

SUPPLEMENTARY MATERIAL

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Table S1. Statistics (average (SD)) of all EMG characteristics for each spot, grasp and group.

P2D			Spot						
		Group	WF_UD	WF_RD	DF	TM	FE	WE_UD	WE_RD
	N/ZC	M	969.2(108.0)	784.9 (100.8)	871.4 (109.1)	759.2 (73.2)	848.7 (109.1)	900.6 (80.7)	930.4 (115.0)
		W	942.3(90.4)	745.6 (121.4)	786.4 (63.8)	758.8 (106.2)	833.3 (99.5)	895.4 (81.2)	888.4 (87.1)
		HOA	891.9(137.4)	727.4 (120.7)	776.9 (168.9)	727.3 (158.3)	808.0 (118.0)	863.5 (113.0)	827.5 (127.9)
	EWL	M	976.9(355.4)	906.5 (284.4)	883.3 (139.3)	1562.3 (381.5)	1593.7 (421.0)	1487.7 (385.8)	1308.5 (208.2)
		W	1176.5(280.3)	682.8 (224.9)	887.7 (154.2)	1236.5 (461.7)	1491.8 (421.4)	1571.1 (295.2)	1422.6 (334.0)
		HOA	760.5(280.9)	691.7 (215.8)	843.6 (256.7)	909.0 (407.5)	1206.9 (420.3)	1050.4 (421.1)	978.0 (298.5)
	EMAV	M	0.33(0.11)	0.34 (0.10)	0.32 (0.07)	0.62 (0.16)	0.58 (0.13)	0.52 (0.12)	0.46 (0.08)
		W	0.41 (0.09)	0.28 (0.11)	0.33 (0.05)	0.48 (0.16)	0.55 (0.13)	0.55 (0.09)	0.50 (0.11)
		HOA	0.27 (0.10)	0.28 (0.08)	0.33 (0.12)	0.37 (0.16)	0.45 (0.14)	0.38 (0.14)	0.36 (0.10)
MA	M	0.21 (0.11)	0.22 (0.10)	0.19 (0.07)	0.54 (0.21)	0.50 (0.17)	0.42 (0.14)	0.34 (0.09)	
	W	0.28 (0.10)	0.16 (0.10)	0.21 (0.05)	0.37 (0.19)	0.45 (0.17)	0.46 (0.11)	0.40 (0.13)	
	HOA	0.15 (0.08)	0.16 (0.07)	0.21 (0.12)	0.24 (0.15)	0.34 (0.15)	0.26 (0.14)	0.24 (0.09)	

LP			Spot						
		Group	WF_UD	WF_RD	DF	TM	FE	WE_UD	WE_RD
	NZN	M	907.8 (69.0)	733.2 (88.8)	850.9 (89.5)	855.2 (111.4)	848.8 (88.4)	864.3 (73.5)	981.6 (94.3)
		W	941.0 (75.5)	751.8 (114.5)	851.3 (116.0)	792.5 (96.1)	799.2 (81.1)	870.8 (68.8)	917.0 (100.0)
		HOA	862.1 (151.3)	727.7 (125.9)	845.6 (206.2)	708.6 (173.6)	765.8 (116.6)	850.5 (163.2)	815.0 (138.9)
	EWL	M	937.7 (270.8)	923.0 (288.8)	902.5 (304.8)	1450.5 (415.8)	1532.9 (319.5)	1181.4 (337.8)	1723.0 (412.9)
		W	1184 (523.7)	625.9 (236.0)	901.8 (458.4)	1067.1 (400.0)	1302.5 (508.7)	1317.5 (281.3)	1775.8 (580.4)
		HOA	643.8 (217.3)	646.0 (172.9)	749.3 (256.1)	841.0 (280.4)	962.3 (303.2)	850.6 (331.7)	1113.6 (393.6)
	EMAV	M	0.33 (0.09)	0.37 (0.11)	0.33 (0.12)	0.52 (0.14)	0.56 (0.11)	0.42 (0.11)	0.57 (0.12)
		W	0.40 (0.17)	0.25 (0.10)	0.33 (0.15)	0.40 (0.14)	0.49 (0.17)	0.47 (0.09)	0.61 (0.18)
		HOA	0.23 (0.07)	0.26 (0.07)	0.29 (0.14)	0.36 (0.14)	0.38 (0.12)	0.31 (0.11)	0.42 (0.15)
MA	M	0.21 (0.09)	0.25 (0.12)	0.22 (0.13)	0.42 (0.17)	0.46 (0.15)	0.30 (0.12)	0.48 (0.16)	
	W	0.29 (0.21)	0.14 (0.08)	0.22 (0.15)	0.28 (0.14)	0.39 (0.20)	0.36 (0.11)	0.55 (0.24)	
	HOA	0.12 (0.06)	0.14 (0.06)	0.17 (0.14)	0.21 (0.12)	0.24 (0.12)	0.18 (0.10)	0.30 (0.17)	

