

**Table 1.** Key Arginine Plus Fluoride Clinical Studies

Author	Year	Population	Test Article(s)	Control	Endpoint	Results (improvements above and beyond fluoride controls)
<b>Caries Clinical Studies</b>						
Kraivaphan <i>et al.</i>	2013	Children	1.5% Arg (DiCal) + 1450 ppm F; 1.5% Arg (Calcium Carbonate) + 1450 ppm F	1450 ppm F	DMFT Scores @ 2 years	% Change (reduction in new cavities) = 17.7 - 21%
Li <i>et al.</i>	2015	Children	1.5% Arg (DiCal) + 1450 ppm F; 1.5% Arg (Calcium Carbonate) + 1450 ppm F	1450 ppm F	DMFT Scores @ 2 years	% Change (reduction in new cavities) = 20.5%
Petersen <i>et al.</i>	2015	Children	1.5% Arg + 1450 ppm F	1000 ppm F	DMFT Scores @ 2 years	% Change (reduction in new cavities) = 34 - 41%
<b>Early Caries Clinical Studies</b>						
Yin <i>et al.</i>	2013a	Children	1.5% Arg + 1450 ppm F	1450 ppm F; 0 ppm F	QLF measuring ΔQ values @ 6 mos	Arginine + F vs non fluoride showed 44.3% improvement in early caries
Yin <i>et al.</i>	2013b	Children	1.5% Arg + 1450 ppm F	1450 ppm F; 0 ppm F	QLF measuring ΔQ values @ 6 mos	Arginine + F vs non fluoride showed 43.2% improvement in early caries
Srisilapanan <i>et al.</i>	2013	Children	1.5% Arg + 1450 ppm F	1450 ppm F	QLF measuring ΔQ values @ 6 mos	Arginine + F showed 44.6% improvement from baseline
<b>Arginine <i>in situ</i> Studies</b>						
Cantore <i>et al.</i>	2013	Human Enamel	1.5% Arg (DiCal) + 1450 ppm F; 1.5% Arg (Calcium Carbonate) + 1450 ppm F	250 ppm F (Negative Control); 1450 ppm F (Positive Control)	Remineralization	4x greater remineralization in test groups than fluoride alone
		Bovine Enamel	1.5% Arg (DiCal) + 1450 ppm F	250 ppm F (Negative Control); 1450 ppm F (Positive Control)	Demineralization	Prevented demineralization and showed remineralization
		Bovine Enamel	1.5% Arg (CC) + 1000 ppm F	0 ppm F (Negative Control); 1000 ppm F (Positive Control)	Demineralization	4x less demineralization in test group than fluoride alone
<b>Plaque Metabolism Studies</b>						
Cantore <i>et al.</i>	2013	Adults (18-70 y.o)	1.5% Arg + 1000 ppm F	0 ppm F (Negative Control); 1000 ppm F (Positive Control)	Ammonia Production @ 2 weeks	1.8x directionally higher (statistically significant) ammonia production was observed
		Adults (18-65 y.o)	1.5% Arg + 1000 ppm F	0 ppm F (Negative Control); 1000 ppm F (Positive Control)	Lactate Production @ 2 weeks	1.2x directionally lower (but not statistically significant) lactate production was observed
Santarpia <i>et al.</i>	2014	Adults	1.5% Arg + 1450 ppm F	1450 ppm F	Lactate Production @ 12 weeks	No significant difference between test and control
					Ammonia Production @ 12 weeks	No significant difference between test and control
					pH @ 12 weeks	Resting and terminal pH of the test group was statistically significantly higher than the control group
Wolff <i>et al.</i>	2010	Adults	1.5% Arg + 1450 ppm F	1450 ppm F	Lactate Production @ 2 weeks	Groups were not statistically significant
					Ammonia Production @ 2 weeks	The difference between the test and control groups during the treatment period was statistically significant
					pH @ 2 weeks	The resting pH of the test group was statistically significantly higher than the resting pH of the control group. pH 2 weeks post treatment was not statistically significant.
<b>Microbiome Studies</b>						
Carda-Diéguez <i>et al.</i>	2022	Adults	1.5% Arg + 1450 ppm F	1450 ppm F	Metagenomic and metatranscriptomic analyses of human dental plaque	Fluoride or F + Arg-containing dentifrice had an overall positive effect on the composition and functional profile of the dental plaque microbiota. This observation was especially pronounced for the F + Arg dentifrice.