

## RECOMENDACIÓN T.3

### INFORME DE BÚSQUEDA Y SÍNTESIS DE EVIDENCIA DE EFECTOS DESEABLES E INDESEABLES Guía de Práctica Clínica Salud Oral Integral: Tratamiento y Rehabilitación Oral en Personas Adultas y Personas Mayores con Edentulismo Parcial o Total

#### A. PREGUNTA CLÍNICA

En personas con edentulismo parcial ¿Se debe rehabilitar con prótesis removible parcial metálica en comparación a rehabilitar con prótesis removible parcial acrílica?

#### Análisis y definición de los componentes de la pregunta en formato PICO

**Población:** Personas con edentulismo parcial.

**Intervención:** Rehabilitar con prótesis removible parcial metálica.

**Comparación:** Rehabilitar con prótesis removible parcial acrílica.

**Desenlace (outcome):** Impacto clínico.

#### B. BÚSQUEDA DE EVIDENCIA

Se realizó una búsqueda general de revisiones sistemáticas asociadas al tema de “Edentulism”. Las bases de datos utilizadas fueron: Cochrane database of systematic reviews (CDSR); Database of Abstracts of Reviews of Effectiveness (DARE); HTA Database; PubMed; LILACS; CINAHL; PsycINFO; EMBASE; EPPI-Centre Evidence Library; 3ie Systematic Reviews and Policy Briefs Campbell Library; Clinical Evidence; SUPPORT Summaries; WHO institutional Repository for information Sharing; NICE public health guidelines and systematic reviews; ACP Journal Club; Evidencias en Pediatría; y The JBI Database of Systematic Reviews and implementation Reports. No se aplicaron restricciones en base al idioma o estado de publicación. Dos revisores de manera independiente realizaron la selección de los títulos y los resúmenes, la evaluación del texto completo y la extracción de datos. Un investigador experimentado resolvió cualquier discrepancia entre los distintos revisores. En caso de considerarse necesario, se integraron estudios primarios.

Seleccionadas las revisiones sistemáticas o estudios primarios asociadas a la temática, se clasificaron en función de las potenciales preguntas a las que daban respuesta. Al momento de definir la pregunta la evidencia ya se encontraba previamente clasificada según intervenciones comparadas. Los resultados se encuentran alojados en la plataforma Living Overview of the Evidence (L-OVE), sistema que permite la actualización periódica de la evidencia.

#### C. SÍNTESIS DE EVIDENCIA

##### Resumen de la evidencia identificada

Se identificaron 9 revisiones sistemáticas que incluyen 92 estudios primarios, de los cuales 22 corresponden a ensayos aleatorizados que evalúan diferentes aspectos de las prótesis parciales. Para más detalle ver “*Matriz de evidencia*”<sup>1</sup>, en el siguiente enlace: [Prótesis parciales removibles](#).

<sup>1</sup> **Matriz de Evidencia**, tabla dinámica que grafica el conjunto de evidencia existente para una pregunta (en este caso, la pregunta del presente informe). Las filas representan las revisiones sistemáticas y las columnas los estudios primarios que estas revisiones han identificado. Los recuadros en verde corresponden a los estudios incluidos en cada revisión. La matriz se actualiza periódicamente, incorporando nuevas revisiones sistemáticas pertinentes y los respectivos estudios primarios.

Tabla 1: Resumen de la evidencia seleccionada

Revisión Sistemática	9 [1-9]
Estudios primarios	22 ensayos aleatorizados [10-31] y 70 observacionales [32-101]

Además, se analizaron dos artículos provistos por el equipo de expertos participantes del panel convocado para elaborar la guía. El primero corresponde a una revisión narrativa [102], por lo que no fue incluida en el análisis, pero sí se revisaron sus referencias. El segundo, si bien corresponde a una revisión sistemática [103], reportaron que no identificaron estudios sobre la efectividad clínica de las prótesis parciales acrílicas versus prótesis parciales metálicas, ni guías basadas en la evidencia sobre las prótesis removibles parciales de metal o acrílicas para pacientes con enfermedad periodontal, por lo cual no se pudo estimar la diferencia de efectividad y seguridad de la comparación de interés. A su vez, el otro artículo [102], si bien realiza una conclusión en relación a los distintos materiales, esta no se respalda por los estudios citados y corresponde a una hipótesis de los autores de la revisión y no a un hecho medible.

