Supplementary material

Supplementary Table 1. Maximum Von-Mises stress values of periodontal ligament in different groups and load angle of primary molars restored with stainless steel crowns.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Group | Angle | 3 yr | 6 yr | 8 yr |
| Male | Female | Male | Female | Male | Female |
| #54 | #55 | #84 | #85 | #54 | #55 | #84 | #85 | #54 | #55 | #84 | #85 | #54 | #55 | #84 | #85 | #54 | #55 | #84 | #85 | #54 | #55 | #84 | #85 |
| A |
|  | 0° | 2.9112 | 0.0855 | 0.0128 | 0.0789 | 4.7686 | 4.7878 | 0.0226 | 0.0699 | 4.6343 | 2.6606 | 0.0007 | 0.0048 | 4.5231 | 1.6422 | 0.0081 | 0.0338 | 4.3725 | 0.1118 | 0.0602 | 0.0332 | 0.9615 | 2.6193 | 0.0053 | 0.0053 |
| 45° | 1.6700 | 0.0601 | 0.0083 | 0.0265 | 3.8646 | 4.8243 | 0.0166 | 0.0558 | 3.2991 | 2.0746 | 0.0009 | 0.0038 | 2.5978 | 1.4328 | 0.0063 | 0.0142 | 3.8520 | 0.1300 | 0.0562 | 0.0165 | 0.6817 | 1.2531 | 0.0030 | 0.0032 |
| 90° | 0.7421 | 0.0427 | 0.0095 | 0.0604 | 1.4503 | 2.7923 | 0.0024 | 0.0247 | 1.1065 | 0.9413 | 0.0006 | 0.0025 | 2.5242 | 0.3605 | 0.0022 | 0.0081 | 1.5966 | 0.0729 | 0.0193 | 0.0161 | 0.2864 | 1.3180 | 0.0029 | 0.0014 |
| B1 |
|  | 0° | 3.1195 | 0.1908 | 0.0197 | 0.1172 | 8.8190 | 7.4015 | 0.0355 | 0.0881 | 4.9665 | 3.0696 | 0.0014 | 0.0053 | 5.0843 | 1.6691 | 0.2662 | 0.0397 | 5.1169 | 0.2813 | 0.0621 | 0.0398 | 1.1440 | 3.0692 | 0.0062 | 0.0567 |
| 45° | 1.8403 | 0.1853 | 0.0166 | 0.0625 | 6.9685 | 7.9731 | 0.0262 | 0.0679 | 4.7199 | 2.1867 | 0.0018 | 0.0071 | 4.4684 | 1.4508 | 0.0084 | 0.0237 | 4.9147 | 0.3036 | 0.0571 | 0.0227 | 0.7921 | 2.9855 | 0.0037 | 0.0368 |
| 90° | 1.0085 | 0.0809 | 0.0196 | 0.1212 | 2.8100 | 4.5370 | 0.0044 | 0.0340 | 2.2056 | 1.0420 | 0.0012 | 0.0054 | 1.6700 | 0.4135 | 0.0080 | 0.0095 | 2.4768 | 0.1481 | 0.0198 | 0.0211 | 0.3865 | 1.6386 | 0.0032 | 0.0084 |
| B2 |
|  | 0° | 3.1499 | 0.0821 | 0.0160 | 0.0605 | 8.9604 | 4.6011 | 0.0351 | 0.0498 | 5.1572 | 3.9243 | 0.0011 | 0.0028 | 7.4116 | 0.3713 | 0.0237 | 0.0286 | 5.2855 | 0.1085 | 0.3118 | 0.0510 | 1.0821 | 2.8285 | 0.0056 | 0.0069 |
| 45° | 1.8204 | 0.0595 | 0.0160 | 0.0214 | 7.0892 | 4.8941 | 0.0255 | 0.0380 | 4.8977 | 2.1548 | 0.0014 | 0.0038 | 5.7498 | 0.2448 | 0.0190 | 0.0209 | 5.1066 | 0.1257 | 0.2431 | 0.0257 | 0.9160 | 2.5775 | 0.0025 | 0.0057 |
| 90° | 1.1297 | 0.0409 | 0.0187 | 0.0456 | 2.8356 | 2.7297 | 0.0044 | 0.0171 | 2.7429 | 0.7322 | 0.0009 | 0.0025 | 2.3489 | 0.1286 | 0.0083 | 0.0051 | 2.5909 | 0.0701 | 0.0183 | 0.0356 | 0.4652 | 0.9787 | 0.0017 | 0.0012 |
