**Critically Appraised Topic (CAT)**

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| **Project Team:** |
| 3a-3 |
| **Project Team Participants:** |
| **Tia Renzel, Matthew Mueller, Chloe Philip, Aman Goyal** |
| **Clinical Question:** |
| **What is the best course of treatment for an avulsed tooth?** |
| **PICO Format:** |
| **P:** |
| Patients with an avulsed tooth |
| **I:** |
| Early RCT |
| **C:** |
| Delayed RCY |
| **O:** |
| Replantation |
| **PICO Formatted Question:** |
| In a patient with an avulsed tooth, does early RCT treatment after replantation vs delayed render a more successful longterm outcome? |
| **Clinical Bottom Line:** |
| Sooner the better, it seems. |
| **Date(s) of Search:** |
| September 27th |
| **Database(s) Used:** |
| PubMed |
| **Search Strategy/Keywords:** |
| Avulsed tooth, Root Canal Therapy, Timing, early, delayed, replantation |
| **MESH terms used:** |
| Apexification, dental pulp therapy, avulsion, regeneration, tooth injuries |
| **Article(s) Cited:** |
| * Garcia‐Godoy, F. and Murray, P.E. (2012), Recommendations for using regenerative endodontic procedures in permanent immature traumatized teeth. Dental Traumatology, 28: 33-41. doi: |
| **Study Design(s):** |
| Invited review |
| **Reason for Article Selection:** |
| It was a useful article for suggesting guidelines for treating avulsed teeth. I felt it applied quite nicely to our case and gave me good information to share with the group. |
| **Article(s) Synopsis:** |
| This article examined studies on school-aged children and their experience with treatment of dental injuries. It compared the treatment options of regenerative endodontic procedures like apexogeneis and others like full removal of pulp and obturation. The article gave recommendations on using regenerative procedures based on several parameters including type of injury and stage of tooth development. The article explained, in depth, each of the techniques and their results. It concluded with a rather disappointing lack of conclusion! They do ultimately say that regenerative endo can be beneficial to patients, but admit that a lot more research in this area needs to be done. |
| **Levels of Evidence:** (For Therapy/Prevention, Etiology/Harm)  See <http://www.cebm.net/index.aspx?o=1025>  **☐ 1a** – Clinical Practice Guideline, Meta-Analysis, Systematic Review of Randomized Control Trials (RCTs)  **☐ 1b** – Individual RCT  **☐ 2a** – Systematic Review of Cohort Studies  **☐ 2b** – Individual Cohort Study  **☐ 3** – Cross-sectional Studies, Ecologic Studies, “Outcomes” Research  **☐ 4a** – Systematic Review of Case Control Studies  **☐ 4b** – Individual Case Control Study  **☐ 5** – Case Series, Case Reports  **☐ 6** – Expert Opinion without explicit critical appraisal, Narrative Review  **☐ 7** – Animal Research  **☐ 8** – In Vitro Research |
| **Strength of Recommendation Taxonomy (SORT) For Guidelines and Systematic Reviews**  See article **J Evid Base Dent Pract 2007;147-150**  **☐ A** – Consistent, good quality patient oriented evidence  **☐ B** – Inconsistent or limited quality patient oriented evidence  **☐ C** – Consensus, disease oriented evidence, usual practice, expert opinion, or case series for studies of diagnosis, treatment, prevention, or screening |
| **Conclusion(s):** |
| Ultimately there is not a consensus on this subject. It seems that some practitioners prefer to do endo on an avulsed tooth immediately, while some do not. It would seem that regardless of what the Endo protocols are, the protocol for replantation is much simpler: the sooner the better. I believe this case is out of our control now, since the injury occurred over a year ago, but this area of dentistry still needs a lot of research in order to have a solid body of evidential protocols. |