

A comparison of LightForce vs conventional orthodontic brackets in initial lower arch alignment efficiency and discomfort: a randomised clinical trial

ACTRN12624001211550

Status	RECRUITING
Sponsor	The University of Queensland
Enrollment	60 participants

Plain Language Summary

Dental braces work by applying gentle, continuous forces to move teeth into their correct positions. Traditional brackets are mass-produced, while LightForce brackets are custom-designed using 3D printing technology to fit each individual tooth precisely. The idea is that custom brackets might move teeth more efficiently in the early stages of treatment, potentially reducing treatment time and discomfort for patients.

This randomised trial will compare how quickly crowded lower teeth are straightened over the first 12 weeks of treatment using either conventional brackets or LightForce custom brackets. Patient-reported pain and discomfort will also be compared between the two groups.

You may be eligible if you are 11 to 21 years old, are starting fixed orthodontic treatment (braces), have a full permanent set of teeth (excluding wisdom teeth), and have significant crowding in your lower jaw (at least 5mm measured on a standard scale). People planning orthognathic (jaw) surgery, with impacted canines or premolars, on medications that affect tooth movement, or with missing lower front teeth are not eligible. This study could help determine whether the extra investment in custom brackets is worthwhile.

Key Eligibility Criteria

Inclusion (3)

- Fixed orthodontic treatment
- Permanent dentition
- Initial Little's Irregularity Index of 5mm or greater in the mandibular arch

Exclusion (4)

- Orthognathic surgery, impacted canines or premolars
- Taking medications or have conditions that may affect tooth movement
- With cleft palate or other syndromes
- With missing lower incisors or canines (either missing or extracted)

Locations (1 total)

QLD, Australia

<https://www.anzctr.org.au/Trial/Registration/TrialReview.aspx?ACTRN=ACTRN12624001211550>

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