

Change in salivary pH under the effect of stainless steel versus elastomeric ligatures in selected group of orthodontic patients

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Status	RECRUITING
Sponsor	University of Science and Technology
Enrollment	70 participants

Plain Language Summary

People undergoing orthodontic treatment with fixed braces use tiny rubber bands or metal wires (called ligatures) to hold the arch wire in place. Rubber ligatures (elastomeric) are popular and colourful, but some research suggests they may trap more bacteria and affect the acidity (pH) of saliva, potentially increasing the risk of tooth enamel damage during treatment. Metal (stainless steel) ligatures may maintain a more favourable oral environment.

This study compares elastomeric and stainless steel ligatures in orthodontic patients by measuring saliva pH at different time points during treatment. A more neutral or alkaline pH is associated with better protection against tooth enamel breakdown. By comparing the two types of ligatures, researchers hope to identify which option is better for maintaining oral health during orthodontic treatment.

To be eligible you need to be an orthodontic patient aged 15 to 40 currently wearing a fixed orthodontic appliance on both upper and lower teeth. People who take antibiotics or anti-inflammatory medications chronically, have systemic diseases like diabetes, breathe through their mouth, or have unusually dry mouth conditions are not eligible. The study involves only saliva samples — no additional procedures.

Key Eligibility Criteria

Inclusion (1)

- Orthodontic patients with fixed orthodontic appliance in both upper and lower arches

Exclusion (5)

- orthodontic patients with Chronic medication : antibiotic or anti-inflammatory
- orthodontic patients with Systemic diseases : diabetes mellitus, kidney diseases and respiratory infection.
- Mouth breathing, xerostomia , hyposalivation
- History of unusual dietary habits like highly acidic food or drink consumers .
- Diagnosis of any Systemic diseases , mouth breathing , xerostomia and salivary gland hypofunction is dependent upon a careful and detailed history and thorough oral examination

Locations (1 total)

Sana'a, Yemen

<https://www.anzctr.org.au/Trial/Registration/TrialReview.aspx?ACTRN=ACTRN12618001647224>

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