

Is There Still A Need For Interceptive Orthodontics?

Language: English

Authors: Dr. Ulrike Grohmann, Prof. Dr. Dietmar Kubein-Meesenburg
Department of Orthodontics, Georg-August-University, Göttingen, Germany

Date/Event/Venue:
23.- 26. June 1999
75 th Congress of the European Orthodontic Society
Straßbourg, France

Abstract

Interceptive treatment carried out with removable appliances at the correct time may save the patient from a more complicated treatment at later stage. Early orthodontic treatment will not resolve all potential orthodontic problems or totally inhibit adverse skeletal growth patterns. However, by identifying problems at an early stage it is possible to redirect skeletal growth, improve the occlusal relationship, enhance the patient's esthetics and self-image and, perhaps of even greater importance, achieve results that are unattainable later with the eruption of the teeth and the cessation of growth.

Introduction

To reduce orthodontic treatment procedure in the late childhood it is sometimes necessary to treat dental malocclusions in early childhood. Therefore interceptive orthodontic treatment with removable appliances has proved its success in special indicated cases such as an unilateral buccal crossbite with displacement of the mandible, skeletal Class III relationship with anterior crossbite and the serial extraction therapy. We want to share our experiences and we present three representative cases of interceptive orthodontic treatment in early childhood.

CASE 1

Diagnosis

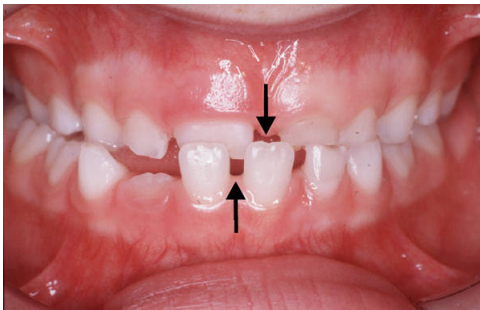
7 year old girl with an anterior crossbite of the teeth 11/41, Class I malocclusion and a mild skeletal Class III pattern.

Therapy

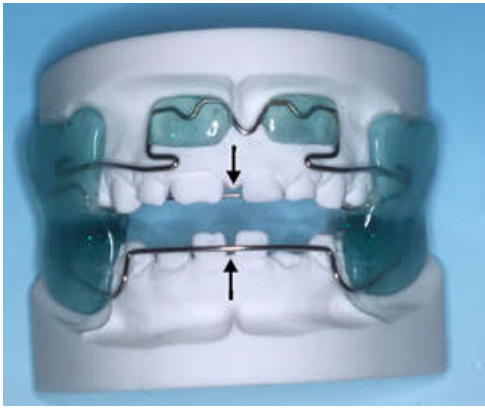
The patient was treated with a Fränkel III regulator. After 3 months the anterior crossbite was corrected. The appliance was used as a retainer for 18 months until all front teeth showed a correct overbite. The overjet and the overbite were successfully improved. No other retention was needed.



The lateral cephalometric film shows the anterior crossbite at the beginning of treatment



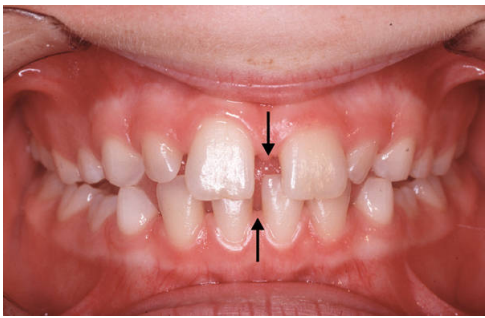
The anterior crossbite of the teeth 11/41



The Fränkel III regulator



After treatment the cephalometric radiograph. The anterior crossbite is corrected



The overjet and overbite are regular

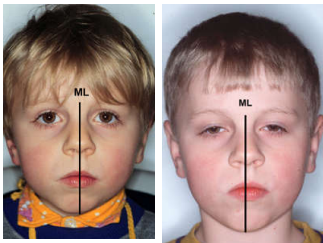
CASE 2

Diagnosis

5 ½ year old boy suffered of a laterognathia due to an unknown collum dysplasia of the right condyle with a shift of the mandible to the left, a midline discrepancy and a tilt occlusal plane to the left. The mobility of the mandible was normally.

