

Principles of Periodontology: Advanced Topics

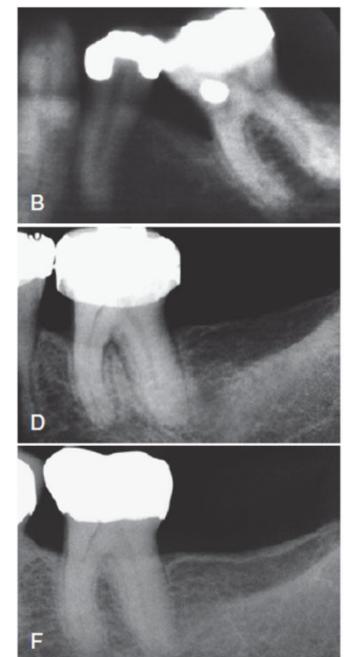
Periodontal – Orthodontic Treatment Planning

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Orthopedics

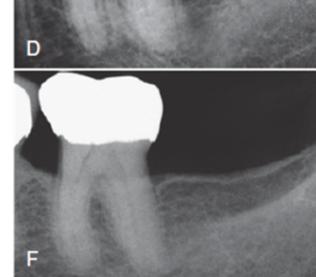
Outline: Orthodontic therapy facilitation of periodontal treatment plans

- Forced eruption
- Uprighting
- Levelling of intra-osseous defects
- Tooth size-Arch size discrepancies
- Intrusion (TAD assisted)



Outline: Periodontal therapies that facilitate orthodontic treatment plans

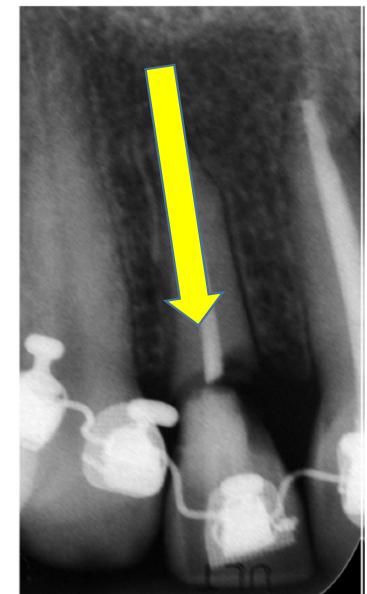
- Frenectomy
- Canine exposure
- Mucogingival defects
- Gingivectomy
- Accelerated orthodontics
- Adult patients



Orthodontic therapy facilitation of periodontal treatment plans

Forced Eruption-
periodontal-restorative

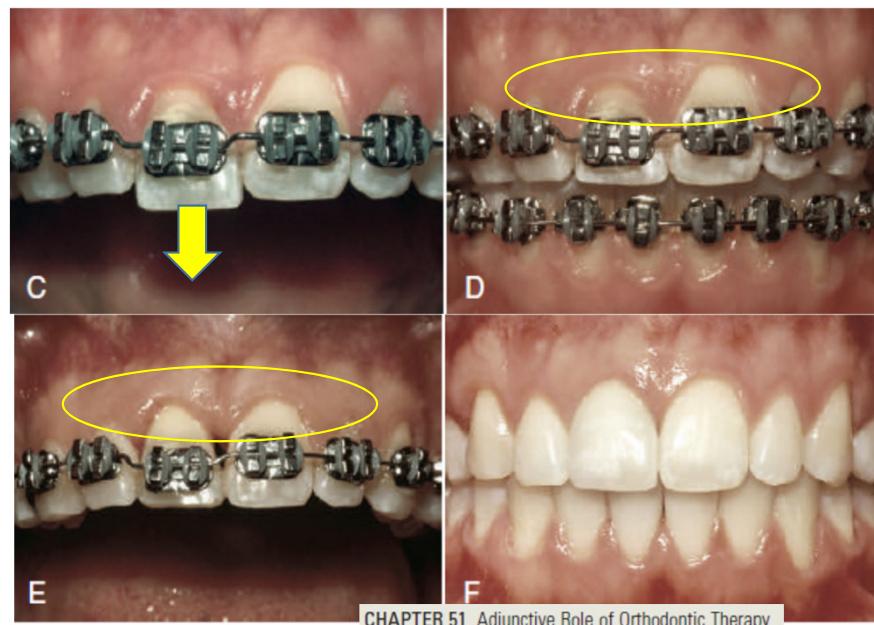
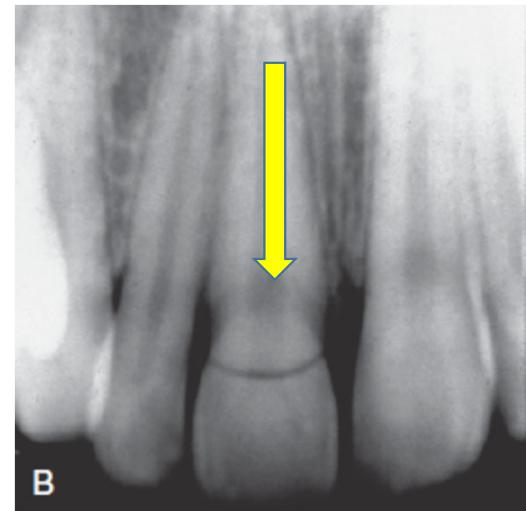
- External resorption
- Subgingival fracture
- Root canal perforation



