

Michael H Schwartz

List of Publications by Year in descending order

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Version: 2024-02-01

127
papers

8,832
citations

50566

48
h-index

51423

90
g-index

149
all docs

149
docs citations

149
times ranked

4992
citing authors

#	ARTICLE	IF	CITATIONS
1	Long-term effects of spasticity treatment, including selective dorsal rhizotomy, for individuals with cerebral palsy. <i>Developmental Medicine and Child Neurology</i> , 2022, 64, 561-568.	1.1	12
2	Synergies are minimally affected during emulation of cerebral palsy gait patterns. <i>Journal of Biomechanics</i> , 2022, 133, 110953.	0.9	10
3	Atypical triceps surae force and work patterns underlying gait in children with cerebral palsy. <i>Journal of Orthopaedic Research</i> , 2022, 40, 2763-2770.	1.2	4
4	Number of synergies impacts sensitivity of gait to weakness and contracture. <i>Journal of Biomechanics</i> , 2022, 134, 111012.	0.9	1
5	Short-term causal effects of common treatments in ambulatory children and young adults with cerebral palsy: three machine learning estimates. <i>Scientific Reports</i> , 2022, 12, 7818.	1.6	5
6	Quantifying alignment bias during the fabrication and fitting of ankle-foot orthoses: A single center study. <i>Gait and Posture</i> , 2022, 96, 29-34.	0.6	0
7	Causal Effects of Motor Control on Gait Kinematics After Orthopedic Surgery in Cerebral Palsy: A Machine-Learning Approach. <i>Frontiers in Human Neuroscience</i> , 2022, 16, .	1.0	6
8	Causal factors affecting gross motor function in children diagnosed with cerebral palsy. <i>PLoS ONE</i> , 2022, 17, e0270121.	1.1	6
9	Rectus femoris transfer in children with cerebral palsy: comparing a propensity score-matched observational study to a randomized controlled trial. <i>Developmental Medicine and Child Neurology</i> , 2021, 63, 196-203.	1.1	7
10	Comparing short-term outcomes between conus medullaris and cauda equina surgical techniques of selective dorsal rhizotomy. <i>Developmental Medicine and Child Neurology</i> , 2021, 63, 336-342.	1.1	5
11	Synergies analysis produces consistent results between motion analysis laboratories. <i>Gait and Posture</i> , 2021, 86, 139-143.	0.6	7
12	Long-term functional outcomes after an external femoral derotation osteotomy in individuals with cerebral palsy. <i>Gait and Posture</i> , 2021, 87, 184-191.	0.6	6
13	A patella marker to improve hip and knee kinematics for models with functionally defined joint axes. <i>Gait and Posture</i> , 2021, 87, 43-48.	0.6	2
14	The importance of a consistent workflow to estimate muscle-tendon lengths based on joint angles from the conventional gait model. <i>Gait and Posture</i> , 2021, 88, 1-9.	0.6	8
15	Pilot evaluation of changes in motor control after wearable robotic resistance training in children with cerebral palsy. <i>Journal of Biomechanics</i> , 2021, 126, 110601.	0.9	18
16	Alternative methods for measuring ankle-foot orthosis alignment in clinical care. <i>Gait and Posture</i> , 2021, 90, 86-91.	0.6	2
17	Surgical treatment of pes planovalgus in ambulatory children with cerebral palsy: Static and dynamic changes as characterized by multi-segment foot modeling, physical examination and radiographs. <i>Gait and Posture</i> , 2020, 76, 168-174.	0.6	6
18	Deep neural networks enable quantitative movement analysis using single-camera videos. <i>Nature Communications</i> , 2020, 11, 4054.	5.8	133