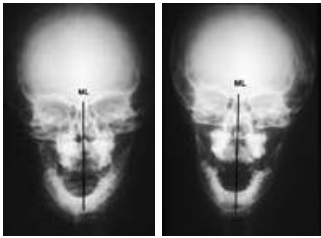
Therapy

An activator was inserted for 12 months. A constructive bite was taken, bringing the jaw to the midline. The appliance was used to guide the eruption of the first molars while different growth at the condyles corrects the asymmetry. The occlusal plane was leveled and the mandibular displacement was improved. Additionally an appliance with posterior bite blocks for the vertical dimension was inserted for further 6 months.



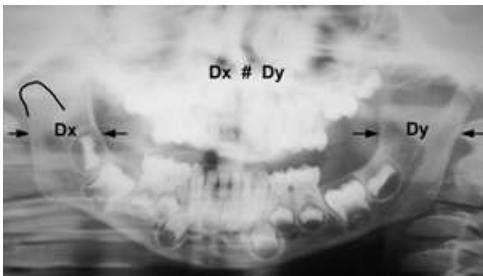
The Enface photo shows the laterognathia to the right

The Enface photo shows the improved laterognathia



The X-Ray demonstrates the laterognathia to the right

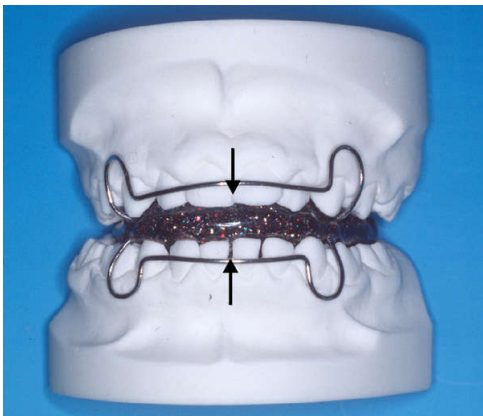
The X-Ray demonstrates the improved laterognathia



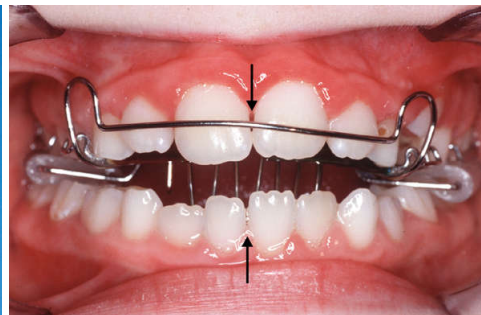
The orthopantomogramm shows the collum dysplasia at the right



The orthopantomogramm after 3 years



The activator



The removable appliance with the posterior bite blocks



The lower central line is displaced to the right



The midlines of the arches coincide

CASE 3

Diagnosis

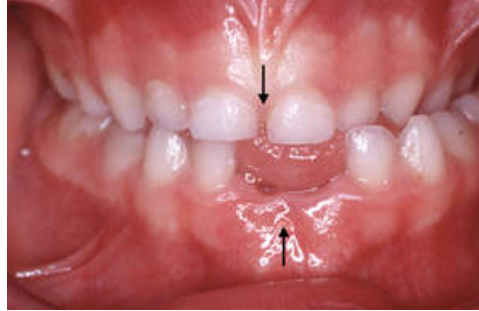
5 ½ year old girl with an unilateral buccal crossbite with mandibular displacement to the left, a reduced width of the maxilla and a mild Class III pattern.

Therapy

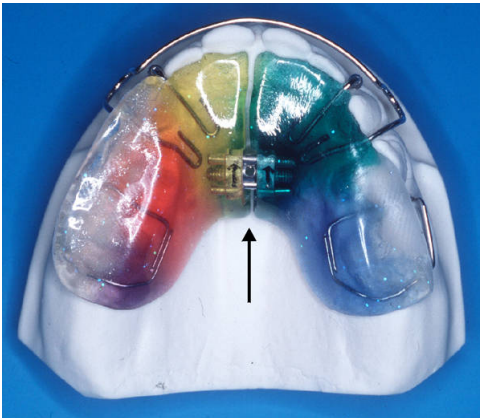
We inserted a removable appliance with a midline screw and posterior bite blocks. The maxillary arch was expanded bilaterally for 2,5 mm. The mandible displacement was improved and the occlusion was stable after 5 months. The bite blocks were removed. The appliance was used as a retainer for further 6 months.



