

## The posterior palatal seal: Its rationale and importance: An overview

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### ABSTRACT

The location and preparation of the posterior palatal seal is frequently neglected procedure. This seal contributes significantly to the retention of a maxillary complete denture. Hundreds of dentures have failed due to the improper establishment of the distal limit and to an improper posterior palatal seal. Its location and preparation on the master cast are often done by the dentist or dental technician without reference to anatomical landmarks of the mouth. Various methods of achieving posterior palatal seal and reproducing it in the maxillary denture have been described in the literature. This article aims toward rationale and importance of posterior palatal seal, anatomical reference landmarks, functions, methods to record, and discusses various problems associated with recording posterior palatal seal.

**KEYWORDS:** Fovea palatinae, maxillary complete denture, peripheral seal, postdam, posterior palatal seal, retention

### Introduction

Patient's expectations are considered as main factor in designing of prosthesis for giving a successful treatment. They usually approach us with common complaints of poor masticating ability, difficulty in speech, esthetics, and so on. They expect a good prosthesis which is well-retained in mouth for a long duration and work efficiently during stomatognathic function (mastication, phonation, etc). Importance of extension of complete dentures has been well-established for various reasons. Hardy and Kapoor<sup>[1]</sup> emphasized the fact that retention and stability obtained by adhesion and cohesion resist the forces, which are directed in vertical direction. A well-fitting and retentive complete denture requires a well-fitting tissue surface, a peripheral border compatible with the muscles and tissues which make up the mucobuccal and mucolabial spaces so that a peripheral seal is created by the soft tissue draping over them. It is usually obtained by labial and buccal seal. In the posterior region, it is mainly by the posterior palatal seal.<sup>[2]</sup> At the posterior extension of the maxillary denture, where

the tissues are less compliant, special attention is required to make the seal effective. This is the postdam<sup>[3]</sup> region, where the denture is designed to affect a posterior palatal seal. This paper will review the rationale and importance of recording posterior palatal seal, various techniques used in establishing and reproducing posterior palatal seal functions, and discusses the problems associated with recording posterior palatal seal.

### Definitions

According to *Glossary of Prosthodontic Terms*-8<sup>[4]</sup> posterior palatal seal is the seal at the posterior border of a maxillary prosthesis. Posterior palatal seal area is the soft tissue area at or beyond the junction of the hard and soft palates on which pressure, within physiological limits, can be applied by a denture to aid in retention. Fovea palatinae are the two small pits or depressions in the posterior aspect of the palate, one on each side of the midline, at or near the attachment of the soft palate to the hard palate. Pterygomaxillary notch is the palpable notch formed by the junction of the maxilla and the pterygoid hamulus of the sphenoid bone. The postdam is a raised portion of the denture base at the posterior extent of the upper denture and is located on its fitting surface. It extends bilaterally from the midline to the pterygomaxillary notch regions and lies on a displaceable portion of the

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