Clinical trial results:
Seal or Varnish? A Randomised Trial To Determine The Relative Cost And Effectiveness Of Pit And Fissure Sealants And Fluoride Varnish In Preventing Dental Decay

Summary

EudraCT number	2010-023476-23
Trial protocol	GB
Global end of trial date	21 December 2015

Results information

Result version number	v1 (current)
This version publication date	06 January 2019
First version publication date	06 January 2019
Summary attachment (see zip file)	HTA Final report v2.0 (HTA 08.104.04 Final Report v 2.0 Clean.docx) Appendices (08_08_104_04 APPENDICES v2 CLEAN.docx)

Trial information

Trial identification

Sponsor protocol code	SPON766-09

Additional study identifiers

ISRCTN number	ISRCTN17029222
ClinicalTrials.gov id (NCT number)	-
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Cardiff University
Sponsor organisation address	7th Floor, 30-36 Newport Road, Cardiff, United Kingdom, CF24 0DE
Public contact	Ivor Chestnutt, Cardiff University, 02920 746680, ChestnuttIG@cardiff.ac.uk
Scientific contact	Ivor Chestnutt, Cardiff University, 02920 746680, ChestnuttIG@cardiff.ac.uk

Notes:

Paediatric regulatory details

Is trial part of an agreed paediatric investigation plan (PIP)	No
Does article 45 of REGULATION (EC) No 1901/2006 apply to this trial?	No
Does article 46 of REGULATION (EC) No 1901/2006 apply to this trial?	No

Notes:

Results analysis stage

Analysis stage	Final
Date of interim/final analysis	12 April 2016
Is this the analysis of the primary completion data?	No

Global end of trial reached?	Yes
Global end of trial date	21 December 2015
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

The primary objective for this study was to:

To compare the clinical effectiveness of Pit and Fissure Sealants (PFS) and Fluoride Varnish (FV) in preventing dental caries in first permanent molars in 6-7 year-olds, as determined by:

- The proportion of children developing caries on any one of up to four treated first permanent molars
- The number of treated first permanent molar teeth caries-free at 36 months

Protection of trial subjects:

For participants receiving either the Pit and Fissue Sealant or Fluoride Varnish, preventing dental caries in their first permanent molar teeth outweighed the risk of the potential side effects from either treatment. FV application is not recommended in children with severe allergic tendencies (i.e. those who have previously been hospitalised for asthma). We actively sought out and excluded such children from the study.

Background therapy:

There is no background therapy used in this trial.

Evidence for comparator:

Pit and fissure sealants comprise a Bis-GMA resin, which is applied to the occlusal surface of the tooth using acid-etch technology. They work by physically obliterating the pit and fissure system which harbours cariogenic organisms and thereby inhibit the initiation of caries. First developed in the 1960s, they are an established technology and widely used in clinical practice. Numerous studies have investigated the clinical effectiveness of fissure sealants and this has been the subject of a recent Cochrane review. A meta-analysis of seven studies comparing sealed teeth to untreated controls demonstrated caries reductions ranging from 87% at 12 months to 60% at 48-54 months (Ahovuo-Saloranta et al., 2008).

Fluoride varnishes have also been marketed since the 1960s and comprise a topical medication which is painted onto the tooth surface. They contain a high concentration of fluoride (22,600 ppm) and are licensed for application by dental professionals. The varnish forms a quick-setting base which subsequently releases fluoride. Fluoride acts to prevent caries by inhibiting the demineralisation and encouraging the remineralisation of dental enamel. A Cochrane review suggested a pooled prevented fraction estimate of 46% (95%CI 30%-63%) when fluoride varnish is tested against no treatment controls (Marhino et al., 2002).

Actual start date of recruitment	07 July 2011
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	Yes

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	United Kingdom: 1015

Worldwide total number of subjects	1015
EEA total number of subjects	1015

Notes:

Subjects enrolled per age group	
In utero	0
Preterm newborn - gestational age < 37 wk	0
Newborns (0-27 days)	0
Infants and toddlers (28 days-23 months)	0
Children (2-11 years)	1015
Adolescents (12-17 years)	0
Adults (18-64 years)	0
From 65 to 84 years	0
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

Participants were recruited from primary schools in 'Communities first' areas in South Wales as designated by the Welsh assembley government. Recruitment ocurred between July 2011 and September 2012.

Pre-assignment

Screening details:

Invited participants who provided consent to participation were screened for adherence to inclusion/ exclusion criteria through a returned medical history form and subsequently via baseline dental examination.

