

# Surveying Pediatric Medicine Residents' Dental Knowledge: A Needs Assessment

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## Introduction

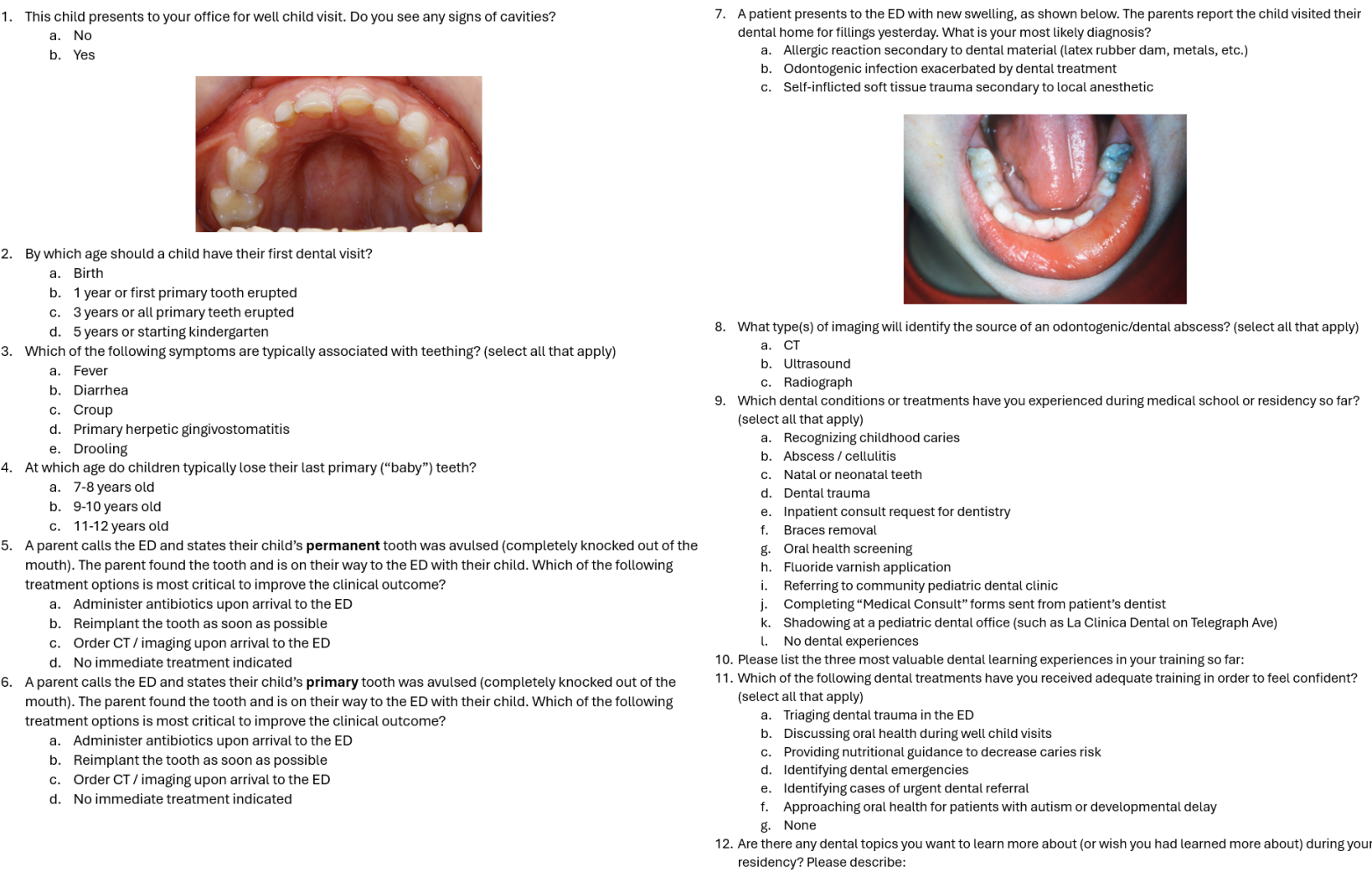
- In the United States, the fields of dentistry and medicine lack integration beginning from the early stages of professional education and oftentimes persisting through many physicians’ careers.
- While pediatricians widely support oral health activities, limitations in education, billing, and time prevent pediatricians from referring or intervening in dental problems and prevention as often as pediatric dental guidelines suggest<sup>1, 2, 3</sup>.
- A recent survey of graduating pediatric residents by the American Academy of Pediatrics found that the majority of respondents desire more training in oral health, with 73% of residents reporting less than 3 hours of oral health training during their residency<sup>4</sup>.

