**Critically Appraised Topic (CAT)**

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| **Project Team:**  |
| **9B-3** |
| **Project Team Participants:**  |
| **Zach Finnegan, Amanda Waddle, Rachel Ehlers, Alexis Schroeder** |
| **Clinical Question:** |
| **What is/are the best fixed treatment options when it comes to restoring long-span edentulous areas?** |
| **PICO Format:** |
| **P:** |
| **Patients with long-span edentulous areas** |
| **I:** |
| **3-unit Implant-supported fixed dental prostheses** |
| **C:** |
| **4+ unit Tooth supported fixed-dental prostheses** |
| **O:** |
| **Higher long-term success rates** |
| **PICO Formatted Question:** |
| **In patients with long span edentulous areas, will implant supported fixed dental prostheses compared with tooth supported dental prostheses have increased long-term succe rates** |
| **Clinical Bottom Line:** |
| **UR 3-unit implant-supported FDP, UL 3-unit tooth-implant supported FDP** |
| **Date(s) of Search:**  |
| **September 19th, October 18th, 19th, 2020** |
| **Database(s) Used:** |
| **Pubmed, google scholar** |
| **Search Strategy/Keywords:** |
| **Long-span, bridge, dental implant, implant-supported, tooth-supported** |
| **MESH terms used:** |
| **Dental restoration failure, denture, partial, fixed**  |
| **Article(s) Cited:** |
| 1. **Pol CWP, Raghoebar GM, Kerdijk W, Boven GC, Cune MS, Meijer HJA. A systematic review and meta-analysis of 3-unit fixed dental prostheses: Are the results of 2 abutment implants comparable to the results of 2 abutment teeth?. J Oral Rehabil. 2018;45:147–160.** [**https://doi.org/10.1111/joor.12575**](https://doi.org/10.1111/joor.12575)
2. [**https://doi.org/10.1016/j.jdent.2019.07.005**](https://doi.org/10.1016/j.jdent.2019.07.005)

De Backer H, Van Maele G, De Moor N, Van den Berghe L. Long-term results of short-span versus long-span fixed dental prostheses: an up to 20-year retrospective study. Int J Prosthodont. 2008 Jan-Feb;21(1):75-85. PMID: 18350953. |
| **Study Design(s):** |
| **Systematic review, meta-analysis, retrospective study**  |
| **Reason for Article Selection:** |
| **Relevance to PICO question, level of evidence, relevance to clinical question**  |
| **Article(s) Synopsis:** |
| 1. Compares the performance of 3-unit bridge on teeth with 3-unit bridges on implants by looking at the survival of the teeth, implants, and bridges, as well as the condition of the hard and soft tissues surrounding the supports.
2. An electronic search was done to find studies with qualitative assessments of tooth-implant FDPs and implants as well as technical and biological complications.
3. Compares short-span and long-span FDPs in their long-term efficacy, as well as discussing frequency and cause of treatment failure.
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| **Levels of Evidence:** (For Therapy/Prevention, Etiology/Harm) See <http://www.cebm.net/index.aspx?o=1025>[x]  **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**[x]  **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):** |
| 1. 3-unit impant supported bridges are comparable to 3-unit tooth supported FDPs
2. Three- to four-unit tooth-to-implant FDPs show acceptable survival rates after 5 and 10 years. They should be rigidity constructed with a maximum number of four units.
3. Use of an RCT abutment becomes more significant in fixed prosthetic restorations with 4 or more units. Treatment plan could be improved by using dental implants to avoid FDPs with ≥5 units of FDPs with ≥ 4 units if an RCT abutment wold be involved.
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