

1. The presence of the fissure sealant appears to change the fracture site when debonding is performed. As a result little or no residual composite remains on the tooth surface.
2. Placement of the fissure sealant afforded significant protection to the enamel by reducing the incidence of white spot formation compared to the areas not covered by fissure sealant.
3. The use of a .02% NaF mouthrinse in this study offered significant reduction of demineralization, with no white spot formation occurring in those patients who had also received the fissure sealant treatment.
4. The presence of the fissure sealant did not appear to reduce the clinical bond strength of the composite.






The following statistics were used in this study:

1. Two Sample T-Test

For the t-test comparison of two sample means the following formula was used:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\left(\frac{1}{n_1} + \frac{1}{n_2}\right) \times \frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}}}$$


\bar{x} = mean of sample one

\bar{x} = mean of sample two

n_1 = number of sample one

n_2 = number of sampel two

S_1 = Standard deviation of sample one

S_2 = Standard deviation of sample two

- (2) Chi-square Test in Strata to test the significance of the differences in the incidence of white spot formation between the fluoride rinse group and the non-fluoride rinse group.

$$\chi^2 = \frac{ad - bc}{(a + b)(c + d)(a + c)(b + d)}$$

where a, b, c, d, are the frequencies ie. the number of teeth.



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- (3) ODDS RATIO (OR)

Gives a description of the relationship of white spots to fluoride rinse. It gives the chance of having white spots in fluoride group relative to the chance in the non-fluoride group.

$$\text{ODDS RATIO (OR)} = \frac{ad}{bc}$$



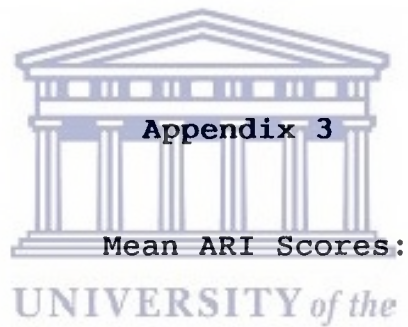
APPENDIX 2

ARI Scores per tooth / per patient.

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Key:
 NF = Non-fissure sealant
 FS = Fissure sealant
 U = Upper
 L = Lower

