

## BACKGROUND

Lesion Sterilization and Tissue Repair (LSTR) is a non-vital pulp therapy used to manage necrotic primary teeth while preserving natural exfoliation timelines.<sup>1</sup>

LSTR is incorporated into national and international guidelines and has gained attention for its use as an alternative to pulpectomy for specific clinical situations.<sup>2</sup>

The American Academy of Pediatric Dentistry recognizes LSTR as a minimally invasive technique, with success dependent on proper diagnosis, medicament selection, and case-specific considerations.<sup>3</sup>

Assessing pediatric dentists' knowledge and comfort with LSTR is essential in determining whether academic institutions are preparing providers for the use of new techniques. This study evaluates these factors among pediatric dentists in Washington, D.C., Maryland, and Virginia.

## PURPOSE

This study assesses the knowledge and comfort level of pediatric dentist in the Washington, D.C., Maryland, and Virginia (DMV) region regarding Lesion Sterilization and Tissue Repair (LSTR).

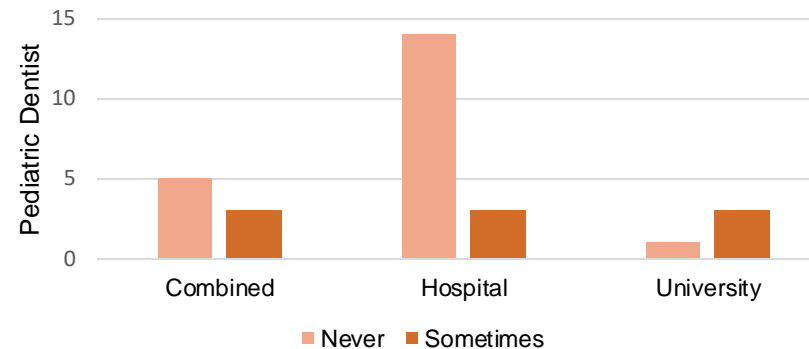
## METHODS

A survey was distributed to 321 pediatric dentists in the DMV region, yielding 31 responses. One response was excluded due to incomplete survey completion. The survey included questions on clinical practices, provider demographics, and various factors influencing the use of LSTR as a non-vital pulp therapy."

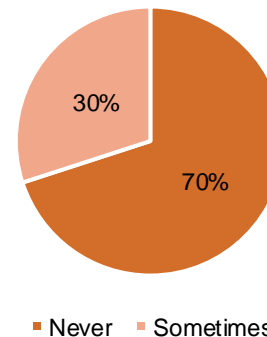
## RESULTS

- **Comfort Level and LSTR Use:** Dentists who were comfortable with LSTR were more likely to use it (57%, 4/7) compared to those who were uncomfortable (14%, 2/14).
- **Continuing Education and Comfort:** Pediatric dentists who attended CE courses on LSTR reported higher comfort levels (28%, 2/7) than those who had not (22%, 5/23).
- **Perceived Evidence and Use:** Providers who believed the evidence for LSTR was strong were more likely to use it (50%, 4/8) compared to those who were uncertain about the evidence (8%, 1/12)

Type of residency program a provider was trained at and their use of LSTR



Provider's in the DMV who offer LSTR as a treatment option to their patients when indicated



\*0/30 respondents selected "always" as an option

## DISCUSSION

LSTR use may be influenced by experience and residency training. This project analyzed multiple factors that may impact LSTR usage among practicing dentists in the DMV. Pediatric dentists with ≤15 years of experience were more likely to consider patient follow-up when treatment planning for LSTR ( $p = 0.058$ ). Residency background also showed a trend, with university-trained dentists using LSTR more frequently than those from hospital or hybrid programs ( $p = 0.075$ ). The response category "Always" was excluded from analysis, as it was selected only once among the 30 responses. Although these findings suggest potential relationships trending toward significance, none reached statistical significance, likely due to the small sample size.

A larger sample size may help determine whether these trends would reach statistical significance. Identifying significance in these findings could highlight gaps in LSTR education across different training programs and support efforts to standardize education. Residency programs could use this information to evaluate and refine how they teach LSTR to residents. Comfort level correlated with whether a provider used LSTR ( $p = 0.126$ ), emphasizing the impact of education and clinical exposure on treatment decisions. Providers who believed in the strength of the current evidence supporting LSTR were also more likely to use it ( $p = 0.252$ ). Seventy percent of providers reported never offering LSTR as a treatment option, suggesting poor integration into treatment planning. This may be due to training, lack of comfort, or preference for alternative treatments such as pulpectomy. While these trends were observed, none reached statistical significance.

The results of this study suggest that LSTR adoption is low, potentially due to limited exposure during training, concerns about long-term outcomes, or a preference for traditional treatments like pulpectomy. Study limitations include a small sample size and uneven residency distribution, which may have impacted statistical significance. Further research could help identify key factors pediatric dentists should consider when incorporating new and innovative techniques. Future studies should explore whether increased education, hands-on training, and clinical research can improve provider confidence and promote the broader implementation of LSTR in everyday practice.

## CONCLUSIONS

Pediatric dentists should consider how residency training and clinical experience influence their use of LSTR. Increasing education and hands-on training may help improve confidence in its application. Further research is needed to determine whether greater exposure to LSTR during residency and CE can positively impact its adoption in clinical practice.

