**Supplementary Table 1:** Characteristics of surface horizontal translation

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| **Displacement** (cm) | **Displacement Time** (sec) | **velocity** (cm/sec) | **Acceleration** (cm/sec2) |
| **1** | 0.30 | 6 | 25 |
| **2** | 0.40 | 7 | 60 |
| **3** | 0.45 | 11 | 80 |
| **4** | 0.50 | 14 | 85 |
| **5** | 0.55 | 15 | 90 |
| **6** | 0.60 | 17 | 94 |
| **7** | 0.65 | 19 | 98 |
| **8** | 0.68 | 21 | 102 |
| **9** | 0.70 | 22 | 107 |
| **10** | 0.73 | 23 | 111 |
| **11** | 0.75 | 25 | 117 |
| **12** | 0.78 | 26 | 123  |
| **13** | 0.80 | 28 | 128 |

The basic protocol on which all analyses were carried out included 13 perturbation magnitudes ranging from 1 to 13 for a total of 26 random right and left perturbation trials. At any point, they were able to take a rest break or stop the experiment.

cm = centimeters; sec = seconds; sec/cm= centimeters per second; sec/cm2 = centimeters per second squared.