NO	NFSU1	NFSU2	NFSU3	NFSU4	NFSU6	FSU1	FSU2	FSU3	FSU4	FSU5	NFSL1	NFSL2	NFSL3	NFSL4	NFSL5	FSI1	FSI2	FSI3	FSI4	FSI5
1	3	2	2	1		2	2	0	0		3	3	2	1		3	0	0	0	0
2	3	1	0		0	1	3	0		0	3	0	3		0	3	2	0	0	0
3	3	2	0	0	0	3	3	0	0	0	0	0	0	0	2	0	0	0	0	0
4	3	0	2	2	1	1	2	1	1	0	2	2	1	1	1	1	3	1	1	0
5	3	1	2		0	2	0	3	2		2	1	0	1		0	0	0	0	0
6	3	3	0	1	0	1	1	1	1	0	0	3	0	0	0	1	0	0	0	0
7	3	3	3	0	0	2	3	0		2	0	3	2		2	0	0	0	0	0
8	3	3	0	0		3	0	0	0		0	0	1	1		1	0	0	0	0
9	3	3	1		0	3	2	0		0	3	2	0		0	0	2	0	0	0
10	3	2	1	0		1	2	0	0		3	3	0	0		3	1	0	0	0
11	2	0	1	3	0	3	0	0	0	0	3	3	1		2	0	1	0	0	0
12	3	2	0		0	1	0	0		0	3	3	1		0	2	1	0	0	0
13	3	2	1	0	0	3	2	0	0	0	3	3	2	2	0	3	2	0	0	0
14	3	3	2	0	0	0	0	1	2	0	3	1	0	0	0	1	0	3	0	0
15	3	3	2		0	1	0	1		0	2	1	0		0	1	1	0	0	0
16	3	3	2	0	0	3	1	0	0	0	3	3	3	0	0	2	2	0	0	0
17	3	3	3	0	0	3	2	0	0	0	3	1	1	0	0	0	0	1	0	0
18	3	3	0		0	0	2	0		0	1	2	0		0	0	2	0	0	0
19	3	3	2		0	3	0	0	0	0	1	2	0	0		1	0	0	0	0
20	1	2	0	0		1	2	0	0	0	3	1	0		0	2	1	0	0	0
21	3	3	1		0	2	2	0	0	0	3	3	1	1	0	2	0	0	1	0
22	3	3	2		1	1	0	0	0	0	3	3	0		1	3	1	0	0	0
23	3	0	0		0	2	0	0	0	0	2	1	2		0	1	0	0	0	0
24	3	3	3	0	0	2	0	1	0	0	3	3	0	1	0	3	2	0	0	0
25	3	3	1	0	1	3	3	0	0	0	3	3	0	0	1	2	1	0	0	0
26	2	2	1		0	3	0	0	0	0	2	1	0		0	1	0	0	0	0
27	3	3	1	1	0	3	3	0	0	0	3	2	2	1	0	2	3	0	0	0
28	3	3	1	0	0	3	1	1	0	0	1	2	0	2	1	1	0	1	0	0
29	3	3	3	0	0	2	3	0	0	0	2	3	0	0	1	1	2	0	0	0
30	3	1	1	1	0	3	1	0	0	0	2	2	1	0	0	2	0	0	0	0
31	3	2	0		0	2	1	0	0	0	3	2	0		1	2	1	0	0	0
32	3	3	2		0	2	0	0	0	0	1	3	3		0	2	2	0	0	0
33	2	2	0	1	0	2	0	0	0	0	2	2	0	1	0	0	0	0	0	0
34	2	2	2		1	3	0	0	0	0	3	3	3		0	2	1	0	0	0
35	2	3	0	0	0	0	0	1	0	1	3	1	0	0	1	0	1	1	0	0
36	0	2	0	1		1	0	0	1		0	1	1	1		1	0	0	0	0
37	3	2	0		1	1	2	0		0	2	0	3		0	3	1	1	0	0
38	3	3	1		0	2	1	0		0	3	1	3		0	1	2	0	0	0
39	3	3	0		0	3	1	1		0	1	2	0		2	1	0	1	0	0
40	3	3	1	0	0	2	2	0	0	0	2	3	2	0	0	1	2	0	1	0
41	3	3	0		0	2	1	1		0	3	3	2		0	3	0	1	0	0
42	3	2	0		1	2	0	0		0	2	2	1		0	3	0	0	0	0
43	3	3	2	0		0	1	1	0		3	2	1	0		2	1	0	0	0
44	2	3	1		0	1	2	1		0	3	3	0		0	2	0	0	0	0
45	3	3	3		1	3	3	0		0	3	2	1	0		3	2	0	0	0
46	3	2	0		0	2	0	2		0	0	1	1		1	0	0	0	0	0
47	3	2	1	1	0	0	0	0	1	0	0	1	2	1	1	1	0	0	0	0
48	3	2	1	1	0	0	0	0	1	0	3	1	3	1	1	1	0	0	0	0
49	3	0	1	1	1	1	0	0	0	0	3	2	2	3	0	0	0	0	0	0
50	2	1	3		0	2	0	0		0	0	1	2		2	1	2	0	0	0
51	3	3	2		2	1	0	1		0	3	3	3		1	0	0	0	0	0
52	3	3	1		0	3	1	0		0	0	2	2	0		0	2	1	0	0
53	3	1	2	1		3	2	1	0		2	2	0		0	2	1	0	0	0
54	3	1	1	3	0	3	3	1	0	0	1	3	1	0	0	0	0	1	0	0
55	3	0	3		0	0	3	1		0	2	2	1	3		3	2	1	0	0
56	3	3	3		3	2	3	0		1	3	2	2	0		0	0	1	0	0
57	0	3	1		2	2	0	0		1	0	3	2		1	2	1	0	0	0
58	0	2	0	1		3	0	0	1		0	0	0	1		0	0	0	0	0
59	1	1	2	2	1	2	0	1	0	0	1	0	3	1	0	2	1	0	1	0
60	0	0	0		0	2	0	1		1	3	2	2	0		0	0	1	0	0
61	3	3	0		1	3	3	0		0	3	1	1		0	0	0	0	0	0
62	3	3	0		0	0	2	0		0	1	0	0		1	0	0	0	0	0
63	3	3	1	0	0	3	1	1	0	0	1	2	0	2	1	1	0	1	0	0



- (a) Upper and lower fissure sealed and non-fissure sealed teeth.
- (b) Totals for fissure sealed and non-fissure sealed teeth.

