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## Treatment of Spacing Case with ClearPath® Clear Aligner System (USFDA APPROVED)

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### INTRODUCTION

The practice of orthodontics is faced with new trends. Adults are increasingly aware of the influence of appearance in their personal and professional lives. The aim of adult orthodontic treatment has been described as a balance among tooth alignment, occlusal contact, dentofacial esthetics, function, and relative stability<sup>1</sup>. There are three main groups of adult patients: those who have had orthodontic treatment in their teens but experienced relapse, those who have never been treated, and older patients who may need orthodontics in conjunction with multidisciplinary treatment involving restorations. A recent survey estimated that 45% of adults were dissatisfied with their dental appearance, with 20% considering some form of orthodontic treatment to improve the alignment of their teeth. Recent advances in orthodontic materials have made adult orthodontics far more appealing in a wider range of cases.<sup>2</sup>

Clearpath® Aligner system has been introduced in 2008 as a new orthodontic tool to treat orthodontic cases. This article demonstrates the use of the system for the correction of Angle's Class I malocclusion with midline diastema & spacing in upper arch



Each aligner is around 0.7mm thick and is designed to move the teeth by up to maximum of 0.25 – 0.3 mm over 2 week period. All aligners in ClearPath® system are delivered altogether and worn through a pre-defined sequence all throughout the day.

### CASE REPORT

A 27-year-old female reported to with the chief complaint of spacing in upper front teeth. Intraoral, extra-oral pictures and OPG & CEPH were recorded.

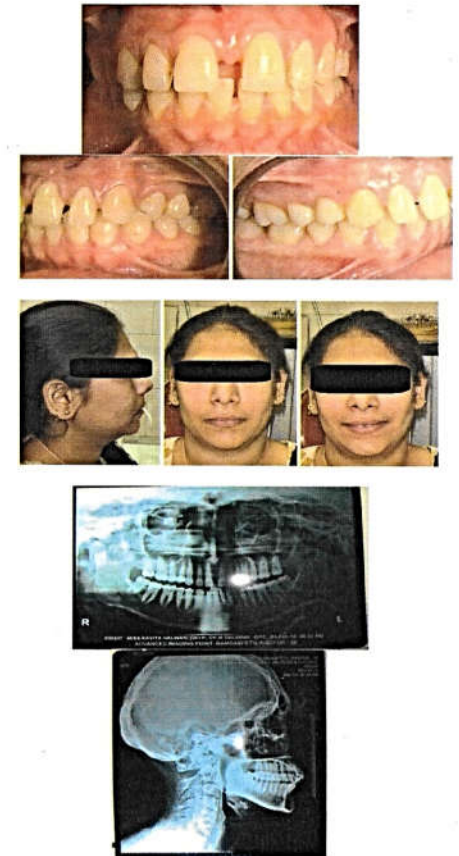


Fig. 1: Pre Treatment (Source : Das Dental Speciality clinic, Nagpur)

**Diagnosis:**

The patient was diagnosed with Skeletal Class I dysplasia with Angle's class I malocclusion, midline diastema, with high frenal attachment and mild spacing in lower

**Treatment Goals for ClearPath treatment:**

Patient was not willing for treatment in lower arch. Closure of midline diastema with shifting of space distal to canine and later frenectomy

**Case Discussion:**

Patient compliance is a critical factor for success with clear aligner treatment. Treatment success depends almost completely on how compliant the patient is with wearing aligners for approximately twenty hours a day, seven days a week. Treatment time and ability to complete treatment vary considerably according to the degree of patient compliance. The patient in this report was selected because he was highly compliant with wearing aligners

**The Virtual Setup:**

The virtual setup of the patient was presented by ClearPath approx. 15 days after PVS impressions & PVS bite registration were sent. The treatment plan was evaluated and the setup was approved.