Pre-assignment period milestones

Number of subjects started	1406[1]
Intermediate milestone: Number of subjects	Assessment of medical history: 1406
Intermediate milestone: Number of subjects	Screening assessment: 1303
Number of subjects completed	1015

Pre-assignment subject non-completion reasons

Reason: Number of subjects	Consent withdrawn by subject: 2
Reason: Number of subjects	Physician decision: 103
Reason: Number of subjects	Deemed ineligble: 286

Notes:

[1] - The number of subjects reported to have started the pre-assignment period are not the same as the worldwide number enrolled in the trial. It is expected that these numbers will be the same.
Justification: Participants returned consent and medical history prior to assessment for inclusion in the trial. Only those that were deemed eligible were officially enrolled on the study.

Period 1

Period 1 title	Baseline
Is this the baseline period?	Yes
Allocation method	Not applicable
Blinding used	Not blinded

Arms

Are arms mutually exclusive?	Yes
Arm title	Varnish

Arm description:

Participants allocated to this arm received 6 monthly treatments of fluoride varnish applied to first permanent mo;ars included in the trial.

Arm type	Experimental
Investigational medicinal product name	Duraphat
Investigational medicinal product code	PL 00049/0042
Other name	
Pharmaceutical forms	Dental suspension
Routes of administration	Dental use

Dosage and administration details:

Fluoride varnish (FV) was supplied as 10 ml tubes (50 mg/ml dental suspension, equivalent to 22,600ppm fluoride) for multiple applications and applied topically as a thin layer to the pits, fissures and smooth surfaces of eligible teeth. As per the Duraphat Summary of Product Characteristics (SmPC), dosage per single application did not exceed 0.4 ml.
Initial application of FV will occured within 2 weeks of the baseline dental examination, and was

performed by a suitably qualified and trained dental hygienist according to the conventional clinical protocol established by the Community Dental Service. FV was re-applied at 6, 12, 18, 24, and 30 months (maximum of six applications).

Arm title	Sealant

Arm description:

Participants allocated to this arm received a pit and fissure sealant on the occlusal surface of any erupted first permanent moar included in the trial.

Arm type	Non-IMP comparator
Investigational medicinal product name	Delton Light Curing Pit & Fissure Sealant
Investigational medicinal product code	CE0086
Other name	
Pharmaceutical forms	Dental gel
Routes of administration	Dental use

Dosage and administration details:

The Pit and Fissure Sealant (PFS) used for evaluation in the study was Delton Light Curing Opaque Pit & Fissure Sealant, which is the same PFS used in the current school based Designed to Smile programme. PFS will be supplied as 2.7 ml bottles for multiple applications and applied topically as a thin layer to occlusal surface of eligible teeth.
Initial application of PFS will occur within 2 weeks of the baseline dental examination, and will be performed by a suitably qualified and trained dental hygienist according to the conventional clinical protocol established by the Community Dental Service.

The condition of the PFS will be re-examined at 6, 12, 18, 24, and 30 months, and will be re-applied if the existing sealant has become detached, or if attachment is considered insufficient.

Number of subjects in period 1	Varnish	Sealant
Started	501	514
Completed	501	514

Period 2

Period 2 title	36 Months
Is this the baseline period?	No
Allocation method	Randomised - controlled
Blinding used	Single blind
Roles blinded	Assessor[2]

Blinding implementation details:

Only dental assessors were blind to treatment allocation. Assessors did not have access to any of the treatment records or trial documentation in order to maintain their blind. However, it may have been possible for the assessors to identifythose children treated with pit and fissure sealant as this would be apparent on inspection.

Arms

Are arms mutually exclusive?	Yes

Arm title	Sealant
Arm description: -	
Arm type	Non-IMP comparator
Investigational medicinal product name	Delton Light Curing Pit & Fissure Sealant
Investigational medicinal product code	CE0086
Other name	
Pharmaceutical forms	Dental gel
Routes of administration	Dental use

Dosage and administration details:

The Pit and Fissure Sealant (PFS) used for evaluation in the study was Delton Light Curing Opaque Pit & Fissure Sealant, which is the same PFS used in the current school based Designed to Smile programme. PFS will be supplied as 2.7 ml bottles for multiple applications and applied topically as a thin layer to occlusal surface of eligible teeth.
Initial application of PFS will occur within 2 weeks of the baseline dental examination, and will be performed by a suitably qualified and trained dental hygienist according to the conventional clinical protocol established by the Community Dental Service.

