

# Glen A Lichtwark

## List of Publications by Year in descending order

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128  
papers

6,356  
citations

71102

41  
h-index

76900

74  
g-index

137  
all docs

137  
docs citations

137  
times ranked

3713  
citing authors

#	ARTICLE	IF	CITATIONS
1	Muscle fascicle and series elastic element length changes along the length of the human gastrocnemius during walking and running. <i>Journal of Biomechanics</i> , 2007, 40, 157-164.	2.1	353
2	In vivo mechanical properties of the human Achilles tendon during one-legged hopping. <i>Journal of Experimental Biology</i> , 2005, 208, 4715-4725.	1.7	315
3	Interactions between the human gastrocnemius muscle and the Achilles tendon during incline, level and decline locomotion. <i>Journal of Experimental Biology</i> , 2006, 209, 4379-4388.	1.7	278
4	Intrinsic foot muscles have the capacity to control deformation of the longitudinal arch. <i>Journal of the Royal Society Interface</i> , 2014, 11, 20131188.	3.4	226
5	Is Achilles tendon compliance optimised for maximum muscle efficiency during locomotion?. <i>Journal of Biomechanics</i> , 2007, 40, 1768-1775.	2.1	205
6	Gross muscle morphology and structure in spastic cerebral palsy: a systematic review. <i>Developmental Medicine and Child Neurology</i> , 2010, 52, 794-804.	2.1	205
7	Automatic tracking of medial gastrocnemius fascicle length during human locomotion. <i>Journal of Applied Physiology</i> , 2011, 111, 1491-1496.	2.5	186
8	Optimal muscle fascicle length and tendon stiffness for maximising gastrocnemius efficiency during human walking and running. <i>Journal of Theoretical Biology</i> , 2008, 252, 662-673.	1.7	180
9	Medial gastrocnemius muscle volume and fascicle length in children aged 2 to 5 years with cerebral palsy. <i>Developmental Medicine and Child Neurology</i> , 2011, 53, 543-548.	2.1	165
10	UltraTrack: Software for semi-automated tracking of muscle fascicles in sequences of B-mode ultrasound images. <i>Computer Methods and Programs in Biomedicine</i> , 2016, 128, 111-118.	4.7	162
11	Active regulation of longitudinal arch compression and recoil during walking and running. <i>Journal of the Royal Society Interface</i> , 2015, 12, 20141076.	3.4	156
12	In vivo behavior of the human soleus muscle with increasing walking and running speeds. <i>Journal of Applied Physiology</i> , 2015, 118, 1266-1275.	2.5	147
13	The functional importance of human foot muscles for bipedal locomotion. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 1645-1650.	7.1	139
14	Validation of a freehand 3D ultrasound system for morphological measures of the medial gastrocnemius muscle. <i>Journal of Biomechanics</i> , 2009, 42, 1313-1319.	2.1	131
15	Passive muscle mechanical properties of the medial gastrocnemius in young adults with spastic cerebral palsy. <i>Journal of Biomechanics</i> , 2011, 44, 2496-2500.	2.1	128
16	The mechanism for efficacy of eccentric loading in Achilles tendon injury; an in vivo study in humans. <i>Rheumatology</i> , 2008, 47, 1493-1497.	1.9	115
17	Medial gastrocnemius muscle fascicle active torque-length and Achilles tendon properties in young adults with spastic cerebral palsy. <i>Journal of Biomechanics</i> , 2012, 45, 2526-2530.	2.1	108
18	Muscle growth is reduced in 15-month-old children with cerebral palsy. <i>Developmental Medicine and Child Neurology</i> , 2016, 58, 485-491.	2.1	108

