

# Assessing the impact of the size of a maxillary sinus graft and its contact with surrounding sinus walls on bone regeneration

ACTRN12622000054718

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Status	RECRUITING
Sponsor	University of Queensland
Enrollment	50 participants

## Plain Language Summary

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When a patient needs dental implants in the upper jaw but lacks enough bone height beneath the sinus cavity, a procedure called sinus augmentation is performed — essentially adding bone graft material to the floor of the sinus to create enough depth for implant placement. How much new bone grows into this graft depends on several factors, but researchers have not yet explored whether the shape and size of the graft area itself — specifically the ratio of the bony wall contact surface to the graft volume — affects how well bone regenerates.

This study is collecting detailed pre- and post-surgical data on patients undergoing sinus augmentation at the University of Queensland. Using CT scans and clinical measurements, researchers will map the geometry of the graft and analyse how it correlates with the amount of new bone formed at follow-up biopsy.

You may be eligible if you are 18 or older, are in good general health, have an edentulous (toothless) upper jaw with insufficient bone height for implants, and have adequate plaque control and stable periodontal (gum) health. Heavy smokers, pregnant individuals, and people on medications that interfere with bone formation are not eligible. This study could refine how surgeons plan sinus grafting procedures, potentially leading to better implant outcomes.

## Key Eligibility Criteria

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### Inclusion (6)

- Individuals are at least 18 years of age, medically healthy or with mild controlled systemic disease, able to undergo oral surgical procedures under local or general anaesthesia (ASA I and II; American Society of Anesthesiologists, Schaumburg, Illinois, USA).
  - Adequate plaque control (FM plaque and BOP scores equal to or greater than 25%) at study baseline
  - Residual alveolar bone height of the edentulous maxilla below the floor of the maxillary sinus less than or equal to 4.9 mm and equal to or greater than 3.0 mm (measured at the mid-point of the edentulous space where both the coronal and sagittal planes intersect) and residual alveolar bone width of greater than or equal to 6mm.
  - If bilateral sinus augmentation was required, only one sinus was randomly selected and used for the purposes of this study.
  - Teeth at the surgical site which require removal are extracted a minimum of 12 weeks prior to sinus floor elevation
- ... and 1 more (see full listing online)

### Exclusion (9)

- Pregnancy at the time of recruitment
  - Alcoholism or chronic drug abuse
  - Patients who smoke more than 10 cigarettes per day
  - Medications which interferes with bone formation
  - History of local radiation therapy
- ... and 4 more (see full listing online)

## Locations (1 total)

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QLD, Australia

<https://www.anzctr.org.au/Trial/Registration/TrialReview.aspx?ACTRN=ACTRN12622000054718>

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