International Orthodontics 2018 ; 16 : 217-245

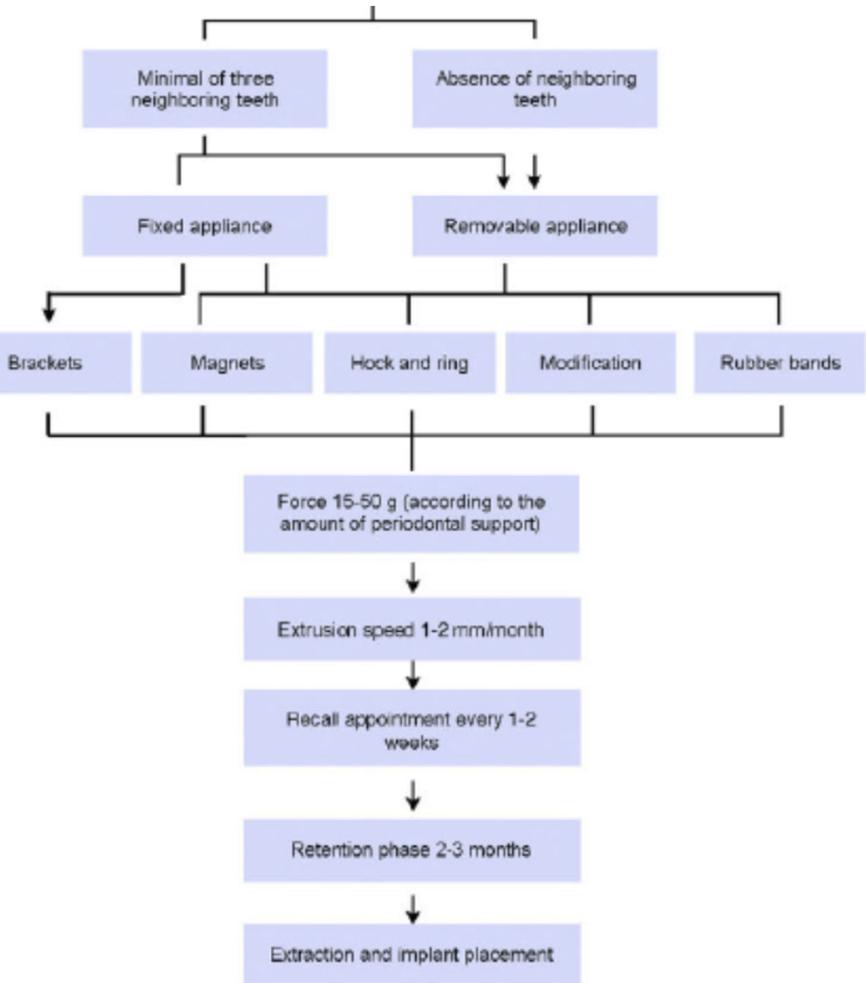
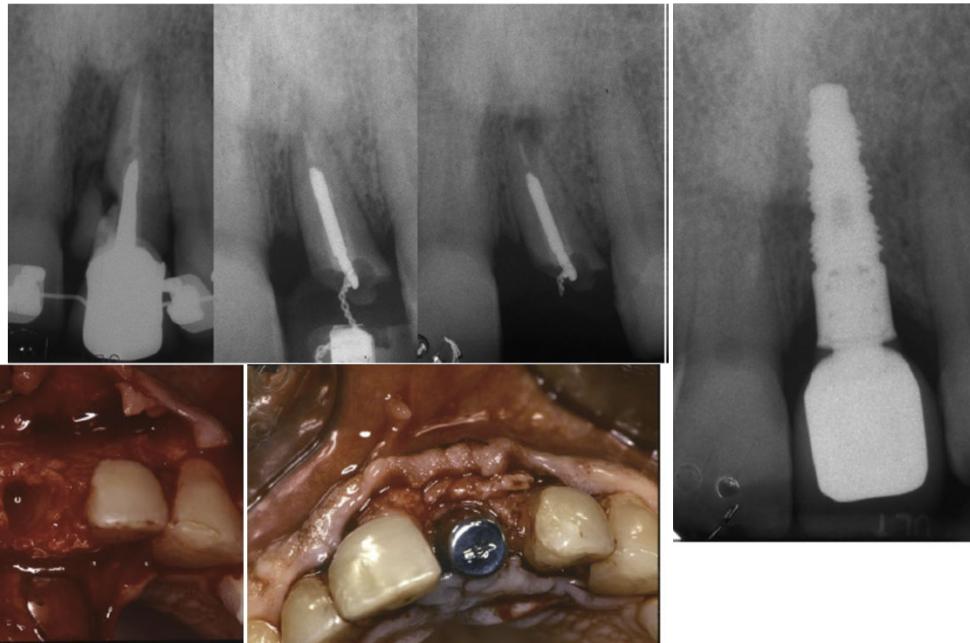
Orthodontic therapy facilitation of periodontal treatment plans

- Forced Eruption-
periodontal-restorative
 - crown-root ratio
 - root form (broad vs. thin)
 - Lip line



Orthodontic therapy facilitation of periodontal treatment plans

- Force Eruption- preparation for implant placement



International Orthodontics 2018 ; 16 : 217-245

JOURNAL OF PROSTHODONTIC RESEARCH 60 (2016) 145-155

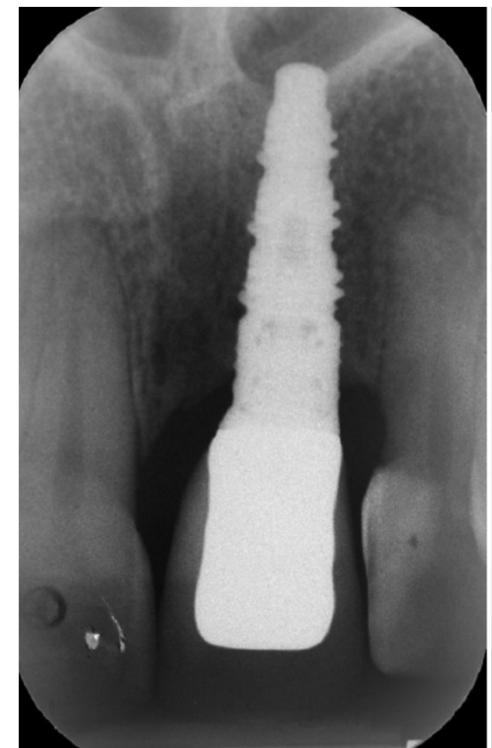
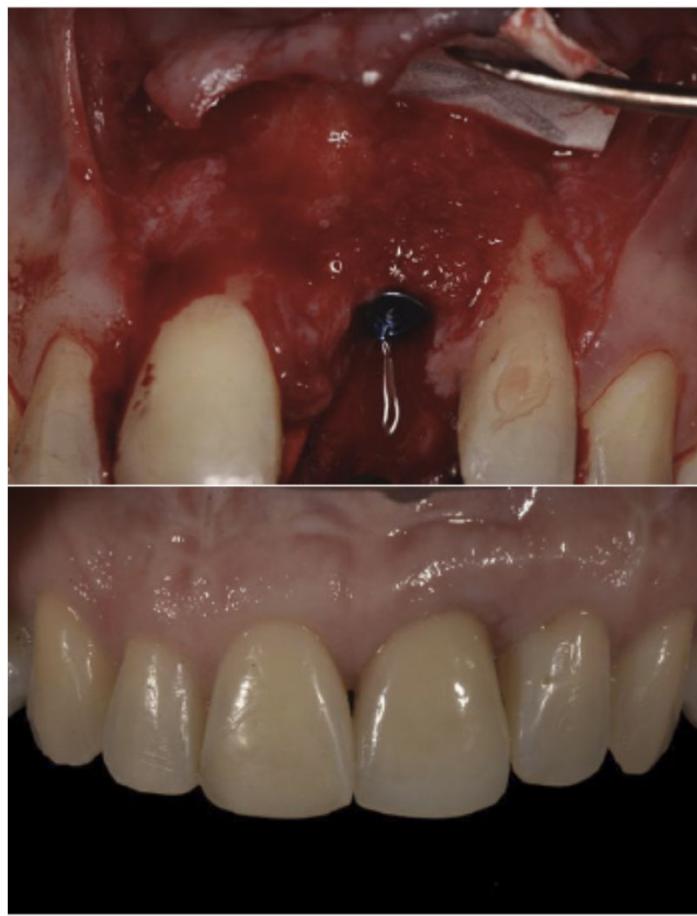
Orthodontic therapy facilitation of periodontal treatment plans



Orthodontic therapy facilitation of periodontal treatment plans



6 ½ months



What is the purpose of performing fiberotomy around a tooth under forced eruption?

