Indications

- Growth modification during mixed dentition stage (functional appliances)
- **Limited tooth movement** (tipping)
  - Correction of individual tooth malposition
  - Arch expansion
- Retention after comprehensive orthodontic treatment (braces)
Advantages of Removable Appliances

• Removable for socially sensitive occasions
• Uncompromised oral hygiene
• Short chair time

Disadvantages of Removable Appliances

• Heavily dependent upon patient compliance
• Affect speech
• Unable to perform complex tooth movements
Appliance Design

• Considerations
  • What movement is desired
  • Acceptability of the appliance to the patient
  • Cost
  • KISS rule

Laboratory Projects

1) Anterior Bite Plane Appliance

2) Removable appliance to correct an anterior crossbite
Anterior Bite Plane Appliance

• Indications
  – Deep overbite

Anterior Bite Plane Appliance

• Components
  – Hawley type labial bow
  – Clasps on maxillary first molars
    • Adams clasp
    • Reverse circumferential clasp (C-clasp)
  – Palatal coverage and anterior bite plane
  • Triad
Anterior Bite Plane Appliance

- Hawley labial bow
  - .030 stainless steel round wire
  - Canine to canine with adjustment loops
- Purpose
  - Retract flared incisors
  - Provide anterior stabilization
  - Control position of incisor teeth

Anterior Bite Plane Appliance

- Adams clasp
  - .028 stainless steel round wire
  - Most useful clasp
  - Provides excellent retention
  - Engages in the mesiobuccal and distobuccal undercuts of individual posterior teeth
Anterior Bite Plane Appliance

- Circumferential clasp
  - .030 stainless steel round wire
  - More of a supporting role than a retentive role
  - Keeps clear of occlusal contact

Removable appliance to correct an anterior crossbite

- Indications
Removable appliance to correct an anterior crossbite

• Components
  – 4 ball clasps
    • Mesial and distal to the primary second molars
  – Lingual finger spring
  – Posterior bite planes
  – Palatal plate

Removable appliance to correct an anterior crossbite

• Ball Clasp
  – Extends over the embrasure between adjacent teeth and uses undercuts on the buccal surface
Removable appliance to correct an anterior crossbite

• Finger spring
  • .020 stainless steel wire

• Posterior bite plane
  • To raise the bite so that the maxillary incisor that is in crossbite can move labially without occlusal interferences and trauma

Laboratory Prescription for Anterior Bite Plane
Laboratory Prescription for a removable appliance to correct an anterior crossbite

Clinical Adjustments

- Patients should be seen every 4 to 6 weeks for adjustments
- Tighten clasps (for better retention)
- Activate springs
  - Activate to produce approx. 1 mm of movement
- Remove/clear material from the baseplate (when a tooth is being moved lingually, not labially)