

## **Retention, agenesis and ankylosis at the site of the second premolar - possible solutions**

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Although retention of the second premolar is relatively rare and is not as much of a complication for the patient as is retention of the canine or middle incisor, the management of the situation requires a clear assessment of the degree of tooth retention and thus the complexity of the surgical-orthodontic procedure versus the necessity of the presence of the tooth for a patient. In particular cases, where the crown of the premolar in the mandible cuts below the root of the adjacent first molar require special attention. In these cases, tooth extraction or replantation should be considered.

In contrast, premolar agenesis is the most common type of agenesis in the European population and the possible clinical situations are much more varied. This is related to the large number of therapeutic solutions. First of all, it is necessary to focus on the persistent temporary molar and, above all to detect its possible ankylosis, as early extraction will prevent its destructive influence on the vertical bone level of the alveolar ridge. It is also important to distinguish simple infraocclusion of the tooth from infraocclusion caused by ankylosis.

In the case of loss of the temporary molar and agenesis of the second premolar, there are several options to address the clinical situation, ranging from closing the gap by shifting the surrounding teeth, to autotransplantation of third molars or upper premolars to the site of agenesis, to replacement of the tooth with an implant or an adhesive bridge. The attending physician will determine, which solution is the most suitable for the patient according to the clinical situation and other orthodontic anomalies present.

The authors describe the different clinical situations and present possible solutions using specific situations.