**Lect. 5+6 Prosthodontics Dr. Thekra Ismael**

**5th class**

**Post insertion problems in complete denture** .

Treating a completely edentulous patient and being able to restore some degree of function, esthetics, and the individuals self- esteem can be a very satisfying experience for a dentist. Or it can be an extremely frustrating experience if things fail to go smoothly and the patient comes back repeatedly with complaints about the quality of the denture and the capability of the dentist. It is unlikely that any dentist can solve all the problems that patients may present. Certainly the best approach is to avoid as many problems as possible. This can be accomplished most effectively by selecting a satisfactory technique and by using care in diagnosis and all phases of treatment. Adequate patient education is also essential. Factors which may limit the prognosis of treatment must be explained to the patient.

Post insertion care is a critical phase in the treatment of the edentulous patient. Scheduled and systemic follow up care can uncover minor problems and complaints which can become major problems if not treated promptly. There are problems arises subsequent to the insertion of complete dentures. These problems may be transient and may be essentially disregarded by the patient, or they may be serious enough to result in the patient being unable to tolerate the dentures. Some complication requiring a quick solution. Another difficulty would be the adaptation of the patient to the required changes in their day time habit pattern which, is not easy. Complete denture problems are divided into many general categories. Specific problems are listed in each category and their probable causes, specific diagnostic procedures, and appropriate corrective measures are present

Complete denture fabrication techniques, and placement of a complete denture are not the final steps in the treatment of edentulous, patients and patient's visit to the dentist continues long after that. Two thirds of the denture wearers surveyed in a study reported that they were “very satisfied“ with their maxillary denture as compared with 51% for mandibular dentures, of the individuals who wore their dentures “all day”, 5% were “very dissatisfied” with at least one of their dentures.

Many practitioners will experience a situation, when a patient with newly fabricated complete dentures continues the experience difficulty in adapting to them; this can lead to a long period of appointments that may not result in resolution of the problem. Therefore, it is often concluded that there is some patient factor either age, gender, medical or psychological status that is hindering the success of treatment.

Treatment challenges for such patients have traditionally been described as a combination of function, comfort, and aesthetics. Often there is not total agreement between the patient and the dentist as to the adequacy of their dentures.

Several authors cite the most frequent complaints with complete dentures are those pertaining to aesthetics, retention and stability, comfort while eating, and the accumulation of food under the appliance. The factor that most often appears to have an impact on either success or failure of complete dentures is aesthetics. Sometimes the appearance of their dentures prevents from wearing them. The way in which the patient believes he should look is not always in accordance with the clinician’s perception of a pleasing appearance. Other studies reported complete denture patients experiencing difficulties with their dentures most frequently complained of looseness of their dentures, aesthetics, difficulty while eating, and accumulation of food under the appliance.

*Many factors may influence patients’ satisfaction with their dentures*:

1. Quality of bone tissue and
2. Oral mucosa of denture bearing area, tissue changes that occur on denture bearing area due to alveolar ridge resorption lead to poorer denture retention and stability which consequently affects patients’ satisfaction.
3. The adaptability of the neuromuscular mechanism,
4. Individual feeling of security by denture wearing,
5. Influence of the surrounding muscles on denture flanges,
6. Viscosity of saliva,
7. Patient’s age,
8. Position of occlusal plane,
9. Occlusion,
10. Hygiene, type of food, etc.

**Classification of denture complaints**

 ***According to the time of delivery:***

• Immediate complaints.

• Delayed complaints.

 **General classification**

• ***Complaints about comfort of the denture:***

- Sore spots

- Burning sensation

- Redness

- Pain in TMJ

- Tongue & cheek biting

- Swallowing & sore throat

- Nausea & gagging

- Deafness

- Fatigue of the muscles of mastication

• ***Complaints about function of the denture:***

- Instability or poor fit

- Interference

a) When swallowing

b) Clicking

• ***Complaints about esthetics:***

- Fullness under the nose

- Depressed philtrum or naso-labial sulcus

- Upper lip sunken in

- Too much of teeth exposed

- Artificial look

• ***Complaints about phonetics:***

- Whistle on “S” sounds

- Lisp on “S” sounds

- Indistinct “TH” & “T” sounds

- “T sound like “TH”

- “ F” & “V” sounds indistinct.

