

• the altered cast technique

Impression materials **cannot** record anatomic form of the teeth and physiologic form of the soft tissue in a functional relationship all at the same time. To achieve these objectives, the **altered cast technique** can be used. This technique is a **secondary impression system** which utilizes the metal framework to hold customized impression trays for the edentulous area. **A favorably extended base will provide stimulation to the underlying bone and distribute forces uniformly. The altered cast technique allows the ridge, recorded in functional form, to be related to the teeth so that when the prosthesis is seated, it derives support simultaneously from the teeth and the denture base.** The **objectives** of the altered cast technique are to obtain the **maximum possible support from the distal extension base of the RPD** and to **accurately relate the soft tissue surface** of the denture base to the metal framework.

Distal extension removable partial dentures (RPD's) derive their support from the abutment teeth and the mucosal tissues overlaying the residual alveolar process. There are differing philosophies in the scientific literature regarding how much support should be provided by the abutment teeth and how much support should be provided by the soft tissues. However, there is consensus that: **(1)** occlusal stress should be shared by both in such a manner that neither the abutment teeth nor the residual ridge is abused; **(2)** accurate fit of the denture base is an important factor in minimizing stress on the abutment teeth; **(3)** stability of the prosthesis is the most important requirement for proper function and patient comfort.

Important points to **remember** concerning removable partial dentures:

- In order to determine whether the **alveolar bone** is capable of withstanding occlusal forces of a removable partial denture, an x-ray should be taken of the abutment teeth and the bone level surrounding these teeth should be evaluated.
- Periodontal health of the **abutment teeth** and maintaining the health of the supporting tissues is best achieved by **maintaining tissue support** (*preserving denture bone support*) of the edentulous areas.
- The **total occlusal load** applied to an RPD is influenced by the occlusal surface area, occlusal efficiency and the number of existing teeth.