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19	Pre-operative gastrocnemius lengths in gait predict outcomes following gastrocnemius lengthening surgery in children with cerebral palsy. PLoS ONE, 2020, 15, e0233706.	1.1	19
20	Energy consumption does not change after selective dorsal rhizotomy in children with spastic cerebral palsy. Developmental Medicine and Child Neurology, 2020, 62, 1047-1053.	1.1	13
21	Ground reaction and solid ankle-foot orthoses are equivalent for the correction of crouch gait in children with cerebral palsy. Developmental Medicine and Child Neurology, 2019, 61, 219-225.	1.1	22
22	Comparing the effects of two spasticity management strategies on the long-term outcomes of individuals with bilateral spastic cerebral palsy: a multicentre cohort study protocol. BMJ Open, 2019, 9, e027486.	0.8	11
23	Automatic real-time gait event detection in children using deep neural networks. PLoS ONE, 2019, 14, e0211466.	1.1	66
24	Can altered muscle synergies control unimpaired gait?. Journal of Biomechanics, 2019, 90, 84-91.	0.9	41
25	Muscle synergies demonstrate only minimal changes after treatment in cerebral palsy. Journal of NeuroEngineering and Rehabilitation, 2019, 16, 46.	2.4	77
26	Leaving hip rotation out of a conventional 3D gait model improves discrimination of pathological gait in cerebral palsy: A novel neural network analysis. Gait and Posture, 2019, 70, 48-52.	0.6	4
27	Muscle Synergy Constraints Do Not Improve Estimates of Muscle Activity From Static Optimization During Gait for Unimpaired Children or Children With Cerebral Palsy. Frontiers in Neurorobotics, 2019, 13, 102.	1.6	9
28	Repeatability of electromyography recordings and muscle synergies during gait among children with cerebral palsy. Gait and Posture, 2019, 67, 290-295.	0.6	39
29	ESMAC BEST PAPER 2017. Gait and Posture, 2018, 63, 290-295.	0.6	3
30	Associations Between Muscle Synergies and Treatment Outcomes in Cerebral Palsy Are Robust Across Clinical Centers. Archives of Physical Medicine and Rehabilitation, 2018, 99, 2175-2182.	0.5	35
31	The coupled effects of crouch gait and patella alta on tibiofemoral and patellofemoral cartilage loading in children. Gait and Posture, 2018, 60, 181-187.	0.6	12
32	Long-Term Outcomes of Distal Femoral Extension Osteotomy and Patellar Tendon Advancement in Individuals with Cerebral Palsy. Journal of Bone and Joint Surgery - Series A, 2018, 100, 31-41.	1.4	53
33	The centre of mass trajectory is a sensitive and responsive measure of functional compensations in individuals with knee osteoarthritis performing the five times sit-to-stand test. Gait and Posture, 2018, 62, 140-145.	0.6	16
34	Low gait efficiency is the primary reason for the increased metabolic demand during gait in children with cerebral palsy. Human Movement Science, 2018, 57, 426-433.	0.6	8
35	Estimating the effect size of surgery to improve walking in children with cerebral palsy from retrospective observational clinical data. Scientific Reports, 2018, 8, 16344.	1.6	29
36	Proximal versus distal femoral derotation osteotomy in bilateral cerebral palsy. Developmental Medicine and Child Neurology, 2018, 60, 1033-1037.	1.1	13

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37	How does patellar tendon advancement alter the knee extensor mechanism in children treated for crouch gait?. <i>Gait and Posture</i> , 2018, 64, 248-254.	0.6	18
38	The impact of symptomatic knee osteoarthritis on overall gait pattern deviations and its association with performance-based measures and patient-reported outcomes. <i>Knee</i> , 2017, 24, 536-546.	0.8	16
39	Evidence of knee extensor dysfunction during sit-to-stand following distal femoral extension osteotomy and patellar tendon advancement in young adults with cerebral palsy: A pilot study. <i>Gait and Posture</i> , 2017, 58, 527-532.	0.6	5
40	Team Approach. <i>JBJS Reviews</i> , 2017, 5, e10.	0.8	7
41	Muscle synergies are similar when typically developing children walk on a treadmill at different speeds and slopes. <i>Journal of Biomechanics</i> , 2017, 64, 112-119.	0.9	31
42	Changes in hip abductor moment 3 or more years after femoral derotation osteotomy among individuals with cerebral palsy. <i>Developmental Medicine and Child Neurology</i> , 2017, 59, 912-918.	1.1	15
43	Long-term outcomes after selective dorsal rhizotomy: a retrospective matched cohort study. <i>Developmental Medicine and Child Neurology</i> , 2017, 59, 1196-1203.	1.1	52
44	Crouch severity is a poor predictor of elevated oxygen consumption in cerebral palsy. <i>Journal of Biomechanics</i> , 2017, 60, 170-174.	0.9	34
45	Deficits in functional performance and gait one year after total knee arthroplasty despite improved self-reported function. <i>Knee Surgery, Sports Traumatology, Arthroscopy</i> , 2017, 25, 3378-3386.	2.3	43
46	Influence of patellar position on the knee extensor mechanism in normal and crouched walking. <i>Journal of Biomechanics</i> , 2017, 51, 1-7.	0.9	42
47	The effect of distal femoral extension osteotomy on muscle lengths after surgery. <i>Journal of Children's Orthopaedics</i> , 2017, 11, 472-478.	0.4	9
48	Electromyography Data Processing Impacts Muscle Synergies during Gait for Unimpaired Children and Children with Cerebral Palsy. <i>Frontiers in Computational Neuroscience</i> , 2017, 11, 50.	1.2	87
49	Dynamic motor control is associated with treatment outcomes for children with cerebral palsy. <i>Developmental Medicine and Child Neurology</i> , 2016, 58, 1139-1145.	1.1	105
50	Long-term changes in femoral anteversion and hip rotation following femoral derotational osteotomy in children with cerebral palsy. <i>Gait and Posture</i> , 2016, 50, 223-228.	0.6	23
51	Comprehensive non-dimensional normalization of gait data. <i>Gait and Posture</i> , 2016, 44, 68-73.	0.6	60
52	Repeatability of muscle synergies within and between days for typically developing children and children with cerebral palsy. <i>Gait and Posture</i> , 2016, 45, 127-132.	0.6	60
53	Effect of Intraarticular Corticosteroid Foot Injections on Walking Function in Children With Juvenile Idiopathic Arthritis. <i>Arthritis Care and Research</i> , 2015, 67, 1693-1701.	1.5	10
54	Ambulatory children with cerebral palsy do not exhibit unhealthy weight gain following selective dorsal rhizotomy. <i>Developmental Medicine and Child Neurology</i> , 2015, 57, 1070-1075.	1.1	3