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19	Reliability and accuracy of an automated tracking algorithm to measure controlled passive and active muscle fascicle length changes from ultrasound. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2013, 16, 678-687.	1.6	106
20	A catapult action for rapid limb protraction. <i>Nature</i> , 2003, 421, 35-36.	27.8	104
21	The use of ultrasound to study muscle-tendon function in human posture and locomotion. <i>Gait and Posture</i> , 2013, 37, 305-312.	1.4	93
22	A modified Hill muscle model that predicts muscle power output and efficiency during sinusoidal length changes. <i>Journal of Experimental Biology</i> , 2005, 208, 2831-2843.	1.7	91
23	Reactive stepping behaviour in response to forward loss of balance predicts future falls in community-dwelling older adults. <i>Age and Ageing</i> , 2015, 44, 109-115.	1.6	89
24	Three-dimensional geometrical changes of the human tibialis anterior muscle and its central aponeurosis measured with three-dimensional ultrasound during isometric contractions. <i>PeerJ</i> , 2016, 4, e2260.	2.0	71
25	The influence of tendon compliance on muscle power output and efficiency during cyclic contractions. <i>Journal of Experimental Biology</i> , 2010, 213, 707-714.	1.7	66
26	Medial gastrocnemius and soleus muscle-tendon unit, fascicle, and tendon interaction during walking in children with cerebral palsy. <i>Developmental Medicine and Child Neurology</i> , 2017, 59, 843-851.	2.1	66
27	Lower Limb Muscle Weakness Predicts Use of a Multiple- Versus Single-Step Strategy to Recover From Forward Loss of Balance in Older Adults. <i>Journals of Gerontology - Series A Biological Sciences and Medical Sciences</i> , 2012, 67, 1246-1252.	3.6	65
28	A Direct Comparison of Biplanar Videoradiography and Optical Motion Capture for Foot and Ankle Kinematics. <i>Frontiers in Bioengineering and Biotechnology</i> , 2019, 7, 199.	4.1	62
29	Effects of series elasticity and activation conditions on muscle power output and efficiency. <i>Journal of Experimental Biology</i> , 2005, 208, 2845-2853.	1.7	59
30	The anatomical arrangement of muscle and tendon enhances limb versatility and locomotor performance. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2011, 366, 1540-1553.	4.0	59
31	The role of human ankle plantar flexor muscle-tendon interaction & architecture in maximal vertical jumping examined <i>in vivo</i> . <i>Journal of Experimental Biology</i> , 2015, 219, 528-34.	1.7	59
32	Influence of the windlass mechanism on arch-spring mechanics during dynamic foot arch deformation. <i>Journal of the Royal Society Interface</i> , 2018, 15, 20180270.	3.4	59
33	Medial gastrocnemius muscle volume in ambulant children with unilateral and bilateral cerebral palsy aged 2 to 9 years. <i>Developmental Medicine and Child Neurology</i> , 2016, 58, 1146-1152.	2.1	57
34	Shoes alter the spring-like function of the human foot during running. <i>Journal of the Royal Society Interface</i> , 2016, 13, 20160174.	3.4	55
35	Differential strain patterns of the human Achilles tendon determined <i>in vivo</i> with freehand three-dimensional ultrasound imaging. <i>Journal of Experimental Biology</i> , 2013, 216, 594-600.	1.7	52
36	Changes in the length and three-dimensional orientation of muscle fascicles and aponeuroses with passive length changes in human gastrocnemius muscles. <i>Journal of Physiology</i> , 2015, 593, 441-455.	2.9	50