The condition of the PFS will be re-examined at 6, 12, 18, 24, and 30 months, and will be re-applied if the existing sealant has become detached, or if attachment is considered insufficient.

Arm title	Varnish
Arm description: -	
Arm type	Experimental
Investigational medicinal product name	Duraphat
Investigational medicinal product code	PL 00049/0042
Other name	
Pharmaceutical forms	Dental suspension
Routes of administration	Dental use

Dosage and administration details:

Fluoride varnish (FV) was supplied as 10 ml tubes (50 mg/ml dental suspension, equivalent to 22,600ppm fluoride) for multiple applications and applied topically as a thin layer to the pits, fissures and smooth surfaces of eligible teeth. As per the Duraphat Summary of Product Characteristics (SmPC), dosage per single application did not exceed 0.4 ml.
Initial application of FV will occured within 2 weeks of the baseline dental examination, and was performed by a suitably qualified and trained dental hygienist according to the conventional clinical protocol established by the Community Dental Service. FV was re-applied at 6, 12, 18, 24, and 30 months (maximum of six applications).

Notes:

[2] - The roles blinded appear inconsistent with a simple blinded trial.

Justification: The physical nature of the technologies under test limited the scope for blinding. Both the participant and the dental hygenist were aware of the treatment provided. The dentist undertaking the clinical ental examination as baseline, 12, 24 and 36 months was not informed of the arm to which the participant had been randomised. However, the presence or absence of fissure sealants at assessment would obviously indicate the likely treatment recevied.

Number of subjects in period 2	Sealant	Varnish
Started	514	501
12 months	484	474
24 months	468	452
36 months	418	417
Completed	418	417
Not completed	96	84
Consent withdrawn by subject	5	6

Missed final assessment (primary outcome)	-	14
Missed assessment (primary outcome)	16	-
Lost to follow-up	75	64

Baseline characteristics

Reporting groups	
Reporting group title	Varnish
Reporting group description:	
Participants allocated to this arm received 6 monthly treatments of fluoride varnish applied to first permanent mo;ars included in the trial.	
Reporting group title	Sealant
Reporting group description:	
Participants allocated to this arm received a pit and fissure sealant on the occlusal surface of any erupted first permanent moar included in the trial.	

Reporting group values	Varnish	Sealant	Total
Number of subjects	501	514	1015
Age categorical Units: Subjects			
In utero	0	0	0
Preterm newborn infants (gestational age < 37 wks)	0	0	0
Newborns (0-27 days)	0	0	0
Infants and toddlers (28 days-23 months)	0	0	0
Children (2-11 years)	501	514	1015
Adolescents (12-17 years)	0	0	0
Adults (18-64 years)	0	0	0
From 65-84 years	0	0	0
85 years and over	0	0	0
Gender categorical Units: Subjects			
Female	266	277	543
Male	235	237	472
Number of children with dentine caries in the primary dentition (d4-6)			
This is the number of children at baseline who were assessed as having caries into dentine in their primary dentition (baby teeth)			
Units: Subjects			
Children with dentine caries	266	286	552
Children without dentine caries	235	228	463
Number of children with dentine caries in the primary dentition (d4-6mft)			
Number of children assessed as having dentine into caries in the primary dentition at the tooth level			
Units: Subjects			
Dentine caries in the primary dentition (d4-6mft)	339	342	681
No dentine caries in primary dentition (d4-6mft)	162	172	334
Children with untreated dentine caries in any First Permanent Molar (D4-6)			
The number of cihldren assessed as having untreated caries into dentine at the surface level on any one first permanent molar (FPM)			
Units: Subjects			
Untreated dentine caries on any FMP (D4-6)	23	22	45

Without untreated dentine caries on any FMP (D4-6)	478	492	970
Children with dentine caries in any first permanent molar (D4-6MFT)			
Number of children assessed as having caries into dentine at the tooth level in any first permanent molar (FPM).			
Units: Subjects			
Dentine caries in any FPM (D4-6MFT)	31	27	58
Without dentine caries in any FPM (D4-6MFT)	470	487	957

End points

End points reporting groups

Reporting group title	Varnish
Reporting group description:	
Participants allocated to this arm received 6 monthly treatments of fluoride varnish applied to first permanent mo;ars included in the trial.	
Reporting group title	Sealant
Reporting group description:	
Participants allocated to this arm received a pit and fissure sealant on the occlusal surface of any erupted first permanent moar included in the trial.	
Reporting group title	Sealant
Reporting group description: -	
Reporting group title	Varnish
Reporting group description: -	