#### **Estimador del efecto**

Se realizó un análisis de la matriz de evidencia, observando que ninguna de las revisiones sistemáticas ni estudios primarios identificados presenta un análisis de la comparación de materiales solicitados, ya sea de manera directa o indirecta (por ejemplo, mediante metanálisis en red).

#### **Metanálisis**

No aplica.

**Tabla de Resumen de Resultados (Summary of Findings)**

<b>REHABILITAR CON PRÓTESIS REMOVIBLE PARCIAL METÁLICA COMPARADA CON ACRÍLICA PARA EDENTULISMO PARCIAL.</b>			
<b>Desenlaces</b>	<b>Efecto</b>	<b>Certeza de la evidencia (GRADE)</b>	<b>Mensajes clave en términos sencillos</b>
Impacto clínico*	No se identificaron estudios que realicen la comparación de interés.	--	--

GRADE: Grados de evidencia Grading of Recommendations Assessment, Development and Evaluation.

\*Impacto clínico se refiere a cualquier desenlace que tenga algún impacto directo o indirecto en el manejo de los pacientes. Esto incluye a los desenlaces priorizados por el panel de expertos.

**Fecha de elaboración de la tabla:** Enero, 2019.

## Referencias

1. Ali Z, Baker SR, Shahrabaf S, Martin N, Vettore MV. Oral health-related quality of life after prosthodontic treatment for patients with partial edentulism: A systematic review and meta-analysis. *The Journal of prosthetic dentistry.* 2018;
2. De Kok IJ, Cooper LF, Guckles AD, McGraw K, Wright RF, Barrero CJ, Bak SY, Stoner LO. Factors Influencing Removable Partial Denture Patient-Reported Outcomes of Quality of Life and Satisfaction: A Systematic Review. *Journal of prosthodontics: official journal of the American College of Prosthodontists.* 2017;26(1):5-18.
3. Elliot Abt, Alan B Carr, Helen V Worthington. Interventions for replacing missing teeth: partially absent dentition. *Cochrane Database of Systematic Reviews.* 2012;2(2):CD003814.
4. Fueki, Kenji, Yoshida, Eiko, Igarashi, Yoshimasa. A systematic review of prosthetic restoration in patients with shortened dental arches. *Japanese Dental Science Review.* 2011;47(2):167-174.
5. Khan S, Musekiwa A, Chikte UM, Omar R. Differences in functional outcomes for adult patients with prosthodontically-treated and -untreated shortened dental arches: a systematic review. *PLoS one.* 2014;9(7):e101143.
6. Liang S, Zhang Q, Witter DJ, Wang Y, Creugers NH. Effects of removable dental prostheses on masticatory performance of subjects with shortened dental arches: A systematic review. *Journal of dentistry.* 2015;43(10):1185-94.
7. Moldovan O, Rudolph H, Luthardt RG. Biological complications of removable dental prostheses in the moderately reduced dentition: a systematic literature review. *Clinical oral investigations.* 2018;22(7):2439-2461.
8. Moldovan O, Rudolph H, Luthardt RG. Clinical performance of removable dental prostheses in the moderately reduced dentition: a systematic literature review. *Clinical oral investigations.* 2016;20(7):1435-47.
9. Pommer B, Krainhöfner M, Watzek G, Tepper G, Dintsios CM. Relevance of variations in the opposing dentition for the functionality of fixed and removable partial dentures: a systematic review. *International journal of dentistry.* 2012;2012:876023.
10. Akaltan, F., Kaynak, D.. An evaluation of the effects of two distal extension removable partial denture designs on tooth stabilization and periodontal health. *Journal of Oral Rehabilitation.* 2005;32(11):823-829.
11. Andersson B, Taylor A, Lang BR, Scheller H, Schärer P, Sorensen JA, Tarnow D. Alumina ceramic implant abutments used for single-tooth replacement: a prospective 1- to 3-year multicenter study. *The International journal of prosthodontics.* 2002;14(5):432-8.
12. Au AR, Lechner SK, Thomas CJ, Mori T, Chung P. Titanium for removable partial dentures (III): 2-year clinical follow-up in an undergraduate programme. *Journal of oral rehabilitation.* 2000;27(11):979-85.
13. Bessadet M, Nicolas E, Sochat M, Hennequin M, Veyrune JL. Impact of removable partial denture prosthesis on chewing efficiency. *Journal of applied oral science : revista FOB.* 2013;21(5):392-6.
14. Budtz-Jørgensen E, Isidor F. Cantilever bridges or removable partial dentures in geriatric patients: a two-year study. *Journal of oral rehabilitation.* 1987;14(3):239-49.
15. Frank RP, Brudvik JS, Noonan CJ. Clinical outcome of the altered cast impression procedure compared with use of a one-piece cast. *The Journal of prosthetic dentistry.* 2004;91(5):468-76.
16. Gunne J, Astrand P, Lindh T, Borg K, Olsson M. Tooth-implant and implant supported fixed partial dentures: a 10-year report. *The International journal of prosthodontics.* 2000;12(3):216-21.
17. Hosman HJ. Influence of clasp design of distal extension removable partial dentures on the periodontium of the abutment teeth. *The International journal of prosthodontics.* 1991;3(3):256-65.
18. Jepson N, Allen F, Moynihan P, Kelly P, Thomason M. Patient satisfaction following restoration of shortened mandibular dental arches in a randomized controlled trial. *The International journal of prosthodontics.* 2003;16(4):409-14.
19. Jepson NJ, Moynihan PJ, Kelly PJ, Watson GW, Thomason JM. Caries incidence following restoration of shortened lower dental arches in a randomized controlled trial. *British dental journal.* 2001;191(3):140-4.

