



HAPPY RESULTS:

CORRECTION OF NARROW ARCHES & CROWDING IN ADULT PATIENT UTILIZING CLEAR ALIGNERS

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Over the past decade, we have seen a larger percentage of the adult population explore orthodontics as a way to improve their "quality" of life by correcting tooth irregularities to give them a smile that looks good, feels good and works properly. Teeth that are properly aligned can be maintained better by a patient, but many adults who want their teeth to look and function better are reluctant to wear traditional metal braces. Aligners are removable, nearly invisible and studies have shown that adults treated

with aligners experienced less pain and fewer impacts on their lives during the first week of orthodontic treatment than those with fixed appliances. The following case study involves an adult patient looking to improve the look and function of her teeth as well as the overall appearance of her smile using clear aligners over traditional brackets.

CLINICAL EXAMINATION AND DIAGNOSIS

A 50-year-old female presented with a chief complaint of upper and

lower crowding with heavy contact of the upper and lower incisors. It was noted that the patient had mild upper crowding and moderate-severe lower crowding with a Class I dentition. Both upper and lower arches were narrow and constricted. The maxillary dentition presented with uneven gingival margins and the lower midline was shifted right 1 mm. Teeth #1, 16, 17 and 32 were missing or extracted (Figs. 1-7). Periodontal health was within normal limits. Tooth #3 previously had root canal therapy and was asymptomatic. No signs/symptoms

of TMD were noted with a normal range of opening.

The patient was very interested in clear aligner treatment and nonextraction treatment if possible. The primary treatment option was upper and lower aligner treatment with slight expansion of both arches and minimal IPR (interproximal reduction). The secondary treatment option presented was full upper and lower fixed appliances. The patient chose aligner treatment.

Upper and lower PVS impressions were taken, then a bite registration, intra and extraoral photographs and a panoramic radiograph were submitted for the fabrication of the aligners. When submitting these records, it was requested that the upper midline be centered and lower midline be shifted .5mm to the left. We requested both arches be treated, with proclination and expansion was requested as well.

TREATMENT

The patient was treatment planned as a clear aligner case, with 28 aligner sets were distributed to

the patient over 21 months of treatment. Slight upper and lower expansion of the arches was also prescribed to develop and idealize arch form. After approving the treatment setup, production of the aligners began.

The first phase of treatment aligners were received. The patient was given her first set of aligners and instructed to wear the aligners 22 hours a day, 7 days a week for a period of 3 weeks, at which point the patient would switch to the next set of aligners at home. The patient would revisit our office in six weeks to check their progress and distribute the next sets of aligners.

The patient returned for their next phase of aligners. At this point, engagers (also called attachments) were placed on teeth #10 and 27. The aligner manufacturer provided a template for easy placement. Light Bond Medium Adhesive Paste from Reliance Orthodontic Products was used for the composite material. Additionally, each tooth that required an engager was cut from the template. This ensured

accurate placement of the engager, and also made the template easier to remove. A final engager was placed on tooth #22 six weeks later. Minimal IPR of 2.4 mm was performed on teeth #22-27 at various points throughout treatment.

The patient was compliant and their response to the aligner wear and treatment was excellent. The teeth tracked well and no refinements or revision to treatment were needed.

FINISHING, RETENTION AND CONCLUSION

Alignment and expansion of the arches was achieved while leveling the upper anterior gingival margins and relieving the heavy incisal contacts that existed prior to treatment. The patient was given final upper and lower overlay retainers to wear indefinitely at night. The patient was extremely happy with her finished smile, as well as the nonextraction treatment results and not having to wear orthodontic brackets to achieve this great result in such a relatively short time. (Figs. 8-14)

