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Acknowledgements

Pulpotomy & Pulpectomy

- The American Academy of Pediatric Dentistry defines a pulpotomy as when the coronal pulp is amputated, and the remaining vital radicular pulp tissue surface is treated with a medicament such as formocresol or ferric Sulfate or with electrocautery to preserve the radicular pulp’s health.


Pulpectomy

- Pulpectomy is defined as a root canal procedure for pulp tissue that is irreversibly infected or necrotic due to caries or trauma.


Rational for treating vital and non-vital pulpal exposures

- The objective of either procedure is to maintain the tooth or teeth involved functionally and painlessly, without pathology, until the primary tooth (teeth) can normally be exfoliated.

- A permanent tooth, until the tooth is adequately developed for the root canal completion.
Elimination of chemicals

- It has been demonstrated that small amounts of formocresol may be absorbed and distributed throughout the child's body within minutes of its use at the pulpotomy site.


Electrosurgery Pulpotomies

- Comparison of electrosurgical and formocresol pulpotomy procedures in children

  - Yellin E. Pediatric Dentistry, University of California, San Francisco, CA. 1993; 4th Ed., Mosby, St. Louis, MO.

  - Codey D, Jumper P. GSDM Anesthesia Course Notes.

- No statistically significant differences between the success rates between the electrosurgical and formocresol pulpotomy techniques.

Erbium:YAG Lasers

- Lasers are an effective alternative for treating pulps with the additional benefit of providing pulp therapy without the need to introduce chemicals into children's systems.

Laser settings for pulpotomy

- 30Hz 55 mj / 20Hz 80mj
- Water is on
- Non-contact (defocused tip)
- May not need local

Rubber Dam & Tooth Isolation

- No.3 or No.7 clamp without local
- Non-latex rubber dam
- No.8a or 14a with local

Pulpotomy

- Anterior teeth
- Posterior teeth
- Vital teeth
- Non-vital and infected teeth

Suggested settings

- 30Hz 55 mj / 20Hz 80mj
- Water is on
- Non-contact (defocused tip)
- May not need local

Pulpotomy Video
Posterior pulpotomy with ceramic crown

Evaluation of patient treatments completed over a 5 year period. (4000 teeth)

- Seeing children by age 1 year hopefully will prevent most pulpotomies!
- Most primary posterior teeth which require pulpotomies, on average occur around 4-5 years of age.
- Most of these teeth will exfoliate or require removal at 10-11 years of age.
- Keeping a tooth for 5 years would be an excellent result in most instances.

Examples of successful treatment

Erbium:YAG laser pulpotomies

Additional pulp therapy

More pulp therapy patients

5 years
2 months

5 years
2 months

2 y 9m

3y 7 m

1/2/2003

trauma

1/2/2006

3yr 5mo

1/12/2004

2 yrs

9/3/2004

6/12/2006

8/22/2006

5/12/2006


1/9/2004

8/24/2006

4 y 5 mo

3 yr 5mo

5 years
6 months

5 years
6 months

2 y 9m
Extracting vs. attempting to save a tooth

- Completing pulp therapy on a non-vital tooth does not require local anesthetics.
- It is the easiest and least invasive or painful procedure we can complete.
- We can always remove a tooth if the procedure fails.
- Most failures do not result in cellulitis, but rather non-painful fistulas.

Infected non-vital primary teeth (Lares PowerLase)

- 5/21/2007
- 7/30/2007

Patient treated with amoxicillin 900 mg for 10 days
tooth lasered for approximately 30 seconds using Er/YAG
at 20 Hz and Rinsed with water.
Tooth stable and asymptomatic.
No signs of recurrent infection at this time.
New bone formation.

Lawrence Kotlow DDS 2008

Trauma: partially avulsed


Treatment consisted of pulpotomy using Erbium YAG laser

Indirect & direct pulp caps

Thank You