

## Restorative or Orthodontic Closure? Decision-Making for Anterior Spacing

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Anterior spacing is a clinical condition that requires precise diagnosis of its underlying etiology rather than simple space closure. It may arise from a variety of factors, including tooth-size discrepancy, malocclusion, heavy frenum, arch form abnormalities, functional problems such as tongue habits or mouth breathing, and orthodontic relapse. Therefore, etiologic evaluation is essential for appropriate treatment planning.

Not all diastemas can be appropriately managed with laminate veneers or resin restorations alone. Depending on the etiology, it is necessary to distinguish cases that require orthodontic space closure from those more appropriately managed with restorative treatment. In some cases, limited pre-restorative orthodontic treatment may be necessary to achieve stable and esthetic restorative outcomes. Comprehensive assessment should include not only tooth size and shape, but also overjet and overbite relationships, anterior occlusal contact, midline discrepancy, and tooth inclination. Space closure may be difficult in the presence of insufficient overjet, excessive overbite, or heavy anterior occlusal contact. Particular caution is also required when anterior pathologic tooth migration associated with periodontitis is present or when root parallelism is unfavorable. Because orthodontic closure of anterior spacing is associated with a high risk of relapse, long-term or semi-permanent retention should be considered.

In addition, orthodontic closure of anterior spacing requires careful prediction and patient counseling regarding the risk of black triangle formation. Depending on tooth morphology and position, adjunctive strategies such as interproximal reduction, mesiodistal angulation or torque control, and vertical tooth movement through extrusion or intrusion should be considered when indicated.

An interdisciplinary approach is essential in the orthodontic management of anterior spacing. When complete orthodontic closure is difficult to achieve, collaboration with restorative and prosthodontic specialists is necessary to determine the location and extent of residual space distribution. Furthermore, in cases accompanied by pathologic migration, periodontal stabilization should precede orthodontic intervention, and the extent of tooth movement may be limited. This lecture will focus on etiologic diagnosis, treatment selection, prediction and management of black triangles, and interdisciplinary clinical decision-making involving orthodontics, restorative dentistry, prosthodontics, and periodontics.

### Profile

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