

## CHAPTER 7

### DIAGNOSIS AND CASE SELECTION FOR CLEAR ALIGNER ORTHODONTICS

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#### INTRODUCTION

Clear aligner orthodontics works best when diagnosis leads the way. The trays and the software are useful tools, but they do not replace a careful clinical mind. A reliable plan begins with ordinary orthodontic steps-history, examination, records, and a clear problem list and then translates those findings into a digital prescription that the teeth and tissues can accept. Good results follow when the digital plan respects biology, the sequence of movements is realistic, and the patient understands what treatment can and cannot do.

#### CLINICAL EXAMINATION

A brief history clarifies whether the chief concern is appearance, comfort, or both, and documents habits, previous orthodontics, trauma, and restorations that may influence tooth movement. The extraoral examination situates the dentition within the face by recording profile balance, smile arc, tooth display at rest and in an unposed smile, and signs of asymmetry such as cants or midline deviation. Intraorally, the gingival phenotype and any recession, together with caries risk and periodontal condition define the biologic envelope for labial movement. Occlusal relationships, including overjet, overbite, and any discrepancy between centric relation and maximum intercuspation, connect tooth position to function. Crown shape has mechanical consequences: short or rounded crowns give the aligner less grip and may require attachments for reliable tooth movement. Functional findings, anterior and lateral guidance, balancing contacts, and wear patterns help anticipate how the occlusion will respond as staged movements begin (1).

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clearly so the tray can push effectively, and roots are reviewed in three planes to ensure crowns and roots finish together. In complex cases, brief, planned refinement usually produces better results than an overly long first series (21).

## **ATTACHMENTS AND AUXILIARIES**

Attachments are small tools with big influence. A flat surface on a premolar lets the tray express an extrusion vector; a beveled surface on an incisor helps a rotation; tall vertical shapes encourage root movement when parallelism is the goal. These shapes compensate for short crowns and rounded morphologies that otherwise make engagement difficult. Elastics add inter-arch vectors for midlines and sagittal goals; buttons and precision cuts make their use practical. Bite ramps alter vertical contacts and can help with deep-bite control (22).

## **CONCLUSION**

Diagnosis for aligner therapy is classic orthodontics viewed through a digital lens. The scan and the software are helpful, but they are not wiser than the clinician who reads the face, the occlusion, the bone, and the patient's goals. When the plan follows the logic above, measure, stage, and respect biology and proportions, aligners handle a wide range of problems well. Where they meet their limits, diagnosis points to other tools or combined approaches, and the trays return for alignment and finishing where they do their best work.

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