| B3 |
|  | 0° | 1.7112 | 0.1972 | 0.0111 | 0.1168 | 4.8942 | 7.6543 | 0.0181 | 0.0860 | 4.4754 | 2.6926 | 0.0007 | 0.0048 | 3.5535 | 1.7094 | 0.0065 | 0.0338 | 4.2055 | 0.2910 | 0.1851 | 0.0332 | 1.0071 | 1.6770 | 0.0028 | 0.0595 |
| 45° | 0.9989 | 0.1922 | 0.0068 | 0.0616 | 3.9730 | 7.9461 | 0.0133 | 0.0682 | 3.0555 | 2.2795 | 0.0009 | 0.0071 | 3.0842 | 1.4701 | 0.0053 | 0.0260 | 3.7282 | 0.3145 | 0.1406 | 0.0165 | 0.7374 | 1.5704 | 0.0024 | 0.0387 |
| 90° | 0.5732 | 0.0841 | 0.0079 | 0.1209 | 1.5242 | 4.5559 | 0.0021 | 0.0341 | 0.9262 | 1.0811 | 0.0006 | 0.0053 | 1.0857 | 0.3729 | 0.0018 | 0.0081 | 1.5208 | 0.1540 | 0.0111 | 0.0161 | 0.2753 | 0.9537 | 0.0016 | 0.0120 |
| C1 |
|  | 0° | 3.8894 | 0.2420 | 0.0274 | 0.1538 | 9.0925 | 7.6032 | 0.0397 | 0.0995 | 5.0240 | 3.4547 | 0.0020 | 0.0279 | 7.9693 | 5.4588 | 0.0280 | 0.0885 | 6.8864 | 0.3163 | 0.2040 | 0.0552 | 1.2430 | 3.4987 | 0.0087 | 0.0674 |
| 45° | 2.6905 | 0.2425 | 0.0200 | 0.7421 | 7.2602 | 8.2367 | 0.0303 | 0.0731 | 5.0153 | 2.2467 | 0.0026 | 0.0074 | 7.7552 | 4.5711 | 0.0211 | 0.0261 | 5.9727 | 0.3353 | 0.1571 | 0.0346 | 0.9820 | 3.0394 | 0.0041 | 0.0409 |
| 90° | 1.1067 | 0.1115 | 0.0223 | 0.1591 | 2.8388 | 4.6985 | 0.0059 | 0.0340 | 2.5313 | 1.3820 | 0.0017 | 0.0053 | 3.2110 | 1.2343 | 0.0084 | 0.0142 | 3.0468 | 0.1580 | 0.0251 | 0.0421 | 0.4671 | 1.0015 | 0.0036 | 0.0153 |
| C2 |
|  | 0° | 3.5824 | 0.0859 | 0.0235 | 0.0787 | 9.3386 | 4.7619 | 0.0360 | 0.0503 | 5.2415 | 3.9409 | 0.0020 | 0.0028 | 8.3126 | 0.3748 | 0.0242 | 0.0286 | 7.1125 | 0.1176 | 0.0424 | 0.0729 | 1.3660 | 4.4193 | 0.0065 | 0.0494 |
| 45° | 2.6689 | 0.0598 | 0.0190 | 0.0278 | 7.3706 | 5.1414 | 0.0276 | 0.0386 | 5.1921 | 2.2958 | 0.0025 | 0.0038 | 8.0858 | 0.2712 | 0.0195 | 0.0210 | 6.1874 | 0.1319 | 0.0426 | 0.0379 | 0.9962 | 2.7909 | 0.0060 | 0.0297 |
| 90° | 1.1953 | 0.0346 | 0.0215 | 0.0604 | 2.8846 | 2.7438 | 0.0060 | 0.0173 | 2.8066 | 0.9139 | 0.0016 | 0.0026 | 3.3442 | 0.1347 | 0.0084 | 0.0052 | 3.1695 | 0.0712 | 0.0191 | 0.3618 | 0.4834 | 0.9399 | 0.0028 | 0.0089 |
| C3 |
|  | 0° | 3.7508 | 0.2472 | 0.0111 | 0.1171 | 5.2627 | 7.6850 | 0.0183 | 0.0995 | 4.6413 | 3.0757 | 0.0007 | 0.0049 | 3.9058 | 1.7982 | 0.0080 | 0.0591 | 4.5996 | 0.3254 | 0.0371 | 0.0397 | 1.2232 | 2.5540 | 0.0061 | 0.1074 |
| 45° | 2.5971 | 0.2539 | 0.0068 | 0.0624 | 4.2561 | 8.2629 | 0.0134 | 0.0731 | 3.1702 | 2.3209 | 0.0009 | 0.0071 | 3.3784 | 1.5632 | 0.0063 | 0.0427 | 4.3128 | 0.3460 | 0.0338 | 0.0349 | 1.1190 | 2.2507 | 0.0045 | 0.0597 |