Fig. 2: ClearPath Virtual Setup, Upper Occlusal View - Before & After (Source: ClearPath Orthodontics, New Delhi, India)



Fig. 3: ClearPath Virtual Setup, Frontal View - Before & After (Source: ClearPath Orthodontics, New Delhi, India)



Fig. 4: ClearPath Virtual Setup, Right Buccal View - Before & After (Source: ClearPath Orthodontics, New Delhi, India)



Fig. 5: ClearPath Virtual Setup, Left Buccal View - Before & After (Source: ClearPath Orthodontics, New Delhi, India)

**The Movement Record Form (MRF):**

The Movement Record Form (MRF) shows all the movements each aligner is doing in each stage on every tooth.

**Upper Arch:**

Stg. #	16	15	14	13	12	11	21	22	23	24	25	26	
1													
2						MTP	MTP						
3						MTR	MTR	MTP					
4					LTP	MTP	MTR	TP					
5					MTP	MTR	MTP	MTR					
6					MTR	MTP	MTR	MTP					
7					MTP	MTR	MTP	MTR					
8					MTR	MTP	MTR	MTP					
9					MTP	MTR	MTP	MTR					
10					MTR	MTP	MTP	MTP					
11					MTP	MTP		MTR	MTP				
12						LTP	MTO	MTP	DRO				
13					MTP	MTP		MTR	MTP	MRO			
14					MTP	MTR		MTP	MTR	MRO			
15					MTR	MTP		MTP		MRO			
16		MRO	BTB	MTP	DRO				DRO				
17			MTP	MTR					MTP	MTP			
18			MTR	DRO					MTR	MRO			
19				MTP	TP	TP	LTP		MTP	MRO			
20					MTP	DTR	MTO		MTO				
21					MTP	MTP			MTO	MTR	MTP		
22					MTP				TR	MTR			
23					MTP	MTO	TP	MTO		MTP	MTP		
24					MTR	MRO	TR			MTP	MTR	LTP	
25					MTO	MTP		LTP				MTO	ETR
26					MRO							MTP	DRO
27									LTP	BTB		MTR	
28												MTP	ETP

**LEGEND:**

Code	Movement Detail	Code	Movement Detail	Code	Movement Detail
MTR	Mesial Translation	MTP	Mesial Tipping	DTO	Distal Torque
LTR	Distal Translation	DTP	Distal Tipping	MTO	Mesial Torque
LTP	Lingual Translation	BTP	Buccal Tipping	INT	Intrusion
BTR	Buccal Translation	BTO	Buccal Torque	EXT	Extrusion
LTP	Lingual Tipping	LTO	Lingual Torque	DRO	Distal Rotation

Fig. 6: ClearPath Movement Record Form (Source: ClearPath Orthodontics, New Delhi, India)

**Treatment Results:**

The patient required a total of 28 UPPER aligners. The patient was very satisfied with fit and the invisibility of ClearPath Aligners. The treatment progressed smoothly, and got completed in around 14 months. Treatment objectives achieved satisfactorily as shown in the virtual set up. The patient was very happy as there was remarkable improvement in patient's smile.



Fig. 7: Pre & Post Comparison (Source : Das Dental Speciality clinic, Nagpur)



Fig. 8: Post Treatment (Source : Das Dental Speciality clinic, Nagpur)

**CONCLUSION**

This article discusses a spacing case treated with ClearPath® Aligners, a hygienic, removable, and comfortable appliance. Aligners present a unique mode of treatment for adult orthodontic patients. It satisfies their aesthetic, hygienic, and metal-allergy concerns. It also allows treatment to finish in about the same or less amount of time as fixed appliances. The virtual setup is not only a diagnostic aid, but it can also be used as an educational and motivational tool for the patient. In addition, patient cooperation is imperative for the success of the treatment. For this patient, cooperation was not an issue because she was enthusiastic about the treatment. The treatment finished with good results, and the patient was pleased with the outcome.

**ABOUT THE AUTHOR**

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**References:**

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