20. Kapur KK, Deupree R, Dent RJ, Hasse AL. A randomized clinical trial of two basic removable partial denture designs. Part I: Comparisons of five-year success rates and periodontal health. *The Journal of prosthetic dentistry*. 1994;72(3):268-82.
21. Kapur KK, Garrett NR, Dent RJ, Hasse AL. A randomized clinical trial of two basic removable partial denture designs. Part II: Comparisons of masticatory scores. *The Journal of prosthetic dentistry*. 1997;78(1):15-21.
22. Larsson C, Vult von Steyern P, Sunzel B, Nilner K. All-ceramic two- to five-unit implant-supported reconstructions. A randomized, prospective clinical trial. *Swedish dental journal*. 2006;30(2):45-53.
23. McKenna G, Allen PF, Flynn A, O'Mahony D, DaMata C, Cronin M, Woods N. Impact of tooth replacement strategies on the nutritional status of partially-dentate elders. *Gerodontology*. 2012;29(2):e883-90.
24. McKenna G, Allen PF, O'Mahony D, Cronin M, DaMata C, Woods N. The impact of rehabilitation using removable partial dentures and functionally orientated treatment on oral health-related quality of life: a randomised controlled clinical trial. *Journal of dentistry*. 2015;43(1):66-71.
25. Morris HF. Department of Veterans Affairs Cooperative Studies Project number 147: level of examiner reliability over seven years. *Implant dentistry*. 1993;2(4):245-9.
26. Morris HF. Veterans Administration Cooperative Studies Project No. 147. Part VI: Laboratory costs of castings from noble and alternative ceramic metal alloys. *The Journal of prosthetic dentistry*. 1988;60(2):164-71.
27. Moynihan PJ, Butler TJ, Thomason JM, Jepson NJ. Nutrient intake in partially dentate patients: the effect of prosthetic rehabilitation. *Journal of dentistry*. 2000;28(8):557-63.
28. Thomas CJ, Lechner S, Mori T. Titanium for removable dentures. II. Two-year clinical observations. *Journal of oral rehabilitation*. 1997;24(6):414-8.
29. Thomason JM, Moynihan PJ, Steen N, Jepson NJ. Time to survival for the restoration of the shortened lower dental arch. *Journal of dental research*. 2007;86(7):646-50.
30. Vigolo P, Givani A, Majzoub Z, Cordioli G. A 4-year prospective study to assess peri-implant hard and soft tissues adjacent to titanium versus gold-alloy abutments in cemented single implant crowns. *Journal of prosthodontics : official journal of the American College of Prosthodontists*. 2006;15(4):250-6.
31. Wolfart S, Marré B, Wöstmann B, Kern M, Mundt T, Luthardt RG, Huppertz J, Hannak W, Reiber T, Passia N, Heydecke G, Reinhardt W, Hartmann S, Busche E, Mitov G, Stark H, Pospiech P, Weber A, Gernet W, Walter MH. The randomized shortened dental arch study: 5-year maintenance. *Journal of dental research*. 2012;91(7 Suppl):65S-71S.
32. Abuzar MA, Kahwagi E, Yamakawa T. Investigating oral health-related quality of life and self-perceived satisfaction with partial dentures. *Journal of investigative and clinical dentistry*. 2012;3(2):109-17.
33. Aras K, Hasanreisoğlu U, Shinogaya T. Masticatory performance, maximum occlusal force, and occlusal contact area in patients with bilaterally missing molars and distal extension removable partial dentures. *The International journal of prosthodontics*. 2009;22(2):204-9.
34. Arce-Tumbay J, Sanchez-Ayala A, Sotto-Maior BS, Senna PM, Campanha NH. Mastication in subjects with extremely shortened dental arches rehabilitated with removable partial dentures. *The International journal of prosthodontics*. 2011;24(6):517-9.
35. Armellini DB, Heydecke G, Witter DJ, Creugers NH. Effect of removable partial dentures on oral health-related quality of life in subjects with shortened dental arches: a 2-center cross-sectional study. *The International journal of prosthodontics*. 2008;21(6):524-30.
36. AuAR, Lechner SK, Thomas CJ, Mori T, Chung P. Titanium for removable partial dentures (III): 2-year clinical follow-up in an undergraduate programme. 2000;
37. Bae KH, Kim C, Paik DI, Kim JB. A comparison of oral health related quality of life between complete and partial removable denture-wearing older adults in Korea. *Journal of oral rehabilitation*. 2006;33(5):317-22.
38. Balevi B. No difference in the 5-year survival rates between the resin-bonded cantilever bridge and the removable partial denture for the restoration of the shortened dental arch. *Evidence-based dentistry*. 2008;9(4):105-6.