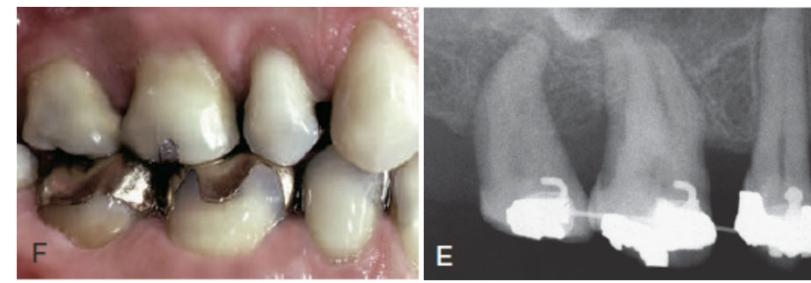
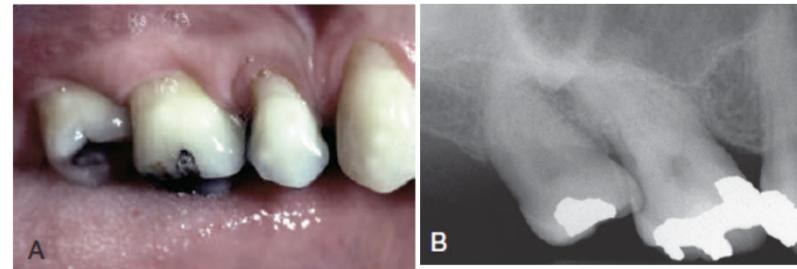
- Whenever a tooth is extruded, the alveolar bone and gingival attachment moves with the extrusion through tension in the gingival and periodontal fibers
- Fibrotomy releases the tension and prevents migration of the gingiva and bone
- Funnelling or lipping occurs if a fibrotomy is not done, requiring secondary surgery



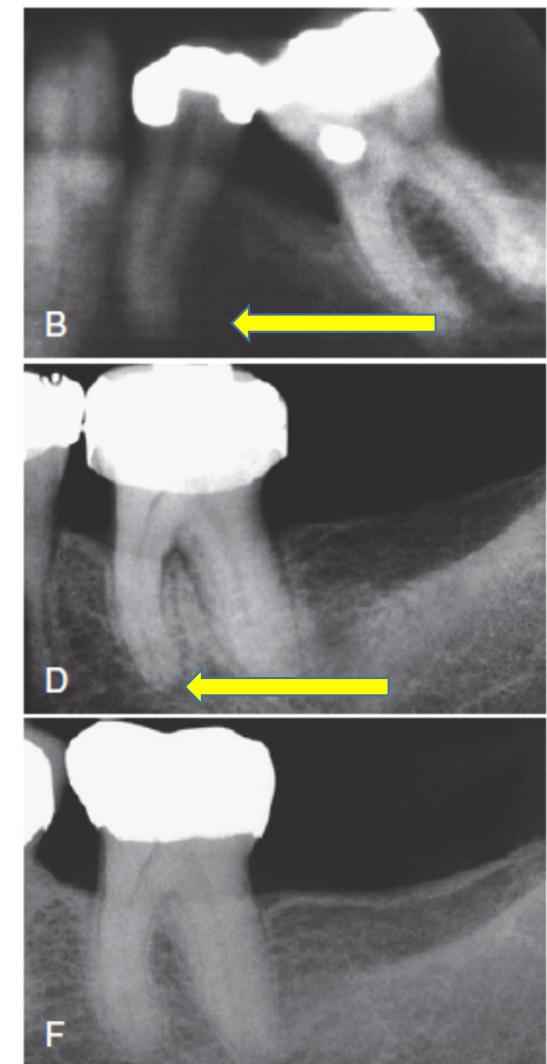
Orthodontic therapy facilitation of periodontal treatment plans

Uprighting- molar

- Pre-orthodontic periodontal management
- Post-orthodontic periodontal management



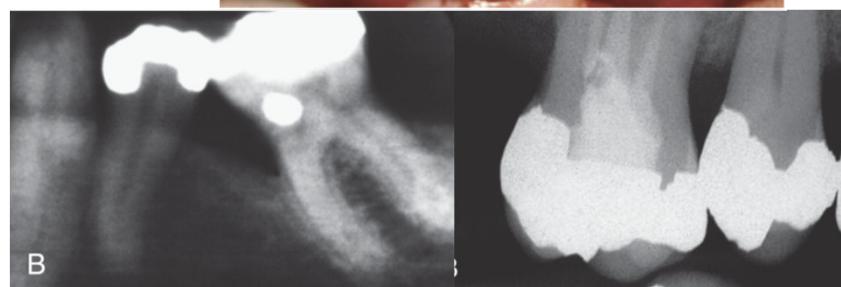
CHAPTER 51 Adjunctive Role of Orthodontic Therapy