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37	Validity and reliability of a simple ultrasound approach to measure medial gastrocnemius muscle length. <i>Journal of Anatomy</i> , 2011, 218, 637-642.	1.5	49
38	The effects of botulinum toxin injection frequency on calf muscle growth in young children with spastic cerebral palsy: A 12-month prospective study. <i>Journal of Children's Orthopaedics</i> , 2013, 7, 425-433.	1.1	49
39	The mechanical function of the tibialis posterior muscle and its tendon during locomotion. <i>Journal of Biomechanics</i> , 2016, 49, 3238-3243.	2.1	48
40	Microendoscopy reveals positive correlation in multiscale length changes and variable sarcomere lengths across different regions of human muscle. <i>Journal of Applied Physiology</i> , 2018, 125, 1812-1820.	2.5	48
41	Intrinsic foot muscles contribute to elastic energy storage and return in the human foot. <i>Journal of Applied Physiology</i> , 2019, 126, 231-238.	2.5	46
42	Effects of running on human Achilles tendon length-tension properties in the free and gastrocnemius components. <i>Journal of Experimental Biology</i> , 2013, 216, 4388-94.	1.7	45
43	Differences in in vivo muscle fascicle and tendinous tissue behavior between the ankle plantarflexors during running. <i>Scandinavian Journal of Medicine and Science in Sports</i> , 2018, 28, 1828-1836.	2.9	44
44	Adaptive recovery responses to repeated forward loss of balance in older adults. <i>Journal of Biomechanics</i> , 2012, 45, 183-187.	2.1	43
45	Functional Anaerobic and Strength Training in Young Adults with Cerebral Palsy. <i>Medicine and Science in Sports and Exercise</i> , 2018, 50, 1549-1557.	0.4	43
46	The Influence of Foot-Strike Technique on the Neuromechanical Function of the Foot. <i>Medicine and Science in Sports and Exercise</i> , 2018, 50, 98-108.	0.4	43
47	Reciprocal activation of gastrocnemius and soleus motor units is associated with fascicle length change during knee flexion. <i>Physiological Reports</i> , 2014, 2, e12044.	1.7	40
48	In vivo fascicle length measurements via B-mode ultrasound imaging with single vs dual transducer arrangements. <i>Journal of Biomechanics</i> , 2017, 64, 240-244.	2.1	39
49	Muscle-tendon length and force affect human tibialis anterior central aponeurosis stiffness in vivo. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, E3097-E3105.	7.1	39
50	Neuromechanical properties of the triceps surae in young and older adults. <i>Experimental Gerontology</i> , 2013, 48, 1147-1155.	2.8	37
51	The extensibility of the plantar fascia influences the windlass mechanism during human running. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2021, 288, 20202095.	2.6	37
52	Mechanisms of Adaptation from a Multiple to a Single Step Recovery Strategy following Repeated Exposure to Forward Loss of Balance in Older Adults. <i>PLoS ONE</i> , 2012, 7, e33591.	2.5	36
53	Biceps femoris long head sarcomere and fascicle length adaptations after 3 weeks of eccentric exercise training. <i>Journal of Sport and Health Science</i> , 2022, 11, 43-49.	6.5	34
54	Tibialis anterior muscle fascicle dynamics adequately represent postural sway during standing balance. <i>Journal of Applied Physiology</i> , 2013, 115, 1742-1750.	2.5	33

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55	The energetic cost of activation in mouse fast-twitch muscle is the same whether measured using reduced filament overlap or <i>N-benzyl-p-toluenesulphonamide</i> . <i>Acta Physiologica</i> , 2008, 193, 381-391.	3.8	32
56	Lower limb muscle moments and power during recovery from forward loss of balance in male and female single and multiple steppers. <i>Clinical Biomechanics</i> , 2012, 27, 1031-1037.	1.2	32
57	Muscle contributions to recovery from forward loss of balance by stepping. <i>Journal of Biomechanics</i> , 2014, 47, 667-674.	2.1	31
58	Ultrasound reveals negligible cocontraction during isometric plantar flexion and dorsiflexion despite the presence of antagonist electromyographic activity. <i>Journal of Applied Physiology</i> , 2015, 118, 1193-1199.	2.5	31
59	Effects of cold water immersion and active recovery on hemodynamics and recovery of muscle strength following resistance exercise. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2015, 309, R389-R398.	1.8	31
60	Effects of series elastic compliance on muscle force summation and the rate of force rise. <i>Journal of Experimental Biology</i> , 2016, 219, 3261-3270.	1.7	30
61	Muscle fascicle strains in human gastrocnemius during backward downhill walking. <i>Journal of Applied Physiology</i> , 2014, 116, 1455-1462.	2.5	29
62	Effects of muscle activation on shear between human soleus and gastrocnemius muscles. <i>Scandinavian Journal of Medicine and Science in Sports</i> , 2017, 27, 26-34.	2.9	29
63	Simulating the effect of muscle weakness and contracture on neuromuscular control of normal gait in children. <i>Gait and Posture</i> , 2018, 61, 169-175.	1.4	28
64	Does ankle joint power reflect type of muscle action of soleus and gastrocnemius during walking in cats and humans?. <i>Journal of Biomechanics</i> , 2013, 46, 1383-1386.	2.1	26
65	Quantification of muscle co-contraction using supersonic shear wave imaging. <i>Journal of Biomechanics</i> , 2016, 49, 493-495.	2.1	26
66	Functional Capacity in Adults With Cerebral Palsy: Lower Limb Muscle Strength Matters. <i>Archives of Physical Medicine and Rehabilitation</i> , 2018, 99, 900-906.e1.	0.9	26
67	Comparisons of laboratory-based methods to calculate jump height and improvements to the field-based flight-time method. <i>Scandinavian Journal of Medicine and Science in Sports</i> , 2020, 30, 31-37.	2.9	26
68	Effect of altering neural, muscular and tendinous factors associated with aging on balance recovery using the ankle strategy: A simulation study. <i>Journal of Theoretical Biology</i> , 2008, 254, 546-554.	1.7	25
69	A comparison of two Hill-type skeletal muscle models on the construction of medial gastrocnemius length-tension curves in humans in vivo. <i>Journal of Applied Physiology</i> , 2012, 113, 90-96.	2.5	24
70	Deconstructing the power resistance relationship for squats: A joint-level analysis. <i>Scandinavian Journal of Medicine and Science in Sports</i> , 2016, 26, 774-781.	2.9	24
71	Decreased lower limb muscle recruitment contributes to the inability of older adults to recover with a single step following a forward loss of balance. <i>Journal of Electromyography and Kinesiology</i> , 2013, 23, 1139-1144.	1.7	23
72	Movement Strategies for Countermovement Jumping are Potentially Influenced by Elastic Energy Stored and Released from Tendons. <i>Scientific Reports</i> , 2018, 8, 2300.	3.3	23

