s a partial denture with a gate and projections-the projection might be either acrylic or metal- wich improve retention and stability.

These projections enguage the undercut areas , this type of contact provides frictional retention ( this is particularly imp. In ant teeth where undercut areas are rare).

-recommended for maximizing retention and stability.

-unique clasping mechanism offered by the incorporation of lock, hinge and gate assemblies.

-it's infrequently used because it's technique sensitive , and the durability of the retentive element of the locking mechanism decreases with time.

-used in maxillofacial prosthesis like obturators ( replacing teeth and other tissues ) in wich retention and support are a major problem. ( so we might need to clasp all the remaining teeth ).

🡪Most of the times our 1st choice would always be a conventional co/cr RPD.however, swing lock can address some specific edentulous situations better than conventional RPD :

Conventional RPD requires good abutments (molars,canines ) , if these abutments were extracted or not present for any reason or if there's gum recession or bone resorption and teeth aren't well supported inside the bone or the canine shepe doesn`t aloe me to use clasp on it , in these cases we use swing lock RPDs with projections increasing the stability. So we use it when maximum retention and stability is required.

🡪Certain modifications can be done to swing lock to fit better the case :

-swing lock with no projections 🡪 utilizes soft tissue undercuts

-swing lock with acrylic projections 🡪1. to correct certain esthetic problems (i.e gum recession )

2.To correct the contour of teeth

🡪**Indications :**

-Missing key abutments.

-Presence of few remaining teeth.

-Unfavorable tooth contours ( no undercuts) like lingually inclined teeth

-Retention and stability for maxillofacial prostheses.

-if there is depression and I want to increase the lip fullness.

- in maxillofacial prosthesis ; because there is teeth lose and other structure like the palate for example .

🡪**Contraindications :**

-Poor oral hygiene ( because a wide area gonna be coverd by the prosthesis )

-Shallow vestibule ( no enough space to accommodate the area ).

-High frenal attachment ( interferes with the arm ).

- Pts with poor muscle coordination; because this type of denture needs to be inserted and locked in certain way which is not easy for the pts with poor muscle coordination

🡪**Disadvantages** :

-difficult to construct.

-requires skilled technician.

-not easy for the pt to maintain good oral hygiene.

-requires much dexterity to place and remove it .

**\*Removable partial ovedenture:**

All the details will be mentioned in the lec of overdentures .

**\*Implant supported partial dentures :**

It's rarely used ; usually fixed prosthesis are used with implants .However, in certain cases we can't use implant supported fixed dentures :

-high failure rate due to differences in abutments (teeth+ implants )

- long edentulous areas ( no enough bone support )

Note: if we have fixed –fixed bridge which has tooth abutment at one side and implant abutment at the other side ; you know that natural tooth has some sort of physiological movement but the implant doesn`t have ,so this movement will enhance bone resorbtion around the implant which is fixed inside the bone.

**\*Partial denture with attachments :**

-It's single sited or unilateral RPD

Used when the pt refuses to use an RPD that crosses the arch or when the pt don’t want clasps to show.

\*RPDs with telescopic crowns:

🡪Telescopic crown is a system that consists of 2 elements:

 -Internal crown called primary crown

-External crown called 2ndry crown .

The 1ry crown is cemented on the abutment tooth and the 2ndry one is attached to the removable denture and has a shape similar to the natural tooth.

🡪It provides good retention , support and stability .

Retention ; through the friction between the two crowns.

Support ; because it's formed of 2 parallel crowns the load is directed with the long axis of the abutments.

Stability ; parallel vertical sides of the 2 crowns.

-retains the RPD by utilizing a crown with parallel sided abutments .

-sometimes we supply the inner crown with some type of attachment to increase the retention .

**🡪Advantages** :

Well retained , only on one side so easy to wear and clean.

🡪steps of construction of this type of RPD:

-prep. Of the teeth and they should be parallel ,impression making , crown fabrication and cementation , impression making , construction of the rpd .

🡪this type of denture is more expensive , more difficult to construct and has difficult castability in comparison to conventional RPD.

**\*Acrylic RPDs :**

- temporary RPD ( transitional ):

a.Interim partial denture.

b.Treatment partial denture.

c.Immediate partial denture.

d.Spoon denture.