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| **PROBLEMS RELATED TO SOFT TISSUE** | | |
| Complaints/area | Causes | Treatments |
| **Sore spots – mandible** | | |
| Peripheral areas | Overextension | Adjust denture accordingly |
| Unpolished or sharp edge | Polish denture borders |
| Herpetic or apthous ulcer | Leave denture out as much as possible and wait 7-10 days |
| Crest of ridge | Bone spicules | Identify the area in denture with pressure – indicating paste and provide relief over spicule and/or surgically remove spicule |
| Spinous ridge crest | Provide relief in the denture |
| Pressure spots at time of impression | Use PIP or indelible pencil to determine the areas and adjust accordingly |
| Occlusal prematurities | Correct occlusal defects, recheck vertical dimension and clinical remount |
| Side of ridge-anterior area | Overextension | Use pressure indicating paste and adjust denture border involved |
| Maximum intercuspation not in harmony with centric relation | Enlarge centric area; grind mesial inclined planes of maxillary teeth and distal inclined planes of mandibular teeth using a clinical remount |
| Side of ridge-bicuspid area | Lingual tori ( nonyielding areas) | Provide adequate relief in denture base |
| Pressure spots at [time](http://www.dent.ohio-state.edu/completedentures/POSTPROB.htm) of impression | Adjust denture accordingly |
| Shrinkage of denture during  processing ( dimensional changes) | Rebase denture |
| Error in occlusion - occlusal prematurities | Check occlusion on the opposite side of arch from the sore spot |
| Pressure on mental foramen if ridge is greatly resorbed | Provide adequate relief |
| Side of ridge-posterior area | Overextension in lateral throat area | Shorten posterior of lingual flange |
| Error in occlusion | Check teeth diagonally across the arch from the sore area |
| Spinous projection of mylohyoid ridge distolaterally ( feeling of sore throat) | Correct undercut surgically; you must under extend the denture.  Relieve denture if not severe |
| Overextension in anterior area (causes rotation of distal flanges) | Adjust peripheral overextension |
| Under lingual flange | Maximum intercuspation not in harmony with centric relation (drives mandibular denture forward) | Enlarge centric area and adjust local area- |
| Under labial flange | Excessive overbite | Adjust anterior occlusion |
| Habit- mastication in protrusive relation | Train patient to masticate in centric |
| Generalized soreness and redness | Heavy biting force- strong musculature | Reduce buccolingual width of teeth; reduce vertical dimension; use soft lining if necessary |
| Excessive vertical dimension of occlusion | Reduce vertical dimension |
| Locked occlusion | Enlarge centric area |
| Failure to provide freedom for Bennett movement (soreness usually on working side | Reduce cusps to a nonanatomical plane or reset teeth |
| Improperly processed base material | Rebase denture |
| **Sore spots – maxilla** | | |
| Peripheral areas | Overextension | Adjust denture accordingly |
| Unpolished or sharp edge | Polish denture borders |
| Herpetic or apthous ulcer | Leave denture out as much as possible for 7-10 days |
| Maxillary frenum | Overextension | Open a V-shaped notch for the labial frenum and widen the buccal frenum areas |
