

Fig. E-1
Bar graphs showing the arc heights (and standard deviation) of the radial accessory collateral ligament (blue) and the ulnar accessory collateral ligament (red) of the index finger (A), the middle finger (B), the ring finger (C), and the little finger (D) during flexion. The arc heights of the radial and ulnar accessory collateral ligaments did not change significantly during flexion.

TABLE E-1 Lengths of the Portions of the Collateral Ligaments During Flexion

| Ligament | Finger | Portion | Length* (mm) |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | $0^{\circ}$ Flexion | $80^{\circ}$ Flexion |
| Radial collateral | Index | Dorsal | $8.5 \pm 2.3$ | $13.5 \pm 1.1$ |
|  |  | Middle | $12.1 \pm 1.6$ | $14.5 \pm 1.4$ |
|  |  | Volar | $15.7 \pm 1.3$ | $16.1 \pm 1.8$ |
|  | Middle | Dorsal | $7.2 \pm 0.3$ | $10.9 \pm 0.6$ |
|  |  | Middle | $12.2 \pm 1.2$ | $13.7 \pm 1.7$ |
|  |  | Volar | $15.9 \pm 1.2$ | $15.0 \pm 1.5$ |
|  | Ring | Dorsal | $6.4 \pm 1.0$ | $9.9 \pm 0.7$ |
|  |  | Middle | $9.8 \pm 1.0$ | $12.1 \pm 0.9$ |
|  |  | Volar | $13.6 \pm 1.1$ | $13.9 \pm 0.6$ |
|  | Little | Dorsal | $5.1 \pm 0.7$ | $9.1 \pm 0.8$ |
|  |  | Middle | $8.2 \pm 1.2$ | $10.8 \pm 1.1$ |
|  |  | Volar | $11.9 \pm 1.3$ | $12.4 \pm 1.2$ |
| Ulnar collateral | Index | Dorsal | $6.5 \pm 1.4$ | $11.3 \pm 0.1$ |
|  |  | Middle | $9.6 \pm 1.6$ | $12.5 \pm 1.3$ |
|  |  | Volar | $12.4 \pm 2.2$ | $12.9 \pm 2.1$ |
|  | Middle | Dorsal | $6.6 \pm 0.5$ | $10.8 \pm 0.8$ |
|  |  | Middle | $10.2 \pm 0.3$ | $12.3 \pm 0.2$ |
|  |  | Volar | $13.7 \pm 1.3$ | $13.6 \pm 1.4$ |
|  | Ring | Dorsal | $6.8 \pm 1.1$ | $10.6 \pm 1.0$ |


|  |  | Middle | $10.5 \pm 1.3$ | $12.4 \pm 1.4$ |
| :--- | :--- | :--- | :--- | :--- |
|  |  | Volar | $13.4 \pm 1.4$ | $13.4 \pm 1.5$ |
|  | Little | Dorsal | $5.5 \pm 0.5$ | $8.6 \pm 0.8$ |
|  |  | Middle | $9.1 \pm 1.1$ | $10.6 \pm 1.7$ |
|  |  | Volar | $12.7 \pm 1.6$ | $12.4 \pm 1.5$ |

*The values are given as the mean and the standard deviation.

TABLE E-2 Lengths of the Portions of the Accessory Collateral Ligaments During Flexion

| Ligament | Finger | Portion | Length* (mm) |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | $0^{\circ}$ Flexion | $80^{\circ}$ Flexion |
| Radial accessory collateral | Index | Dorsal | $16.2 \pm 2.0$ | $15.6 \pm 3.0$ |
|  |  | Middle | $15.2 \pm 2.3$ | $14.0 \pm 2.3$ |
|  |  | Volar | $15.3 \pm 2.1$ | $11.4 \pm 2.1$ |
|  | Middle | Dorsal | $15.9 \pm 1.8$ | $15.2 \pm 2.1$ |
|  |  | Middle | $13.8 \pm 1.9$ | $12.2 \pm 2.7$ |
|  |  | Volar | $13.0 \pm 2.2$ | $10.6 \pm 2.6$ |
|  | Ring | Dorsal | $13.1 \pm 0.4$ | $13.3 \pm 0.7$ |
|  |  | Middle | $10.7 \pm 1.3$ | $10.2 \pm 1.1$ |
|  |  | Volar | $9.4 \pm 1.5$ | $8.3 \pm 1.4$ |
|  | Little | Dorsal | $10.7 \pm 0.8$ | $10.2 \pm 0.8$ |
|  |  | Middle | $9.2 \pm 0.3$ | $8.6 \pm 0.3$ |
|  |  | Volar | $8.5 \pm 0.6$ | $7.3 \pm 0.4$ |
| Ulnar accessory collateral | Index | Dorsal | $12.6 \pm 1.4$ | $11.7 \pm 1.6$ |
|  |  | Middle | $11.0 \pm 1.2$ | $9.8 \pm 1.9$ |
|  |  | Volar | $10.7 \pm 1.3$ | $8.8 \pm 1.5$ |
|  | Middle | Dorsal | $13.2 \pm 1.9$ | $13.6 \pm 1.8$ |
|  |  | Middle | $12.3 \pm 1.1$ | $11.7 \pm 1.4$ |
|  |  | Volar | $11.7 \pm 1.3$ | $10.0 \pm 1.4$ |
|  | Ring | Dorsal | $13.0 \pm 1.3$ | $12.9 \pm 1.7$ |
|  |  | Middle | $11.6 \pm 1.7$ | $10.7 \pm 1.7$ |


|  |  | Volar | $10.9 \pm 2.4$ | $8.8 \pm 1.8$ |
| :--- | :--- | :--- | :--- | :--- |
|  | Little | Dorsal | $11.9 \pm 0.9$ | $12.4 \pm 1.7$ |
|  |  | Middle | $12.1 \pm 1.0$ | $11.3 \pm 1.5$ |
|  |  | Volar | $11.9 \pm 1.6$ | $9.8 \pm 1.4$ |

*The values are given as the mean and the standard deviation.

