# 新牙刷和舊牙刷去除牙菌斑之功效

# Plaque-removing Efficacy of New and Used Manual Toothbrushes--A Professional Brushing Study

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## 摘要

**目的**

本研究評估已使用 3 個月的牙刷與全新牙刷在有無搭配牙膏使用下，其去除牙菌斑的差異。

**材料和方法**

本研究採用一次性使用專業刷牙模型進行並且對檢驗者保密。將四種刷牙方式隨機分配給牙齒四個象限，利用已使用 3 個月的牙刷和全新牙刷在有無搭配牙膏使用下。收集刷牙前後之牙菌斑指數（Quigley Hein 牙菌斑指數）和牙齦磨損（GA）評分。由口腔衛生師執行專業的刷牙程序。對已使用 3 個月的舊牙刷進行了磨損評估。

**結果**

兩組間在刷牙前的牙菌斑指數（Quigley Hein 牙菌斑指數）和牙齦磨損（GA）得分方面沒有顯著差異。刷牙後的牙菌斑指數範圍從 1.59 是新牙刷搭配牙膏到 1.76 已使用 3 個月的牙刷搭配牙膏。四種刷牙方法的牙菌斑去除效果是有顯著差異（P = 0.036），與其他刷牙方式相比已使用 3 個月的牙刷搭配牙膏的去除效果較少。關於牙齦磨損 GA 分數，則未觀察到顯著差異。關於已使用 3 個月後的牙刷磨損情況相較於其他牙刷其得分差異很大。

**結論**

本研究顯示在使用 3 個月的牙刷和全新牙刷之間進行 2 分鐘的刷牙後，牙菌斑指數的降低沒有臨床上的顯著差異。但是，**牙刷的磨損狀況似乎是影響牙菌斑去除功效的決定因素**，而不是牙刷的壽命。此外，牙膏並沒有顯示出對即時去除牙菌斑的額外效果。

**小叮嚀**

結果顯示牙刷的磨損會影響在刷牙時牙菌斑去除的功效，因此**牙刷須每三個月更換一次，或是已經出現開花的情況，也必須立即更換**，避免影響牙菌斑的去除。

另外，研究結果雖顯示使用牙膏對於牙菌斑去除無額外效果，但基於牙膏中氟化物的抗齲功效，仍**建議刷牙時使用含氟牙膏，來預防齲齒**。

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**Abstract**

**Objectives**

The present study assessed whether 3-month-old used manual toothbrushes are less effective in reducing plaque scores compared with new toothbrushes with or without the use of dentifrice.

**Material and methods**

The present study was performed employing a single-use, examiner-blinded, professional brushing model. Four brushing modalities were randomly allocated to one of four quadrants, that is, 3-month-old used toothbrushes and new toothbrushes both with and without the use of dentifrice. Prebrushing and post-brushing plaque scores (Quigley Hein plaque index) and gingival abrasion (GA) scores were obtained. A dental hygienist performed the professional brushing procedure. The 3-month-old used toothbrushes were assessed for wear.

**Results**

No significant differences were observed among the treatments with regard to the prebrushing scores. The post-brushing plaque scores ranged from 1.59 for the new brush with dentifrice to 1.76 for the old brush with dentifrice. There was a significant difference (P = 0.036) among the four treatments regarding the old brush with dentifrice, which removed less plaque than the other treatment modalities. Regarding GA scores, no significant differences were observed. With regard to toothbrush wear after 3 months of use, the scores varied widely among the individually evaluated brushes.

**Conclusion**

The present study did not show a clinically relevant difference in plaque score reductions following a 2-minute brushing exercise among 3-month-old used and new manual toothbrushes. However, the wear rate of the brushes seemed to be the determining factor in loss of efficacy, rather than the age of the toothbrush. Furthermore, dentifrice did not show an additional effect on instant plaque removal.

文獻：

Rosema, N. A., Hennequin-Hoenderdos, N. L., Versteeg, P. A., van Palenstein Helderman, W. H., van der Velden, U., & van der Weijden, G. A. (2013). Plaque-removing efficacy of new and used manual toothbrushes--a professional brushing study. International journal of dental hygiene, 11(4), 237–243. https://doi.org/10.1111/idh.12021