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55	The Efficacy of Ankle-Foot Orthoses on Improving the Gait of Children With Diplegic Cerebral Palsy: A Multiple Outcome Analysis. <i>PM and R</i> , 2015, 7, 922-929.	0.9	70
56	Muscle synergies and complexity of neuromuscular control during gait in cerebral palsy. <i>Developmental Medicine and Child Neurology</i> , 2015, 57, 1176-1182.	1.1	258
57	A gait index may underestimate changes of gait: a comparison of the Movement Deviation Profile and the Gait Deviation Index. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2015, 18, 57-63.	0.9	12
58	Treadmill vs. overground running gait during childhood: A qualitative and quantitative analysis. <i>Gait and Posture</i> , 2015, 41, 613-618.	0.6	27
59	Quantifying gait deviations in individuals with rheumatoid arthritis using the Gait Deviation Index. <i>Scandinavian Journal of Rheumatology</i> , 2014, 43, 124-131.	0.6	25
60	Three-Dimensional Lumbar Spine Vertebral Motion During Running Using Indwelling Bone Pins. <i>Spine</i> , 2014, 39, E1560-E1565.	1.0	17
61	Femoral derotational osteotomy: Surgical indications and outcomes in children with cerebral palsy. <i>Gait and Posture</i> , 2014, 39, 778-783.	0.6	64
62	A data driven model for optimal orthosis selection in children with cerebral palsy. <i>Gait and Posture</i> , 2014, 40, 539-544.	0.6	25
63	Muscle synergy complexity is related to selective motor control in cerebral palsy. <i>Gait and Posture</i> , 2014, 39, S40.	0.6	4
64	The comparison of normative reference data from different gait analysis services. <i>Gait and Posture</i> , 2014, 40, 286-290.	0.6	45
65	Muscle contributions to vertical and fore-aft accelerations are altered in subjects with crouch gait. <i>Gait and Posture</i> , 2013, 38, 86-91.	0.6	58
66	Predicting the outcome of intramuscular psoas lengthening in children with cerebral palsy using preoperative gait data and the random forest algorithm. <i>Gait and Posture</i> , 2013, 37, 473-479.	0.6	49
67	Assessment of Three-Dimensional Lumbar Spine Vertebral Motion During Gait with Use of Indwelling Bone Pins. <i>Journal of Bone and Joint Surgery - Series A</i> , 2013, 95, e184.	1.4	14
68	Validation of a Miniature ThermoChron for Monitoring Thoracolumbosacral Orthosis Wear Time. <i>Spine</i> , 2012, 37, 309-315.	1.0	36
69	Use of the Gait Deviation Index for the Evaluation of Patients With Parkinson's Disease. <i>Journal of Motor Behavior</i> , 2012, 44, 161-167.	0.5	25
70	Contributions of muscles to mediolateral ground reaction force over a range of walking speeds. <i>Journal of Biomechanics</i> , 2012, 45, 2438-2443.	0.9	88
71	How much muscle strength is required to walk in a crouch gait?. <i>Journal of Biomechanics</i> , 2012, 45, 2564-2569.	0.9	118
72	Mechanical energy estimation during walking: Validity and sensitivity in typical gait and in children with cerebral palsy. <i>Gait and Posture</i> , 2012, 35, 231-237.	0.6	14

