

# Lesion Sterilization Tissue Repair Implementation Challenges in a Residency Program

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## Introduction

- Lesions sterilization tissue repair (LSTR) was conceptualized as a less invasive, non-vital pulp therapy treatment option for primary teeth.
- Clinicians have approached LSTR procedures with variation in their methodology and follow-up protocol.
- As a therapy, LSTR has noted successful clinical outcomes.
- What is not known are the obstacles in implementing LSTR as a treatment selection for non-vital pulp therapy.
- More specifically in pediatric dental education programs, this procedure may still be novel.
- The provider may not have received didactic or clinical training on the indications and use of LSTR therapy.

## Objectives

- To identify and assess the challenges of implementing LSTR in a hospital based pediatric dental residency program.
- Areas of interest include recall basis, resident didactic and clinical treatment planning, care continuity, and the acute symptomatic clinical presentation of LSTR patients.

## Methods

- A chart review was completed for patients who received LSTR therapy as per normal Division of Dentistry protocols.
- Patients evaluated at 6-month dental recalls to assess the successful clinical outcomes of the LSTR procedure.
- Evaluation of clinical protocols were then assessed to identify barriers in offering LSTR as a treatment option.

## Results

- Twelve patients were successfully planned for LSTR treatment. Of the twelve patients, LSTR was completed on nine patients. Three were planned for LSTR but extraction was chosen the day of procedure due to poor restorability by time of treatment.
- Of the nine patients that received LSTR, six returned for one or more post-operative re-evaluation at variable recall times.
- Five showed signs of successful bony fill, resolution of symptoms, and natural exfoliation of the primary molar over time.
- One patient developed an abscess at a 17-month post-operative mark. This provided enough time for the guided eruption of the first permanent molar.
- Average LSTR treatment being planned was approximately two patients a month.

### Baseline and Follow-Up Radiographs

#### Patient 1:

6-year-old

LSTR treated tooth: T

Reported dental pain, presented with abscess, and antibiotics were prescribed

Follow-up:



#### Patient 2:

5-year-old

LSTR treated tooth: T

Reported no dental pain, presented with abscess, antibiotics were prescribed

Follow-up:



## Discussion

- LSTR cases treated in this residency program showed similar clinical successful outcomes as reported in existing literature.
- LSTR was not routinely being offered as an alternative therapy to extraction in first-year resident treatment planning.
- There were both setting and patient-factor-barriers in providing LSTR therapy.
- Hospital setting and patient-factor-barriers included the following:
  - Access to LSTR medicaments for patient care
  - Seeking acute/urgent resolution of symptomology
  - Lack of care continuity/ dental home
  - Delayed care leading to non-restorable teeth
  - Perceived value in preserving a primary abscessed tooth

## Conclusions

- LSTR is a successful treatment option for non-vital pulp therapy.
- Currently, implementing LSTR as a treatment option in an educational hospital pediatric dental clinic has limitations.
- Future goals in the continued implementation of LSTR in these programs include:
  - Earlier education and in-service training of first year residents
  - Regular feedback on LSTR outcomes and use program wide
  - Organizational processes that support the use of LSTR
  - Increasing patient/parent awareness of LSTR and its benefits

## References

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