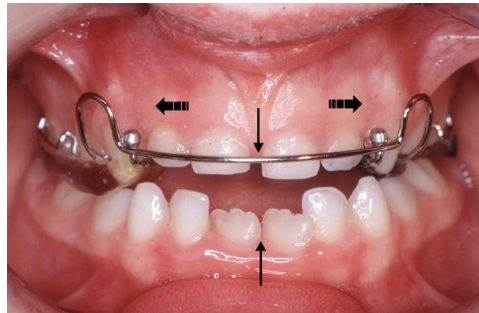
The lateral displacement of the mandible



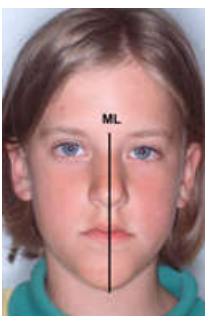
The unilateral crossbite left and the midline discrepancy



The removable appliance with an expansion screw and a lateral bite plane



Intraoral view of the maxillary expansion appliance



After expansion the lateral displacement is improved



After treatment the midlines of the arches coincide and the lateral crossbite is corrected

Conclusion

Early therapy by using removable appliances can reduce dental and skeletal malocclusions in the late childhood. Therefore we recommend the interceptive orthodontic therapy as a short and temporary limited intervention and we think that there is still a need for interceptive treatment.

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This Poster was submitted by Dr. Ulrike Grohmann.

Correspondence address:

Dr. Ulrike Grohmann

Georg-August-Universität Göttingen
Zentrum Zahn-, Mund- und Kieferheilkunde
Abteilung Kieferorthopädie
Robert-Koch-Str. 40
37075 Göttingen
Germany

IS THERE STILL A NEED FOR INTERCEPTIVE ORTHODONTICS?

U. Grohmann, D. Kubein-Meesenburg
Department of Orthodontics, Georg-August-University, Göttingen, Germany

INTRODUCTION:

To reduce orthodontic treatment procedure in the late childhood it is sometimes necessary to treat dental malocclusions in early childhood. Therefore interceptive orthodontic treatment with removable appliances has proved its success in special indicated cases such as an unilateral lateral crossbite with displacement of the mandible, bilateral Class II relationship with anterior crossbite and the serial extraction therapy. We want to share our experiences and we present three representative cases of interceptive orthodontic treatment in early childhood.

CASE 1:

Diagnosis

7 year old girl with an anterior crossbite of the teeth 11&12, Class I malocclusion and a mild skeletal Class II pattern.

Therapy

The patient was treated with a Fräkel II regulator. After 3 months the anterior crossbite was corrected. The appliance was used as a retainer for 18 months until all front teeth showed a correct overbite. The overbite and the overbite were successfully improved. No other retention was needed.



The lateral cephalometric film shows the anterior crossbite at the beginning of treatment.



The anterior crossbite of the teeth 11&12.



The Fräkel II regulator.



After treatment the cephalometric film shows the anterior crossbite is corrected.



The overbite and overbite are higher.

CASE 2:

Diagnosis

5 1/2 year old boy suffered of a laterognathia due to an unknown column dysplasia of the right condyle with a shift of the mandible to the left, a midline discrepancy and a 30° occlusal plane to the left. The mobility of the mandible was normally.

Therapy

An activator was inserted for 12 months. A constructive bite was taken, bringing the jaw to the midline. The appliance was used to guide the eruption of the first molars while different growth at the condyles corrects the asymmetry. The occlusal plane was leveled and the mandibular displacement was improved. Additionally an appliance with posterior bite blocks for the vertical dimension was inserted for further 6 months.



The Dolovic photo shows the laterognathia to the right.



The Dolovic photo shows the improved laterognathia.



The C.B.A. demonstrates the laterognathia to the right.



The C.B.A. demonstrates the improved laterognathia.



The orthopantomogram shows the column dysplasia of the right.



The orthopantomogram after 3 years.



The activator.



The removable appliance with the posterior bite blocks.



The lower incisor line is displaced to the right.



The midline of the arches is centered.

CASE 3:

Diagnosis

5 1/2 year old girl with an unilateral lateral crossbite with mandibular displacement to the left, a reduced width of the maxilla and a mild Class II pattern.

Therapy

We inserted a removable appliance with a midline screw and posterior bite blocks. The maxillary arch was expanded bilaterally for 2.5 mm. The mandible displacement was improved and the occlusion was stable after 6 months. The bite blocks were removed. The appliance was used as a retainer for further 6 months.



The lateral displacement of the mandible.



The unilateral crossbite left and the midline discrepancy.



The removable appliance with an expansion screw.



After expansion the lateral displacement is improved.



After treatment the midline of the arches is centered and the lateral crossbite is corrected.

CONCLUSION:

Early therapy by using removable appliances can reduce dental and skeletal malocclusions in the late childhood. Therefore we recommend the interceptive orthodontic therapy as a short and temporary limited intervention and we think that there is still a need for interceptive treatment.