39. Behr M, Kolbeck C, Lang R, Hahnel S, Dirsch L, Handel G. Clinical performance of cements as luting agents for telescopic double crown-retained removable partial and complete overdentures. *nt J Prosthodont.* 2009;
40. Bergman B, Ericson G. Cross-sectional study of patients treated with removable partial dentures with special reference to the caries situation. *Scandinavian journal of dental research.* 1986;94(5):436-42.
41. Bergman B, Ericson G. Cross-sectional study of the periodontal status of removable partial denture patients. *The Journal of prosthetic dentistry.* 1989;61(2):208-11.
42. Bergman B, Hugoson A, Olsson CO. A 25 year longitudinal study of patients treated with removable partial dentures. *Journal of oral rehabilitation.* 1995;22(8):595-9.
43. Bergman B, Hugoson A, Olsson CO. Caries and periodontal status in patients fitted with removable partial dentures. *Journal of clinical periodontology.* 1977;4(2):134-46.
44. Bergman B, Hugoson A, Olsson CO. Caries, periodontal and prosthetic findings in patients with removable partial dentures: a ten-year longitudinal study. *The Journal of prosthetic dentistry.* 1982;48(5):506-14.
45. Bergman B, Hugoson A, Olsson CO. Periodontal and prosthetic conditions in patients treated with removable partial dentures and artificial crowns. A longitudinal two-year study. *Acta odontologica Scandinavica.* 1971;29(6):621-38.
46. Budtz-Jørgensen E, Isidor F. A 5-year longitudinal study of cantilevered fixed partial dentures compared with removable partial dentures in a geriatric population. *The Journal of prosthetic dentistry.* 1990;64(1):42-7.
47. Celebić A, Knežović-Zlatarić D. A comparison of patient's satisfaction between complete and partial removable denture wearers. *Journal of dentistry.* 2003;31(7):445-51.
48. de Siqueira GP, dos Santos MB, dos Santos JF, Marchini L. Patients' expectation and satisfaction with removable dental prosthesis therapy and correlation with patients' evaluation of the dentists. *Acta odontologica Scandinavica.* 2013;71(1):210-4.
49. Dittmann B, Rammelsberg P. Survival of abutment teeth used for telescopic abutment retainers in removable partial dentures. *The International journal of prosthodontics.* 2008;21(4):319-21.
50. Ericson A, Nilsson B, Bergman B. Clinical results in patients provided with conical crown retained dentures. *The International journal of prosthodontics.* 1990;3(6):513-21.
51. Frank RP, Brudvik JS, Leroux B, Milgrom P, Hawkins N. Relationship between the standards of removable partial denture construction, clinical acceptability, and patient satisfaction. *The Journal of prosthetic dentistry.* 2000;83(5):521-7.
52. Frank RP, Milgrom P, Leroux BG, Hawkins NR. Treatment outcomes with mandibular removable partial dentures: a population-based study of patient satisfaction. *The Journal of prosthetic dentistry.* 1998;80(1):36-45.
53. Fueki K, Igarashi Y, Maeda Y, Baba K, Koyano K, Akagawa Y, Sasaki K, Kuboki T, Kasugai S, Garrett NR. Factors related to prosthetic restoration in patients with shortened dental arches: a multicentre study. *Journal of oral rehabilitation.* 2011;38(7):525-32.
54. Fueki K, Igarashi Y, Maeda Y, Baba K, Koyano K, Sasaki K, Akagawa Y, Kuboki T, Kasugai S, Garrett NR. Effect of prosthetic restoration on oral health-related quality of life in patients with shortened dental arches: a multicentre study. *Journal of oral rehabilitation.* 2015;42(9):701-8.
55. Germundsson B, Hellman M, Odman P. Effects of rehabilitation with conventional removable partial dentures on oral health--a cross-sectional study. Part II. A comparative study of treatment results at two Public Dental Clinics and the Faculty of Odontology in Gothenburg. *Swedish dental journal.* 1985;9(6):233-40.
56. Germundsson B, Hellman M, Odman P. Effects of rehabilitation with conventional removable partial dentures on oral health--a cross-sectional study. *Swedish dental journal.* 1984;8(4):171-82.
57. Gunne HS. The effect of removable partial dentures on mastication and dietary intake. *Acta odontologica Scandinavica.* 1985;43(5):269-78.

