COCHRANE-REVIEW

# Tandlægen skal spørges til råds om mængden af fluor i tandpasta

## Brug af fluor, også i tandpasta, skal ske under hensyntagen til risiko for at inducere fluorose og med tanke på, at danske børn og unge har en lav sygdomsaktivitet.

Winnie Brodam

Tidligere Cochrane-reviews har vist, at fluor i tandpasta har en gavnlig effekt imod caries. Et helt nyt review har sammenlignet tandpastaer med forskelligt indhold af fluor

Reviewet omfatter 79 studier af 73.000 børn, og det viser, som forventet, at brug af tandpasta med fluor nedsætter risikoen for caries. Det viser også, at tandpasta med mindst 1.000 ppm fluorid er effektivt til at forebygge caries hos børn, så det understøtter de gængse internationale retningslinjer.

Cochranes reviewere sammenfatter, at et fluorindhold på 1.000-1.250 ppm medfører en forebygget andel på 23 %, og at et fluorindhold på 2.400-2.800 ppm giver en forebygget andel på 36 %.

Den forebyggede andel opgøres som cariestilvækst i kontrolgruppen minus cariestilvæksten i fluortandpastagruppen sat i forhold til cariestilvæksten i kontrolgruppen.

Reviewet diskuterer ikke fluorose, men forfatterne råder patienter til at spørge tandlægen til råds, før de vælger fluorindholdet i tandpasta.

**– Kommentar af professor Sven Poulsen, Tandlægeskolen i Århus:**

Diskussionen om fluoridindholdet i tandpasta dukker op af og til, ofte foranlediget af, at tandpastafabrikanterne lancerer et produkt med en ny (højere eller lavere) fluoridkoncentration. Derfor er det heldigt, at der netop nu er publiceret et Cochrane-review, der undersøger, hvilken betydning fluoridkoncentrationen har for caries. Vi vil jo gerne være på sikker grund, når vi rådgiver om brug af fluortandpasta. Og med hensyn til evidens for klinisk effekt findes der ikke noget, der er bedre end Cochrane reviewene.

Medens Cochrane-reviewene giver de sikreste estimater af effekten af en given metode, er de imidlertid ikke at betragte som kliniske retningslinjer. Ved udarbejdelse af kliniske retningslinjer skal der nemlig tages en række andre hensyn, til fx betydningen af andre metoder, sygdomsaktiviteten og risikoen for bivirkninger.

Når det drejer sig om fluoridholdig tandpasta, er det vist, at en forøgelse af børstefrekvensen fra 1 x daglig til 2 x daglig giver en større forøgelse af effekten, end en forøgelse af fluoridkoncentrationen. Man skal også huske på, at i en population som danske børn og unge er sygdomsaktiviteten meget lav. Dette betyder, at den kliniske effekt, man opnår ved fx at øge fluoridkoncentrationen, er begrænset. Og så skal al brug af fluorider ske under hensyntagen til risikoen for at inducere dental fluorose. Og her er vi på lidt mere usikker grund, som det fremgår af et andet Cochrane-review.

Sammenfattende bør vi undgå, at diskussionen om fluoridkoncentrationen i tandpasta kommer til helt at dominere vore overvejelser om cariesforebyggelse.

**Abstract**

**Background**

Caries (dental decay) is a disease of the hard tissues of the teeth caused by an imbalance, over time, in the interactions between cariogenic bacteria in dental plaque and fermentable carbohydrates (mainly sugars). The use of fluoride toothpaste is the primary intervention for the prevention of caries.

**Objectives**

To determine the relative effectiveness of fluoride toothpastes of different concentrations in preventing dental caries in children and adolescents, and to examine the potentially modifying effects of baseline caries level and supervised toothbrushing.

**Search strategy**

A search was undertaken on Cochrane Oral Health Group's Trials Register, CENTRAL, MEDLINE and several other databases. Reference lists of articles were also searched. Date of the most recent searches: 8 June 2009.

**Selection criteria**

Randomised controlled trials and cluster-randomised controlled trials comparing fluoride toothpaste with placebo or fluoride toothpaste of a different concentration in children up to 16 years of age with a follow-up period of at least 1 year. The primary outcome was caries increment in the permanent or deciduous dentition as measured by the change in decayed, (missing), filled tooth surfaces (D(M)FS/d(m)fs) from baseline.

**Data collection and analysis**

Inclusion of studies, data extraction and quality assessment were undertaken independently and in duplicate by two members of the review team. Disagreements were resolved by discussion and consensus or by a third party. The primary effect measure was the prevented fraction (PF), the caries increment of the control group minus the caries increment of the treatment group, expressed as a proportion of the caries increment in the control group. Where it was appropriate to pool data, network meta-analysis, network meta-regression or meta-analysis models were used. Potential sources of heterogeneity were specified a priori and examined through random-effects meta-regression analysis where appropriate.

**Main results**

75 studies were included, of which 71 studies comprising 79 trials contributed data to the network meta-analysis, network meta-regression or meta-analysis.

For the 66 studies (74 trials) that contributed to the network meta-analysis of D(M)FS in the mixed or permanent dentition, the caries preventive effect of fluoride toothpaste increased significantly with higher fluoride concentrations (D(M)FS PF compared to placebo was 23% (95% credible interval (CrI) 19% to 27%) for 1000/1055/1100/1250 parts per million (ppm) concentrations rising to 36% (95% CrI 27% to 44%) for toothpastes with a concentration of 2400/2500/2800 ppm), but concentrations of 440/500/550 ppm and below showed no statistically significant effect when compared to placebo. There is some evidence of a dose response relationship in that the PF increased as the fluoride concentration increased from the baseline although this was not always statistically significant. The effect of fluoride toothpaste also increased with baseline level of D(M)FS and supervised brushing, though this did not reach statistical significance. Six studies assessed the effects of fluoride concentrations on the deciduous dentition with equivocal results dependent upon the fluoride concentrations compared and the outcome measure. Compliance with treatment regimen and unwanted effects was assessed in only a minority of studies. When reported, no differential compliance was observed and unwanted effects such as soft tissue damage and tooth staining were minimal.

**Authors' conclusions**

This review confirms the benefits of using fluoride toothpaste in preventing caries in children and adolescents when compared to placebo, but only significantly for fluoride concentrations of 1000 ppm and above. The relative caries preventive effects of fluoride toothpastes of different concentrations increase with higher fluoride concentration. The decision of what fluoride levels to use for children under 6 years should be balanced with the risk of fluorosis.

Walsh T, Worthington HV, Glenny AM, Appelbe P, Marinho VCC, Shi X. Fluoride toothpastes of different concentrations for preventing dental caries in children and adolescents. Cochrane Database of Systematic Reviews 2010, Issue 1. Art. No.: CD007868. DOI: 10.1002/14651858.CD007868.pub2.