

Post insertion problems in complete denture

There is, inevitably, the potential for problems to arise subsequent to the insertion of complete dentures. These problems may be transient and may be essentially disregarded by patient or they may be serious enough to result in patient being unable to tolerate dentures.

Ideally, the first post-insertion visits should be approximately 24 hours after insertion of the dentures. In this situation, the patient is instructed not to remove the dentures during this period. If the patient cannot be seen for several days after the first insertion, he should be instructed to remove the dentures if there is any severe discomfort. However, he should reinsert the dentures for at least 6-8 hours before the next appointment.

At the first post-insertion appointment, the patient is asked to relate his experience. The operator should then remove the dentures and examine the tissues, especially those areas noted by the patient. Observe for inflamed or ulcerated areas and areas painful to palpation. After correcting any problems the patient should be given an appointment at the 72-hour post insertion point (48 hours after first appointment). Successive visits should be encouraged at the discretion of the patient until all problems are corrected as determined by the dentist.

For many patients, three adjustments are sufficient to make them comfortable with their new denture. Patients must understand that even the best dentures are only about 30% as efficient as natural teeth. It is the patient's responsibility to learn how to use them efficiently within their limits of performance.

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.

Factors causing problems may be grouped, essentially into four causes:

1. Adverse intra-oral anatomical factors eg atrophic mucosa.
2. Clinical factors eg poor denture stability.
3. Technical factors eg failure to preserve the peripheral roll on a master cast.
4. Patient adaption factors.

Many factors may influence patients' satisfaction with their dentures:

1. Quality of bone tissue.
2. Oral mucosa, tissue changes that occur on denture bearing area due to 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 plan
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
- Tongue & cheek biting
- Pain in TMJ
- 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.

Complaints about comfort of the denture		
Complaints area	Causes	Treatments
Sore spots – mandible		
Peripheral areas	Overextension	Adjust denture accordingly
	Unpolished or sharp edge	Polish denture borders
	Herpetic or aphthous 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 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 ⁴
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 aphthous 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 acrylic resin
Tongue	Allergic reaction xerostoma	Remake acrylic denture with other material

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 bicuspid; 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
Delay (2 weeks - 2 months after insertion)	Mandibular denture too thick in distolingual flange	Reduce thickness or distolingual flange
	Incomplete border seal allowing saliva under denture	Increase border seal with selfcuring 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

Complaints About Function of the Denture			
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)	corrected by having patients train themselves to place their tongue over the groove on the lingual surface of the denture	
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 stressbearing area to the buccal shelf

When eating on either side	Nonyielding 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
	Displacement of flabby tissues when making impression	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 palatal seal	Increase postpalatal seal
	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
	Only a feeling of looseness (support and retention are present yet denture feels suspended in mouth)	Nonyielding area in hard plate	Provide relief in area
		Large area of nonyielding tissue in hard plate	Provide relief chamber, adequate to permit denture to be properly seated
Interference			
When swallowing		Mandibular denture too thick or overextended in posterior lingual flange area	Reduce thickness or adjust posterior lingual flange area
		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

Complaints about esthetics		
Complains area	Causes	Treatments
Fullness under nose	Labial flange of 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	Max. anterior teeth set too far lingually	Reset anterior teeth labially.
Too much of the teeth are exposed	Excessive OVD	Reduce OVD
	Incisal plane too low	Reset teeth at higher plane
	Cuspids & lateral incisors too prominent	Adjust accordingly
Artificial appearance	Technique setup (teeth are too regular in alignment)	Individualize by rotating & shortening some teeth
	All teeth in same shape	Choose different but complimentary shades; use staining techniques
	Lack of individualization of teeth	Grind incisal edges & angles
	Lack of individualization of denture base	Individualize gingival contour & color of denture base.

Complaints about phonetics		
Complains area	Cause	Treatments
Whistle on "s" sound	Air stream passes unimpeded or with inadequate impedance between the dorsal surface of the tongue & the anterior palate	Increase the palatal resin convex contours lingual to the max. central incisors to impede the air stream passing between the tongue & palate. Create rugae if necessary.
Lisp on "s" sound	The air stream passing between the tongue & the anterior palate is excessively impeded, usually by rugae or excessive resin contour	Reduce the palatal resin convex contours lingual to the max. central incisors.
Incisors or premolars contact during sibilant (s,sh,z,ch) sounds	OVD too great	Reduce OVD until premolars no longer contact during speech.
Clinician observes that incisal edges of max.	Maxillary teeth may be set too far labially.	Evaluate lip support & overall appearance of ant. teeth as they are

incisors contact the lower lip 1mm or more labial to the wet/dry junction of lower lip when "f" & "v" sounds are made.		positioned. Reset to a more lingual position as needed. Incisal edge of maxillary incisors should contact the wet dry junction or just lingual to it during production of the "f" & "v" sounds.
Unclear pronunciation of "Th" and "T" sounds	Excessive air space anterior palatal area of the denture	Increase the palatal resin convex contours
"T" letter sounds like "Th"	Inappropriate interocclusal distance; Lingual position of upper anterior artificial teeth	Increase vertical dimension; Rearrangement of the related artificial teeth

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%). Lowest frequency of lesions in mandible seen in sublingual fold (0%), labial sulcus and mylohyoid region of 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 improper 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:

1. Dentures are less efficient than natural teeth
2. Some people can eat all foods easily, but these are the exception
3. 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).