Note: in acrylic RPD there is no need to record the post dam area , but usually we do this to make the pt get used to cover the palate when complete denture will be made for him

***-transitional PD*** :

RPD serving as temporary prosthesis to which artificial teeth can be added as natural teeth are lost .

🡪**Indications** :

-When age , health , lack of time preclude more definitive treatment.

-Young pt who has lost 1 or 2 teeth as a result of a trauma .

-When ortho bands and wires are difficult to place due to short length of teeth.

-Elderly pt whose health contraindicates lengthy appointments .

- pt refuses to extract , very few remaining teeth so we transfer him from PD to CD gradually. the problem with the this type of denture is that there is continues loading on the abutment tooth , because there is only clasps which gives retention without reciprocation ; that`s why we call it transitional .

**\*interim partial dentures** :

Designed to enhance esthetics,stabilization and/or function for a limited period , after which it's to be replaced by a definitive prosthesis.

Ex: the pt is still young and I can't place an implant for him because he is still growing , so I use this type.

**\*Treatment partial denture:**

Dental prosthesis used for the purpose of treating or conditioning the supporting structures.

(temporarily raising the bite and conditioning the tissues ).

🡪Indications :

-vehicle to carry tissues

-increase or restore VDO

- splint following surgical procedures

**\*Immediate partial dentures :**

A CD or RPD fabricated for placement immediately after removing teeth.

-nicknamed as flippers . ( most inexpensive type )

- mainly used for ant. Teeth .

- made prior to extraction of teeth so it can replace them.

- immediate replacements can start from scratch!

\*steps for the addition to an existing partial denture:

1.Take an overall impression while the partial is in place inside the mouth.

2.before pouring your impression , block out the undercuts.

3. cut the teeth to be extracted out of the cast , and put in place a base with a wax rim

You need to make an index before cutting out the teeth, to be able to place your acrylic teeth in the same position occupied by natural teeth.

\*complications of acrylic dentures :

-completely tissue-supported (causing gingivitis , gingival hyperemia)

- clasps not properly designed ( no bracing for the retentive arm this causes mobility of the abutment teeth )

**\*Spoon denture :**

It's not a functional prosthesis , only designed for esthetics.

*-not all acrylic RPDs in the ant. Region are spoon dentures.*

-It should be designed away from teeth , taking its support from the palatal vault .

- stability is gained from the shape of the palate ( it should be deep ).

- ant. There should be no interference with occlusion.

- at rest the pts tongue contacts it and stabilize it in position .

\*design considerations : 1-mucosa should be firm with submucosa.

2-deep palatal vault.

3-no occlusal interferences.

Advantages :Cheap and easy to construct

-disadvantage : lack of stability.

**\*Nylon thermoplastic (valplast) PD**:

Flexible , biocompatible ,thermoplastic nylon with unique physical and esthetic properties.

-its translucency allows pts natural tissue color to appear through.

-clasps are made from the same material of the base making it more esthetically pleasing.

-it's flexible but after a while it becomes hard like acryl.

-looks more like an acrylic rather than metallic partial dentures

-how to use : the pt put it in warm water in order to be flexible , the put it in his mouth and it will return to its rigidity.

**\*All-cast titanium denture base :** extra from last yr sheet

-For the restoration of severely worn dentition with accompanying loss of VDO.

- reduced interarch distance that precluded the use of conventional RPD.

\*Desirable characteristics of titanium :

-Favorable mechanical properties.

-low density.

-comparatively low cost , this makes it suitable for the construction of all-cast metal denture base with a metal occlusal surface . ( full rehab., full crowns , splints ).

**\*mechanical properties :**

-light weight .

-outstanding biocompatibility prevents metal allergic rxns.

**\*Lab drawbacks :**

-lengthy lab works.

- inferior cast ability .

-rxn layer forms on the cast surface .

-difficult to polish .

- high initial cost .

\*titanium alloy is shown to be a successful alternative to conventional RPD :

-when conventional denture alloys are contraindicated

-when acrylic mucosa-borne dentures weren't tolerated.

-when we want to raise the VDO .

-in pts with Ni allergy .

Note : I used last yr sheet in order for the concepts to be to be clear. good luck all☺

**Done by : lobna alhunait**