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73	Gait status 17-26 years after selective dorsal rhizotomy. <i>Gait and Posture</i> , 2012, 35, 244-249.	0.6	57
74	Compressive tibiofemoral force during crouch gait. <i>Gait and Posture</i> , 2012, 35, 556-560.	0.6	297
75	The minimal clinically important difference for the Gait Profile Score. <i>Gait and Posture</i> , 2012, 35, 612-615.	0.6	163
76	How robust is human gait to muscle weakness?. <i>Gait and Posture</i> , 2012, 36, 113-119.	0.6	217
77	Movement Deviation Profile: A measure of distance from normality using a self-organizing neural network. <i>Human Movement Science</i> , 2012, 31, 284-294.	0.6	50
78	Gait analysis comparison of cruciate retaining and substituting TKA following PCL sacrifice. <i>Knee</i> , 2012, 19, 279-285.	0.8	35
79	Is simultaneous hamstring lengthening necessary when performing distal femoral extension osteotomy and patellar tendon advancement?. <i>Gait and Posture</i> , 2011, 33, 1-5.	0.6	45
80	The GDI-Kinetic: A new index for quantifying kinetic deviations from normal gait. <i>Gait and Posture</i> , 2011, 33, 730-732.	0.6	63
81	Can biomechanical variables predict improvement in crouch gait?. <i>Gait and Posture</i> , 2011, 34, 197-201.	0.6	58
82	Probabilistic gait classification in children with cerebral palsy: A Bayesian approach. <i>Research in Developmental Disabilities</i> , 2011, 32, 2542-2552.	1.2	35
83	Evaluation of Conventional Selection Criteria for Psoas Lengthening for Individuals With Cerebral Palsy. <i>Journal of Pediatric Orthopaedics</i> , 2011, 31, 534-540.	0.6	19
84	Variation of hamstrings lengths and velocities with walking speed. <i>Journal of Biomechanics</i> , 2010, 43, 1522-1526.	0.9	23
85	Muscle contributions to support and progression during single-limb stance in crouch gait. <i>Journal of Biomechanics</i> , 2010, 43, 2099-2105.	0.9	170
86	Muscle Contributions to Medial-Lateral Acceleration of the Body During Walking. , 2009, , .		0
87	Distal Femoral Extension Osteotomy and Patellar Tendon Advancement to Treat Persistent Crouch Gait in Cerebral Palsy. <i>Journal of Bone and Joint Surgery - Series A</i> , 2009, 91, 271-286.	1.4	99
88	Variability and minimum detectable change for walking energy efficiency variables in children with cerebral palsy. <i>Developmental Medicine and Child Neurology</i> , 2009, 51, 615-621.	1.1	35
89	Walking energy expenditure in able-bodied individuals: A comparison of common measures of energy efficiency. <i>Gait and Posture</i> , 2009, 29, 592-596.	0.6	23
90	Predicting outcomes of rectus femoris transfer surgery. <i>Gait and Posture</i> , 2009, 30, 100-105.	0.6	67

