THE EVERY PARTIAL DENTURE*

BY ANDREW GANLY.

The Every denture may be described as a precision plastic partial upper denture, so designed that it is free of the immediate supporting tissues of the remaining teeth. It has no clasps or occlusal rests. Retention is obtained primarily by atmospheric pressure as in a full denture, but through a modified peripheral seal. Secondarily, retention is obtained by the accuracy of fit between the denture base and the mucosa. It is the application of the principle of peripheral seal to partial dentures which is the real innovation.

It is necessary first to give some consideration to the classification of partial dentures. Kennedy's classification is the classical one. In this there are four main types with sub-groups, making a total of 16 in all. Bailyn (1928) suggested a much simpler classification based on the manner in which occlusal stress or vertical load is supported. He defines three classes. As this corresponds with the three fundamentally different problems of design it has gained increasing acceptance. It has the double merit of simplicity and of accurately defining the problem. It is related to the way in which the occlusal stress or vertical load is borne, or, in another way, how the denture saddles are supported.

Class 1 Saddles: The load is entirely supported by the abutment teeth. (Tooth-borne.)

Class 2 Saddles: The load is entirely supported by the mucosa. (Soft tissue-borne.)

Class 3 Saddles: The load is divided between the teeth and the mucosa. (Tooth and soft tissue-borne.)

Here we are concerned only with Class 2, that is to say, the soft tissue-borne type.

Into this category fall the traditional plastic or vulcanite partial dentures with or without clasps. They are often called pressure dentures. They embrace the lingual surfaces of the teeth and they cover the mucosa and are held in position by clasps. We are all only too familiar with the murderously destructive effects of this type of denture. It is productive of caries and of periodontal disease. If periodontal disease is absent it will initiate it or if it is already present it will greatly accentuate the condition. We all know that cast metal skeleton dentures should be used, but for economic reasons plastic dentures are often preferred. Cast metal dentures are not perfect. They have a number of disadvantages:

1. They are time-consuming and expensive to produce.

2. Food débris and carbohydrate films on the tooth-fitting surfaces of the metal tend to produce caries.

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3. If there is a vertical overload on the abutment teeth, or if the abutments are too few or too weak, periodontitis and bone absorption will result.

4. There may be leverage or torque. A lateral thrust on a tooth is very much more destructive than an equal vertical load. This will lead to bone absorption and loosening of the teeth. It is a problem in both tooth-borne, and in tooth-and-soft-tissue borne dentures.

5. The mucosa does not provide an inflexible foundation for the saddle but is compressible and resilient. Unless the denture is entirely and rigidly supported by natural teeth it will cause a tipping or turning stress on the clasped teeth, as in free end saddles, for example. As a result, the abutment tooth is loosened and moved from its position in the dental arch. This takes us into the very difficult field of stress breakers.

6. There may be accelerated absorption of the alveolar process for a variety of reasons:

(a) If the vertical load transmitted to the alveolar bone is too great, e.g., if the saddle area is too small in relation to the vertical load.

(b) Absorption of alveolar bone will occur if there is any intensity of lateral pressure.

(c) If there is continuous instead of intermittent pressure.

(d) If there is complete absence of pressure it will lead to atrophy because the bone has no work to perform.

In spite of all the disadvantages, skeleton dentures are very greatly to be preferred to the plastic pressure dentures. But every way we turn there are problems which are only partly soluble. For economic reasons the vast majority of partial dentures will continue to be made of plastic. With this in mind, how can an all-plastic, soft-tissue borne denture be designed so as to do the least possible amount of damage to the teeth and supporting tissues?

1. If we get rid of clasps we will reduce the risk of caries and lateral thrust to the teeth and cut out the effects of torque.

2. If we can keep the denture base clear of the supporting tissues of the remaining teeth we will reduce the risk of caries and cut out denture caused periodontal disease.

3. If we can get a large saddle area, lateral and vertical thrust to the alveolar ridge will be spread over the widest possible area and this will reduce alveolar absorption to the minimum.

All this can be done for the upper jaw in many cases, but not in all cases.

Every (1949) first described this type of denture which bears his name. I have made a number now and I am quite satisfied that they do work. Patients are satisfied and comfortable and the plate does stay up, quite remarkably so. They are very much more satisfactory than spoon dentures which are always something of a gamble, and at best have a limited application.

The Every denture does call for a careful technique. In order to