Evaluating the Clinical Success of Clear Aligners for Rotational Tooth Movements in Adult Patients: A Systematic Review

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Supplementary information

Table S1 - Grading of Recommendation, Assessment, Development, and Evaluation (GRADE) analysis.

Certainty of assessment							**Certainty**
Nº of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	
Mean planned rotation and mean achieved rotation							
12 [30; 31; 32; 33; 34; 35; 36; 37; 38; 39; 40; 41]	1RCT 5 P 6 R	Serious	Serious	Not serious	Not serious	None	Low ⨁◯◯◯
Use of attachments							
11 [30; 31; 32; 33; 34; 35; 36; 37; 38; 39; 40]	1RCT 5 P 5 R	Serious	Serious	Not serious	Not serious	None	Low ⨁◯◯◯
Use of IPR							
7 [30; 31; 32; 33; 34; 35; 38; 39]	1RCT 5 R 2 P	Serious	Serious	Not serious	Not serious	None	Low ⨁◯◯◯

RCT = Randomized Clinical Trials; P = Prospective study; R = Retrospective study

GRADE Working Group grades of evidence. High quality: Further research is very unlikely to change our confidence in the estimate of effect. Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate. Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate. Very low quality: We are very uncertain about the estimate.

Table S2 – Summary of Findings (SoF) Table

Outcome	No. of studies	Findings (range)	Certainty of evidence (GRADE)	Comments
Percent accuracy	6	36% – 77%	Low	High heterogeneity: accuracy depends on tooth type
Lack of Correction (LC)	8	0.7° – 4.5°	Low	Lower values indicate higher accuracy
Mean Absolute Error (MAE)	2	2.3°	Low	
Tooth type differences	11	Incisors & molars: higher accuracy; Canines & premolars: least predictable	-	Consistent trend across studies
Attachments	11	Widely used, but scarce design description and inconsistent results on their efficacy	Low	Designs varied; contribution unclear
Interproximal reduction (IPR)	9	Commonly applied, but often not quantitatively described; impact inconsistent	Low	No standardized protocols described
Staging protocols	5	2°/aligner	-	-
Aligner wear schedules	11	Most adopted 7–14 days; some up to 21 days	-	-