



PEDIATRIC DENTISTRY DISCIPLINE
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PRACTICAL CLASS 12.1, 12.2

CONSEQUENCES OF EARLY LOSS OF THE FIRST PERMANENT MOLAR



Dental occlusion imbalance - Malocclusion

- unequilibrated occlusal contacts
- premature contacts and interferences
- mesial migration and/or tipping of the second permanent molar
- egression/ extrusion of the antagonist teeth
- midline shift



Occlusal force imbalance

- irregular distribution of masticatory forces within the dental arches
- change of the application point of the masticatory forces in case of malpositioned teeth, may further lead to periodontal problems



Dental migration – clinical considerations:

- the amplitude of movement is even greater as the loss of the molar occurred at a younger age
- the amplitude of movement is greater in the upper arch, compared to the lower arch
- the amplitude of movement is greater for the teeth situated distally to the breach



Dental migration – clinical considerations:

- early loss of the first permanent molar causes translation of the second permanent molar, where the crown and the root move simultaneously
- late loss of the first permanent molar causes tipping of the second permanent molar, where the crown tips mesially and the root stays fixed and becomes curved



Consequences of extraction of the first permanent molar:

- between **8-10 years old** – followed by mesial migration of the second permanent molars, by translation and partial tipping of the crown; the second premolars distalize on a distance equal to half of their mesio-distal dimension; vertically, the migration of the antagonists is not as great.
- risk of malocclusion and possible disfunction of the TMJ



Consequences of extraction of the first permanent molar:

- between **10-12 years old** – followed by coronal tipping of the second permanent molars, while the second premolars maintain their position; vertically, there are no migrations.
- when extraction of the first molar takes place during the eruption of the adjacent teeth, there is increased risk of tipping, rotation, lingual positions or cross-bites
- risk of malocclusion and possible dysfunction of the TMJ



Consequences of extraction of the first permanent molar:

- after **12 years old** – the consequences differ for the maxilla and mandible:
- **in the maxilla:** mesial tipping of the second permanent molar, due to slide of the mandible in long-centric during deglutition



Consequences of extraction of the first permanent molar:

- after **12 years old** – the consequences differ for the maxilla and mandible:
- **in the mandible:** the migration takes place at a slower rate. Tongue interposition in the breach is somewhat delaying the mesial tipping, while the eruption of the third molar accelerates it.