

## THE USE OF REVERSE TWIN-BLOCK IN PATIENTS WITH INVERSE OCCLUSION

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### Introduction

Inverse occlusion is one of the most difficult problems in orthodontic treatment, therefore, this form of disocclusion must be treated earlier due to an unfavorable growth pattern. Most often, treatment can be started with a primary dentition or at an early stage of mixed dentition with the help of various orthodontic appliances that promote the extension of the upper jaw, because the lower jaw's growth potential is difficult to contain by non-surgical methods.

One of such appliances is a reverse twin block. The plate on the upper jaw has a three-way screw to ensure the expansion of the upper jaw in the sagittal and transversal directions. The lower occlusal blocks serve to limit the distal movement of the upper molars.

### Keywords

Inverse occlusion, reverse Tween-block.

### Purpose

The evaluation of efficiency in treatment of inverse occlusion by reverse twin-blocks.



Fig.1 Pre-treatment extraoral view



Fig.2 Pre-treatment intraoral view



Fig.3 The application of reverse twin-blocks



Fig.4 Photo-protocol during the treatment

### Material and methods

Patient X (10 years 2 months), whose parents consulted a doctor with complaints of aesthetics, speech impairment, and incorrect closure of the jaws. An external examination revealed: forced closing of the lips, a protruding chin, therefore, the facial expression seems "angry", as well as retraction of the second third of the face due to the upper jaw underdevelopment. Intraoral examination showed: reverse incisal overlap, retrusion of the tooth 32 (fig. 1,2).

A reverse twin-block was made for the patient (fig.3). It had to be used permanent and activated once a week. The treatment continued for 6 months followed by a retention period of 4 months. The grinding of milk canines was also made (fig.4).

According to the literature, the first studies on the early treatment of class 3 disocclusion with the help of reverse twin-blocks were carried out in 1998 in London University College (Kidner, Di Baise et al.). During the work, the following clinical changes were noted: retroinclination of the lower incisors, proinclination of the upper incisors, an increase of SNA, ANB and MM angles, and a decrease of SNB angle.

The studies also showed that reverse twin block treatment time was 75% of the FR III treatment time (Loh, Kerr, 1985), and results were more favorable compared with the FR III appliance.

### Results

The control examination of the patient revealed the correct formation of occlusion with no need to continue treatment in permanent occlusion (fig.5,6).



Fig.5 Post-treatment extraoral view



Fig.6 Post-treatment intraoral view

### Conclusions

Treatment of inverse occlusion by orthodontic plates such as reverse twin-block can be very useful and successful if it starts during the mixed denture of a patient.