



CLINICAL PROBLEM

- The prevalence of crowding of permanent incisors is 33.3%-50% (1).
- Crowding is associated with aesthetic concerns, possible difficulties with plaque control and other malocclusions (1).
- One intervention to correct crowding, e.g., surgical extraction of primary canines (Cs), is believed to induce spontaneous alignment of incisors (2).
- These extractions of Cs are controversial due to concerns about short-term effects on arch space.



CLINICAL QUESTION

Among children with permanent incisor crowding, to what extent does primary canine extraction alter the permanent incisor crowding compared to no extraction?

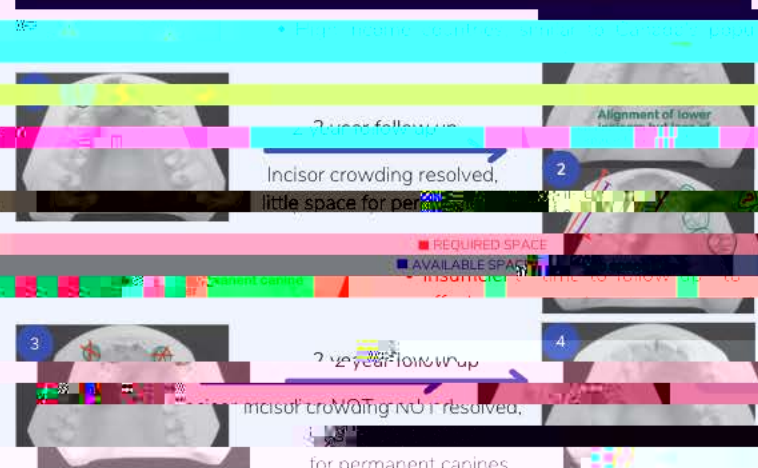
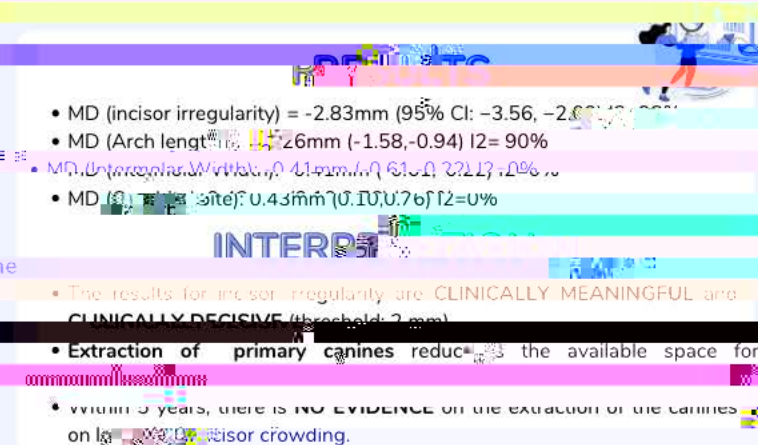


EVIDENCE SEARCH

Search date: January 31st, 2023
 Key words: primary canine extraction, tooth extraction, dental arch, incisor, incisor crowding, treatment outcome, malocclusion therapy.
 PubMed yield: 683 evidence sources
 Additional databases: Cochrane, Scopus, Web of Science, Clinical Trials, OpenGrey, and Google Scholar.
 Article selected: Espinosa D, et al., 2020, Systematic Review, 3 primary studies (2 RCTs and 1 non-RCT)

REFERENCES: (1) Espinosa, D, et al. "The effect of extraction of lower primary canines on the morphology of dental arch: A systematic review and meta-analysis." International journal of paediatric dentistry vol. 31,5 (2021): 583-597. doi:10.1111/ipd.12726
 (2) Kau CH, Durning P, Richmond S, Miotti FA, Harzer W. Extractions of lower primary canines in the developing dentition: a randomized controlled trial. J Orthod. 2004;31(1):1-7.

Overall, there is limited evidence to support the extraction of lower primary canines to reduce permanent incisor irregularity. More RCTs are needed, preferably to evaluate the effect on the alignment of incisors.



databases; No language limits.

- Space analysis limited to the anterior crowding and arch length
- 3 studies only, including a non-RCT, one RCT only examined effects on the lower arch.
- Follow-up less than 5 years.
- No assessment of publication bias
- Authors incorrectly concluded that treatment length associated for exo of Cs

- Children in mixed dentition population of interest
- No information about the cost, socioeconomic status of the study population and setting
- Quebec covers tooth extraction costs for children under 12.
- Sufficient time to follow up to see short-term effects.
- Invasive procedures (may create lifelong reluctance regarding dental treatment in young children).

ACKNOWLEDGEMENT

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