**Appendix 1. Identified balance recovery strategies for each perturbation trial. The overall initial and recovery strategies are also tabulated. Abbreviations: an – ankle, kn – knee, hi – hip, sp – step, fi – fighting stance, sq – squat, su – surfer, n.a. – not applicable.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Volunteers** | ***Lowest braking*** | | ***Baseline*** | | ***Highest Jerk*** | | ***Highest Acceleration*** | | ***Highest Braking*** | | **Initial** | **Recovery** |
| **F** | **R** | **F** | **R** | **F** | **R** | **F** | **R** | **F** | **R** | **Strategy** | **Strategy** |
| 1 (M) | An|n.a. | Kn-An | Fi | Kn-An|Fi | An|Sp\* | Kn-An|Sp | An|Sp\* | Kn-An|Sp\* | An|Sp\* | Kn-An|Fi | An-Hi|Sp\* | An-Kn | Step |
| 2 (M) | An-Hi|n.a. | An|Sp\* | An|Sp\* | An|Sp\* | An|Sp\* | An|Sp\* | An|Sp\* | An|Sp\* | n.a. | n.a. | Ankle | Step |
| 3 (M) | An|n.a. | An|Sp | An-Kn|Sp | An|Sp\* | An-Kn |Sp | An|Fi | An-Kn |Sp\* | An|Sp\* | n.a. | n.a. | Ankle | Step |
| 4 (F) | An|Sp | An|Sp | An|Sp | An|Sp | An-Hi|Fi | An|Fi | An-Kn|Sp\* | An|Sp\* | An-Kn|Sp | An|Sp\* | Ankle | Step |
| 5 (F) | An|Sp | An|Sp\* | An|Sp\* | An|Sp\* | An|Sp\* | An|Sp\* | An|Sp\* | An|Sp\* | An|Sp\* | An|Sp\* | Ankle | Step |
| 6 (F) | An|Kn | Kn-An|Sp | An-Kn|Sp | An|Sp | An-Kn|Fi | An|Sp | An-Kn|Sp\* | An|Sp\* | An-Kn|Sp | An|Sp | An-Kn | Step |
| 7 (M) | An|Sp | An|Fi | An|Fi | An|Fi | An|Fi | An|Fi | An|Sp\* | An|Fi\* | An|Fi | An|Fi | Ankle | Fight |
| 8 (F) | An|n.a. | An|Sp | An|Fi | An|Sp | An|Fi | An|Sp | An|Sp\* | An|Sp\* | An|Fi | An|Sp\* | Ankle | Step |
| 9 (F) | Kn-An|n.a. | An|Sp | An|Fi | An|Fi | Hi-An|Fi | An|Fi | Kn-An|Sp\* | An-Kn|Fi\* | An|Fi | An|Fi | Ankle | Fight |
| 10 (F) | An|Sp | An|Sp\* | An|Sp\* | An|Sp\* | An|Sp\* | n.a. | An|Sp\* | n.a. | n.a. | n.a. | Ankle | Step |
| 11 (M) | Kn|Kn | An|Fi | An-Hi|Fi | An|Fi | An-Hi|Fi | An|Fi | An-Kn|Sp | An|Fi\* | An-Kn|Fi | An|Sp\* | Ankle | Fight |
| 12 (M) | An-Kn|Fi | An|Fi | An-Kn|Fi | An|Fi | An-Kn|Fi | An|Fi | An-Kn|Fi | Kn-An|Fi\* | An-Kn|Fi | Kn-An|Fi | An-kn | Fight |
| 13 (F) | An-Hi(?)|Sp | Hi-An|Sp | An|Sp | An|Sp | An|Sp | An|Sp | An|Sp\* | An|Sp\* | An|Sp | Hi|Fi | Ankle | Step |
| 14 (F) | An-Sp | An-Hi|Sp | An|Sp\* | An|Sp\* | An|Sp\* | An|Sp\* | An|Sp\* | An|Sp\* | n.a. | n.a. | Ankle | Step |
| 15 (F) | Kn-Kn | Hi-An-Kn|Sp | An|Fi | Hi|Fi | An|Fi | An|Fi | An|Sp\* | An|Sp\* | n.a. | n.a. | Ankle | Fight |
| 16 (F) | An-Fi | Kn-Sp|Fi | An-Kn|Fi | An|Fi | An|Fi | An|Fi | An-Kn|Sp\* | An-Hi|Sp\* | Kn|Fi | Kn|Fi\* | Ankle | Fight |
| 17 (M) | - | An|Fi | An|Fi | An|Fi | An|Fi | An|Fi | An|Sp\* | An|Sp\* | An|Fi | An|Fi | Ankle | Fight |
| 18 (M) | Sp|Fi | Sp|Fi | An-Sp|Fi | An|Fi | An|Fi | An|Fi | An|Fi | An|Fi\* | An|Fi | An-Kn|Fi | Ankle | Fight |
| 19 (M) | Hi-An|Sp\* | Sq|Su\* | An|Su | An|Su | An|Su | An|Su | Kn-An|Su\* | An|Su\* | An|Su | -|Su\* | Ankle | Surfer |
| 20 (M) | An|Fi | An|Fi | An|Fi | An|Fi | An|Fi | An|Fi | An|Fi\* | An|Sp\* | An|Sp | An|Sp\* | Ankle | Fight |
| 21 (M) | An|Fi | An|Sp\* | An|Sp | An|Sp\* | An|Sp | An|Sp\* | An|Sp\* | An|Sp\* | An|Sp\* | An|Sp\* | Ankle | Step |
| 22 (M) | An|Sp | An|Sp\* | An|Sp\* | An|Sp\* | An-Kn|Sp\* | An|Sp\* | An|Sp\* | An|Sp\* | An-Kn|Sp\* | An|Sp\* | Ankle | Step |
| 23 (M) | An|Sp | An|Sp | An|Fi | An|Fi | An|Fi | An|Fi | An|Fi\* | An|Fi\* | An|Fi | An|Fi | Ankle | Fight |
| 24 (F) | An|Fi | An|Sp | n.a. | Hi-Kn|Sq-Sp | Hi|Sq-sp | An|Sq-sp | Hi|Sq-sp | An|Sq-sp | n.a. | n.a. | Ankle | Squat-step |

**Appendix 2. Fighting stance variations among volunteers.**



**Appendix 3. Stepping variations among volunteers.**