| 90° | 0.7163 | 0.1175 | 0.0080 | 0.1211 | 1.5494 | 4.7201 | 0.0026 | 0.0341 | 1.0423 | 1.4335 | 0.0006 | 0.0053 | 1.1051 | 0.4162 | 0.0018 | 0.0142 | 1.7040 | 0.1642 | 0.0115 | 0.0207 | 0.2965 | 0.9906 | 0.0021 | 0.0306 |
| D1 |
|  | 0° | 6.5534 | 0.3034 | 0.0284 | 0.1542 | 22.9410 | 12.3630 | 0.0399 | 0.1094 | 5.0949 | 3.8432 | 0.0155 | 0.0368 | 16.1310 | 15.6520 | 0.0306 | 0.0913 | 10.4670 | 0.3184 | 0.3016 | 0.0715 | 1.8560 | 5.0672 | 0.0103 | 0.1094 |
| 45° | 5.9490 | 0.2926 | 0.0202 | 0.0751 | 22.3940 | 13.7620 | 0.0304 | 0.0864 | 5.0213 | 2.2526 | 0.0091 | 0.0217 | 12.5120 | 13.0100 | 0.0234 | 0.0692 | 8.6181 | 0.3372 | 0.2390 | 0.0603 | 1.1663 | 4.7646 | 0.0089 | 0.0652 |
| 90° | 1.9315 | 0.1208 | 0.0227 | 0.1596 | 8.9709 | 7.6556 | 0.0064 | 0.0359 | 2.6961 | 1.6362 | 0.0027 | 0.0082 | 4.0613 | 3.1428 | 0.0085 | 0.0161 | 4.8917 | 0.1586 | 0.0399 | 0.0545 | 0.7427 | 1.8625 | 0.0042 | 0.0212 |
| D2 |
|  | 0° | 6.7175 | 0.0940 | 0.0238 | 0.0788 | 10.7280 | 4.7831 | 0.0392 | 0.0505 | 5.3285 | 4.1910 | 0.0149 | 0.0229 | 16.7800 | 5.2845 | 0.0255 | 0.0303 | 10.8050 | 0.1176 | 0.0459 | 0.0731 | 1.4726 | 6.0185 | 0.0075 | 0.0835 |
| 45° | 6.1012 | 0.0611 | 0.0190 | 0.0278 | 8.4697 | 5.1741 | 0.0301 | 0.0397 | 5.2024 | 2.3373 | 0.0087 | 0.0127 | 13.0060 | 4.4219 | 0.0195 | 0.0223 | 8.8860 | 0.1336 | 0.0456 | 0.0384 | 1.0719 | 3.6456 | 0.0048 | 0.0484 |
| 90° | 1.9855 | 0.0361 | 0.0216 | 0.0605 | 3.2283 | 2.8240 | 0.0064 | 0.0176 | 2.2951 | 0.9403 | 0.0026 | 0.0051 | 4.2301 | 1.1974 | 0.0085 | 0.0067 | 5.0403 | 0.0722 | 0.0344 | 0.0418 | 0.8576 | 1.2177 | 0.0030 | 0.0162 |
| D3 |
|  | 0° | 3.9808 | 0.3360 | 0.0113 | 0.1172 | 5.6728 | 7.8116 | 0.0194 | 0.1042 | 4.7886 | 3.5081 | 0.0062 | 0.0367 | 4.8766 | 16.1440 | 0.0091 | 0.0912 | 4.6012 | 0.3271 | 0.0408 | 0.0746 | 1.8332 | 4.5546 | 0.0109 | 0.1182 |
| 45° | 2.7706 | 0.3199 | 0.0071 | 0.0624 | 4.6388 | 8.4590 | 0.0140 | 0.0823 | 3.2087 | 2.3528 | 0.0037 | 0.0216 | 4.2778 | 13.4310 | 0.0071 | 0.0725 | 4.4635 | 0.3474 | 0.0367 | 0.0456 | 1.3416 | 4.3149 | 0.0046 | 0.0708 |
| 90° | 0.7254 | 0.1316 | 0.0080 | 0.1213 | 1.8165 | 4.8199 | 0.0027 | 0.0357 | 1.0496 | 1.7125 | 0.0011 | 0.0082 | 1.6005 | 3.2524 | 0.0022 | 0.0160 | 1.9033 | 0.1644 | 0.0183 | 0.0488 | 0.3004 | 1.0260 | 0.0045 | 0.0220 |

Note: #54 right maxillary first deciduous molar; #55 right maxillary second deciduous molar; #84 right mandibular first deciduous molar; #85 right mandibular second deciduous molars.