

# PP23: CAN IMPACTION OF THE MAXILLARY CANINE BE PREVENTED? HOW AND WHEN

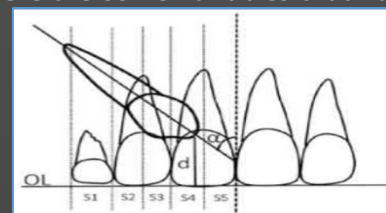
Presenting Author: Andreas Ergatoudes<sup>2</sup>,

Gerassimos Angelopoulos<sup>1</sup>, Andreas Ergatoudes<sup>2</sup>, Chris Georgiou<sup>2</sup>, Panagiotis Magdanis<sup>2</sup> Department of Orthodontics, National and Kapodistrian University of Athens : 1.Orthodontist, Research Associate 2.Undergraduate Student

- **AIM:** We aimed to review on how and when to intervene in order to prevent the impaction of maxillary canines and propose a novel approach to improve spontaneous canine eruption.
- **MATERIALS AND METHODS:** The electronic databases Pub Med, Scopus and Science Direct were searched, using a combination of the keywords: canine impaction, prognosis, treatment, spontaneous eruption and these combinations produced a total of 1849 results, the titles and abstracts of which were then examined. Twenty-seven papers met the inclusion criteria. inclusion criteria which were: the papers must be published in English, and report on timing of intervention in order to prevent the impaction of maxillary canines. Five ways to prevent impaction have been identified and a novel approach is proposed through clinical cases.

➤ **RESULTS:** When considering the prognosis of an ectopic maxillary canine there are some variables that have been proposed to be taken into consideration.<sup>1,3</sup>

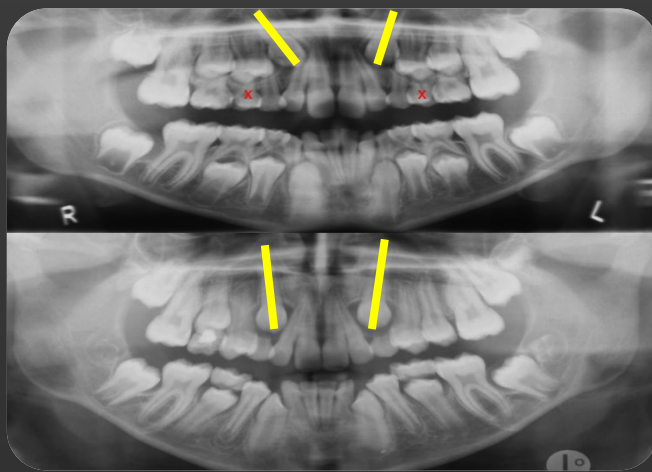
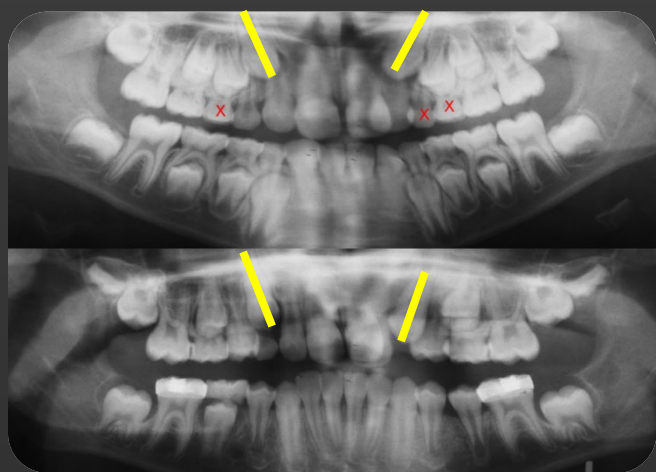
- **α-Angle:** the angle formed between the long axis of the impacted canine and the inter-incisor median line. When the alpha angle is less than 20° no intervention is required. When the angle is between 20° and 30° intervention is indicative. When more than 30°, intervention is not supported by the evidence.
- **Sector Location:** Referring to the mesio-distal location of the ectopic canine's cusp tip. When the tooth bud is in sector 1 no intervention is required, though it might be helpful. When it is located in sectors 2 and 3 intervention is supported by the evidence. This does not seem to be the case for sectors 4 and 5.
- **Patient's age:** The younger is the patient the better is the prognosis. However, the parameters mentioned above, become prognostic variables only after 10 to 11 years old.
- The less developed the root of the ectopic canine, the better the chances of eruption. Early Nolla stages of equal or less than 8 seem to be preferable, meaning less than 2/3 of the root completed.
- Patient's cervical vertebrae maturation stage (CS) of less than 4 seems to be indicative of intervention. Meaning, prepubertal stages are preferred.
- The more root resorption of primary canine the better the chances of the permanent canine erupting.



Early interceptive approaches that have been proposed are: <sup>2,4</sup>

- a) Extraction of the deciduous canine, b) cervical pull headgear, c) rapid maxillary expander, d) concomitant extraction of both the deciduous first molar and canine and e) Combinations of the above.

We are presenting a two-step interceptive treatment when the tooth buds of canines and first bicuspid are close to each other, whereby we first extracted the deciduous first molars accelerating the eruption of the premolar and then the path of eruption of the canines spontaneously improved and the deciduous canines exfoliated. This approach needs to be further investigated. Extraction of primary first molars which are located closer to the occlusal plane and before their normal exfoliation time usually is performed between 9 to 10 years of age. This is done to encourage first premolars to erupt ahead of permanent canines.



Tooth No.	Initial α-angle	12 month progress α-angle	Initial sector location	12 month progress sector location
#13	18.5°	9.5°	S3	S1
#23	27°	12°	S3	S2

Tooth No.	Initial α-angle	14 month progress α-angle	Initial sector location	14 month progress sector location
#13	37.8°	10°	S3	S1
#23	28.3°	7.2°	S2	S1

➤ **CONCLUSIONS:** It is possible to intervene, facilitating the autonomous eruption of ectopic canines and thus avoid impaction

➤ **REFERENCES:**

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