Outline: Orthodontic therapy facilitation of periodontal treatment plans

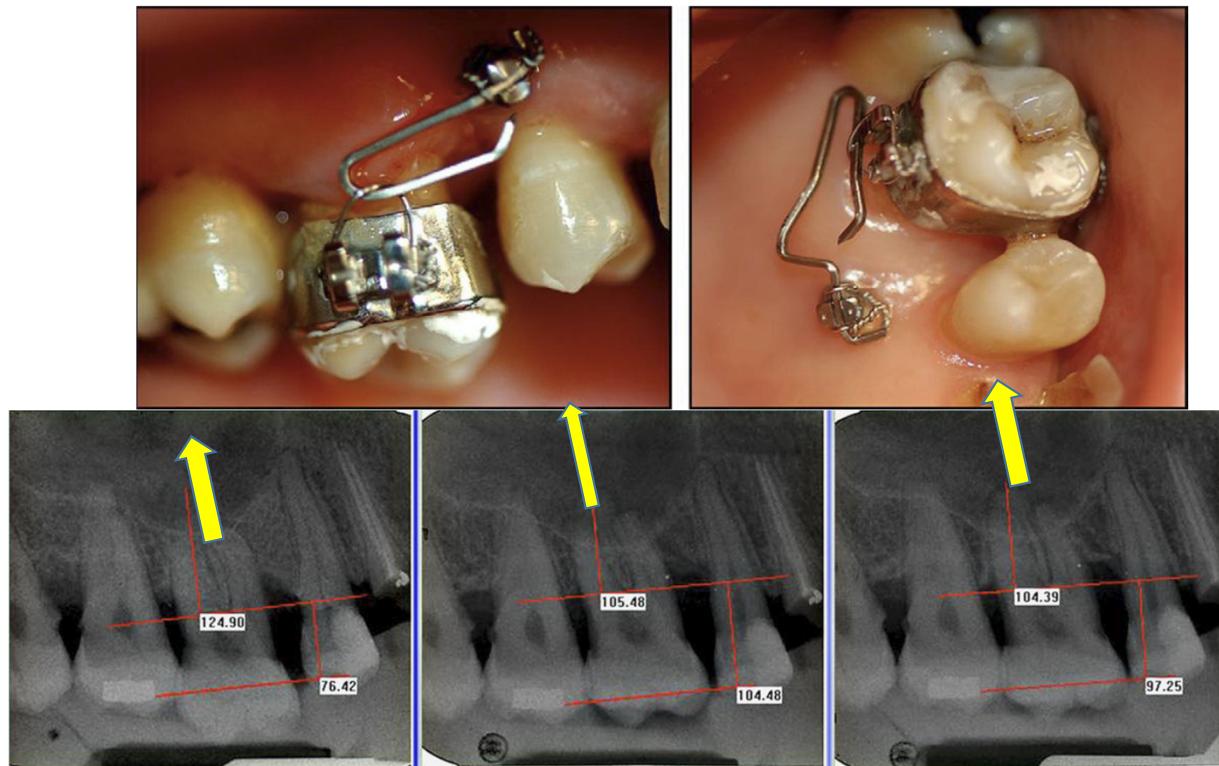
Intra-osseous defects

- Two-wall defects (osseous craters)
 - do not improve with orthodontic treatment
 - Surgical management is required prior to initiating treatment
- Three-wall intrabony defects
 - Bone grafting and follow-up maintenance is required prior to starting orthodontic therapy
- Hemiseptal Defects
 - One or two-wall defects often found around mesially tipped teeth or supra-erupted teeth
 - Require management of inflammation prior to initiation of therapy

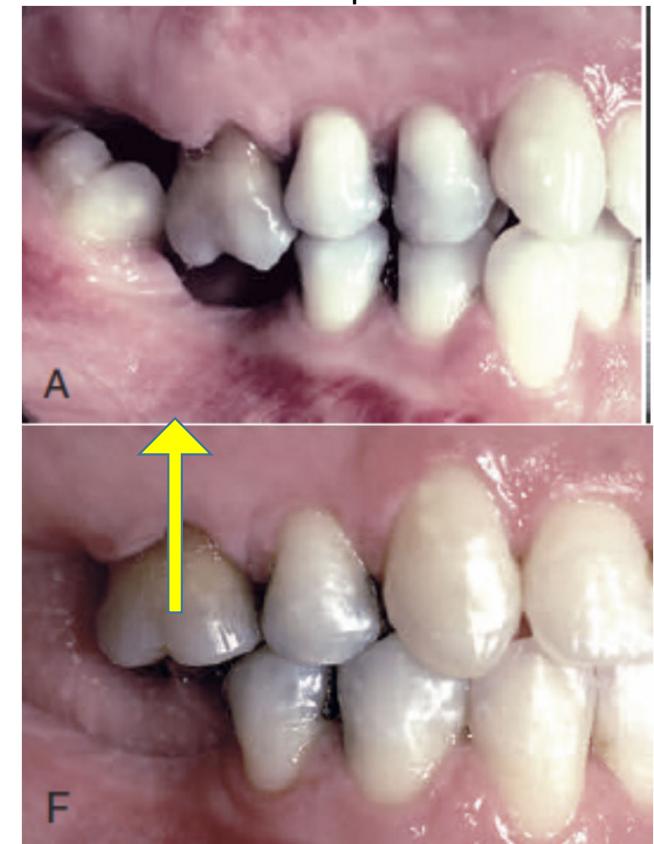


Orthodontic therapy facilitation of periodontal treatment plans

- Temporary Anchorage Device (TAD) Assisted Intrusion



Kockich Chapter 53



Am J Orthod Dentofac Orthop 2011, 139:S170-5

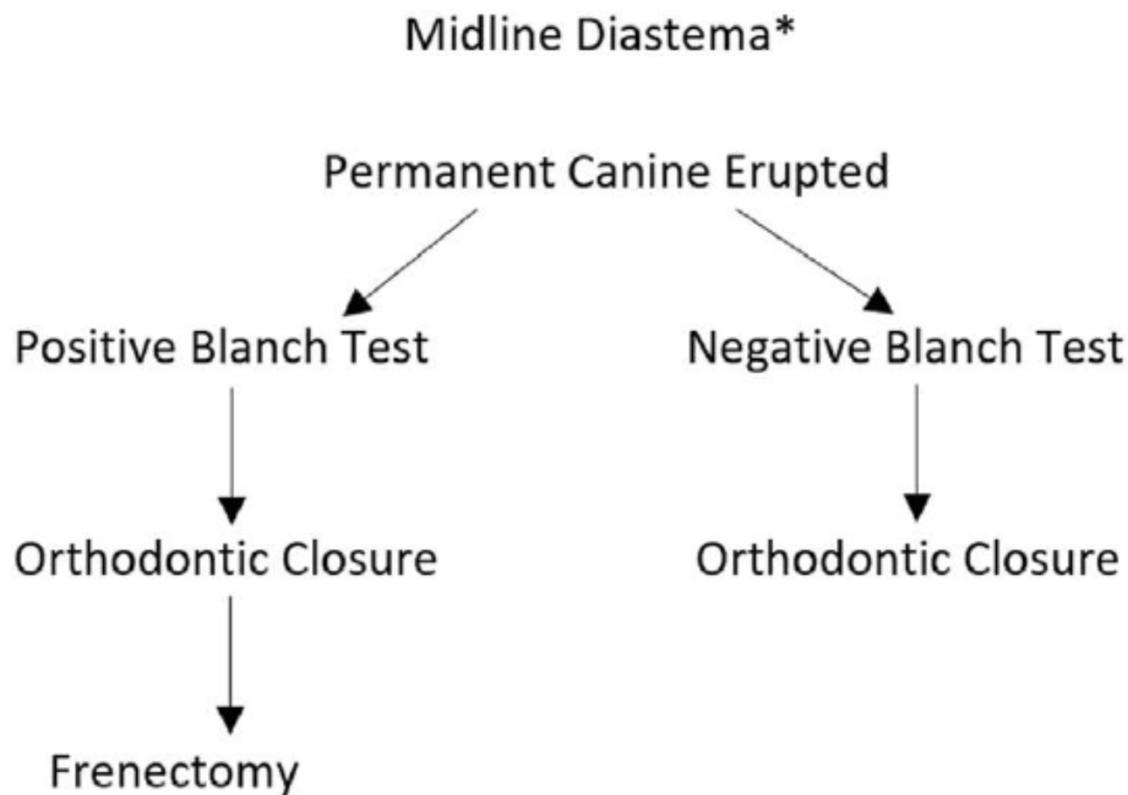
Periodontal therapies that facilitate orthodontic treatment plans

