

Table 3. The preventive resin restoration: clinical studies

Author, year	Study design	Study period	Number subjects	Restorations	Attrition	Findings
Mertz-Fairhurst et al. 1998	I	10 yrs	123 (8-52yrs)	156 PRR ("cariostatic") 156 Amalgam	5-8%	Arrest of caries (radiographic) in PRR placed over caries. 75-84% showed some loss of sealant.
Welbury et al. 1990	I	5 yrs	126 (6-18yrs)	174 PRR 174 Amalgam	37.4%	Failures: 10% amalgam, 7.3% PRR but 50% sealant loss. Projected survival similar.
Cloyd et al. 1992	II-I	3 yrs	38 (8-35yrs)	74 PRR 52 Amalgam	7-10%	No amalgam failures. 8% caries in PRR, all due to sealant loss
Simonsen 1980	II-I	3 yrs	123 (6-8yrs)	88 Sealants 73 PRR (enam) 71 PRR (dent)	14%	No caries. 97-100% sealant retention, but deterioration required additions
Azhdari et al. 1979	II-I	18 mths	Not given	130 PRR 116 Amalgam	Not given	No differences at 1 yr. 14% PRR sealant loss
Raadal 1978	II-I	30 mths	281 (5-7yrs)	647 Sealants 249 PRR (enam)	30%	25% sealant/17% PRR failures. Loss of sealant main cause. No caries under intact sealant.
King et al. 1996	II-2	16 mths (6-39)	351	Retrospective on 532 PRR	N/A	97.7% caries free, however only 28.4% complete sealant
Walker et al. 1996	II-2	Up to 6.5 yrs	N/A (6-18yrs)	Retrospective on 5185 PRR	N/A	16.8% replacements: 13.1% sealant loss (including 6.9% caries) and 3.7% proximal caries
Roth & Conry 1992	II-2	27 mths (7-71)	64 (child)	Retrospective on 100 PRR	N/A	26% loss of sealant requiring treatment. 4% caries, always with sealant loss
Gray 1999	II-3	2 yrs	164 (av. 24yr)	164 PRR (GI) (49% second molars)	8.1%	All PRR present. Sealant loss 31-33%. More sealant loss from GI causing crevices
Kilpatrick et al. 1996	II-3	17 mths	67 (child)	80 PRR 80 PRR (GI)	17.5%	No failures. Sealant loss: 21.5% PRR (C) 40.9% PRR (GI)
Gray & Paterson 1998	II-3	2 yrs	N/A (6-16yrs)	115 PRR (enam) 163 PRR (dent)	42%	90.5% adequate. 9.1% failures, 41.5% required additional sealant
Gray & Paterson 1994	II-3	1yr	N/A (av. 11yr)	128 PRR (GI)	23%	7.1% caries. 62% GI PRR required additional sealant
Houpt et al. 1994	II-3	9 yrs	110 (6-14yrs)	322 PRR	76.2%	24% caries. 45% sealant loss. No caries with intact sealant
Stadtler 1993	II-3	5 yrs	N/A	292 PRR 242 Sealant	N/A	94.3% survival. Total (5.7%) and partial (22.8%) sealant loss
Granath et al. 1992	II-3	2 yrs	111 (5-14yrs)	87 PRR 48 Class I Comp	28%	3.4% PRR failure (caries 1.1%)