
Yahya AN. Department of Conservative Dentistry, Faculty of Dentistry, University of Malaya 50603, Kuala Lumpur.

Radzi Z. Department of Children’s Dentistry & Orthodontics, Faculty of Dentistry, University of Malaya 50603, Kuala Lumpur.

Yusof ZYM. Department of General Dental Practice and Oral & Maxillofacial Imaging, Faculty of Dentistry, University of Malaya 50603, Kuala Lumpur.

ABSTRACT
This clinical case report describes an aspect of restorative management of worn teeth. It illustrates the use of diagnostic overlay removable partial denture or DORPD, which has the same function as occlusal splint but with advantages of providing immediate aesthetic improvement and function.

Key words: tooth wear, vertical dimension of occlusion (VDO), diagnostic overlay removable partial denture (DORPD)

INTRODUCTION

Tooth wear is a clinical problem that is becoming increasingly important in aging populations.1 This phenomenon can occur as a natural physiological process where the average wear rates on occlusal contact areas were estimated to be 29 μm per year for molars and 15 μm per year for premolars.2 Tooth wear is considered excessive or pathologic when compared with the amount of wear typical for the patient’s age and when an intervention is necessary for cosmetic and functional purposes. Tooth wear has been classified into the following types:3 (1) erosion, the result of chemical damage (acids) excluding chemicals produced by bacteria, (2) attrition, the physical wear of one tooth against another, (3) abrasion, the physical wear of the tooth surface by something other than another tooth.

However, a differential diagnosis is not always possible because there may be a combination of these processes occurring at the same time.4 Loss of vertical dimension of occlusion (VDO) caused by physiologic tooth wear is usually compensated by continuous tooth eruption and alveolar bone growth.4 In situations where tooth wear exceeds compensatory mechanisms, loss of VDO occurs. If the VDO is still acceptable, treatment may include crown lengthening, orthodontic movement with limited intrusion, and placement of crowns and bridges.5

To determine whether VDO has been altered, the following aspects should be observed in a patient:5-9 (1) loss of posterior support, (2) history of tooth wear, (3) phonetic evaluation, (4) interocclusal distance, and (5) facial appearance.

A carefully monitored trial period with removable occlusal splints, followed by final restorations should be performed when clinical evaluation demonstrates the necessity to restore VDO.10,11 Often a simple acrylic diagnostic appliance is sufficient to assess the patient’s ability to cope with the necessary increase.10 For most patients, moderate alterations to the VDO may well be tolerated and final restorations can then be executed at this modified condition.10,11

This clinical report describes the treatment of a patient who was clinically monitored to evaluate the adaptation to the diagnostic overlay removable partial denture (DORPD) that have the same function as removable occlusal splint during a 2-month trial period.

CLINICAL REPORT

The patient, a 44-year-old man, was referred by his general dental practitioner with a view to reconstruction. The chief complaints included a desire to improve aesthetics and function, and eliminate tooth sensitivity. The medical and dental histories were recorded, and a complete series