58. Hassel AJ, Rolko C, Grossmann AC, Ohlmann B, Rammelsberg P. Correlations between self-ratings of denture function and oral health-related quality of life in different age groups. *The International journal of prosthodontics*. 2007;20(3):242-4.
59. Hummel SK, Wilson MA, Marker VA, Nunn ME. Quality of removable partial dentures worn by the adult U.S. population. *The Journal of prosthetic dentistry*. 2002;88(1):37-43.
60. Isidor F, Budtz-Jørgensen E. [Periodontal conditions following treatment with cantilever bridges or removable partial dentures in geriatric patients. A 2-year study]. *Gerodontics*. 1987;3(3):117-21.
61. Isidor F, Budtz-Jørgensen E. Periodontal conditions following treatment with distally extending cantilever bridges or removable partial dentures in elderly patients. A 5-year study. *Journal of periodontology*. 1990;61(1):21-6.
62. Jemt T, Hedegård B, Wickberg K. Chewing patterns before and after treatment with complete maxillary and bilateral distal-extension mandibular removable partial dentures. *The Journal of prosthetic dentistry*. 1983;50(4):566-9.
63. Kapur KK. Veterans Administration Cooperative Dental Implant Study--comparisons between fixed partial dentures supported by blade-vent implants and removable partial dentures. Part II: Comparisons of success rates and periodontal health between two treatment modalities. *The Journal of prosthetic dentistry*. 1989;62(6):685-703.
64. Koyama S, Sasaki K, Yokoyama M, Sasaki T, Hanawa S. Evaluation of factors affecting the continuing use and patient satisfaction with Removable Partial Dentures over 5 years. *Journal of prosthodontic research*. 2010;54(2):97-101.
65. Kuboki T, Okamoto S, Suzuki H, Kanyama M, Arakawa H, Sonoyama W, Yamashita A. Quality of life assessment of bone-anchored fixed partial denture patients with unilateral mandibular distal-extension edentulism. *The Journal of prosthetic dentistry*. 1999;82(2):182-7.
66. Lassila V, Holmlund I, Koivumaa KK. Bite force and its correlations in different denture types. *Acta odontologica Scandinavica*. 1985;43(3):127-32.
67. Leake JL, Hawkins R, Locker D. Social and functional impact of reduced posterior dental units in older adults. *Journal of oral rehabilitation*. 1994;21(1):1-10.
68. Liedberg B, Stoltze K, Owall B. The masticatory handicap of wearing removable dentures in elderly men. *Gerodontics*. 2005;22(1):10-6.
69. Montero J, Bravo M, López-Valverde A. Development of a specific indicator of the well-being of wearers of removable dentures. *Community dentistry and oral epidemiology*. 2011;39(6):515-24.
70. Montero J, Castillo-Oyagüe R, Lynch CD, Albaladejo A, Castaño A. Self-perceived changes in oral health-related quality of life after receiving different types of conventional prosthetic treatments: a cohort follow-up study. *Journal of dentistry*. 2013;41(6):493-503.
71. Müller S, Eickholz P, Reitmeir P, Eger T. Long-term tooth loss in periodontally compromised but treated patients according to the type of prosthodontic treatment. A retrospective study. *Journal of oral rehabilitation*. 2013;40(5):358-67.
72. Peršić S, Čelebić A. Influence of different prosthodontic rehabilitation options on oral health-related quality of life, orofacial esthetics and chewing function based on patient-reported outcomes. *Quality of life research : an international journal of quality of life aspects of treatment, care and rehabilitation*. 2015;24(4):919-26.
73. Piwowarczyk A, Köhler KC, Bender R, Büchler A, Lauer HC, Ottl P. Prognosis for abutment teeth of removable dentures: a retrospective study. *Journal of prosthodontics : official journal of the American College of Prosthodontists*. 2007;16(5):377-82.
74. Rehmann P, Orbach K, Ferger P, Wöstmann B. Treatment outcomes with removable partial dentures: a retrospective analysis. *The International journal of prosthodontics*. 2013;26(2):147-50.
75. Rehmann P. Retrospektive Longitudinalstudie über die langfristige Bewährung von Teleskopprothesen unter besonderer Berücksichtigung der Instandhaltungskosten. 2006;

