

To increase the capacity of the underlying structures to withstand the stress due to biting force and to increase the effectiveness of the seal

*** **Key point** — underextension of the peripheral border of a complete mandibular denture decreases tissue-bearing surfaces, thereby affecting denture stability. **Marked ridge resorption** will occur if a mandibular complete denture base terminates short of the retromolar pad.

The **underlying basal bone** (*beneath the retromolar pad*) is resistant to resorption. Coverage of this area will also provide some border seal. An **overload of the mucosa** will occur if the bases covering the area are too small in outline.

Remember: Mandibular dentures **do not rely on suction** from a peripheral seal for retention (*as do maxillary dentures*) **but rather** on denture stability in covering as much basal bone as possible without impinging on the muscle attachments. The **active border molding** performed by the lips, cheeks, and tongue **determines the peripheral areas** of a mandibular arch, thus establishing maximal base bone coverage.

Limiting structures of the **mandibular** denture:

- **Mandibular anterior labial area:** the action of the **mentalis** muscle and the mucolabial fold determines the extension of the denture flange in this area.
- **Mandibular labial frenum:** this band of fibrous connective tissue helps attach the orbicularis oris muscle. The size of this structure limits the extension of the denture border, the thickness of the denture base, and affects the position of the mandibular teeth.
- **Buccal vestibule:** is influenced by the buccinator muscle which has muscle fibers that run in an oblique direction and therefore have little displacing action. Proper extension into this area **provides the best support** for the mandibular denture. This area is referred to as the **buccal shelf**.
- **Masseter area:** the denture is limited in a lateral direction by the action of the masseter muscle.
- **Retromolar pad:** marks the distal termination of edentulous ridge. This structure needs to be covered for support and retention. By doing this the integrity of bone in this area is maintained and allows for support.
- **Lingual frenum:** the proper borders must be established with movements of the tongue when border molding. The genioglossus muscle influences the length of the flange during normal movements of the tongue.
- **Sublingual gland area:** maximum extension desired without overextension.
- **Mylohyoid area:** the flange in this area must accommodate the movement of the mylohyoid muscle in swallowing.
- **Retromylohyoid area:** this area is limited posteriorly by the action of the palatoglossus muscle and inferiorly by the lingual slip of the superior constrictor muscle. If these muscles are impinged upon, the patient may develop a sore throat. **Note:** This is often the most difficult **area** to manage.