DENT 5909
Wednesday, April 2, 2008

Lec: Trial Insertion - Wax Try In

Lab: Continuation of Set Up #2 (posterior)
     Festooning

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Wax Try In and Customization

When the posterior prosthetic teeth are set and the wax rims are festooned, the trial (prototype) of the dentures are ready for the “wax try in.”

Wax Try In and Customization

This setup is tentative. Changes are made at chairside depending upon the esthetic needs of the patient and the opinions of the dentist.

Probing

• Verifying the JRR
  – Centric relation
  – Physiologic rest position
  – Occlusal vertical dimension
• Esthetics and Phonetics
• Everyone’s happiness
Verifying the JRR’s

- Errors in CR can interfere with verifying other JRR’s

New CR, Remount, re-verify.

Methods used to verify your mounting

- Insert dentures and hold lower in position with your index fingers
- Retrude the mandible and close into centric relation
- Observe any shift in the upper denture
- Look for even contact of the posterior teeth bilaterally

Note the separation of the posterior teeth in CR. This patient’s centric relation is incorrect.
Recline the chair back slightly, this will help retrograde the mandible.

Stabilize mandibular base with your index fingers with the thumbs under the mandible (bimanual technique).

Rehearse closing with the patient.

Have patient gently close into the recording medium just short of tooth contact.

Remount (usually the mounting ring is removed from the lower cast and the mold mounting plaster is ground away)

Then, **VERIFY** the record.

The premise of verification is:

“If a record can be repeated, the odds are high that the original record was centric.”
Setting the Condylar Inclination

Protrusive Record
Best accomplished at the Try In stage.

Protrusive Record

- The movement of the mandible and condyle is downward and forward. The angle of the slide varies from patient to patient and from side to side.
- We will use this record to set condylar inclinations so that the articulator can perform eccentric movements equivalent to the relative movements of the mandible to the maxilla. This makes it possible to arrange the teeth for complete dentures in balanced occlusion.
- The mandible must be protruded a minimum of 5-6 mm when making the record.
Vertical Dimension:
Rest vs. Occlusion
The vertical dimensions of occlusion and of rest must now be given careful consideration because the final positions of the anterior and posterior teeth will depend to a great extent on the amount of space that is available vertically.

Unfortunately, there is no precise scientific method of determining the correct occlusal vertical dimension.

1. Pre-extraction records.
2. The amount of interocclusal distance to which the patient was accustomed, either before the loss of natural teeth or with old dentures.
3. Phonetics and esthetics.
4. The amount of interocclusal distance between the teeth when the mandible is in its rest position.
5. A study of facial dimensions and facial expression.
7. The interarch distance and parallelism of the ridges as observed from the mounted casts.
8. The condition and amount of shrinkage of the ridges.
Wax Try-In and Customization

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Phonetics and esthetics.

The amount of interocclusal distance between the teeth when the mandible is in its rest position.

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The interarch distance and parallelism of the ridges as observed from the mounted casts.

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The condition and amount of shrinkage of the ridges.

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The condition and amount of shrinkage of the ridges.
Verifying JRR's

- Occlusal vertical dimension and physiologic rest position.
- Re-measure nose to chin dimension

VDO and VDR

- Corners of mouth are not drooping
- Patient can close lips without strain
- Patient can speak without interference of trial bases
- Remake VDO record, remount case, re-verify.

Closest Speaking space
During the pronunciation of the "s" sound, the inter-incisal separation, vertical distance, should average 1 to 1.5 mm.

"Eessss"

Esthetics/Tooth Position

Not just -

“Well - Do you like this Mr./Mrs. Patient?”
Esthetics/Tooth Position
But instead - the question should be -

“Do you understand why the prosthetic teeth need to be in this relative position?”

• Verify that the esthetics are appropriate
  • Mid-line,
  • Length of teeth, size and shape of teeth, smile line, and curvature of arch,
  • Shade,
  • Lip fullness.

Facial support affected by:
• Position of the incisal edge
• Thickness and contour of the labial flange
• Gingival contours
Maxillary anterior teeth in the appropriate horizontal relation to the ridge

Smiling:
- Incisal and middle 1/3rd of the maxillary teeth are visible and the cervical 1/3rd is shown in approximately 1/2 the patients.
- Incisal edges of the maxillary teeth follow the curve of the lower lip during smiling.
- Incisal 1/3 of the mandibular teeth will be visible in most patients.

