Prostho sheet #12

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Biometric approach in designing CDs

Impression tray holds the impression material, puts the tissues where they should be and restores facial contour.

\*\* 3 ways to restore facial contour:

1. If using bite block modify it to establish lip form and buccal contour.
2. If using conventional tray then build it out through border molding.
3. Use pre-extraction buccolingual breadth measurements to construct a biometric tray which restores pre-extraction form of cheeks/lips.

\*\* 3 ways to determine pre-extraction measurements:

1. Neutral zone technique.
2. Pre-extraction records.
3. Anatomic landmarks; palatal gingival vestige and incisive papilla.

\*Palatal gingival vestige is a raised fibrous ridge on the palatal surface of upper residual ridge; it distinguishes the palatal mucosa from the vestibular mucosa and it’s used as a guide in positioning maxillary teeth. It’s constant in position but due to resorption pattern it appears as it’s shifted labially.

\*incisive papilla; if divided into two halves from the middle of it about 8-10 mm will be the central incisor here, and from the posterior border if we do a horizontal intersection with the ridge there'll be the mid-part of the canine.

* So we use these 2 landmarks to measure the buccopalatal width of the natural teeth that were lost in the maxilla, the average distance anteriorly is 6 mm at the incisors , 8 mm at the canines , 10 mm at the premolars and 12 mm at the molars (all measured from the palatal gingival vestige).

Procedure:

We make a conventional primary impression then on the primary cast we draw B line and 3-5 mm shorter we draw A line then we apply measurements mentioned above and fabricate a biometric tray which will be shorter and wider.

We don’t do border molding in the biometric approach, cheeks hold the tray in its position and we only do border molding at post dam area to achieve posterior palatal seal. Next steps are similar to conventional way of taking a secondary impression, bite registration is taken with the impression in one step; after we obtain the impression, and we add wax to the base plate and take bite registration. So the tray acts as a special tray and a base plate.

About the mandible: we have muscles that guide us during fabrication of mandibular biometric tray, thicker labially due to mentalis and buccally due to buccinator and buccal shelf. Here we don’t have true landmarks the tray in the mandible is stable rather than retentive.