Frenectomy

- Maxilla
 - Labial
 - Buccal
- Mandible
 - Lingual
 - Labial
 - Buccal



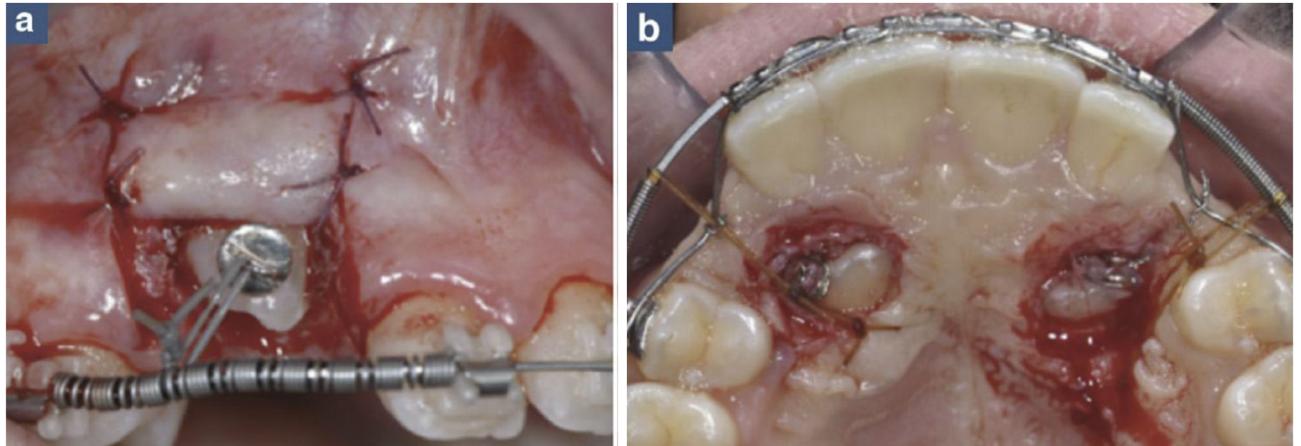
Question: Should frenectomy be performed prior, during or after closing a diastema?



Periodontal therapies that facilitate orthodontic treatment plans

- Canine exposure

- Labial approach
 - Apically repositioned flap
 - Free gingival graft
- Lingual approach
 - Open exposure
 - Closed exposure



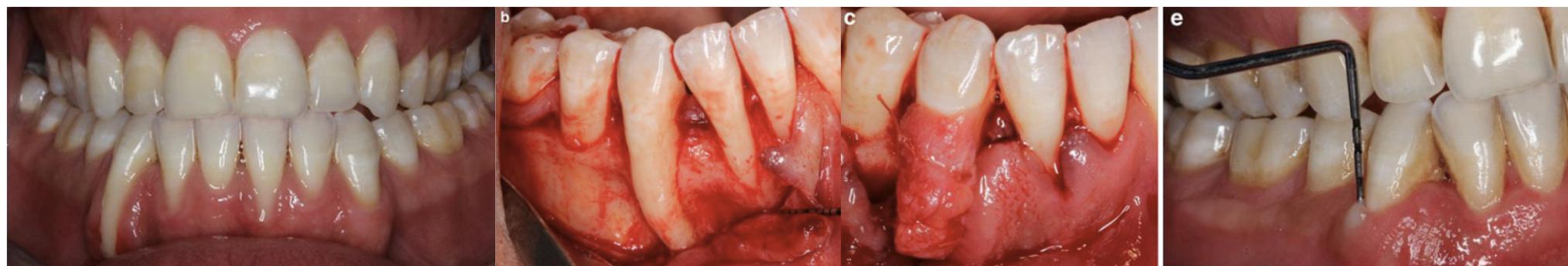
- Concerns

- Lingual impaction and proximity to the lateral incisor root
- Labial exposure and the lack of attached gingiva

Periodontal therapies that facilitate orthodontic treatment plans

- Mucogingival defects

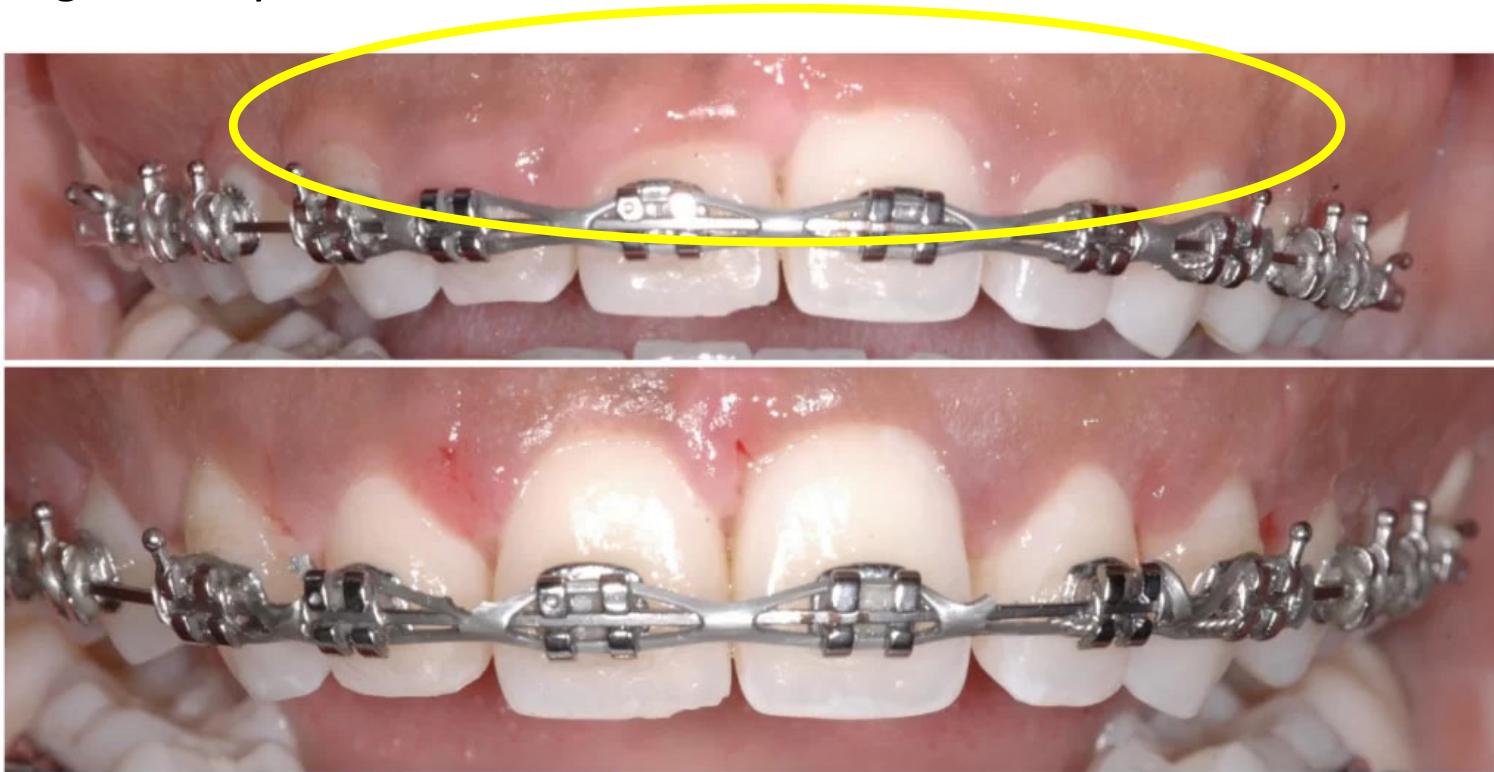
Int. J. Environ. Res. Public Health 2020, 17, 6578