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73	Muscle architecture, growth, and biological Remodelling in cerebral palsy: a narrative review. BMC Musculoskeletal Disorders, 2022, 23, 233.	1.9	21
74	Regulation of foot and ankle quasi-stiffness during human hopping across a range of frequencies. Journal of Biomechanics, 2020, 108, 109853.	2.1	19
75	Subtalar Joint Pronation and Energy Absorption Requirements During Walking are Related to Tibialis Posterior Tendinous Tissue Strain. Scientific Reports, 2017, 7, 17958.	3.3	18
76	The repeated bout effect can occur without mechanical and neuromuscular changes after a bout of eccentric exercise. Scandinavian Journal of Medicine and Science in Sports, 2018, 28, 2123-2134.	2.9	18
77	The energetic function of the human foot and its muscles during accelerations and decelerations. Journal of Experimental Biology, 2021, 224, .	1.7	18
78	The Effect of Cadence on the Mechanics and Energetics of Constant Power Cycling. Medicine and Science in Sports and Exercise, 2019, 51, 941-950.	0.4	17
79	The Iliotibial Band: A Complex Structure with Versatile Functions. Sports Medicine, 2022, 52, 995-1008.	6.5	17
80	A compliant tendon increases fatigue resistance and net efficiency during fatiguing cyclic contractions of mouse soleus muscle. Acta Physiologica, 2012, 204, 533-543.	3.8	16
81	Is the Soleus a Sentinel Muscle for Impaired Aerobic Capacity in Heart Failure?. Medicine and Science in Sports and Exercise, 2015, 47, 498-508.	0.4	16
82	Swimming performance is reduced by reflective markers intended for the analysis of swimming kinematics. Journal of Biomechanics, 2019, 91, 109-113.	2.1	16
83	The mechanics of mouse skeletal muscle when shortening during relaxation. Journal of Biomechanics, 2007, 40, 3121-3129.	2.1	15
84	Is muscleâ€œtendon unit length a valid indicator for muscle spindle output?. Journal of Physiology, 2009, 587, 13-14.	2.9	15
85	Commentaries on Viewpoint: On the hysteresis in the human Achilles tendon. Journal of Applied Physiology, 2013, 114, 518-520.	2.5	15
86	Additional in-series compliance reduces muscle force summation and alters the time course of force relaxation during fixed-end contractions. Journal of Experimental Biology, 2016, 219, 3587-3596.	1.7	15
87	Modeling the two-dimensional accuracy of soccer kicks. Journal of Biomechanics, 2018, 72, 159-166.	2.1	15
88	Protection from Muscle Damage in the Absence of Changes in Muscle Mechanical Behavior. Medicine and Science in Sports and Exercise, 2016, 48, 1495-1505.	0.4	14
89	The effect of cadence on the muscleâ€œtendon mechanics of the gastrocnemius muscle during walking. Scandinavian Journal of Medicine and Science in Sports, 2017, 27, 289-298.	2.9	14
90	Tibialis anterior tendinous tissue plays a key role in energy absorption during human walking. Journal of Experimental Biology, 2019, 222, .	1.7	14