76. Sanchez-Ayala A, Ambrosano GM, Rodrigues Garcia RC. Influence of length of occlusal support on masticatory function of free-end removable partial dentures. *The International journal of prosthodontics*. 2012;25(5):472-9.
77. Schmitt J, Wichmann M, Eitner S, Hamel J, Holst S. Five-year clinical follow-up of prefabricated precision attachments: a comparison of uni- and bilateral removable dental prostheses. *Quintessence international* (Berlin, Germany : 1985). 2011;42(5):413-8.
78. Shoi K, Fueki K, Usui N, Taira M, Wakabayashi N. Influence of posterior dental arch length on brain activity during chewing in patients with mandibular distal extension removable partial dentures. *Journal of oral rehabilitation*. 2014;41(7):486-95.
79. Shugars DA, Bader JD, White BA, Scurria MS, Hayden WJ, Garcia RI. Survival rates of teeth adjacent to treated and untreated posterior bounded edentulous spaces. *Journal of the American Dental Association* (1939). 1998;129(8):1089-95.
80. Stober T, Bermejo JL, Beck-Mussoter J, Seche AC, Lehmann F, Koob J, Rammelsberg P. Clinical performance of conical and electroplated telescopic double crown-retained partial dentures: a randomized clinical study. *The International journal of prosthodontics*. 2012;25(3):209-16.
81. Swelem AA, Gurevich KG, Fabrikant EG, Hassan MH, Aqou S. Oral health-related quality of life in partially edentulous patients treated with removable, fixed, fixed-removable, and implant-supported prostheses. *The International journal of prosthodontics*. 2014;27(4):338-47.
82. Szentpétery AG, John MT, Slade GD, Setz JM. Problems reported by patients before and after prosthodontic treatment. *The International journal of prosthodontics*. 2005;18(2):124-31.
83. Tada S, Ikebe K, Matsuda K, Maeda Y. Multifactorial risk assessment for survival of abutments of removable partial dentures based on practice-based longitudinal study. *Journal of dentistry*. 2013;41(12):1175-80.
84. Tumrasvin W, Fueki K, Yanagawa M, Asakawa A, Yoshimura M, Ohyama T. Masticatory function after unilateral distal extension removable partial denture treatment: intra-individual comparison with opposite dentulous side. *Journal of medical and dental sciences*. 2005;52(1):35-41.
85. Tuominen R, Ranta K, Paunio I. Wearing of removable partial dentures in relation to periodontal pockets. *Journal of oral rehabilitation*. 1989;16(2):119-26.
86. Van Waas M, Meeuwissen J, Meuwissen R, Käyser A, Kalk W, Van 't Hof M. Relationship between wearing a removable partial denture and satisfaction in the elderly. *Community dentistry and oral epidemiology*. 1994;22(5 Pt 1):315-8.
87. Vermeulen AH, Keltjens HM, van't Hof MA, Kayser AF. Ten-year evaluation of removable partial dentures: survival rates based on retreatment, not wearing and replacement. *The Journal of prosthetic dentistry*. 1996;76(3):267-72.
88. Wagner B, Kern M. Clinical evaluation of removable partial dentures 10 years after insertion: success rates, hygienic problems, and technical failures. *Clinical oral investigations*. 2000;4(2):74-80.
89. Wayler AH, Muench ME, Kapur KK, Chauncey HH. Masticatory performance and food acceptability in persons with removable partial dentures, full dentures and intact natural dentition. *Journal of gerontology*. 1984;39(3):284-9.
90. Wenz HJ, Hertrampf K, Lehmann KM. Clinical longevity of removable partial dentures retained by telescopic crowns: outcome of the double crown with clearance fit. *The International journal of prosthodontics*. 2001;14(3):207-13.
91. Wickert M, John MT, Schierz O, Hirsch C, Aarabi G, Reissmann DR. Sensitivity to change of oral and general health-related quality of life during prosthodontic treatment. *European journal of oral sciences*. 2014;122(1):70-7.
92. Witter DJ, Creugers NH, Kreulen CM, de Haan AF. Occlusal stability in shortened dental arches. *Journal of dental research*. 2001;80(2):432-6.
93. Witter DJ, de Haan AF, Käyser AF, van Rossum GM. A 6-year follow-up study of oral function in shortened dental arches. Part I: Occlusal stability. *Journal of oral rehabilitation*. 1994;21(2):113-25.

