**Appendix Table 3**. Statistical difference (p value) for each strain variable and associated angle

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Maximum principal strains | | | Minimum principal strains | | |
| Flexion (°) | Anteromedial | Anterolateral | Posterior | Anteromedial | Anterolateral | Posterior |
| 41 | 0.939 | 0.994 | 0.984 | 0.990 | 0.987 | 0.983 |
| 42 | 0.867 | 0.984 | 0.971 | 0.985 | 0.972 | 0.969 |
| 43 | 0.789 | 0.973 | 0.968 | 0.967 | 0.952 | 0.956 |
| 44 | 0.714 | 0.958 | 0.966 | 0.952 | 0.930 | 0.942 |
| 45 | 0.645 | 0.947 | 0.968 | 0.940 | 0.910 | 0.926 |
| 46 | 0.587 | 0.938 | 0.954 | 0.937 | 0.887 | 0.913 |
| 47 | 0.542 | 0.934 | 0.948 | 0.931 | 0.863 | 0.903 |
| 48 | 0.492 | 0.924 | 0.948 | 0.917 | 0.839 | 0.896 |
| 49 | 0.430 | 0.912 | 0.941 | 0.915 | 0.821 | 0.897 |
| 50 | 0.387 | 0.907 | 0.938 | 0.900 | 0.802 | 0.897 |
| 51 | 0.348 | 0.897 | 0.943 | 0.883 | 0.778 | 0.897 |
| 52 | 0.315 | 0.892 | 0.948 | 0.866 | 0.754 | 0.896 |
| 53 | 0.292 | 0.889 | 0.956 | 0.842 | 0.734 | 0.898 |
| 54 | 0.273 | 0.889 | 0.971 | 0.821 | 0.718 | 0.899 |
| 55 | 0.274 | 0.901 | 0.991 | 0.791 | 0.710 | 0.894 |
| 56 | 0.277 | 0.904 | 0.998 | 0.763 | 0.697 | 0.890 |
| 57 | 0.280 | 0.909 | 0.989 | 0.746 | 0.687 | 0.884 |
| 58 | 0.290 | 0.910 | 0.984 | 0.733 | 0.672 | 0.879 |
| 59 | 0.297 | 0.902 | 0.994 | 0.732 | 0.648 | 0.878 |
| 60 | 0.302 | 0.880 | 0.964 | 0.762 | 0.605 | 0.883 |
| 61 | 0.316 | 0.877 | 0.942 | 0.770 | 0.575 | 0.887 |
| 62 | 0.335 | 0.889 | 0.949 | 0.751 | 0.557 | 0.877 |
| 63 | 0.355 | 0.908 | 0.968 | 0.724 | 0.549 | 0.862 |
| 64 | 0.368 | 0.920 | 0.979 | 0.705 | 0.536 | 0.852 |
| 65 | 0.387 | 0.926 | 0.981 | 0.691 | 0.518 | 0.838 |
| 66 | 0.409 | 0.932 | 0.987 | 0.673 | 0.500 | 0.823 |
| 67 | 0.432 | 0.933 | 0.990 | 0.655 | 0.480 | 0.812 |
| 68 | 0.440 | 0.922 | 0.984 | 0.644 | 0.455 | 0.798 |
| 69 | 0.447 | 0.908 | 0.978 | 0.635 | 0.431 | 0.783 |
| 70 | 0.449 | 0.883 | 0.958 | 0.629 | 0.406 | 0.777 |
| 71 | 0.435 | 0.845 | 0.931 | 0.617 | 0.378 | 0.778 |
| 72 | 0.416 | 0.796 | 0.894 | 0.605 | 0.352 | 0.786 |
| 73 | 0.390 | 0.745 | 0.866 | 0.590 | 0.327 | 0.789 |
| 74 | 0.384 | 0.713 | 0.852 | 0.579 | 0.306 | 0.780 |
| 75 | 0.379 | 0.680 | 0.838 | 0.568 | 0.284 | 0.778 |
| 76 | 0.370 | 0.645 | 0.816 | 0.559 | 0.261 | 0.779 |
| 77 | 0.361 | 0.601 | 0.775 | 0.558 | 0.239 | 0.776 |
| 78 | 0.344 | 0.552 | 0.736 | 0.556 | 0.219 | 0.766 |
| 79 | 0.323 | 0.496 | 0.696 | 0.550 | 0.199 | 0.762 |
| 80 | 0.303 | 0.445 | 0.655 | 0.542 | 0.182 | 0.757 |
| 81 | 0.284 | 0.403 | 0.612 | 0.539 | 0.167 | 0.753 |
| 82 | 0.265 | 0.365 | 0.562 | 0.540 | 0.154 | 0.741 |
| 83 | 0.246 | 0.328 | 0.509 | 0.542 | 0.142 | 0.725 |
| 84 | 0.218 | 0.288 | 0.454 | 0.548 | 0.131 | 0.714 |
| 85 | 0.187 | 0.243 | 0.392 | 0.556 | 0.119 | 0.705 |
| 86 | 0.162 | 0.205 | 0.332 | 0.565 | 0.109 | 0.693 |
| 87 | 0.143 | 0.173 | 0.271 | 0.584 | 0.100 | 0.677 |
| 88 | 0.129 | 0.148 | 0.215 | 0.607 | 0.094 | 0.653 |
| 89 | 0.113 | 0.124 | 0.165 | 0.635 | 0.088 | 0.633 |
| 90 | 0.095 | 0.103 | 0.118 | 0.671 | 0.080 | 0.619 |
| 91 | 0.078 | 0.083 | 0.082 | 0.710 | 0.074 | 0.606 |
| 92 | 0.068 | 0.069 | 0.052 | 0.751 | 0.068 | 0.593 |
| 93 | 0.058 | 0.057 | 0.032 | 0.792 | 0.064 | 0.578 |
| 94 | 0.054 | 0.049 | 0.018 | 0.831 | 0.060 | 0.559 |
| 95 | 0.048 | 0.041 | 0.010 | 0.866 | 0.057 | 0.546 |
| 96 | 0.046 | 0.036 | 0.006 | 0.889 | 0.053 | 0.533 |
| 97 | 0.043 | 0.031 | 0.003 | 0.920 | 0.049 | 0.523 |
| 98 | 0.039 | 0.026 | 0.002 | 0.961 | 0.045 | 0.516 |
| 99 | 0.040 | 0.024 | < 0.001 | 0.994 | 0.043 | 0.510 |

Statistical analyses were performed with a linear mixed-model method.

p < 0.05.

The statistical analyses between the implants were performed using difference of pre-UKA and post-UKA conditions: Post(UKAMB) – PreRight (Native) and Post(UKAFB) – PreLeft (Native).

The p-values in red represent statistically significant differences.