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91	Doublet potentiation in the triceps surae is limited by series compliance and dynamic fascicle behavior. <i>Journal of Applied Physiology</i> , 2015, 119, 807-816.	2.5	13
92	The Immediate Effect of Foot Orthoses on Subtalar Joint Mechanics and Energetics. <i>Medicine and Science in Sports and Exercise</i> , 2018, 50, 1449-1456.	0.4	13
93	The effect of muscle-tendon unit vs. fascicle analyses on vastus lateralis force-generating capacity during constant power output cycling with variable cadence. <i>Journal of Applied Physiology</i> , 2018, 124, 993-1002.	2.5	13
94	The Reliability of Foot and Ankle Bone and Joint Kinematics Measured With Biplanar Videoradiography and Manual Scientific Rotoscoping. <i>Frontiers in Bioengineering and Biotechnology</i> , 2020, 8, 106.	4.1	13
95	FAST CP<i></i> protocol of a randomised controlled trial of the efficacy of a 12-week combined Functional Anaerobic and Strength Training programme on muscle properties and mechanical gait deficiencies in adolescents and young adults with spastic-type cerebral palsy. <i>BMJ Open</i> , 2015, 5, e008059.	1.9	12
96	Information from dynamic length changes improves reliability of static ultrasound fascicle length measurements. <i>PeerJ</i> , 2017, 5, e4164.	2.0	12
97	Intensity of activation and timing of deactivation modulate elastic energy storage and release in a pennate muscle and account for gait-specific initiation of limb protraction in the horse. <i>Journal of Experimental Biology</i> , 2009, 212, 2454-2463.	1.7	11
98	Foot structure is significantly associated to subtalar joint kinetics and mechanical energetics. <i>Gait and Posture</i> , 2017, 58, 159-165.	1.4	11
99	Effect of a prehop on the muscle-tendon interaction during vertical jumps. <i>Journal of Applied Physiology</i> , 2018, 124, 1203-1211.	2.5	10
100	The influence of added mass on muscle activation and contractile mechanics during submaximal and maximal countermovement jumping in humans. <i>Journal of Experimental Biology</i> , 2019, 222, .	1.7	9
101	The effect of combined functional anaerobic and strength training on treadmill gait kinematics and kinetics in ambulatory young adults with cerebral palsy. <i>Gait and Posture</i> , 2019, 70, 323-329.	1.4	8
102	Impact of Lower Limb Active Movement Training in Individuals With Spastic Type Cerebral Palsy on Neuromuscular Control Outcomes: A Systematic Review. <i>Frontiers in Neurology</i> , 2020, 11, 581892.	2.4	8
103	The Mechanics of Seated and Nonseated Cycling at Very-High-Power Output: A Joint-Level Analysis. <i>Medicine and Science in Sports and Exercise</i> , 2020, 52, 1585-1594.	0.4	8
104	Immediate and long-term effects of mechanical loading on Achilles tendon volume: A systematic review and meta-analysis. <i>Journal of Biomechanics</i> , 2021, 118, 110289.	2.1	8
105	Plantar flexor voluntary activation capacity, strength and function in cerebral palsy. <i>European Journal of Applied Physiology</i> , 2021, 121, 1733-1741.	2.5	8
106	Modulation of the soleus H-reflex during knee rotations is not consistent with muscle fascicle length changes. <i>European Journal of Applied Physiology</i> , 2012, 112, 3259-3266.	2.5	7
107	Joint and muscle-tendon coordination strategies during submaximal jumping. <i>Journal of Applied Physiology</i> , 2020, 128, 596-603.	2.5	7
108	Modelling the complexity of the foot and ankle during human locomotion: the development and validation of a multi-segment foot model using biplanar videoradiography. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2022, 25, 554-565.	1.6	7