### Purpose

- This needs assessment aimed to identify dental knowledge gaps in current pediatric medicine residents at UCSF Benioff Children’s Hospital Oakland, assess whether there is variability in dental knowledge based on resident post-graduate year (PGY), and determine which areas of the curriculum require development to better prepare residents for careers as pediatricians.

## Methods

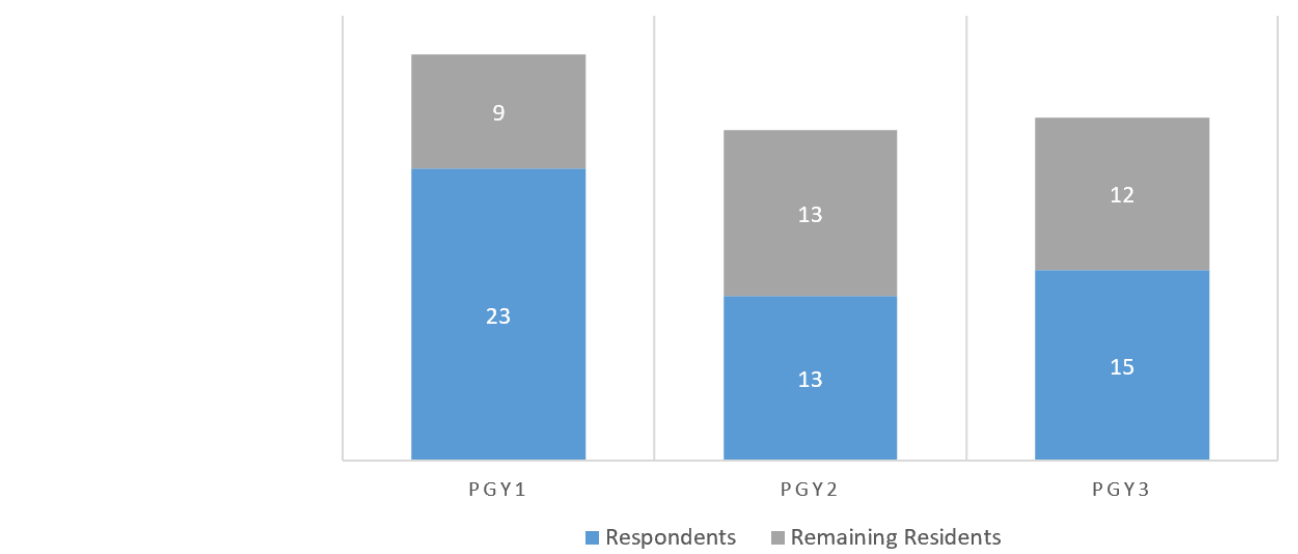
- An electronic, anonymized Qualtrics survey was sent to all pediatric medicine residents at UCSF Benioff Children’s Hospital Oakland.
- Statistical analyses were run including ANOVA and paired t-tests.