NFU	FU	NFL	FL	TNFS	TFS
2	1	2.25	.75	2.13	.88
1	1	1.50	1.25	1.25	1.13
1	1.20	.40	0	.70	.60
1.60	1	1.40	1.20	1.50	1.10
1.50	1.75	1	0	1.25	.88
1.40	.80	.60	.20	1	.50
2.25	1.75	1.75	0	2	.88
1.50	.75	.50	.25	1	.50
1.75	1.25	1.25	.50	1.50	.88
1.50	.75	1.50	1	1.50	.88
1.20	.60	2.25	0	1.67	.33
1.25	.25	1.75	.75	1.50	.50
1.20	1	2	1	1.60	1
1.60	.60	.80	.80	1.20	.70
2	.50	.75	.50	1.38	.50
1.60	.80	1.80	.80	1.70	.80
1.80	1	1	.20	1.40	.60
1.50	.50	.75	.50	1.13	.50
2	.75	1.25	.25	1.63	.50
.75	.75	1	.75	.88	.75
1.75	1	1.60	.60	1.67	.78
2.25	.25	1.75	1	2	.63
.75	.50	1.25	.25	1	.38
1.80	.60	1.40	1	1.60	.80
1.60	1.20	1.40	.60	1.50	.90
1.25	.75	.75	.25	1	.50
1.60	1.20	1.60	1	1.60	1.10
1.40	1	1.20	.40	1.30	.70
2.25	1.25	1.50	.75	1.88	1
1.20	.80	1	.40	1.10	.60
1.25	.75	1.50	.75	1.38	.75
2	.50	1.75	1	1.88	.75
1	.40	1	0	1	.20
1.75	.75	2.25	.75	2	.75
1	.40	1	.40	1	.40
.75	.50	.75	.25	.75	.38
1.50	1	1.25	1.25	1.38	1.14
1.75	.75	1.75	.75	1.75	.75
1.50	1.25	1.25	.50	1.38	.88
1.40	.80	1.40	.80	1.40	.80
1.50	1	2	1	1.75	1
1.50	.50	1.25	.75	1.38	.63
2	.50	1.50	1	1.75	.75
1.50	1	1.50	.67	1.50	.86
2.50	1.50	1.50	1.25	2	1.38
1.25	1	.75	0	1	.50
1.40	.20	1	.60	1.20	.40
1.40	.20	1.80	.60	1.60	.40
1.20	.20	2	0	1.60	.10
1.50	.50	1.25	.75	1.38	.63
2.50	.50	2.50	0	2.50	.25
1.75	1	1	.75	1.38	.88
1.75	1.50	1	.75	1.38	1.13
1.60	1.40	1	.20	1.30	.80
1.50	1	2	1.50	1.75	1.25
3	1.50	1.75	.25	2.38	.88
1.50	.75	1.50	.75	1.50	.75
.75	1	.25	0	.50	.50
1.40	.60	1	.80	1.20	.70
0	1	1.75	.25	.88	.63
1.75	1.50	1.25	0	1.50	.75
1.50	.50	.50	.50	1	.50
1.40	1	1.20	.40	1.30	.70

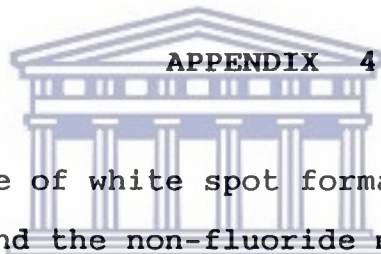
Key:

NF = Non-fissure sealant

FS = Fissure sealant

TFS = Total fissure sealant

TNFS = Total non-fissure sealant



APPENDIX 4

The incidence of white spot formation in the fluoride mouthrinse and the non-fluoride mouthrinse group.

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NUMBER OF WHITE SPOTS

f1	FS	NFS	
yes	0	0	Key:
no	1	1	f1 = fluoride
no	1	3	FS = Fissure sealant
no	2	4	NFS = Non-fissure sealant
no	2	2	
yes	0	0	
no	0	0	
yes	0	0	
yes	0	0	
yes	0	0	
yes	0	0	
no	1	2	
yes	0	0	
yes	0	0	
yes	0	0	
yes	0	0	
no	0	3	
yes	0	0	
yes	0	0	
no	0	2	
no	0	2	
yes	0	0	
yes	0	0	
no	2	2	
yes	0	0	
yes	0	0	
no	2	2	
no	3	1	
no	0	2	
yes	0	0	
no	2	2	
no	1	3	
yes	0	0	
no	0	1	
no	0	1	
no	1	2	
no	0	2	
yes	0	1	
no	0	0	
yes	0	0	
yes	0	0	
yes	0	0	
yes	0	1	
no	1	2	
no	0	2	
yes	0	0	
yes	0	0	
no	0	0	
no	1	1	
yes	0	0	
no	1	1	
no	0	1	
no	1	3	
yes	0	0	
yes	0	0	
no	0	1	
yes	0	4	
no	3	1	
no	0	3	
yes	0	0	
yes	0	0	
yes	0	0	
no	3	1	



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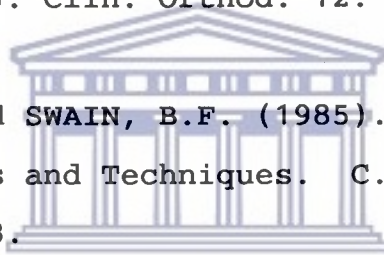
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