Clin Adv Periodontics 2016;6:1-7.

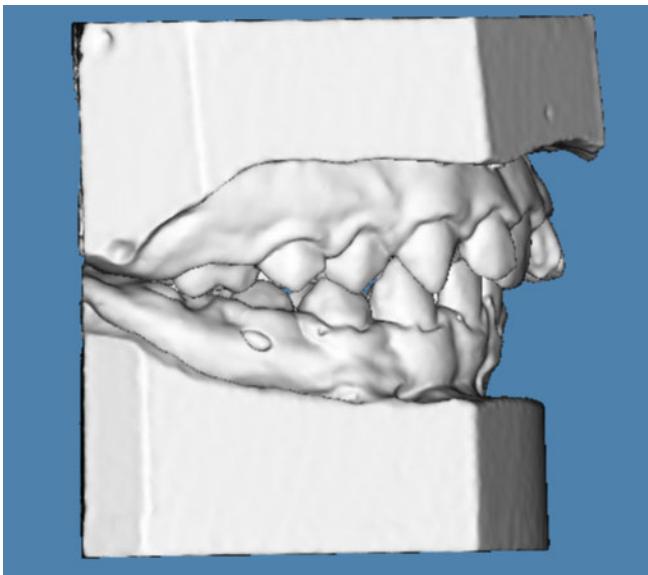
Periodontal therapies that facilitate orthodontic treatment plans

- Gingivectomy



Periodontal therapies that facilitate orthodontic treatment plans

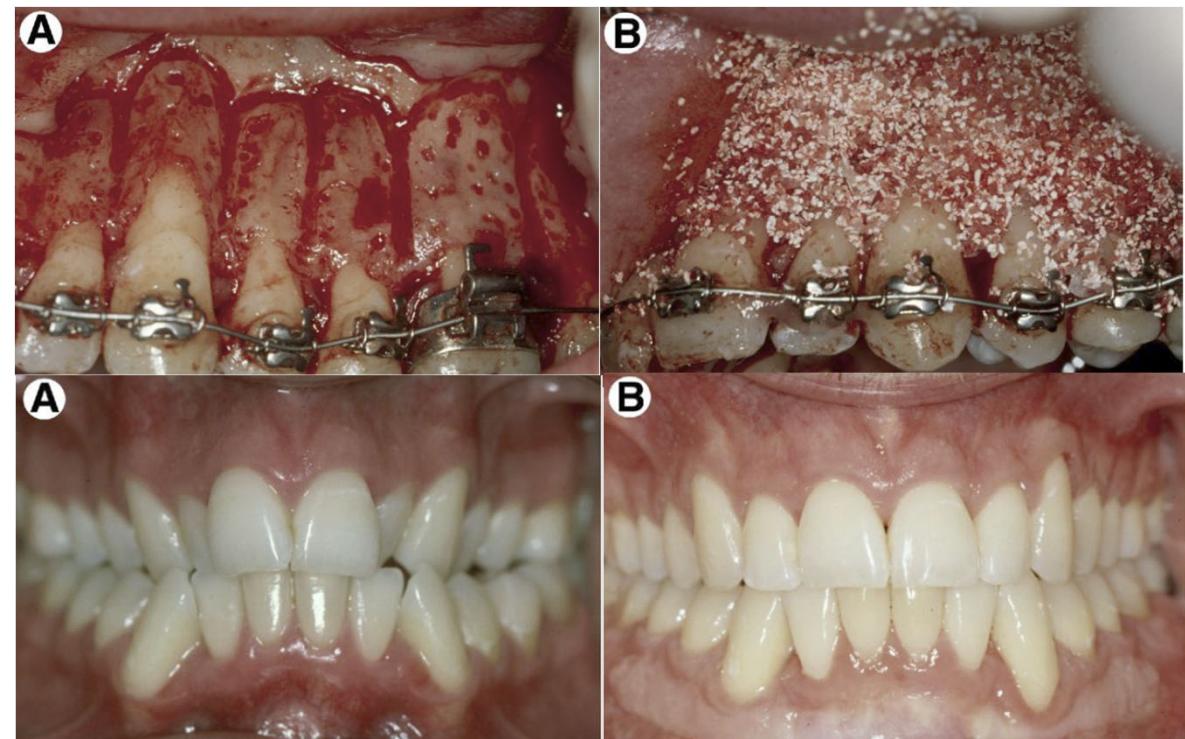
- Gingivectomy



Occlusal Lower

Periodontal therapies that facilitate orthodontic treatment plans

- Accelerated orthodontics



J Oral Maxillofac Surg 67:2149-2159, 2009

What is the rationale behind Periodontically Accelerated Osteogenic Orthodontics?