CYL			Spot						
		Group	WF_UD	WF_RD	DF	TM	FE	WE_UD	WE_RD
	NZC	M	747.7 (101.9)	612.2 (86.2)	588.9 (122.4)	651.3 (122.6)	695.0 (89.8)	888.4 (74.0)	828.2 (129.9)
		W	836.7 (118.9)	607.0 (63.8)	651.6 (147.3)	640.6 (116.5)	703.3 (95.8)	892.4 (90.7)	782.6 (91.9)
		HOA	722.6 (137.7)	601.6 (136.4)	652.3 (147.6)	670.7 (182.5)	738.8 (127.5)	797.0 (166.1)	725.5 (139.8)
	EWL	M	2120 (279.4)	1281.5 (193.4)	1793.6 (210.7)	1923.5 (306.4)	1589.3 (393.8)	1741.7 (375.2)	2031.8 (302.8)
		W	2084 (426.4)	928.0 (334.0)	1428.2 (330.7)	1363.1 (453.7)	1179.9 (257.7)	1723.2 (220.4)	1971.4 (337.4)
		HOA	1169 (364.9)	967.0 (326.2)	1246.6 (338.6)	923.7 (320.0)	1197.2 (377.9)	1235.2 (383.7)	1222.1 (385.6)
	EMAV	M	0.84 (0.13)	0.57 (0.09)	0.82 (0.10)	0.84 (0.15)	0.65 (0.17)	0.63 (0.14)	0.74 (0.07)
		W	0.77 (0.15)	0.41 (0.14)	0.62 (0.15)	0.59 (0.18)	0.48 (0.10)	0.61 (0.08)	0.75 (0.13)
		HOA	0.49 (0.16)	0.45 (0.15)	0.56 (0.15)	0.40 (0.12)	0.48 (0.14)	0.48 (0.14)	0.50 (0.14)
MA	M	0.85 (0.20)	0.47 (0.11)	0.82 (0.15)	0.85 (0.22)	0.58 (0.23)	0.55 (0.19)	0.71 (0.12)	
	W	0.76 (0.21)	0.29 (0.15)	0.54 (0.20)	0.50 (0.22)	0.37 (0.12)	0.53 (0.10)	0.73 (0.18)	
	HOA	0.38 (0.18)	0.33 (0.17)	0.46 (0.18)	0.27 (0.12)	0.37 (0.15)	0.37 (0.15)	0.39 (0.16)	

LUM			Spot						
		Group	WF_UD	WF_RD	DF	TM	FE	WE_UD	WE_RD
	NZC	M	931.9 (139.3)	713.0 (76.5)	639.6 (77.5)	715.2 (85.2)	806.7 (92.0)	913.8 (70.5)	880.8 (95.1)
		W	927.3 (92.8)	670.7 (78.2)	700.0 (114.0)	728.2 (116.5)	789.3 (54.2)	882.4 (84.3)	817.3 (82.3)
		HOA	787.7 (136.1)	656.1 (136.5)	652.8 (152.4)	675.0 (124.9)	748.0 (98.0)	799.5 (115.6)	774.6 (71.4)
	EWL	M	962.2 (305.5)	890.6 (206.0)	926.8 (147.6)	1198.9 (320.8)	1222.6 (275.1)	1202.8 (349.1)	1506.1 (393.6)
		W	1138 (386.4)	670.2 (220.4)	862.0 (322.5)	892.6 (300.5)	1123.7 (350.6)	1188.2 (242.9)	1513.3 (361.7)
		HOA	755.1 (235.0)	779.8 (281.7)	856.9 (232.4)	878.7 (344.3)	1189.4 (432.5)	957.9 (383.0)	1212.4 (353.1)
	EMAV	M	0.33 (0.08)	0.36 (0.08)	0.41 (0.07)	0.48 (0.11)	0.46 (0.10)	0.42 (0.11)	0.53 (0.12)
		W	0.40 (0.13)	0.28 (0.10)	0.35 (0.13)	0.36 (0.11)	0.43 (0.12)	0.42 (0.08)	0.56 (0.11)
		HOA	0.29 (0.08)	0.34 (0.12)	0.38 (0.12)	0.37 (0.14)	0.47 (0.16)	0.36 (0.12)	0.47 (0.13)
MA	M	0.21 (0.08)	0.23 (0.09)	0.28 (0.08)	0.37 (0.13)	0.34 (0.11)	0.30 (0.12)	0.43 (0.14)	
	W	0.28 (0.13)	0.16 (0.08)	0.24 (0.13)	0.23 (0.11)	0.31 (0.14)	0.30 (0.08)	0.46 (0.15)	
	HOA	0.17 (0.07)	0.22 (0.12)	0.25 (0.12)	0.24 (0.15)	0.35 (0.18)	0.24 (0.12)	0.35 (0.14)	