In most patients the incisal edges of the natural mandibular canines - and cusp tips of the mandibular premolars - are even with the lower lip at the corners of the mouth, when the mouth is slightly open.
• When the mandibular teeth are above the lip at the corners of the mouth
  – Plane of occlusion may be too high
  – Vertical overlap of the anterior teeth may be too much
  – Vertical space between the jaws may be excessive

• The height of the occlusal plane of the mandibular denture
  – If the plane is too high or too low, the dentures will interfere with the normal tongue action
  – Eating and speaking will be difficult
  – The tongue is at or slightly below the occlusal plane

Verify that the phonetics are appropriate
Can we talk!………

**Function/Phonetics**

- Phonetics
  - It's not the speech sound itself that is critical but the interrelationships of the tongue, teeth, denture base, and lips.
  - Make sure the trial bases are clean, free of excess wax, at the appropriate thickness, and stable (or the phonetics will be difficult to judge).

**Denture Adhesive**

- If retention is lacking sprinkle a thin layer of powder adhesive onto the record base
- Tap off excess powder
- Wet the surface

**Valves for modifying the flow of air to produce speech sounds:**
- Labial*
- Labiodental*
- Linguodental (anterior)*
- Linguoalveolar
- Palatal*
- Velar (posterior)

*affected by tooth position
• Labial sounds
  – Sounds are b, p, and m which are made at the lips
  – Insufficient support of the lips by the teeth and denture base can cause these sounds to be defective

• Labiodental sounds
  – f and v are made between the maxillary incisors and the labiolingual center to the posterior third of the lower lip
  – For correct positioning, the incisal edges should touch the wet-dry line during the f and v production
  – “55, 56, 57, 58, 59”

• Linguodental sounds
  – Dental sounds th (this, that, these, those) are made with the tip of the tongue extending slightly between the maxillary and mandibular anterior teeth.
  – Dental - Alveolar - Lingualalveolar - Sounds such as t, d, n, s, and z - are made by contact of the tip of the tongue with the anterior most part of the palate or the lingual side of the anterior teeth.
During the production of the Sibilants (hard - or sharp - sounds such as "s, z, sh, zh, ch, and j"):

a) The anterior and posterior teeth should not touch
b) There should be no hissing or air loss

• Lingual Sounds
  – If the palate of a maxillary denture base is too thick in the area of the rugae, it can interfere with these sounds.

• Dental and alveolar sounds
  – With the sibilant sounds a phrase such as “I went to church to see the judge” will test the position of the teeth
  – If this phrase is not clear there is an error in the horizontal and vertical overlap of the anterior teeth
  – This test will not tell you which is incorrect the maxillary or mandibular anterior teeth
• Dental and alveolar sounds
  “S”
  – If the space is too small a whistle will result, if too broad and thin an “sh” will result (lisping sound)
  – Adjust the palate of the denture as necessary to correct this sound
  – “Mississippi”, “sixty-six”, “See Sally by the Seashore”

• Dental and alveolar sounds
  – After a denture is fabricated and the patient is having difficulty in speaking (not due to tooth position) you can functionally contour the palate of their denture
  – Mouth-temperature wax, Co-Comfort can be used to contour the palate

• Harmony in general tooth placement
  – Varies among patients
  – Follow residual alveolar arch form (U, V,)
  – Do not obliterate the buccal corridor with teeth
  – Long axis of the incisors could follow the long axis of the face
  – When smiling, the maxillary anterior teeth follow the curve of the lower lip

• Too much Harmony
  – Setting all the teeth with their long axis parallel to each other can result in the dentures looking artificial
  – Set some teeth with spaces, maybe one rotated, some crowding, adjust some teeth for wear
Festooning

Neat and clean!!!

Customizing
Acrylic, Color, Contour
Teeth, Spacing

Your happiness
– Are you happy with the arrangement of teeth?
– If you are not happy with the wax try-in make the necessary adjustments in positioning of the teeth or remake your JRR’s.

Patients happiness
– DOES your patient understand the reasons for the arrangement of the PROSTHETIC teeth?
– It may be helpful to involve (EDUCATE) some members of the family (especially if these members seem to be a part of the patient’s motivation.
– Have the patient sign the chart (documenting approval of the arrangement of the teeth).

Once the dentures are processed, it is difficult to change the tooth position - short of remaking the dentures!