

## COCHRANE-REVIEW

# Tandpastafluor og dental fluorose hos børn

## Cochranes reviewere savner veldesignede studier af sammenhængen mellem fluoridkoncentrationen i tandpasta og risikoen for dental fluorose.

Winnie Brodam

Tandpasta med fluor kan give bivirkninger i form af dental fluorose hos børn, fordi de sluger overskud fra tandbørsten. Det skriver Cochranes forfattere i et nyt review. Den dentale fluorose optræder oftest som svage hvide pletter, men der kan også være tale om alvorligere skader.

Reviewet omfatter 25 studier, som tilsammen viser, at:

Der er svag evidens for, at tandbørstning med fluortandpasta hos børn under 12 måneder kan have sammenhæng med en øget risiko for udvikling af fluorose.

Der er stærkere evidens for, at højere indhold af fluor (1.000 ppm eller mere) i tandpasta til børn under 5-6-års-alderen giver en øget risiko for udvikling af fluorose – men gavn af at forebygge caries kan, hos nogle børn, overveje risikoen for fluorose. I de tilfælde kan tandbørstning med voksentandpasta med højt fluorindhold være gavnligt.

Reviewets konklusion er, at man må balancere imellem gavn og risiko for bivirkninger. Hvis hovedtanken er at undgå fluorose, bør man vælge pasta med under 1.000 ppm til børn under seks år.

### **Kommentar af professor, dr.odont. Sven Poulsen, Tandlægeskolen i Århus:**

– Et gammelt ord siger: ”Man ved ikke, hvad der er nok, før man ved, hvad der er for meget”. Det kunne bruges på spørgsmålet om fluoridkoncentrationen tandpasta, hvor ”for meget” i dette tilfælde er risikoen dental fluorose.

Som det fremgår af dette Cochrane-review, ved vi desværre ikke ret meget om, ”hvornår det er for meget”. Det skyldes flere forskellige forhold. Sædvanligvis omfatter Cochrane-reviewene kun randomiserede kliniske undersøgelser (såkaldte RCT). Søgningen identificerede imidlertid kun to af slagsen, hvoraf kun den ene skønnedes at være forholdsvis fri for bias. Derudover inkluderedes en række observationelle studier (kohortestudier, case-control-studier og tværsektionsstudier), der af natur alle er mere truede af bias, end RCT.

I lyset af, hvor mange RCT, der er inkluderet i et tidligere Cochrane-review over effekten af fluoridholdig tandpasta på caries, kan man undre sig over, at forskerne har ofret bivirkningerne i form af dental fluorose så lidt opmærksomhed.

Konsekvensen er, at vi ikke har ret megen sikker viden om sammenhængen mellem fluoridkoncentrationen i tandpasta og risikoen for dental fluorose. Som altid er det dog ikke det samme, som at der ikke er en sammenhæng (”no evidence of effect” er ikke det samme som ”evidence of no effect”).

## Abstract

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### Background

For many years, topical use of fluorides has gained greater popularity than systemic use of fluorides. A possible adverse effect associated with the use of topical fluoride is the development of dental fluorosis due to the ingestion of excessive fluoride by young children with developing teeth.

### Objectives

To describe the relationship between the use of topical fluorides in young children and the risk of developing dental fluorosis. Search strategy

Electronic search of the Cochrane Oral Health Group Trials Register, CENTRAL, MEDLINE, EMBASE, BIOSIS, Dissertation Abstracts and LILACS/BBO. Reference lists from relevant articles were searched. Date of the most recent searches: 9th March 09.

### Selection criteria

Randomised controlled trials (RCTs), quasi-RCTs, cohort studies, case-control studies and cross-sectional surveys, in which fluoride toothpastes, mouthrinses, gels, foams, paint-on solutions, and varnishes were compared to an alternative fluoride treatment, placebo or no intervention group. Children under the age of 6 years at the time topical fluorides were used.

### Data collection and analysis

Data from all included studies were extracted by two review authors. Risk ratios for controlled, prospective studies and odds ratios for case-control studies or cross-sectional surveys were extracted or calculated. Where both adjusted and unadjusted risk ratios or odds ratios were presented, the adjusted value was included in the meta-analysis.

### Main results

25 studies were included: 2 RCTs, 1 cohort study, 6 case-control studies and 16 cross-sectional surveys. Only one RCT was judged to be at low risk of bias. The other RCT and all observational studies were judged to be at moderate to high risk of bias. Studies were included in four intervention/exposure comparisons. A statistically significant reduction in fluorosis was found if brushing of a child's teeth with fluoride toothpaste commenced after the age of 12 months odds ratio 0.70 (random-effects: 95% confidence interval 0.57 to 0.88) (data from observational studies). Inconsistent statistically significant associations were found between starting using fluoride toothpaste/toothbrushing before or after the age of 24 months and fluorosis (data from observational studies). From the RCTs, use of higher level of fluoride was associated with an increased risk of fluorosis. No significant association between the frequency of toothbrushing or the amount of fluoride toothpaste used and fluorosis was found.

### Authors' conclusions

There should be a balanced consideration between the benefits of topical fluorides in caries prevention and the risk of the development of fluorosis. Most of the available evidence focuses on mild fluorosis. There is weak unreliable evidence that starting the use of fluoride toothpaste in children under 12 months of age may be associated with an increased risk of fluorosis. The evidence for its use between the age of 12 and 24 months is equivocal. If the risk of fluorosis is of concern, the fluoride level of toothpaste for young children (under 6 years of age) is recommended to be lower than 1000 parts per million (ppm). More evidence with low risk of bias is needed. Future trials assessing the effectiveness of different types of topical fluorides (including toothpastes, gels, varnishes and mouthrinses) or different concentrations or both should ensure that they include an adequate follow-up period in order to collect data on potential fluorosis. As it is unethical to propose RCTs to assess fluorosis itself, it is acknowledged that further observational studies will be undertaken in this area. However, attention needs to be given to the choice of study design, bearing in mind that prospective, controlled studies will be less susceptible to bias than retrospective and/or uncontrolled studies.

Wong MCM, Glenny AM, Tsang BWK, Lo ECM, Worthington HV, Marinho VCC. Topical fluoride as a cause of dental fluorosis in children. Cochrane Database of Systematic Reviews 2010, Issue 1. Art. No.: CD007693. DOI: 10.1002/14651858.CD007693.pub2.