OBL			Spot						
		Group	WF_UD	WF_RD	DF	TM	FE	WE_UD	WE_RD
	NZC	M	803.7 (85.5)	640.9 (94.6)	630.0 (110.0)	628.9 (93.5)	738.3 (66.6)	914.9 (67.6)	861.2 (111.4)
		W	848.6 (101.1)	652.1 (93.8)	704.3 (175.1)	681.4 (147.5)	723.2 (94.8)	872.8 (84.2)	841.0 (97.1)
		HOA	734.6 (128.4)	621.2 (105.7)	677.9 (132.6)	687.4 (139.9)	765.3 (124.5)	775.8 (162.5)	768.4 (117.1)
	EWL	M	1779 (214.1)	1133.3 (267.4)	1601.9 (373.7)	1517.9 (205.1)	1472.9 (259.6)	1651.8 (334.9)	1808.9 (295.0)
		W	1675 (599.3)	720.9 (252.7)	1077.3 (419.1)	1052.3 (359.7)	1088.1 (402.4)	1499.1 (328.7)	1684.6 (445.7)
		HOA	1065 (349.3)	852.7 (272.6)	1119.0 (355.8)	910.7 (279.4)	1193.8 (387.1)	1187.8 (304.0)	1231.8 (328.2)
	EMAV	M	0.68 (0.07)	0.49 (0.09)	0.70 (0.12)	0.67 (0.10)	0.58 (0.11)	0.57 (0.11)	0.65 (0.07)
		W	0.61 (0.22)	0.31 (0.11)	0.45 (0.17)	0.45 (0.16)	0.43 (0.14)	0.53 (0.11)	0.62 (0.17)
		HOA	0.43 (0.15)	0.38 (0.13)	0.48 (0.16)	0.38 (0.11)	0.47 (0.14)	0.46 (0.11)	0.48 (0.13)
	MA	M	0.61 (0.10)	0.37 (0.11)	0.65 (0.18)	0.60 (0.14)	0.49 (0.14)	0.48 (0.14)	0.58 (0.09)
		W	0.56 (0.28)	0.19 (0.09)	0.34 (0.18)	0.34 (0.16)	0.32 (0.15)	0.44 (0.14)	0.56 (0.22)
		HOA	0.32 (0.17)	0.26 (0.14)	0.37 (0.19)	0.25 (0.12)	0.35 (0.15)	0.35 (0.13)	0.37 (0.15)

INTPP			Spot						
		Group	WF_UD	WF_RD	DF	TM	FE	WE_UD	WE_RD
	NZC	M	752.1 (134.1)	643.4 (110.0)	610.1 (110.1)	688.1 (107.6)	817.7 (84.6)	852.4 (88.0)	856.7 (118.0)
		W	844.8 (96.0)	634.8 (94.2)	678.4 (120.6)	664.5 (119.1)	769.2 (77.8)	873.5 (82.9)	827.4 (106.6)
		HOA	684.1 (115.9)	587.4 (97.2)	636.1 (94.6)	686.3 (125.2)	752.8 (101.0)	744.2 (153.5)	755.9 (80.8)
	EWL	M	1762 (334.2)	927.3 (203.6)	1383.9 (443.4)	1495.8 (237.4)	1527.6 (269.3)	1411.4 (288.6)	1622.3 (231.1)
		W	1743 (333.6)	671.0 (228.3)	1148.7 (261.4)	1040.1 (388.4)	1076.8 (309.8)	1377.4 (390.4)	1683.7 (519.1)
		HOA	1396 (424.0)	955.1 (350.0)	1177.5 (319.5)	964.3 (419.1)	1344.7 (420.1)	1261.1 (386.5)	1183.6 (308.5)
	EMAV	M	0.70 (0.19)	0.40 (0.09)	0.61 (0.19)	0.63 (0.13)	0.57 (0.08)	0.52 (0.11)	0.59 (0.10)
		W	0.65 (0.15)	0.29 (0.09)	0.49 (0.14)	0.44 (0.14)	0.41 (0.10)	0.49 (0.12)	0.62 (0.18)
		HOA	0.58 (0.15)	0.44 (0.15)	0.51 (0.14)	0.40 (0.16)	0.53 (0.15)	0.51 (0.16)	0.46 (0.12)
	MA	M	0.67 (0.27)	0.27 (0.10)	0.54 (0.26)	0.55 (0.18)	0.47 (0.11)	0.41 (0.13)	0.50 (0.14)
		W	0.60 (0.19)	0.17 (0.09)	0.38 (0.17)	0.32 (0.15)	0.29 (0.11)	0.39 (0.14)	0.57 (0.24)
		HOA	0.49 (0.18)	0.32 (0.17)	0.41 (0.16)	0.28 (0.18)	0.42 (0.18)	0.41 (0.18)	0.34 (0.14)

SPOTS: Wrist flexion and ulnar deviation (WF_UD); wrist flexion and radial deviation (WF_RD); digit flexion (DF); thumb extension and abduction/adduction (TM); finger extension (FE); wrist extension and ulnar deviation (WE_UD); wrist extension and radial deviation (WE_RD).

GRASPS: two-finger pad-to-pad pinch (P2D); cylindrical grasp (Cyl); lumbrical grasp (Lum); lateral pinch (LatP); oblique palmar grasp (Obl); intermediate power-precision grasp (IntPP).

GROUP: healthy men (M); healthy women (W); hand osteoarthritis subjects (HOA)