- The regional acceleratory phenomenon (RAP) is a tissue reaction to a noxious stimulus that increases the healing capacities of the affected tissues.
 - Tooth extraction and movement of teeth into the opening
 - Orthognathic Surgery (Surgery first approach to orthodontic therapy)

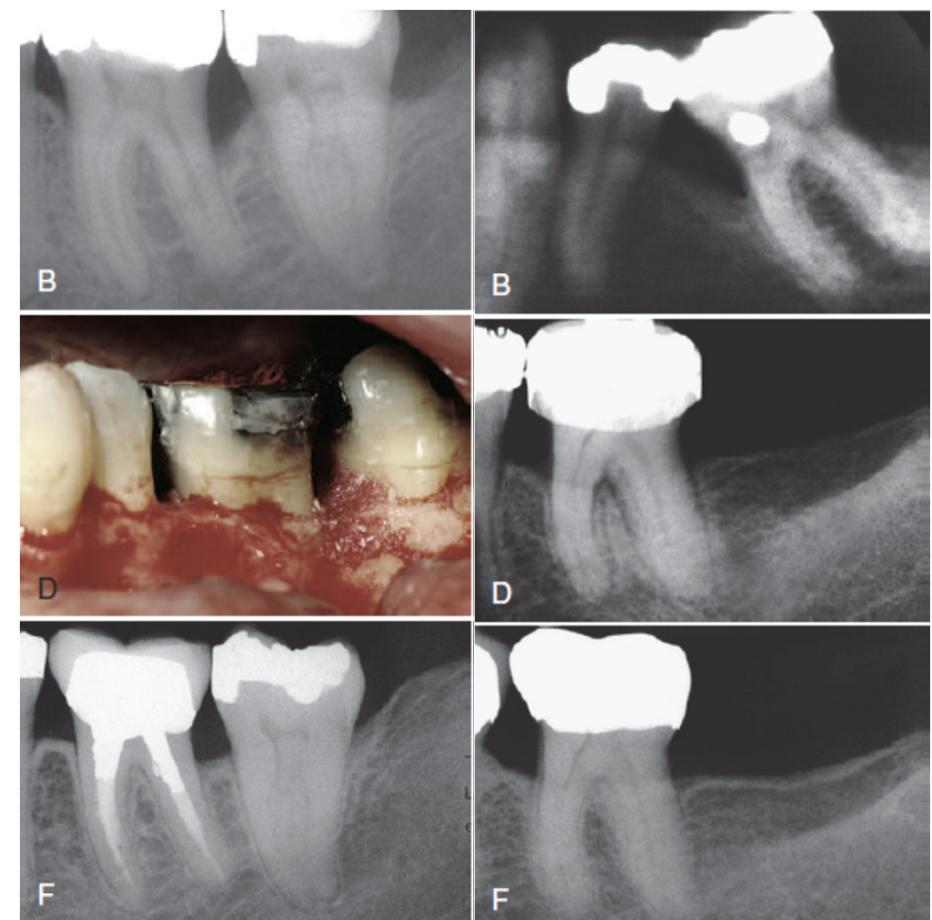


Questions pertaining to the adult treatment

- Is orthodontics contraindicated in patients with compromised periodontium?
 - A prerequisite in any adult patient seeking orthodontic treatment is active management of periodontal inflammation
- Should history of periodontitis be a concern prior initiating orthodontics?
 - A history of periodontitis, with continued signs of disease, is a concern. The patient must be stable, without signs of inflammation, prior to initiating orthodontic therapy

Periodontal therapies that facilitate orthodontic treatment plans

- Adult patients
 - Pre-orthodontic therapy
 - Management of infrabony defects
 - Management of mucogingival defects
 - Co-morbidities
 - Diabetes
 - Bone resorption inhibitors
 - Maintenance during orthodontic therapy



From Kokich, Chapter 53

When should implant therapy be considered in patients with orthodontic therapy?

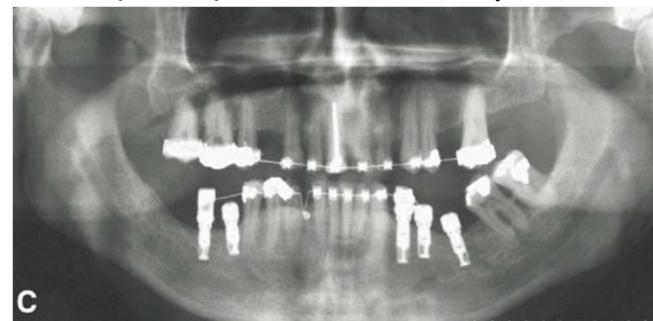
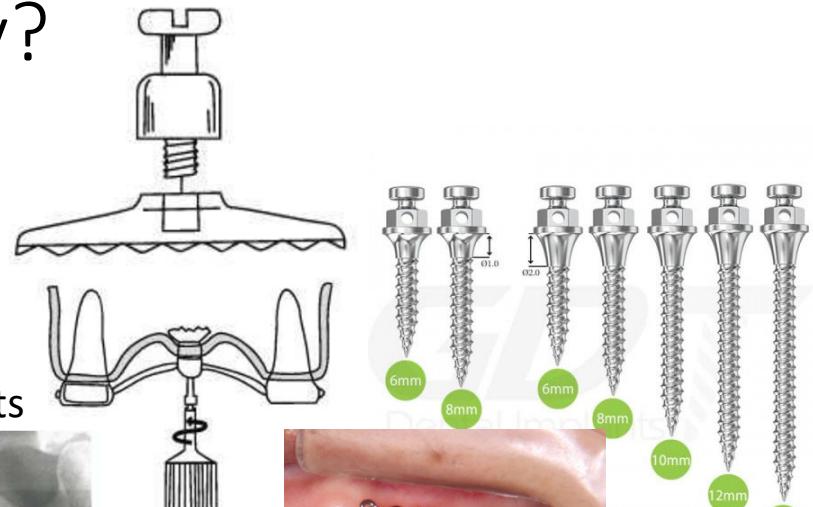
- When there is a need for stable anchorage to facilitate orthodontic mechanics