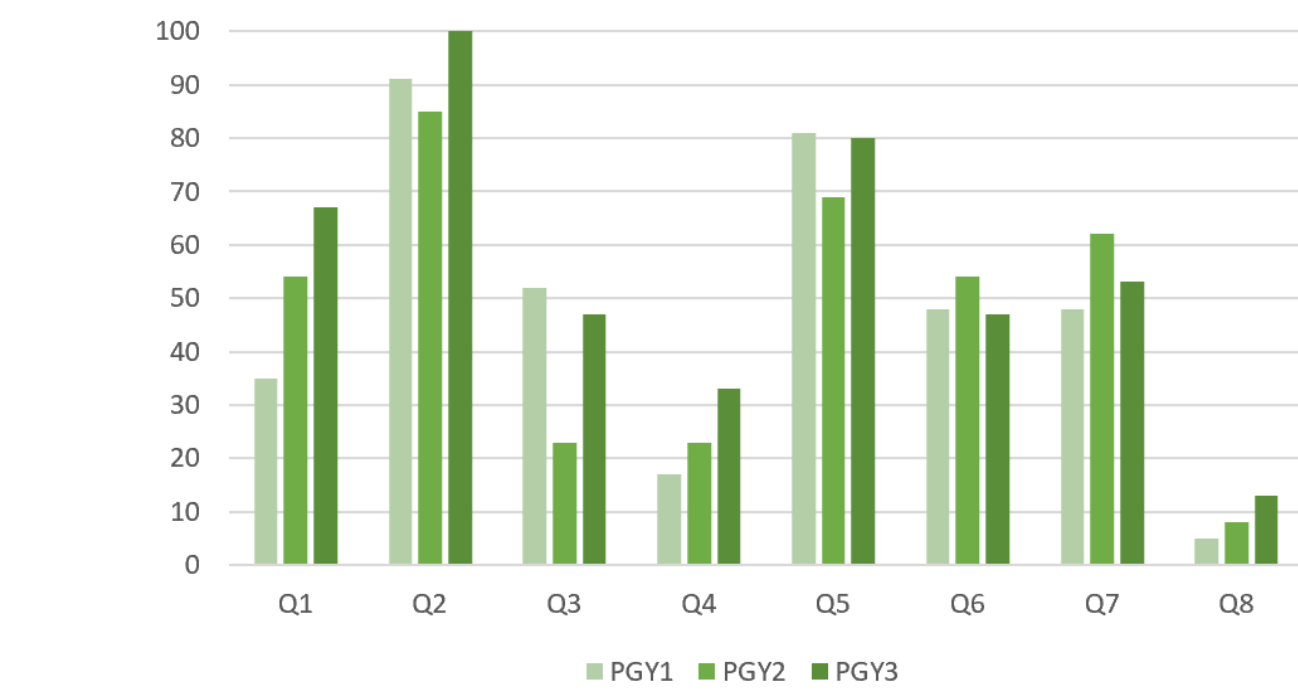
**Figure 1:** Multiple-choice questions covered topics including identification of caries, anticipatory guidance surrounding teething and first dental visit, and management of common dental emergencies. Open-ended questions assessed the current state of dental experiences during medical training and determined the level of confidence residents have managing or appropriately referring common dental conditions as pediatricians.

