

Stride Segmentation during Free Walk Movements Using Multi-Dimensional Subsequence Dynamic Time Warping on Inertial Sensor Data. *Sensors* 2015, 15, 6419-6440

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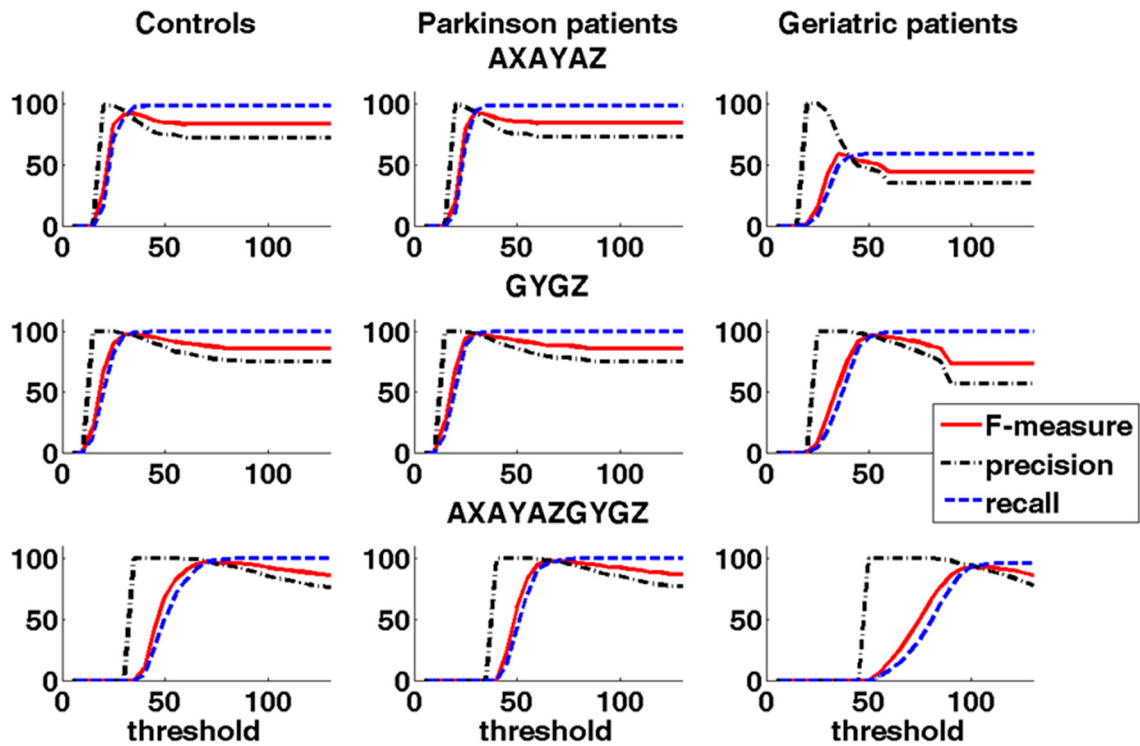


Figure S1. Plot shows evaluation of F-measure, precision and recall against the threshold. Best threshold values were derived from the intersection point of precision and recall where the F-measure reaches its maximum. Displayed data belongs to data from Table 3 which consists of movement sequences from 40 m walk test. Top row shows results for the axes AXAYAZ, middle row for GYGZ and bottom row for AXAYAZGYGZ.

Table S1. Detailed results of 40 m *walk* from msDTW for best performing sensor axes of each sensor type separately (AXAYAZ and GYGZ) and for the combination of best axes from both sensor types (AXAYAZGYGZ). Overall best results for all groups are highlighted with bold numbers. For each group and axes combination the best threshold was calculated.

	Threshold	Strides	Wrong Strides	Missed Strides	Precision	Recall	F-Measure
Accelerometer data, combined AXAYAZ							
Controls	34.5	485	69	44	88%	90%	85%
PD patients	30.0	496	33	28	94%	94%	93%
Geriatric patients	35.0	795	139	388	60%	49%	51%
Gyroscope data, combined GYGZ							
Controls	34.8	485	19	14	96%	98%	97%
PD patients	30.0	496	12	11	98%	98%	98%
Geriatric patients	54.8	795	46	19	94%	98%	96%
Combination of accelerometer and gyroscope data AXAYAZGYGZ							
Controls	70.0	485	12	15	97%	98%	98%
PD patients	70.0	496	14	8	98%	97%	97%
Geriatric patients	100	795	45	57	95%	93%	94%

Table S2. Detailed results of *free walk* from msDTW for best performing sensor axes of each sensor type separately (AXAYAZ and GYGZ) and for the combination of best axes from both sensor types (AXAYAZGYGZ). Overall best results for all groups are highlighted with bold numbers. For each group and axes combination the best threshold was calculated.

	Threshold	Strides	Wrong strides	Missed Strides	Precision	Recall	F-Measure
Accelerometer data, combined AXAYAZ							
Controls	33.3	1286	144	109	90%	92%	90%
PD patients	34.5	1619	323	280	82%	84%	81%
Geriatric patients	40.0	1249	264	511	64%	62%	62%
Gyroscope data, combined GYGZ							
Controls	35.0	1286	53	50	96%	97%	96%
PD patients	39.5	1619	99	46	94%	97%	96%
Geriatric patients	50.0	1249	67	55	94%	96%	95%
Combination of accelerometer and gyroscope data AXAYAZGYGZ							
Controls	76.7	1286	53	49	96%	97%	96%
PD patients	80.0	1619	51	50	97%	97%	97%
Geriatric patients	104	1249	95	196	82%	85%	83%

Table S3. Detailed results of 40 m *walk* from peak detection algorithm based on data from GZ. The evaluated data corresponds to msDTW evaluated data in Table S1.

	Strides	Wrong Strides	Missed Strides	Precision	Recall	F-Measure
Controls	485	145	7	77%	99%	86%
PD patients	496	158	5	76%	99%	86%
Geriatric patients	765	145	26	84%	97%	90%

Table S4. Detailed results of *free walk* from peak detection algorithm based on data from GZ. The evaluated data corresponds to msDTW evaluated data in Table S2.

	Strides	Wrong Strides	Missed Strides	Precision	Recall	F-Measure
Controls	1286	606	11	68%	99%	81%
PD patients	1619	663	8	71%	100%	83%
Geriatric patients	1249	204	59	85%	95%	90%