| Posterior border of denture | Sharp edge at the post dam area | Adjust sharp edge slightly without reducing dam area |
| Midline of denture | Prominent midsuture or torus palatinus | Provide some relief over the area |
| **Generalized discomfort** | | |
| Improper occlusion | | Correct occlusion (clinical remount) |
| Maximum intercuspation not in harmony with centric relation | | Enlarge centric area (clinical remount) |
| Excessive vertical dimension of occlusion | | Reduce vertical dimension (clinical remount) |
| **Burning sensation** | | |
| Maxillary anterior hard palate and anterior alveolar ridge area | Pressure on anterior palatine foramen | Relieve area over foramen |
| Maxillary bicuspid area or molar tuberosity | Pressure on posterior palatine foramen | Relieve area over foramen |
| Mandibular anterior region | Pressure on mental foramen | Relieve area over foramen |
| Generalized | Improperly processed | Reline denture; replace as much as possible base material with [new](http://www.dent.ohio-state.edu/completedentures/POSTPROB.htm) acrylic resin |
| Tongue | Allergic reaction xerostoma |  |
| **Redness** | | |
| Fiery redness - All tissue contacted by denture including tongue and cheeks | Denture base allergy (very unusual) | Remake denture and use all metal base (after allergy test) |
| Bearing tissues | Ill-fitting denture, Avitaminosis | Remake or rebase dentures. Employ vitamin therapy regimen |
| **Tongue and cheek biting** | | |
| Thin or under extended periphery (base material does not provide enough support for the cheek) | | Build out thin areas, or extend the short periphery |
| Insufficient interarch clearance between distal parts of denture bases | | Thin maxillary denture over tuberosity; if more space is required, remove it from the retromolar area of the mandibular denture |
| Inadequate amount of horizontal overlap in molar region | | Re-contour buccal surface of mandibular molars and bicuspids; eliminate the tight contact of the maxillary buccal cusps on the mandibular buccal surfaces |
| **Pain in TMJ** | | |
| Insufficient vertical dimension of occlusion | | Increase vertical dimension of occlusion |
| Maximum intercuspation not in harmony with centric relation | | Make new occlusal record, regrind and remount occlusion |
| Arthritis | | Treat with analgesics |
| Trauma | | Treat with analgesics |
| **Gagging** | | |
| Immediately upon insertion | Maxillary denture overextended or too thick in posterior border | Adjust denture or thin posterior border |
| Lack of retention | Reline denture |
| Mandibular denture too thick in distolingual flange | Reduce thickness or distolingual flange |
| Delay (2 weeks - 2 months after insertion) | Incomplete border seal allowing saliva under denture | Increase border seal with self-curing acrylic resin ( possibly at the posterior palatal border |
| Improper occlusion causing denture to loosen and allowing saliva under denture | Correct occlusion (clinical remount) |
| **Deafness** | | |
| Decrease vertical dimension of occlusion (rare) | | Increase vertical dimension of occlusion |
| **Fatigue of the muscles of mastication** | | |
| Excessive vertical dimension of occlusion | | Reduce vertical dimension of occlusion |
| Insufficient vertical dimension of occlusion | | Increase vertical dimension of occlusion |

