## Supplement 1: Fixed intercept models for reduction in PD and CAL

<table>
<thead>
<tr>
<th>Patient-level</th>
<th>3-month Estimate (SE)</th>
<th>6-month Estimate (SE)</th>
<th>12-month Estimate (SE)</th>
<th>3-month Estimate (SE)</th>
<th>6-month Estimate (SE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-0.02 (0.01)</td>
<td>0.141</td>
<td>-0.02 (0.01)</td>
<td>0.222</td>
<td>-0.02 (0.02)</td>
</tr>
<tr>
<td>Gender (female versus male)</td>
<td>0.22 (0.29)</td>
<td>0.691</td>
<td>0.22 (0.29)</td>
<td>0.438</td>
<td>0.11 (0.33)</td>
</tr>
<tr>
<td>Non Smoker (versus smoker)</td>
<td>0.41 (0.24)</td>
<td>0.299</td>
<td>0.41 (0.24)</td>
<td>0.087</td>
<td>0.36 (0.27)</td>
</tr>
<tr>
<td>No Diabetes (versus diabetes)</td>
<td>-0.02 (0.51)</td>
<td>0.844</td>
<td>-0.2 (0.51)</td>
<td>0.704</td>
<td>-0.50 (0.58)</td>
</tr>
<tr>
<td>No Hypertension (versus hypertension)</td>
<td>0.25 (0.23)</td>
<td>0.051</td>
<td>0.25 (0.23)</td>
<td>0.268</td>
<td>0.40 (0.25)</td>
</tr>
<tr>
<td>BMI</td>
<td>0.05 (0.04)</td>
<td>0.081</td>
<td>0.05 (0.04)</td>
<td>0.183</td>
<td>0.06 (0.04)</td>
</tr>
<tr>
<td>Education background</td>
<td>0.52 (0.35)</td>
<td>0.273</td>
<td>0.52 (0.35)</td>
<td>0.141</td>
<td>0.26 (0.39)</td>
</tr>
<tr>
<td>Number of missing teeth</td>
<td>-0.06 (0.03)</td>
<td>0.683</td>
<td>-0.06 (0.03)</td>
<td>0.050**</td>
<td>-0.04 (0.03)</td>
</tr>
<tr>
<td>% of sites with PD ≥ 5 mm at baseline</td>
<td>-0.00 (0.02)</td>
<td>0.301</td>
<td>-0.00 (0.02)</td>
<td>0.917</td>
<td>-0.00 (0.02)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tooth-level</th>
<th>Molars (reference)</th>
<th>Anteriors</th>
<th>Premolars</th>
<th>Degree III (reference)</th>
<th>Degree 0</th>
<th>Degree I</th>
<th>Degree II</th>
<th>Fl</th>
<th>Site-level</th>
<th>Surface (Interproximal vs. Center)</th>
<th>Surface (B vs. L)</th>
<th>Plaque</th>
<th>BOP</th>
<th>Baseline PD</th>
<th>Baseline CAL</th>
<th>Variance</th>
<th>Patient</th>
<th>Tooth</th>
<th>Site</th>
<th>Total variance % change in variance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.36 (0.08)</td>
<td>0.002**</td>
<td>0.36 (0.08)</td>
<td>&lt;0.001***</td>
<td>0.33 (0.08)</td>
<td>&lt;0.001***</td>
<td>0.22 (0.09)</td>
<td>0.014*</td>
<td>0.33 (0.08)</td>
<td>&lt;0.001***</td>
<td>0.29 (0.09)</td>
<td>0.001**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.002 (0.08)</td>
<td>0.24 (0.11)</td>
<td>0.24 (0.08)</td>
<td>0.005**</td>
<td>0.26 (0.09)</td>
<td>0.004**</td>
<td>0.17 (0.1)</td>
<td>0.069</td>
<td>0.23 (0.09)</td>
<td>0.009**</td>
<td>0.25 (0.09)</td>
<td>0.009**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree 0</td>
<td>0.89 (0.31)</td>
<td>0.001**</td>
<td>0.89 (0.31)</td>
<td>0.004**</td>
<td>0.60 (0.34)</td>
<td>0.075</td>
<td>1.14 (0.36)</td>
<td>0.001**</td>
<td>0.92 (0.32)</td>
<td>0.004**</td>
<td>0.60 (0.35)</td>
<td>0.084</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree I</td>
<td>0.83 (0.31)</td>
<td>0.006**</td>
<td>0.83 (0.31)</td>
<td>0.008**</td>
<td>0.39 (0.33)</td>
<td>0.244</td>
<td>0.91 (0.36)</td>
<td>0.011*</td>
<td>0.79 (0.32)</td>
<td>0.014*</td>
<td>0.34 (0.35)</td>
<td>0.333</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree II</td>
<td>0.65 (0.31)</td>
<td>0.018*</td>
<td>0.65 (0.31)</td>
<td>0.036*</td>
<td>0.32 (0.34)</td>
<td>0.344</td>
<td>0.82 (0.36)</td>
