Management of Missing Maxillary Lateral Incisors

**Epidemiology**
- Prevalence is 1-2% of population
- Bilateral agenesis more common than unilateral
- Commonly associated with malformation of other teeth (usually microdontia)

**Treatment Options**
- In general there are only two common approaches to management of missing lateral incisor(s):
  - Space Closure (canine substitution) or Space Opening (for implant(s) or other restorative replacement options (resin bonded bridge, fixed partial denture, etc.)
- There are multiple factors that contribute to the decision of which approach is best
- **Factors that favor space closure (canine substitution)**
  - Class II occlusion with overjet
  - Minimal mandibular crowding
  - Canines that are not overly bulbous
  - High smile line or increased gingival display on smile
  - Financial considerations

  **Clinical Considerations for space closure**
  - Successful esthetic outcomes will require recontouring of canines to more closely resemble lateral incisors as well as conservative esthetic restorative procedures (alteration of canine and first bicuspid contours via selective composite augmentation or indirect restoration
  - Proper orthodontic positioning of first bicuspids and canines can enhance appearance of gingival margin heights as well as apparent widths of teeth
  - Evidence does not warrant long term periodontal or occlusion-related concerns

**Reference:**
- **Factors that favor space opening (for implant(s) or other restorative replacement options (resin bonded bridge, fixed partial denture, etc.):**
  - Class I or III occlusion
  - Lack of dental protrusion
  - Canines that are bulbous in shape
  - Low smile line / minimal gingival display on smile

  **Clinical Considerations for space opening**
  - Adequate inter-coronal space to allow for appropriate replacement tooth width
  - Adequate inter-radicular space (root divergence) to allow for placement of implant
Excellent communication between orthodontist, restorative dentist, and surgeon to place implant is essential prior to removal of braces to ensure all goals have been met.

- Reference:

- Considerations for interim replacement of missing laterals
  - Interim replacement options include:
    - Hawley retainer with pontic(s) or flipper—poor at maintaining root positions
    - Thermoplastic (Essix style) retainer with pontic(s)
    - Bonded pontic with wire wings
    - Bonded denture tooth pontic (no wings)
    - All porcelain bonded pontic (“Carolina Bridge”)
    - Resin bonded FPD
  - Relapse of root positions (convergence) into edentulous sites can occur in between completion of ortho and time for implant placement
  - Fixed or bonded retention appears to be best approach to preventing this relapse
  - Concerns exist about use of orthodontic miniscrew-supported pontics as interim solution to missing lateral incisors.

- All-porcelain bonded pontic
  - Best for single incisor replacement
  - Case selection critical (minimum 5 mm connector height)
  - Provides fixed retention of post ortho cases
  - Highly esthetic
  - 100% reversible
  - Must inform patient of possibility of swallowing or aspiration if dislodged (true for all bonded pontic types)
Reference:

**Take Home Messages**
- No one treatment approach is best for all patients with missing maxillary lateral incisors—treatment plans should be tailored to fit individual patients.
- Fixed retention is important for preventing relapse of root positions in young patients with missing lateral incisors.

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