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| **PROBLEMS RELATED TO FUNCTION** | | | |
| Complaints/area | | Causes | Treatments |
| **Instability** | | | |
| Looseness of mandibular denture | | Error in occlusion (maximum intercuspation not in harmony with centric relation) | Correct faulty occlusion by remount and regrind procedure |
| Occlusion plane too high | Reset teeth at a lower plane |
| Underextension of periphery (inadequate impression) | Rebase denture providing proper extension |
| Inability of patient to master denture | Use denture  adhesives to help develop skill in handling denture ( for a short time only) |
| Tongue position (retracted tongue) |  |
| Looseness of maxillary denture | Occasionally | Underextension in some area | Correct with self-curing acrylic resin; first check with compound for diagnostic purpose |
| Faulty occlusion | Correct Occlusion |
| Overextension of peripheries | Adjust denture accordingly |
| Dehydration of tissue due to alcoholism | Remove cause |
| Displacement of flabby tissues when making impression | Correct surgically; modify impression technique to change primary denture stress-bearing area to the buccal shelf |
| When eating on either side | Nonyeilding area in hard palate (ridge tissue yields under chewing stresses; denture rocks on hard area | Provide relief chamber over non-yielding area |
| Incorrect tooth position (teeth may beset too far buccally off ridge | Rebalance in lateral excursions; reset teeth where nature should have had them |
| Chewing resistant foods | Instruct patient to maintain soft diet until mouth is conditioned to wearing denture |
| Approximately every 2 hours | Heavy mucinous saliva | Prescribe astringent mouthwashes and regular scrubbing of dentures; reduction of carbohydrate |
| Incorrect tooth position ( teeth may be set too far buccally and labially | Correct surgically; change primary denture stress -bearing  area to the buccal shelf |
| Improper incising habits | Train patient to masticate in centric relation |
| Loss of posterior palatal seal (seal on hard palate; posterior limit not in hamular notches; insufficient valve seal) | Increase postpalatal seal with self-curing acrylic resin; first use compound as a diagnostic aid |
| When yawning or opening wide | Denture base too thick in buccal posterior area (coronoid process exerts forward and downward force on posterior of denture upon opening) | Reduce thickness of denture base |
| Overextended in hamular notch | Shorten denture until pterygomaxillary ligament does not exert tension on posterior border when mouth is opened wide |
| Inadequate posterior palatal seal | Increase postpalatal seal with self-curing acrylic resin |
| When talking | Inadequate posterior palatal seal | Increase postpalatal seal with self-curing acrylic resin |
| Overextended in posterior region | Shorten posterior until soft palate does not lift upward and break contact with the denture base |
| When occluding in centric relation | Improper occlusion | Correct occlusion |
| Poor denture foundation  (flabby tissues over ridge) | Correct surgically; change primary denture stress-bearing area to the buccal shelf |
| Incorrect tooth position (teeth set too far buccally) | Reset teeth |
| Maximum intercuspation not in harmony with centric region | Enlarge centric area |
| Nonyielding area in hard plate | Provide relief in area |
| Only a feeling of looseness (support and retention are present yet denture feels suspended in mouth | Large area of nonyeilding tissue in hard plate | Provide relief chamber, adequate to permit denture to be properly seated |
| **Interference** | | | |
| When swallowing | | Maxillary denture too thick or over-extended in posterior region | Reduce thickness or adjust posterior |
| Mandibular denture too thick or overextended in posterior lingual flange area | Reduce thickness or adjust posterior lingual flange area |
| Insufficient vertical dimension of occlusion | Reduce vertical dimension |
| Excessive vertical dimension of occlusion | Reduce vertical dimension |
| Incorrect tooth position (posterior teeth set too far lingually - tongue crowded | Reset teeth |
| Clicking | | Excessive vertical dimension of occlusion | Reduce vertical dimension |
| Ill-fitting dentures | New dentures |
| Overextended lower dentures | Reduce peripheral length |

