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Long Span Adams Clasp with Interproximal Loop: David Modification

David Athisayam *

Corresponding Author: David Athisayam, is a 58-year-old dental technician with a diploma from Madras Dental College and Hospital, Chennai Tamil Nadu (1990). Since 1994 he has been working in the department of orthodontics and dentofacial Orthopeadics at the Goa Dental College and Hospital, Bambolim , Goa , India.

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Abstract

This article highlights on new modification of the Adams clasp that maybe used in case where two or more adjacent teeth need to be clasped due to the requirement of additional anchorage. The clasp incorporates a loop constructed at the middle of the bridge of the clasp for engaging the interproximal embrasure between the teeth other modification of this clasp has also been described.

Same pattern of long span Adams clasp with interproximal loop- David's modification.

Introduction

A clasp may be defined as a component of any removable orthodontic appliance that helps in retention and stabilization of the appliance by contacting the surface of tooth, surrounding of tooth or engaging the interproximal embrasure between the teeth.

Adams clasp also known as modified loop, universal clasp, Liverpool clasp was devised by C P Adam in 1948. It provides retention by engaging the bucco proximal undercuts. It is the most popular commonly used clasp in removable appliances because of the casein fabrication and its ability to adapt to any tooth in the arch 1,2,3.

When two or more adjacent teeth need to be clasped (for additional anchorage) a long span Adams is often preferred. This article highlights the use of a modified Adams clasp with a loop to engage interproximal embrasure when two or more adjacent teeth need to be clasped even if one of the teeth is partially erupted. A similar pattern of Adams Clasp has been fabricated in a previous article [4].

Fig 1: Right lateral view of the clasp

Fig 2: Frontal view of the clasp

Fig 3: Occlusal view of the clasp

Components

The components include the bridge, loop cross over arm, retentive arm and retentive tag.

Armamentarium

The armamentarium consists of stainless-steel wire (0.7mm), Adams plier, Young's universal plier, cutting plain, marking pencil.

Fig 4: Armamentarium used for the fabrication of the clasp.

Steps in Construction

(To fit the 2nd premolar and 1st molar)

Step 1: A 10 inch long 0.7mm stainless steel wire is obtained.

Step 2: A loop is made that fits in the interproximal embrasure (figure 1)

Step 3: The bridge of the clasp is constructed such that length equals two thirds of the combined mesiodistal width of both teeth in the finished clasp. The bridge is located at middle third of both teeth 2mm away and parallel from the buccal tooth surface.

Step 4: loop is made (at the mesial and distal end of the clasp) using Adams plier similar to those on the conventional Adams clasp to engage the mesial (of the second premolar distal first premolar) undercuts at an angle of 45° to the bridge (figure 2)

Step 5: The partially formed clasp is then positioned on the tooth and retentive arm made similar to those on the conventional Adams clasp (figure 3)

Step 6: Completed clasp (figure 4)

Fig 5: A 10 inch long 0.7 mm wire taken.

Fig 6: A loop is made and adapted in the interproximal embrasure

Fig 7: Construction of the bridge

Fig 8: Arrowheads are made on mesial and distal aspects same as Adam's clasp

Fig 9: Retentive arms adapted similar to that of Adam's clasp.

Fig 10: Long span Adam's clasp with interproximal loop- David's modification.

Modification

1) Clasp with additional loops on premolar (figure 6)

2) Clasp with fraction hook engaging elastics (figure 7)

3) Clasp with incisor (figure 9)

Fig 11: Clasp with fraction hook engaging elastics

Fig 12: Clasp with incisor.

Fig 13: Upper Hawley's with David's modification

Fig 14: Lower Hawley's with David's modification

Delta Clasp

Twin Block Appliance

Fig 15: Right lateral view

Fig 16: Left lateral view.

Fig 17: Frontal view

Fig 18: David's modification used in upper jackscrew appliance.

Fig 19: David's modification used in upper jackscrew appliance.

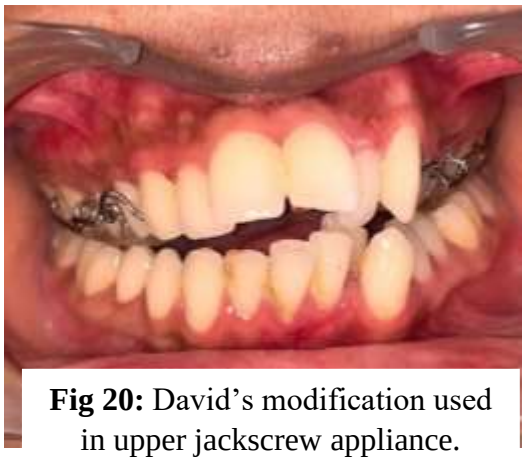

Fig 20: David's modification used in upper jackscrew appliance.

Discussion

The Adams clasp with additional loops may also be used when two adjacent teeth need to be clasped for additional retention. However, this clasp carries additional procedures of soldering the bridge of the Adams clasp. The Schwarz claps may also be used in such a situation below point between two adjacent teeth. However other factors occupy considerable amount of space in the oral vestibule. Other factors such as complexities and the need for special instruments in its construction, fabrication and adjustment limit its usage. The long span Adams clasp with interproximal loop shown in this article is an effective design that is easy to fabricate with basic wire bending instruments.

In addition, the elastic can be attached to the clasp to perform required tooth movement.

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