

## Efek pemakaian obat kumur berfluoride terhadap kekuatan tarik kawat ortodonti stainless steel = Effect of fluoride mouthwash on tensile strength of stainless steel orthodontic archwires

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### Abstrak

**Latar Belakang:** Pasien perawatan ortodonti pada umumnya dianjurkan menggunakan obat kumur berfluoride untuk menjaga kebersihan rongga mulut dan mencegah terjadinya karies. Namun, Fluoride dapat mempengaruhi karakteristik kawat ortodonti Stainless Steel yang digunakan selama perawatan. Belum diketahui efek pemakaian obat kumur berfluoride terhadap kekuatan tarik kawat ortodonti Stainless Steel.  
**Tujuan:** Mengetahui efek pemakaian obat kumur berfluoride terhadap kekuatan tarik kawat ortodonti Stainless Steel.

**Metode:** Menguji kekuatan tarik kawat ortodonti Stainless Steel 0,016 inci setelah dilakukan perendaman pada 100 ml obat kumur berfluoride 0,05 selama 30, 60, dan 90 menit.

**Hasil:** Tidak terdapat perbedaan yang bermakna secara statistik dari kekuatan tarik kawat ortodonti Stainless Steel setelah direndam obat kumur berfluoride. Nilai p pada perendaman obat kumur berfluoride selama 30, 60, dan 90 menit masing-masing adalah 0,790; 0,742; dan 0,085 nilai  $p > 0,05$ .

**Kesimpulan:** Pemakaian obat kumur berfluoride tidak mempengaruhi kekuatan tarik kawat ortodonti Stainless Steel.

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**Background:** Patients with orthodontic treatment are commonly recommended to use Fluoride mouthwash for maintaining their oral hygiene and preventing dental caries. However, Fluoride may affect the characteristics of Stainless Steel orthodontic archwires that used during the treatment. The effect of Fluoride mouthwash on tensile strength of Stainless Steel orthodontic archwires is still unknown.

**Purpose:** To know the effect of Fluoride mouthwash on tensile strength of Stainless Steel orthodontic archwires.

**Method:** Examine the tensile strength of Stainless Steel orthodontic archwires 0,016 inch after immersed in 100 ml Fluoride mouthwash 0,05 for 30, 60, and 90 minutes.

**Result:** There is no statistically significant difference on tensile strength of Stainless Steel orthodontic archwires after immersed in Fluoride mouthwash. The p values on immersion Fluoride mouthwash for 30, 60, and 90 minutes consecutively are 0,790 0,742 and 0,085 p value 0,05.

**Conclusion:** The using of Fluoride mouthwash didn't have an effect on tensile strength of Stainless Steel orthodontic archwires.