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| **PROBLEMS RELATED TO ESTHETICS** | | |
| Complaints | Causes | Treatments |
| Fullness under nose | Labial flange of maxillary denture too long or too thick | Reduce length or thickness of labial flange |
| Depressed philtrum | Labial flange of maxillary denture too short | Increase length or thickness of labial flange |
| Upper lip sunken in | Maxillary anterior teeth set too far lingually | Reset anterior teeth labially |
| Too much of the teeth are exposed | Excessive vertical dimension of occlusion | Reduce the vertical dimension of occlusion |
| Incisal plane too low | Reset teeth at higher plane |
| Cuspids and lateral incisors too prominent | Adjust accordingly |
| Artificial appearance | Technique setup (teeth are too regular in alignment) | Individualize by rotating and shortening some teeth |
| All teeth in same shape | Choose different but complimentary shades; use staining techniques |
| Lack of individualization of teeth | Grind incisal edges and angles |
| Lack of individualization of denture base | Individualize gingival contour and color of denture base |

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| **PROBLEMS RELATED TO PHONETICS** | | |
| Complaints | Causes | Treatments |
| Whistle on "S" sounds | Air stream passes unimpeded or with inadequate impedance between the dorsal surface of the tongue and the anterior palate | Increase the palatal resin convex contours  lingual to the maxillary central incisors to impede the air stream passing between the tongue and palate.  Create rugae if necessary |
| Lisp on "S" sounds | The air stream passing between the tongue and anterior palate is excessively impeded, usually by rugae or excessive resin contour(to small anterior air space). | Thin the palatolingual area |
| Maxillary & Mandibular incisors or premolars contact during sibilant (s, sh, z, ch) sounds | Occlusal vertical dimension too great | Reduce occlusal vertical dimension until premolars no longer contact during speech |
| Clinician observes that incisal edges of maxillary incisors contact the lower lip 1 mm or more labial to the wet/dry junction of lower lip when "F" & "V" sounds are made | Maxillary teeth may be set too far labially | Evaluate lip support and overall appearance of anterior teeth as they are positioned.  Reset to a more lingual postiion as needed.  incisal edge of maxillary incisiors should contact the wet dry junction ro just lingual to it during production of the "F" & "V" sounds. |

A study done for CD complains. The results showed that the number of mandibular dentures requiring adjustments was significantly higher than maxillary dentures in all the post-insertion appointments.

Most frequently injured maxillary areas were posterior palatal seal area in the soft palate (27%), in the mandible, the most frequently injured areas were retromylohyoid area (48.6%).

The least common locations for maxillary ulcerations were hard palate and mid-palatal suture (0%), incisive papilla and rugae (0.65%), tuberosity (2.6%), and buccal and labial sulci (4.6%). The lowest frequency of lesions in the mandible was seen in the sublingual fold (0%), labial sulcus and mylohyoid region of the lingual sulcus (1.2%) and buccal frenum and buccal shelf (2.1%).

No significant differences were detected between males and females in terms of mucosal injuries in the above-mentioned anatomic areas of the maxilla and mandible.

The most frequently observed faults in denture construction related to retention and vertical and horizontal jaw relationships. There is significant relationship between inadequate retention and in proper intermaxillary relationships and patient’s complaints of looseness and difficult eating.

Clinician must carefully evaluate the denture for faults in horizontal and vertical jaw relationships before concluding that the patient’s complaint is related to age, gender, or general medical condition

**Limitations of Dentures**

* Dentures are less efficient than natural teeth
* Some people can eat all foods easily, but these are the exception
* Generally the better the ridge form, the fewer problems are encountered. Patients with minimal ridges should be advised that their dentures will likely move (especially the mandibular) and their efficiency will therefore be reduced.
* Patients with minimal ridges will likely encounter more sore spots than others.
* It is wise to point out these limitations to patients prior to the delivery appointment so that it is viewed as an explanation, rather than an excuse.

**Adaptation to Dentures**

Adaptability is affected by:

1. Length of time wearing dentures.
2. Amount of residual ridge remaining.
3. Degree of changes made in new dentures.
4. Individual variation (e.g. patients with more acute **oral** sensory perception have more difficulty adapting).

**Adaptation** to Chewing may be affected if:

1. CO has been changed to coincide to CR.
2. Tooth positions (esp. incisors) have changed.
3. Vertical dimension has changed.

These patients may experience initial decreased efficiency, cheek or lip biting. Adaptation may be improved by initially eating soft foods, increasing to hard foods, cutting food into smaller pieces, and placing food towards the corners of the mouth. Adaptation may be accompanied by an initial, transitory increase in saliva. Patients should be advised of the need to persevere while their neuromusculature adapts to the new prostheses.

**Speaking** may be affected by changes in:

1. Tooth position (esp. anteriors).
2. Tongue space (particularly if patients have been without dentures for some time).
3. Palatal contours.

Initial speaking problems are usually transitory, since the tongue is very adaptable – tooth positions must be close at delivery, however).

**Appearance** may be changed in some individuals. These changes are usually due to:

1. Increasing length of incisors (worn).
2. Changes in vertical dimension.
3. Improved lip support (not help with wrinkles).