Primary: Number of children developiong dentine caries on any FPM

End point title	Number of children developiong dentine caries on any FPM
End point description:	
The proportion of children with dentine caries (D4-6MFT) on any FMP in the trial at 36 month examination	
End point type	Primary
End point timeframe:	
36 months	

End point values	Sealant	Varnish		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	418	417		
Units: D4-6MFT				
No dentinal caries on any first permanent molar	336	344		
Dentine caries (D4-6MFT) on at least one FPM	82	73		

Statistical analyses

Statistical analysis title	Primary Outcome
Comparison groups	Sealant v Varnish

Number of subjects included in analysis	835
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.05
Method	Regression, Logistic
Parameter estimate	Odds ratio (OR)
Point estimate	0.84
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.59
upper limit	1.21
Variability estimate	Standard deviation

Statistical analysis title	Primary Outcome (adjusted for school attended)
Comparison groups	Sealant v Varnish
Number of subjects included in analysis	835
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.05
Method	Regression, Logistic
Parameter estimate	Odds ratio (OR)
Point estimate	0.84
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.59
upper limit	1.21
Variability estimate	Standard deviation

Secondary: Number of children developing dentine caries at 36 months by number of FPM in trial

End point title	Number of children developing dentine caries at 36 months by number of FPM in trial
End point description:	

End point type	Secondary
End point timeframe:	
36 months	

End point values	Sealant	Varnish		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	418	417		
Units: D4-6MFT				
No caries on any FPM	336	344		
Caries on 1 FPM	53	43		
Caries on 2 FPM	22	17		
Caries on 3 FPM	5	9		
Caries on 4 FPM	2	4		

Statistical analyses

Statistical analysis title	FPM with dentine caries, restoration or extraction
Statistical analysis description:	
Ordinal regression analysis of the number of FPM with dentine caries, a restoration or extracted but to caries (D4-6MFT) at 36 months by trial intervention arm.	
Comparison groups	Sealant v Varnish
Number of subjects included in analysis	835
Analysis specification	Pre-specified
Analysis type	superiority
P-value	< 0.05
Method	Ordinal Regression
Parameter estimate	Odds ratio (OR)
Point estimate	0.87
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.64
upper limit	1.2
Variability estimate	Standard deviation

Secondary: Number of surfaces with dentine caries per participant

End point title	Number of surfaces with dentine caries per participant
End point description:	
The number of FPM surfaces per particiant developing dentine caries at 36 months	
End point type	Secondary
End point timeframe:	
36 months	

End point values	Sealant	Varnish		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	418	417		
Units: D4-6MFS				
D4-6 MFS=0	336	344		
1 with caries	46	36		
2 with caries	14	17		
3 with caries	11	7		
4 with caries	3	6		
5 with caries	4	4		
6 with caries	1	1		
7 with caries	2	0		
10 with caries	1	0		
20 with caries	0	2		

Statistical analyses

Statistical analysis title	Number of FPM surfaces with dentine caries
Statistical analysis description:	
Ordinal regression ananlysis of the number of FPM surfaces with dentine caries (D4-6MFS) at 36 months by trial arm	
Comparison groups	Sealant v Varnish
Number of subjects included in analysis	835
Analysis specification	Pre-specified
Analysis type	superiority
P-value	> 0.05
Method	Ordinal Regression
Parameter estimate	Odds ratio (OR)
Point estimate	0.87
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.64
upper limit	1.19

Secondary: Association of treatment visits

End point title	Association of treatment visits
End point description:	
The number of treatment visits attended by each child who also underwent a final clinical examination at 36 months.	
End point type	Secondary
End point timeframe:	
36 months	

End point values	Sealant	Varnish		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	418	417		
Units: Number of treatment visits				
1 treatment visit, No FPM with DMFT	1	0		
2 treatment visits, No FPM with DMFT	0	0		
3 treatment visits, No FPM with DMFT	1	4		
4 treatment visits, No FPM with DMFT	13	11		
5 treatment visits, No FPM with DMFT	75	80		
6 treatment visits, No FPM with DMFT	246	249		
1 treatment visit, at least one FPM with DMFT	0	0		
2 treatment visits, at least one FPM with DMFT	0	1		
3 treatment visits, at least one FPM with DMFT	1	0		
4 treatment visits, at least one FPM with DMFT	3	4		
5 treatment visits, at least one FPM with DMFT	17	16		
6 treatment visits, at least one FPM with DMFT	61	52		

Statistical analyses

Statistical analysis title	Effects of treatment adherence

Statistical analysis description:

To determine the effects of adherence to the scheduled number of treatment visits, a Complier Average Causal Effect analysis was conducted. As Fissure Sealant was the standard treatment in the Design to Smile program prior to the trial, this was assumed to be the control with treatment visits set to a constant (zero).