## Results

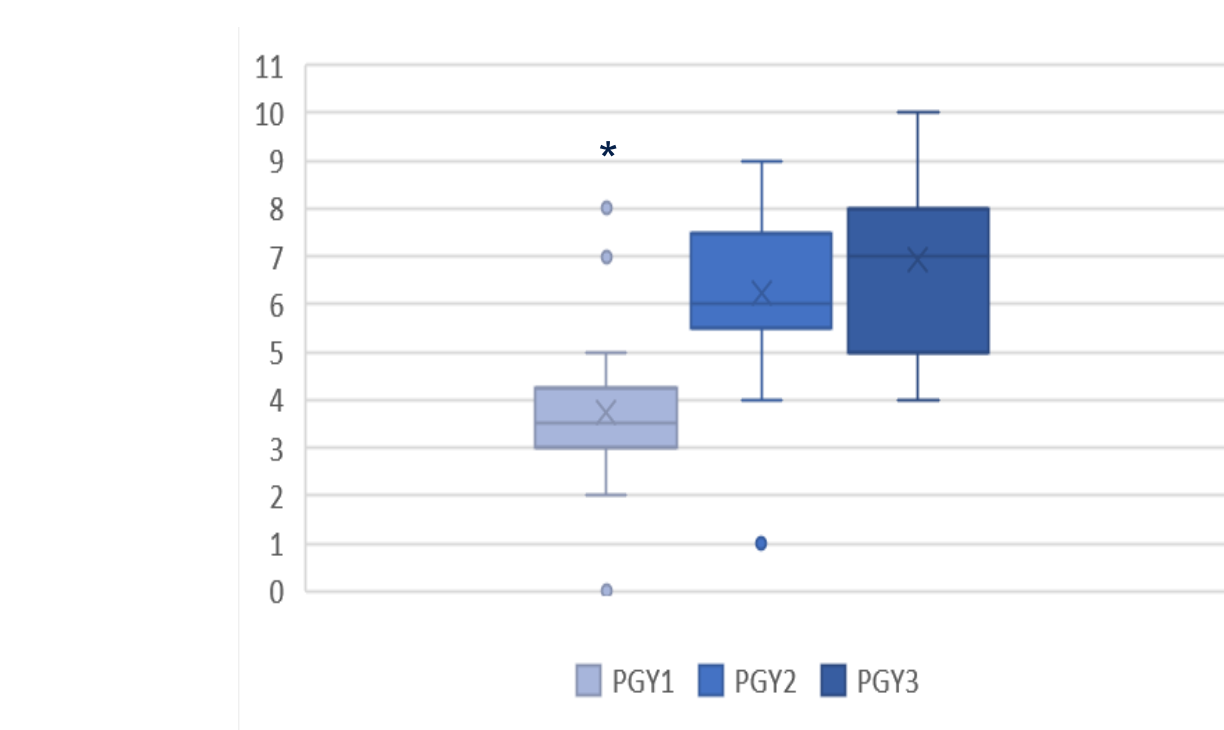
- 51 out of a total of 87 residents (58%) participated in the survey.



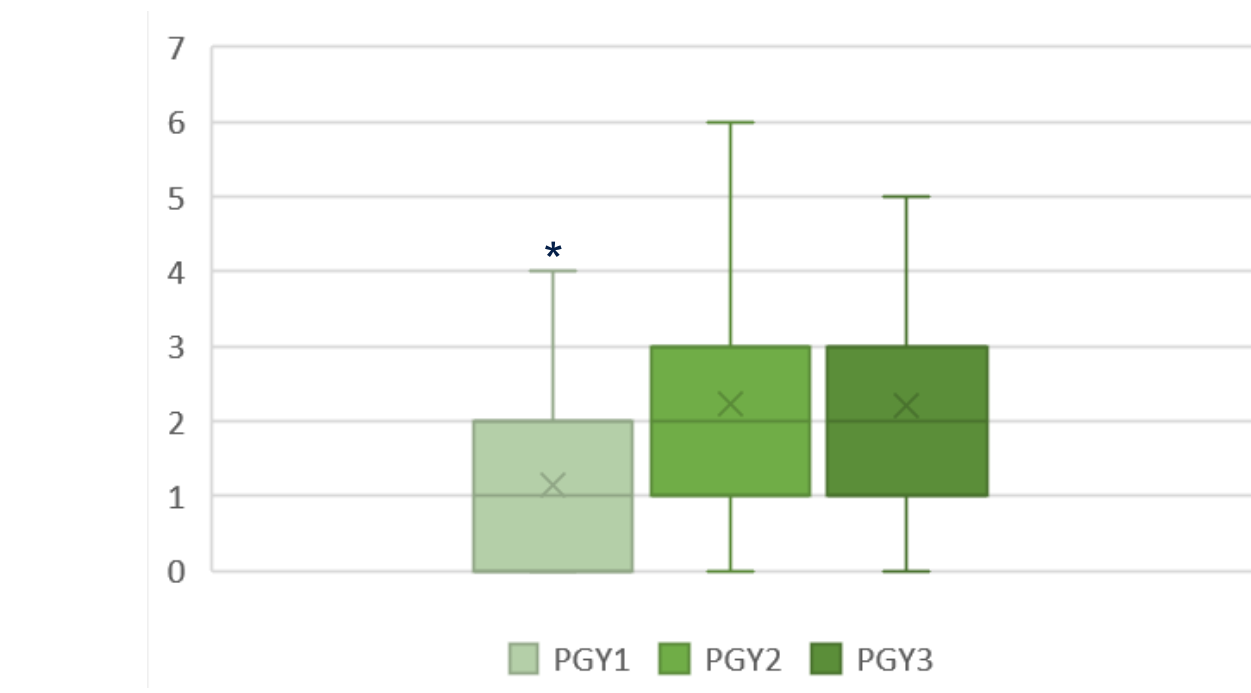
**Figure 2:** Number of survey responses by PGY.



