**Critically Appraised Topic (CAT)**

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| **Project Team:**  |
| **5A-1** |
| **Project Team Participants:**  |
| **Ashley Chen****Parker Johnson (me)****Indre Geneviciute****William Dummer** |
| **Clinical Question:** |
| **What is the preferred treatment for periimplantitis?** |
| **PICO Format:** |
| **P:** |
| **Patients with periimplantitis** |
| **I:** |
| **Surgical debridement with bone graft** |
| **C:** |
| **Mechanical debridement**  |
| **O:** |
| **Higher success rates** |
| **PICO Formatted Question:** |
| **In patients with periimplantitis, will surgical debridement with a bone graft compared to mechanical debridement alone yield higher success rates?** |
| **Clinical Bottom Line:** |
| **Currently, there is no reliable evidence to suggest the best treatment modality for periimplantitis. Most, if not all, of the current literature calls for increased research into the treatment of periimplantitis. Within the narrow range of reliable literature, it is suggested that surgical debridement with or without bone graft is superior to non-surgical debridement in the treatment of periimplantitis. Esposito, Marco et al. demonstrated in a systematic review improved attachement levels and decreased probing depths with surgical debridement and a bone graft compared to mechanical (non-surgical) debridement alone. However, other authors, like Romanos, Georgios E, and Daniel Weitz, suggest altogether that periimplantitis does not respond to nonsurgical therapy. The evidence, at best, is mixed on whether non-surgical debridement is all that effective in the treatment of periimplantitis, but it does remain an effective treatment of periimplant mucositis.**  |
| **Date(s) of Search:**  |
| **Nov 10, 2020** |
| **Database(s) Used:** |
| **Pub Med** |
| **Search Strategy/Keywords:** |
| **Searched using MESH terms** |
| **MESH terms used:** |
| **Dental Implants****Peri-implantitis / therapy****Debridement**  |
| **Article(s) Cited:** |
| Romanos, Georgios E, and Daniel Weitz. “Therapy of peri-implant diseases. Where is the evidence?.” *The journal of evidence-based dental practice* vol. 12,3 Suppl (2012): 204-8. doi:10.1016/S1532-3382(12)70038-6Esposito, Marco et al. “Treatment of peri-implantitis: what interventions are effective? A Cochrane systematic review.” *European journal of oral implantology* vol. 5 Suppl (2012): S21-41.Schwarz, Frank et al. “Efficacy of alternative or adjunctive measures to conventional treatment of peri-implant mucositis and peri-implantitis: a systematic review and meta-analysis.” *International journal of implant dentistry* vol. 1,1 (2015): 22. doi:10.1186/s40729-015-0023-1 |
| **Study Design(s):** |
| **Systematic Review of Randomized Control Trials** |
| **Reason for Article Selection:** |
| **Relevant to PICO question****Type of article (systematic reviews)****Published more recently (not too old)****Articles came from higher quality journals**  |
| **Article(s) Synopsis:** |
| **Romanos, Georgios E, and Daniel Weitz: No definitive treatment exists for periimplant diseases. The evidence suggests that periimplant mucositis responds to mechanical nonsurgical therapy, but periimplantitis does not. Although some surgical methods have shown success in the management of periimplantitis, no single method can be identified as superior based on the current evidence.** **Esposito, Marco et al.: They concluded that there is no reliable evidence to suggest the most effective treatment for periimplantitis. This systematic review of RCTs compared the results of various non-surgical debridement treatments to various surgical treatments. Their review showed a reduction in pocket depths of 0.6mm with nonsurgical debridement, and a reduction in pocket depths of 1.4 mm with surgical debridement in combination with bone grafting.** **Schwarz, Frank et al.: This systematic review of RCTs compared conventional nonsurgical treatment with alternative or adjunctive nonsurgical methods (antiseptics, antibiotics, etc.). It also compared more conventional surgical methods with adjunctive surgical methods. The study found that adjunctive measures may improve the efficacy of conventional nonsurgical treatments of periimplantitis. The study also mentioned that adjunctive surgical methods are promising, but their therapeutic effect needs to be further investigated. This study compared. I chose this study because it provided results regarding changes in probe depths and BOP in response to both surgical and non-surgical debridement. Surgical debridement had the greatest effect on reduced probing depths and BOP compared to non-surgical debridement.**  |
| **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):** |
| **Levels of Evidence: 1a****Strength of Recommendation Taxonomy (SORT) For Guidelines and Systematic Reviews: B****Conclusion: It appears the consensus is that non-surgical debridement has its limitations in the treatment of periimplantitis. Surgical debridement with or without bone graft appears to be superior in improving attachment and reducing probe depths as compared to nonsurgical debridement. More research needs to be conducted in this area to definitively state which treatment modality is best.**  |