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## Mini-implants and narrow diameter implants as mandibular overdenture retainers: A systematic review and meta-analysis of clinical and radiographic outcomes.

Review article

Marcello-Machado RM, et al. J Oral Rehabil. 2018.

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### Abstract

This study reviews the clinical and radiographic outcomes of Mini-implants (MI) and Narrow Diameter Implants (NDI) as mandibular overdenture (MO) retainers. Six databases were consulted for clinical studies that evaluated implants with diameter  $\leq 3.5$  mm. Data on the MI and NDI for survival and success rate and peri-implant bone loss and were collected and submitted to meta-analysis. Thirty-six studies were included, 24 reporting MI performance and 12 describing NDI results. The MI group comprised data from 1 cross-sectional clinical study, 3 retrospective longitudinal (RL) clinical studies, 13 prospective longitudinal (PL) clinical studies and 7 randomised clinical trials (RCT) with follow-up periods ranging from 1 day to 7 years. Eight studies used conventional loading, thirteen used immediate loading, two studies used both loading types, and one study did not report. The NDI group comprised data from 3 RL clinical studies, 6 PL clinical studies and 3 RCT with follow-up ranging from 6 months to 10 years. Ten studies used conventional loading, 1 study used immediate loading, and 1 study did not report. The average survival rates of MI and NDI studies were 98% and 98%, respectively, while the average success rates were 93% and 96%, respectively. The average peri-implant bone loss after 12, 24 and 36 months was 0.89, 1.18 and 1.02 mm for MI and 0.18, 0.12 and -0.32 mm for NDI. Both MI and NDI showed adequate clinical behaviour as overdenture retainers. The NDI showed a better long-term predictability to retain OM with most studies adopting conventional loading.

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PMID: 29125652 [Indexed for MEDLINE]

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