Comparison groups	Sealant v Varnish
Number of subjects included in analysis	835
Analysis specification	Pre-specified
Analysis type	superiority
P-value	> 0.05
Method	Complier Average Causual Effect
Parameter estimate	Efficacy coefficient
Point estimate	-0.005
Confidence interval	
level	95 %
sides	2-sided
lower limit	-0.014
upper limit	0.004

Secondary: Adherence to pre-specified treatment window

End point title	Adherence to pre-specified treatment window

End point description:

End point type	Secondary

End point timeframe:

36 months

End point values	Sealant	Varnish		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	418	417		
Units: Number of treatments outside window				
0 treatments outside window	302	296		
1 treatment outside window	106	112		
2 treatment outside window	7	5		
3 treatment outside window	1	3		
4 treatment outside window	2	0		
5 treatment outside window	0	1		

Statistical analyses

Statistical analysis title	Effect of number of treatments outside of window

Statistical analysis description:

To test for the effect of adherence to the treatmnt window, a binary indicator was added to the primary model which categorise the participants as having received:
1) All of their treatment visits within window
2) At least one visit out of window

Comparison groups	Sealant v Varnish
Number of subjects included in analysis	835
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.052
Method	Regression, Logistic
Parameter estimate	Odds ratio (OR)
Point estimate	0.66
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.43
upper limit	1

Secondary: Enamel caries on any FPM in the trial

End point title	Enamel caries on any FPM in the trial

End point description:

The proportion of children with D1-6MFT (caries into enamel) on any FPM in the trial at 36 months

End point type	Secondary

End point timeframe:

36 months

End point values	Sealant	Varnish		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	418	417		
Units: D1-6MFT				
No caries on any FPM	95	135		
Caries D1-6MFT on at least one FPM	323	282		

Statistical analyses

Statistical analysis title	Effect of treatment on caries in enamel
Comparison groups	Sealant v Varnish
Number of subjects included in analysis	835
Analysis specification	Pre-specified
Analysis type	superiority
P-value	= 0.001
Method	Regression, Logistic
Parameter estimate	Odds ratio (OR)
Point estimate	0.56
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.41
upper limit	0.78

Secondary: Whole mouth caries experience

End point title	Whole mouth caries experience
End point description:	
Total number of permanent teeth, per participant, affected by D4-6MFT	
End point type	Secondary
End point timeframe:	
36 Months	

End point values	Sealant	Varnish		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	418	417		
Units: NUmber of teeth				
0 permanent teeth with D4-6MFT	326	334		
1 permanent teeth with D4-6MFT	56	42		
2 permanent teeth with D4-6MFT	27	26		

3 permanent teeth with D4-6MFT	5	11		
4 permanent teeth with D4-6MFT	3	4		
6 permanent teeth with D4-6MFT	1	0		

Statistical analyses

Statistical analysis title	Impact of trial treatment on all permanent teeth

Statistical analysis description:

To examine the difference in the number of affected teeth Poisson and Binomial distribution modelling was carried out.

Comparison groups	Sealant v Varnish
Number of subjects included in analysis	835
Analysis specification	Pre-specified
Analysis type	superiority
P-value	> 0.05
Method	Poisson regression
Parameter estimate	Incident Rate Ratio
Point estimate	0.94
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.74
upper limit	1.2

Statistical analysis title	Copy of Impact of trial treatment on all perman...

Statistical analysis description:

To examine the difference in the number of affected teeth Poisson and Binomial distribution modelling was carried out.

Comparison groups	Sealant v Varnish
Number of subjects included in analysis	835
Analysis specification	Pre-specified
Analysis type	superiority
P-value	> 0.05
Method	Negative Binomial regression
Parameter estimate	Incident Rate Ratio
Point estimate	0.93
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.82
upper limit	1.46

Statistical analysis title	Copy of Copy of Impact of trial treatment on al...