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91	Crouch gait patterns defined using k-means cluster analysis are related to underlying clinical pathology. <i>Gait and Posture</i> , 2009, 30, 155-160.	0.6	81
92	A new method for evaluating ankle foot orthosis characteristics: BRUCE. <i>Gait and Posture</i> , 2009, 30, 144-149.	0.6	105
93	The Gait Profile Score and Movement Analysis Profile. <i>Gait and Posture</i> , 2009, 30, 265-269.	0.6	559
94	Simulated force-length curves as a tool to enhance clinical interpretation of gait data. <i>Gait and Posture</i> , 2009, 30, S76-S77.	0.6	0
95	A comparison of functional and regression-based hip joint centers in persons with achondroplasia. <i>Gait and Posture</i> , 2009, 30, S81-S82.	0.6	1
96	Crouch gait patterns derived from cluster analysis are related to clinical parameters and surgical interventions. <i>Gait and Posture</i> , 2009, 30, S99-S100.	0.6	0
97	Crouched postures reduce the capacity of muscles to extend the hip and knee during the single-limb stance phase of gait. <i>Journal of Biomechanics</i> , 2008, 41, 960-967.	0.9	132
98	The effect of walking speed on the gait of typically developing children. <i>Journal of Biomechanics</i> , 2008, 41, 1639-1650.	0.9	434
99	Muscle contributions to support and progression over a range of walking speeds. <i>Journal of Biomechanics</i> , 2008, 41, 3243-3252.	0.9	352
100	Comprehensive short-term outcome assessment of selective dorsal rhizotomy. <i>Developmental Medicine and Child Neurology</i> , 2008, 50, 765-771.	1.1	60
101	The gait deviation index: A new comprehensive index of gait pathology. <i>Gait and Posture</i> , 2008, 28, 351-357.	0.6	587
102	The in vivo three-dimensional motion of the human lumbar spine during gait. <i>Gait and Posture</i> , 2008, 28, 378-384.	0.6	79
103	An investigation of the action of the hamstring muscles during standing in crouch using functional electrical stimulation (FES). <i>Gait and Posture</i> , 2008, 28, 372-377.	0.6	18
104	Distal Femoral Extension Osteotomy and Patellar Tendon Advancement to Treat Persistent Crouch Gait in Cerebral Palsy. <i>Journal of Bone and Joint Surgery - Series A</i> , 2008, 90, 2470-2484.	1.4	180
105	Correlation of the Edinburgh Gait Score With the Gillette Gait Index, the Gillette Functional Assessment Questionnaire, and Dimensionless Speed. <i>Journal of Pediatric Orthopaedics</i> , 2007, 27, 7-11.	0.6	45
106	An exploration of the function of the triceps surae during normal gait using functional electrical stimulation. <i>Gait and Posture</i> , 2007, 26, 482-488.	0.6	45
107	The effect of excessive tibial torsion on the capacity of muscles to extend the hip and knee during single-limb stance. <i>Gait and Posture</i> , 2007, 26, 546-552.	0.6	108
108	Protocol changes can improve the reliability of net oxygen cost data. <i>Gait and Posture</i> , 2007, 26, 494-500.	0.6	43

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109	Muscular coordination of knee motion during the terminal-swing phase of normal gait. Journal of Biomechanics, 2007, 40, 3314-3324.	0.9	55
110	Contributions of muscles to terminal-swing knee motions vary with walking speed. Journal of Biomechanics, 2007, 40, 3660-3671.	0.9	35
111	A baseline of dynamic muscle function during gait. Gait and Posture, 2006, 23, 211-221.	0.6	45
112	The role of estimating muscle-tendon lengths and velocities of the hamstrings in the evaluation and treatment of crouch gait. Gait and Posture, 2006, 23, 273-281.	0.6	166
113	A nondimensional normalization scheme for oxygen utilization data. Gait and Posture, 2006, 24, 14-22.	0.6	83
114	Do the hamstrings operate at increased muscle-tendon lengths and velocities after surgical lengthening?. Journal of Biomechanics, 2006, 39, 1498-1506.	0.9	80
115	A new method for estimating joint parameters from motion data. Journal of Biomechanics, 2005, 38, 107-116.	0.9	437
116	Measurement and management of errors in quantitative gait data. Gait and Posture, 2004, 20, 196-203.	0.6	320
117	Use of the normalcy index for the evaluation of gait pathology. Gait and Posture, 2004, 19, 85-90.	0.6	92
118	Comprehensive Treatment of Ambulatory Children With Cerebral Palsy. Journal of Pediatric Orthopaedics, 2004, 24, 45-53.	0.6	149
119	Comprehensive treatment of ambulatory children with cerebral palsy: an outcome assessment. Journal of Pediatric Orthopaedics, 2004, 24, 45-53.	0.6	24
120	The effect of tibial torsion on the dynamic function of the soleus during gait. Gait and Posture, 2003, 17, 113-118.	0.6	66
121	Intramuscular Psoas Lengthening Improves Dynamic Hip Function in Children With Cerebral Palsy. Journal of Pediatric Orthopaedics, 2002, 22, 158-164.	0.6	75
122	Intramuscular psoas lengthening improves dynamic hip function in children with cerebral palsy. Journal of Pediatric Orthopaedics, 2002, 22, 158-64.	0.6	25
123	The energy of semicoherent interfaces. Journal of the Mechanics and Physics of Solids, 2000, 48, 2539-2557.	2.3	9
124	A tool for quantifying hip flexor function during gait. Gait and Posture, 2000, 12, 122-127.	0.6	51
125	An index for quantifying deviations from normal gait. Gait and Posture, 2000, 11, 25-31.	0.6	378
126	Chondrocytes in culture produce a mechanically functional tissue. Journal of Orthopaedic Research, 1998, 16, 227-236.	1.2	76

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127	A microstructural model for the elastic response of articular cartilage. Journal of Biomechanics, 1994, 27, 865-873.	0.9	63