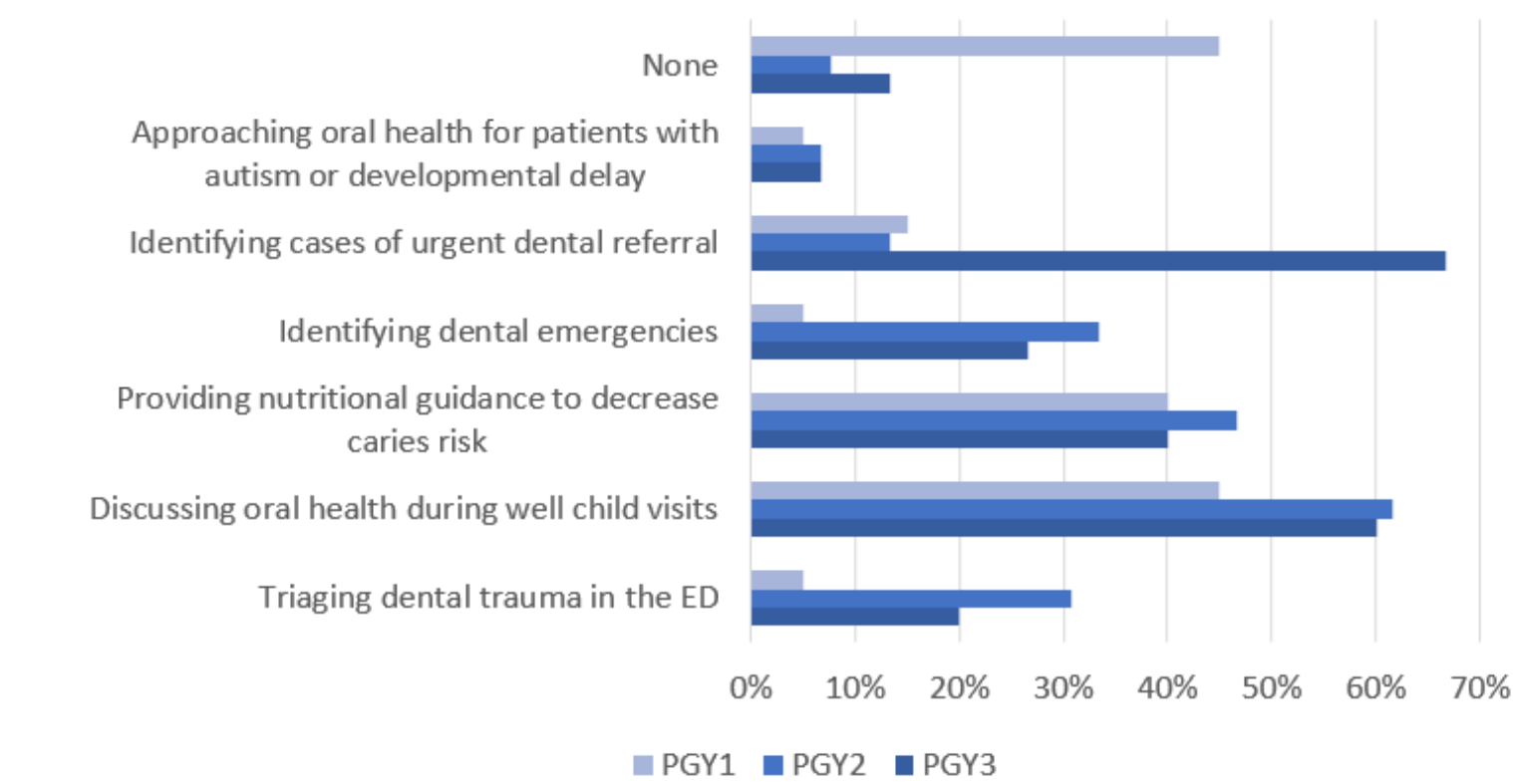
**Figure 3:** Percentage of correct answers to the knowledge-based questions (Q1-8) by PGY. ( $P=0.81$ ).