Statistical analysis description:

To examine the difference in the number of affected teeth Poisson and Binomial distribution modelling

was carried out.

Comparison groups	Sealant v Varnish
Number of subjects included in analysis	835
Analysis specification	Pre-specified
Analysis type	superiority
P-value	> 0.05
Method	Zero inflated poisson regression
Parameter estimate	Incident Rate Ratio
Point estimate	1.01
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.76
upper limit	1.35

Statistical analysis title	Copy of Copy of Copy of Impact of trial treatme...

Statistical analysis description:

To examine the difference in the number of affected teeth Poisson and Binomial distribution modelling was carried out.

Comparison groups	Sealant v Varnish
Number of subjects included in analysis	835
Analysis specification	Pre-specified
Analysis type	superiority
P-value	> 0.05
Method	0 inflated negative binomial regression
Parameter estimate	Incident Rate Ratio
Point estimate	1.01
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.75
upper limit	1.35

Secondary: Number of children developing dentine caries on any treated FPM at 12 months

End point title	Number of children developing dentine caries on any treated FPM at 12 months

End point description:

The proportion of children with caries (D4-6MFT) on any treated FPM in the trial at the 12 month annual examination

End point type	Secondary

End point timeframe:

12 month examination

End point values	Sealant	Varnish		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	450	444		
Units: D4-6MFT				
No caries on any FPM	414	407		
Caries on at least one FPM	36	37		

Statistical analyses

Statistical analysis title	Proportion of children with caries
Statistical analysis description: Proportion of children with caries (D4-6MFT) on any treated FPM at 12 months	
Comparison groups	Sealant v Varnish
Number of subjects included in analysis	894
Analysis specification	Pre-specified
Analysis type	superiority
P-value	> 0.05
Method	Regression, Logistic
Parameter estimate	Odds ratio (OR)
Point estimate	0.96
Confidence interval	
level	95 %
sides	2-sided
lower limit	0.76
upper limit	1.21

Secondary: Number of children developing dentine caries on any treated FPM at 24 months

End point title	Number of children developing dentine caries on any treated FPM at 24 months
End point description:	
End point type	Secondary
End point timeframe: 24 months	

End point values	Sealant	Varnish		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	439	424		
Units: D4-6MFT				
No caries on any FPM	378	361		
Caries on at least one FPM	61	63		

Statistical analyses

Statistical analysis title	Proportion of children with caries
Statistical analysis description: Proportion of children with caries (D4-6MFT) on any treated FPM at 24 months	
Comparison groups	Sealant v Varnish
Number of subjects included in analysis	863
Analysis specification	Pre-specified
Analysis type	superiority
P-value	> 0.05
Method	Regression, Logistic
Parameter estimate	Odds ratio (OR)
Point estimate	1.92
Confidence interval	
level	95 %
sides	2-sided
lower limit	1.41
upper limit	2.62

Adverse events

Adverse events information[1]

Timeframe for reporting adverse events:

Adverse events were monitored from baseline treatment (0 months) until the final examination (36 months)

Adverse event reporting additional description:

No adverse events were reported in either arm for the duration o the trial.

Assessment type	Non-systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	19.0

Reporting groups

Reporting group title	Sealant

Reporting group description:

All participants randomised to receive Pit and Fissure Sealant

Reporting group title	Varnish

Reporting group description:

All participants randomised to receive fluoride varnish

Serious adverse events	Sealant	Varnish	
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 514 (0.00%)	0 / 502 (0.00%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	

Frequency threshold for reporting non-serious adverse events: 5 %

Non-serious adverse events	Sealant	Varnish	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	0 / 514 (0.00%)	0 / 502 (0.00%)	

Notes:

[1] - There are no non-serious adverse events recorded for these results. It is expected that there will be at least one non-serious adverse event reported.
Justification: The treatments studied in this trial are licensed and well tolerated. No serious adverse events were reported

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
18 July 2011	Amendment included re-wording of primary objective as requested by ethics committee Change to timing of participant ID assignation Changes to methods of approach for data colelction; use of home based questionnaires as opposed to telephone administration or via semi-structured questionnaires Revisions to frequency and of method of clinical, health economics and process evaluation assessments Clarification of adverse event assessment and adverse event reporting

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported

Online references

http://www.ncbi.nlm.nih.gov/pubmed/28613154

http://www.ncbi.nlm.nih.gov/pubmed/28394709

http://www.ncbi.nlm.nih.gov/pubmed/23167481