<td>0.023*</td>
<td>0.65 (0.32)</td>
<td>0.044*</td>
<td>0.30 (0.35)</td>
<td>0.396</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fl</td>
<td>0.20 (0.11)</td>
<td>0.178</td>
<td>0.20 (0.11)</td>
<td>0.080</td>
<td>0.11 (0.13)</td>
<td>0.400</td>
<td>0.14 (0.13)</td>
<td>0.281</td>
<td>0.18 (0.12)</td>
<td>0.144</td>
<td>0.08 (0.13)</td>
<td>0.572</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface</td>
<td>0.44 (0.07)</td>
<td>&lt;0.001***</td>
<td>0.44 (0.07)</td>
<td>&lt;0.001***</td>
<td>0.46 (0.07)</td>
<td>&lt;0.001***</td>
<td>0.28 (0.08)</td>
<td>&lt;0.001***</td>
<td>0.41 (0.07)</td>
<td>&lt;0.001***</td>
<td>-0.43 (0.07)</td>
<td>&lt;0.001***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B vs. L</td>
<td>0.16 (0.05)</td>
<td>0.075</td>
<td>0.16 (0.05)</td>
<td>0.001**</td>
<td>0.17 (0.05)</td>
<td>&lt;0.001***</td>
<td>0.07 (0.05)</td>
<td>0.171</td>
<td>0.15 (0.05)</td>
<td>0.002**</td>
<td>0.15 (0.05)</td>
<td>0.002**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plaque</td>
<td>-0.00 (0.01)</td>
<td>0.856</td>
<td>-0.00 (0.01)</td>
<td>0.691</td>
<td>-0.00 (0.01)</td>
<td>0.789</td>
<td>-0.00 (0.01)</td>
<td>0.950</td>
<td>-0.00 (0.01)</td>
<td>0.838</td>
<td>-0.00 (0.01)</td>
<td>0.886</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOP</td>
<td>-0.01 (0.01)</td>
<td>0.893</td>
<td>-0.01 (0.01)</td>
<td>0.383</td>
<td>-0.02 (0.02)</td>
<td>0.320</td>
<td>-0.00 (0.01)</td>
<td>0.689</td>
<td>-0.01 (0.01)</td>
<td>0.614</td>
<td>-0.01 (0.01)</td>
<td>0.438</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline PD</td>
<td>0.78 (0.03)</td>
<td>&lt;0.001***</td>
<td>0.78 (0.03)</td>
<td>&lt;0.001***</td>
<td>0.83 (0.03)</td>
<td>&lt;0.001***</td>
<td>0.56 (0.04)</td>
<td>&lt;0.001***</td>
<td>0.70 (0.03)</td>
<td>&lt;0.001***</td>
<td>0.76 (0.03)</td>
<td>&lt;0.001***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline CAL</td>
<td>-0.04 (0.02)</td>
<td>0.138</td>
<td>-0.04 (0.02)</td>
<td>0.039**</td>
<td>-0.06 (0.02)</td>
<td>0.014*</td>
<td>0.03 (0.02)</td>
<td>0.221</td>
<td>0.02 (0.02)</td>
<td>0.342</td>
<td>-0.00 (0.02)</td>
<td>0.859</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance</td>
<td>Patient</td>
<td>0.57 (0.18)</td>
<td>0.002**</td>
<td>0.50 (0.15)</td>
<td>0.001**</td>
<td>0.65 (0.21)</td>
<td>0.002**</td>
<td>0.33 (0.11)</td>
<td>0.002**</td>
<td>0.28 (0.08)</td>
<td>0.46 (0.15)</td>
<td>0.003**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tooth</td>
<td>0.20 (0.03)</td>
<td>&lt;0.001***</td>
<td>0.15 (0.03)</td>
<td>&lt;0.001***</td>
<td>0.23 (0.03)</td>
<td>&lt;0.001***</td>
<td>0.20 (0.03)</td>
<td>&lt;0.001***</td>
<td>0.20 (0.03)</td>
<td>&lt;0.001***</td>
<td>0.29 (0.04)</td>
<td>&lt;0.001***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site</td>
<td>0.85 (0.04)</td>
<td>&lt;0.001***</td>
<td>0.69 (0.03)</td>
<td>&lt;0.001***</td>
<td>0.68 (0.03)</td>
<td>&lt;0.001***</td>
<td>0.67 (0.03)</td>
<td>&lt;0.001***</td>
<td>0.68 (0.03)</td>
<td>&lt;0.001***</td>
<td>0.67 (0.03)</td>
<td>&lt;0.001***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Total variance % change in variance

| Patient | -22.6% | -4.8% | 28.5% | 1.9% | -36.1% | 10.3% |
| Tooth   | -9.1%  | -46.3% | -30.5% | -12.7% | -27.5% | 15.0% |
| Site    | -30.3% | -42.3% | -45.9% | -44.3% | -42.0% | -45.4% |