**Figure 4:** Number of experiences selected responding to Question 9 “Which dental conditions or treatments have you experienced during medical school or residency so far?” One-way ANOVA ( $P=0.0003$ ). Paired two-tailed T-tests PGY1 & PGY3 ( $P=0.0088$ ), PGY1 & PGY2 ( $P=0.0001$ ), PGY2 & PGY 3 ( $P=0.35$ ).



**Figure 5:** Number of experiences selected in response to Question 11 “Which of the following dental treatments have you received adequate training in order to feel confident?” One-way ANOVA ( $P=0.044$ ). Paired two-tailed T-tests PGY1 & PGY3 ( $P=0.046$ ), PGY1 & PGY2 ( $P=0.035$ ), PGY2 & PGY 3 ( $P=0.95$ ).



**Figure 6:** Specific responses to Question 11 “Which of the following dental treatments have you received adequate training in order to feel confident?” arranged by PGY.

## Discussion

- While there were statistical differences between the PGY1 and PGY3 pediatric medicine residents in terms of number of dental experiences during training and number of dental topics with which they felt confident, there was no statistical difference in the percentage of correct answers to the knowledge-based questions by PGY. This reveals that while pediatric medicine residents do gain hands-on experience and some confidence with dental conditions and topics, the didactic portion of the education may need improvement.
- In qualitative responses to Q10, which asked about the most valuable learning dental experiences during residency, residents most frequently cited working directly with pediatric dental residents (shadowing in clinic or working together on cases in the ED or inpatient wards).

- Based on the results, it appears that implementing standardized dental didactics and more frequent opportunities for collaboration between pediatric medicine and dental residents may work synergistically to improve dental knowledge in pediatric medicine residents.
- The needs assessment shows existing need to implement dental topics into the pediatric medicine curriculum, with regards to both the low percentage of correct answers to knowledge-based questions as well as relatively low rates of confidence in dental treatments/triaging reported across all PGY levels.
- Based on the topics residents report feeling confident handling, it may be particularly useful to begin by implementing training surrounding dental emergencies and triaging dental trauma, as well as a module related to patients with special health care needs or developmental delay.
- Additionally, despite reported confidence in discussing oral health during well-child visits, residents selected incorrect responses regarding teething symptoms (Q3) and failed to identify clinical caries (Q1). This suggests that residents may not be aware of some knowledge gaps.
- Residents acknowledged limitations in their dental knowledge and expressed an interest in a variety of topics, with multiple residents requesting to learn more about how to identify caries, work with children with developmental delays, determine urgent vs emergent dental problems, and how to manage dental trauma.

## Conclusions

- Pediatric medicine residents are interested in improving their dental knowledge and acknowledge limitations in their current education. Experiences of interprofessional collaboration between pediatric medicine and dental residents were reported to be an especially helpful learning modality.
- Future directions will include the development and implementation of a dental module into the core curriculum for the pediatric medicine residents. Future surveys will assess the success of this curriculum.

## Acknowledgements

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## References

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