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109	Isometric fascicle behaviour of the biceps femoris long head muscle during Nordic hamstring exercise variations. <i>Journal of Science and Medicine in Sport</i> , 2022, 25, 684-689.	1.3	7
110	Flexor digitorum brevis utilizes elastic strain energy to contribute to both work generation and energy absorption at the foot. <i>Journal of Experimental Biology</i> , 2022, 225, .	1.7	6
111	Fluoroscopic Assessment of Lumbar Total Disc Replacement Kinematics During Walking. <i>Spine</i> , 2015, 40, 436-442.	2.0	5
112	Riders Use Their Body Mass to Amplify Crank Power during Nonseated Ergometer Cycling. <i>Medicine and Science in Sports and Exercise</i> , 2020, 52, 2599-2607.	0.4	5
113	Regional changes in muscle activity do not underlie the repeated bout effect in the human gastrocnemius muscle. <i>Scandinavian Journal of Medicine and Science in Sports</i> , 2021, 31, 799-812.	2.9	5
114	Evaluation of an inertial measurement unit-based approach for determining centre-of-mass movement during non-seated cycling. <i>Journal of Biomechanics</i> , 2021, 126, 110441.	2.1	5
115	Ultrasound Technology for Examining the Mechanics of the Muscle, Tendon, and Ligament. , 2017, , 1-20.		5
116	Reliability of Human Achilles Tendon Stiffness Measures Using Freehand 3-D Ultrasound. <i>Ultrasound in Medicine and Biology</i> , 2021, 47, 973-981.	1.5	4
117	The effect of small changes in rate of force development on muscle fascicle velocity and motor unit discharge behaviour. <i>European Journal of Applied Physiology</i> , 2022, 122, 1035.	2.5	4
118	Rise of the tendon research. <i>Scandinavian Journal of Medicine and Science in Sports</i> , 2016, 26, 992-994.	2.9	3
119	Cyclic eccentric stretching induces more damage and improved subsequent protection than stretched isometric contractions in the lower limb. <i>European Journal of Applied Physiology</i> , 2021, 121, 3349-3360.	2.5	3
120	A Human-Centered Machine-Learning Approach for Muscle-Tendon Junction Tracking in Ultrasound Images. <i>IEEE Transactions on Biomedical Engineering</i> , 2022, 69, 1920-1930.	4.2	3
121	Increasing step width reduces the requirements for subtalar joint moments and powers. <i>Journal of Biomechanics</i> , 2019, 92, 29-34.	2.1	2
122	Ahead of the curve in the evolution of human feet. <i>Nature</i> , 2020, 579, 31-32.	27.8	1
123	Comment on: The mechanism for efficacy of eccentric loading in Achilles tendon injury; an in vivo study in humans: reply. <i>Rheumatology</i> , 2008, 48, 203-203.	1.9	0
124	Stand And Deliver. <i>Medicine and Science in Sports and Exercise</i> , 2018, 50, 441-442.	0.4	0
125	Ultrasound Technology for Examining the Mechanics of the Muscle, Tendon, and Ligament. , 2018, , 157-176.		0
126	Measuring A Rider's Centre Of Mass Displacement During Non-seated Cycling Using A Single Inertial Measurement Unit. <i>Medicine and Science in Sports and Exercise</i> , 2020, 52, 939-939.	0.4	0



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127	The acute effects of higher versus lower load duration and intensity on morphological and mechanical properties of the healthy Achilles tendon: a randomized crossover trial. Journal of Experimental Biology, 2022, , .	1.7	0
128	2021 ISB World Athletics Award for Biomechanics: The Subtalar Joint Maintains “Spring-Like” Function While Running in Footwear That Perturbs Foot Pronation. Journal of Applied Biomechanics, 2022, , 1-11.	0.8	0