

Gemination

By Irma Lomashvili

What is Geminatio?

Tooth Geminatio (twinning) is a developmental irregularity, characterized by incomplete splitting of a single tooth germ, when two teeth develop together from a single tooth bud.

What is Geminatio?

A visually geminated tooth looks like two teeth but there is one main crown with a cleft in it, within the incisal third of the crown, and results in a large tooth crown that has a single root and a single canal.

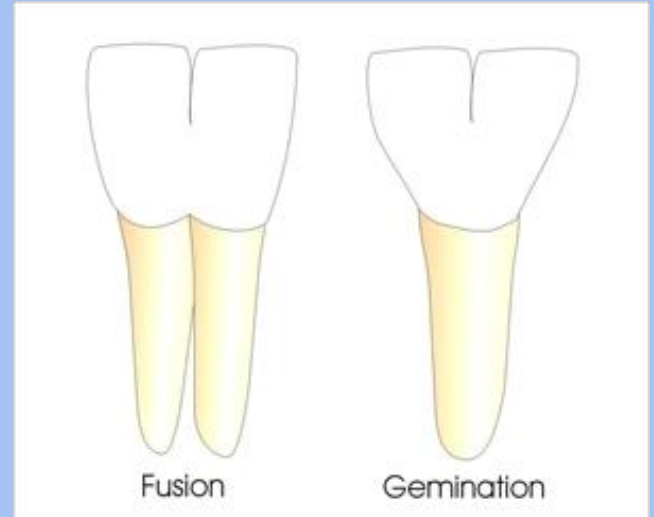


Sites of Occurrence

Gemination is more commonly observed in baby teeth than in the permanent teeth. It most frequently occurs in the primary upper incisors. If patients possess gemination of primary teeth, it does not necessarily mean that their permanent teeth will be double teeth.

Is It Teeth Fusion or Gemination?

- Gemination is very often confused with fusion (two teeth unite to become one) but may be differentiated based on the facts:
- The number of teeth in fusion is less than the actual number of teeth that should be present in the mouth,
- In gemination, it looks like there is an extra tooth in the mouth.
- A tooth with gemination will have a single root and canal.
- In fused teeth, there will be independent roots and canals.



Photograph and X-ray of Tooth Gemination

The following photo is from a 25 year old female:



Here you can see the small tooth emerging between the two premolars. It looks like she has an extra tooth. But on analysis of the x-ray, you can see the “tooth” originates from the root of the second premolar.

Causes

The main cause of gemination is unknown, but these factors have been put forward as possible reasons.

1. Vitamin deficiency
2. Hormonal irregularities
3. Any type of infection or inflammation near the tooth bud during the time of tooth development
4. Increased intake of medicines
5. Any hereditary disease
6. Radiation therapy causing injury to the growing tooth germ

Dental Implications

1. The teeth may be misaligned which may cause difficulty in chewing and injury to adjacent structures
2. The presence of a large crown may cause a problem in accommodation of all teeth leading to an inconvenience in spacing
3. The symmetry of the arch may be compromised due to the enlarged crown
4. The eruption of the adjacent tooth may be obstructed
5. The grooves marking the two crown portions may provide development of plaque and debris which make the tooth susceptible to dental caries
6. Periodontal health is also at risk due to plaque accumulation

Treatment

1. In case of large grooves, the teeth can be reshaped and then restored with a tooth-colored restorative material so as to decrease plaque accumulation.
2. The other method of treatment includes reduction of the medio-distal width of the tooth and then a final porcelain crown may be installed after endodontic therapy.
3. The aesthetically compromised tooth can undergo reshaping and then can be built up with a composite restorative material to give it a normal appearance.
4. The tooth can also undergo an endodontic treatment after which the crown can be surgically divided into two teeth.
5. If the tooth is extremely compromised and endodontic therapy does not seem a viable option, extraction of the tooth and then a prosthetic replacement like a fixed partial denture (bridge) may be needed.
6. If the patient is unwilling to undergo any treatment, he should be advised to maintain a strict oral hygiene practice in order to prevent plaque accumulation and bacterial contamination. Thorough brushing twice a day along with the use of a mouthwash is recommended.

References

1. <https://dentagama.com/news/tooth-gemination-in-dentistry>
2. <http://www.orangectdentist.com/dental-library/tooth-gemination/>