

# Dens in Dente and Supernumerary Teeth

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DEN 1114 - Histology and Embryology with Professor Bilello

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## Developmental Disturbance Definition

- **Dens in Dente** or **Dens Invaginatus** is a developmental defect characterized by the enamel organ protruding into dentin (dental papilla).



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## Etiology

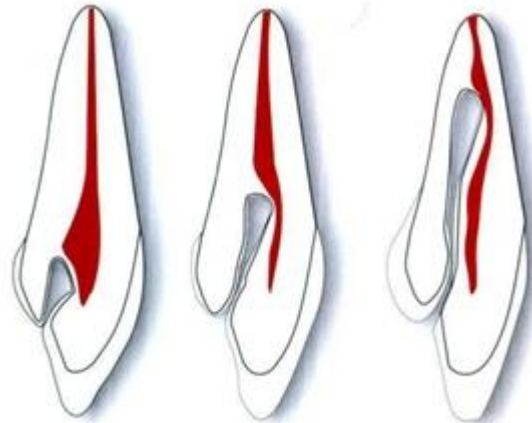
- The main etiologic factor of **Dens in Dente** is hereditary. There are also suggestions that the defect can happen as a result of infection or injury during tooth development.





## Developmental Process

- **Dens in Dente** occurs as a result of partial retraction of the enamel organ into the dentin (dental papilla ) at different depths. This process occurs at the third stage of tooth development, between the ninth and tenth week of prenatal period.



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## Dental Impact on the Patient

- **Dens in Dente** is often asymptomatic. However, teeth with Dens in Dente can easily develop caries, pulpitis and apical periodontitis.



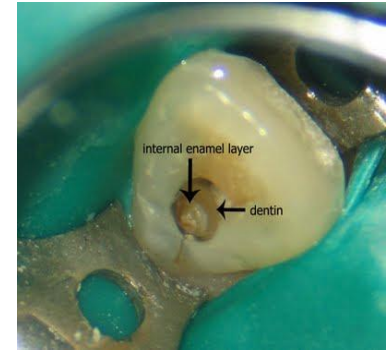
## Role of the Dental Team

The role of the dental team is to correctly diagnose the condition and prescribe appropriate treatment.

- **Dens in Dente** is identified through radiographic techniques. The methods of treatment depend on the form of the anomaly and include root canal treatment, endodontic treatment, restoration of the crown. In severe cases extraction of the tooth is recommended

The following preventative measures can be recommended for patients:

- Attending a cleaning procedure twice a year, as well as regular dental visits for monitoring oral health.



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## Developmental Disturbance Definition

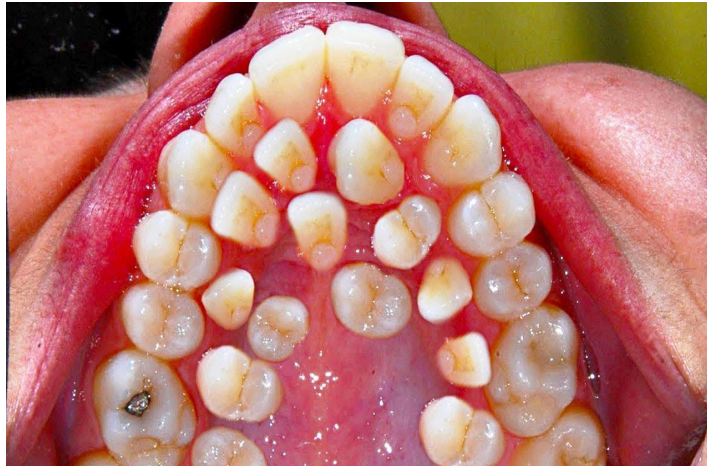
- **Supernumerary Teeth** or **Hyperdontia** is a developmental abnormality, characterized by the presence of extra teeth. Supernumerary teeth are formed in the primary or permanent dentitions.



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## Etiology

- The main etiologic factor of **Supernumerary Teeth** is hereditary.





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## Developmental Process

- **Hyperdontia** or **Supernumerary Teeth** begin forming from the dental plate during embryonic development. The dental plate splits into more tooth germs.



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# Dental Impact on the Patient

**Hyperdontia** may have the following symptoms:

- Speech defects, problems with chewing
- Injuries of the mucous tissues of the oral cavity (redness, swelling)
- The formation of malocclusion and displacement of main permanent teeth (dystopia)
- Deformation of the jaw bones
- Poor dental hygiene due to crowding







## Key Words

- **Dental lamina** - “structure of the tooth formed during the later part of the seventh week, from the oral epithelium .”
- **Enamel organ** - “the formation of tooth bud of dental lamina. The future dental tissue is enamel.”
- **Dental papilla** - “the inner mass of ectomesenchyme within the concavity of the enamel organ. The future dental tissue is dentin and pulp.”
- **Tooth germ** - “ the formation consisting of three structures: the enamel organ, the dental papilla and the dental sac.”



## References

- **Illustrated Dental Embryology, Histology, And Anatomy**, Fourth edition, pages 54-60, chapter 6. 2016, Saunders, an imprint of Elsevier, Inc.
- **Reference Module in Biomedical Sciences**, Hyuk-Jae Edward Kwon, Rulang Jiang, 2018 Elsevier B.V. ScienceDirect
- **Oxford University Press**. Copyright 2022 Oxford University Press
- **Abnormalities of Teeth in Oral Pathology** (Sixth Edition), 2012. Edited by: Joseph A. Regezi, James J. Sciubba and Richard C.K. Jordan. 2022 Elsevier B.V. ScienceDirect.