- Implant types

- Temporary Anchorage Devices (TADs) and Dental Onplants

- Dental Implants

- Skeletal anchorage

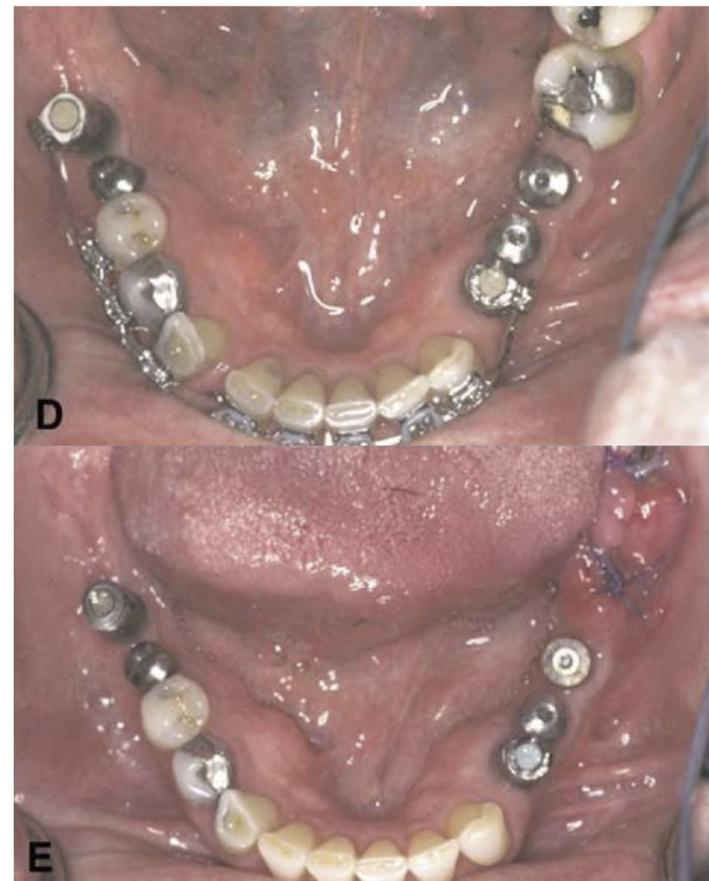
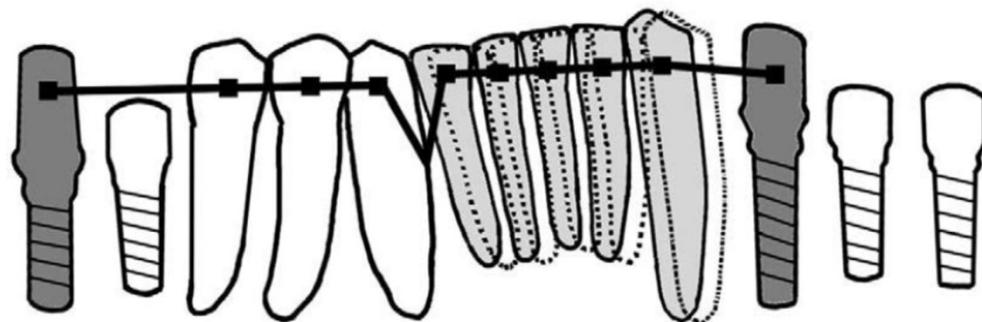
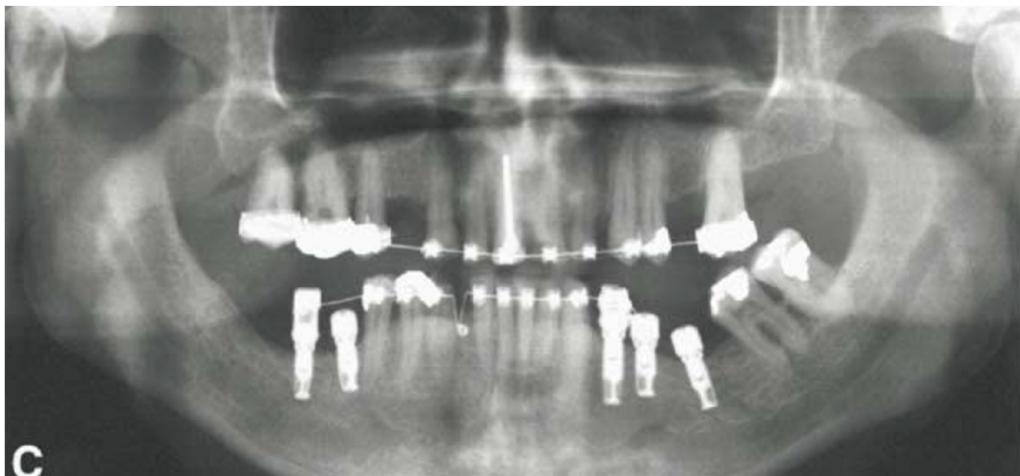


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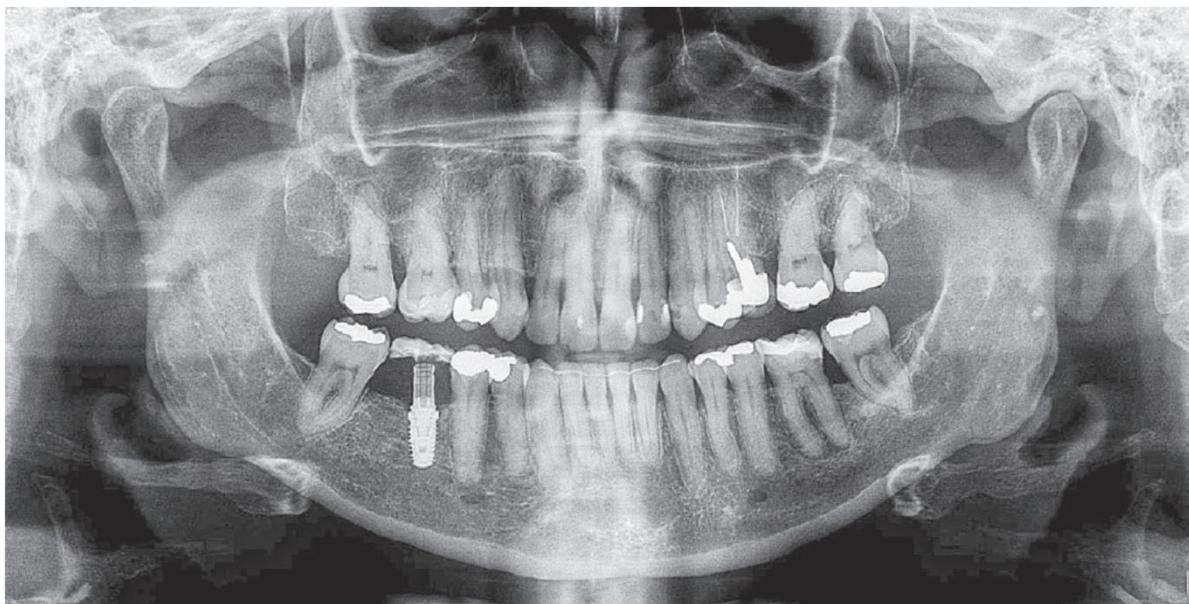
Periodontal therapies that facilitate orthodontic treatment plans

- Implant placement to aid orthodontic mechanics





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Conclusions

- Ideal treatment plans must arise from a multidisciplinary approach in order to improve patient clinical management, long-standing outcomes and prevent further periodontal breakdown.
- Strategies for timing of orthodontic and periodontal therapies vary depending on desired outcomes
- Especially in the adult patient, periodontal oversight is required prior to, during, and after orthodontic therapy