94. Witter DJ, De Haan AF, Käyser AF, Van Rossum GM. A 6-year follow-up study of oral function in shortened dental arches. Part II: Craniomandibular dysfunction and oral comfort. *Journal of oral rehabilitation*. 1994;21(4):353-66.
95. Witter DJ, De Haan AF, Käyser AF, Van Rossum GM. Shortened dental arches and periodontal support. *Journal of oral rehabilitation*. 1991;18(3):203-12.
96. Witter DJ, Kreulen CM, Mulder J, Creugers NH. Signs and symptoms related to temporomandibular disorders--Follow-up of subjects with shortened and complete dental arches. *Journal of dentistry*. 2007;35(6):521-7.
97. Witter DJ, Van Elteren P, Käyser AF, Van Rossum GM. Oral comfort in shortened dental arches. *Journal of oral rehabilitation*. 1990;17(2):137-43.
98. Witter DJ, van Elteren P, Käyser AF, van Rossum MJ. The effect of removable partial dentures on the oral function in shortened dental arches. *Journal of oral rehabilitation*. 1989;16(1):27-33.
99. Wöstmann B, Balkenhol M, Weber A, Ferger P, Rehmann P. Long-term analysis of telescopic crown retained removable partial dentures: survival and need for maintenance. *Journal of dentistry*. 2007;35(12):939-45.
100. Yanagawa M, Fueki K, Ohyama T. Influence of length of food platform on masticatory performance in patients missing unilateral mandibular molars with distal extension removable partial dentures. *Journal of medical and dental sciences*. 2004;51(2):115-9.
101. Yli-Urpo A, Lappalainen R, Huuskonen O. Frequency of damage to and need for repairs of removable dentures. *Proceedings of the Finnish Dental Society. Suomen Hammaslaakariseuran toimituksia*. 1985;81(3):151-5.
102. Campbell SD, Cooper L, Craddock H, Hyde TP, Nattress B, Pavitt SH, Seymour DW. Removable partial dentures: The clinical need for innovation. *J Prosthet Dent*. 2017 Sep;118(3):273-280.
103. Metal versus Acrylic Partial Removable Dentures for Patients with Periodontal Disease: A Review of the Clinical Effectiveness and Guidelines. Ottawa (ON): Canadian Agency for Drugs and Technologies in Health; 2016 Feb 8.