Samuel R Ward, Pt

List of Publications by Year
in descending order

133	6,960	71102 41	66911 78
papers	citations	h-index	g-index

136	136	136	6411
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A Model of the Lower Limb for Analysis of Human Movement. Annals of Biomedical Engineering, 2010, 38, 269-279.	2.5	659
2	Are Current Measurements of Lower Extremity Muscle Architecture Accurate?. Clinical Orthopaedics and Related Research, 2009, 467, 1074-1082.	1.5	520
3	Hamstring contractures in children with spastic cerebral palsy result from a stiffer extracellular matrix and increased in vivo sarcomere length. Journal of Physiology, 2011, 589, 2625-2639.	2.9	353
4	Patellofemoral Kinematics During Weight-Bearing and Non-Weight-Bearing Knee Extension in Persons With Lateral Subluxation of the Patella: A Preliminary Study. Journal of Orthopaedic and Sports Physical Therapy, 2003, 33, 677-685.	3.5	302
5	Skeletal muscle design to meet functional demands. Philosophical Transactions of the Royal Society B: Biological Sciences, 2011, 366, 1466-1476.	4.0	251
6	Cellular Mechanisms of Tissue Fibrosis. 4. Structural and functional consequences of skeletal muscle fibrosis. American Journal of Physiology - Cell Physiology, 2013, 305, C241-C252.	4.6	233
7	Architectural Analysis and Intraoperative Measurements Demonstrate the Unique Design of the Multifidus Muscle for Lumbar Spine Stability. Journal of Bone and Joint Surgery - Series A, 2009, 91, 176-185.	3.0	221
8	Density and hydration of fresh and fixed human skeletal muscle. Journal of Biomechanics, 2005, 38, 2317-2320.	2.1	209
9	Scaling of muscle architecture and fiber types in the rat hindlimb. Journal of Experimental Biology, 2008, 211, 2336-2345.	1.7	155
10	Patella Alta. Journal of Bone and Joint Surgery - Series A, 2007, 89, 1749-1755.	3.0	143
11	The influence of patella alta on patellofemoral joint stress during normal and fast walking. Clinical Biomechanics, 2004, 19, 1040-1047.	1.2	130
12	Contribution of Lumbar Spine Pathology and Age to Paraspinal Muscle Size and Fatty Infiltration. Spine, 2017, 42, 616-623.	2.0	123
13	Magnetic Resonance Imagingâ€“Based Topographical Differences Between Control and Recurrent Patellofemoral Instability Patients. American Journal of Sports Medicine, 2013, 41, 374-384.	4.2	120
14	Whole muscle length-tension relationships are accurately modeled as scaled sarcomeres in rabbit hindlimb muscles. Journal of Biomechanics, 2011, 44, 109-115.	2.1	116
15	Mechanical Strength of the Side-to-Side Versus Pulvertaft Weave Tendon Repair. Journal of Hand Surgery, 2010, 35, 540-545.	1.6	102
16	The Effect of Bracing on Patella Alignment and Patellofemoral Joint Contact Area. Medicine and Science in Sports and Exercise, 2004, 36, 1226-1232.	0.4	98
17	Quantitative analysis of neonatal skeletal muscle functional improvement in the mouse. Journal of Experimental Biology, 2008, 211, 837-843.	1.7	98
18	Passive mechanical properties of the lumbar multifidus muscle support its role as a stabilizer. Journal of Biomechanics, 2009, 42, 1384-1389.	2.1	97

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19	Capsular Ligaments of the Hip: Anatomic, Histologic, and Positional Study in Cadaveric Specimens with MR Arthrography. Radiology, 2012, 263, 189-198.	7.3	92
20	Lumbar multifidus muscle degenerates in individuals with chronic degenerative lumbar spine pathology. Journal of Orthopaedic Research, 2017, 35, 2700-2706.	2.3	88
21	High resolution muscle measurements provide insights into equinus contractures in patients with cerebral palsy. Journal of Orthopaedic Research, 2015, 33, 33-39.	2.3	84
22	The Architectural Design of the Gluteal Muscle Group: Implications for Movement and Rehabilitation. Journal of Orthopaedic and Sports Physical Therapy, 2010, 40, 95-102.	3.5	81
23	Understanding Mechanobiology: Physical Therapists as a Force in Mechanotherapy and Musculoskeletal Regenerative Rehabilitation. Physical Therapy, 2016, 96, 560-569.	2.4	72
24	Sarcomere length measurement permits high resolution normalization of muscle fiber length in architectural studies. Journal of Experimental Biology, 2005, 208, 3275-3279.	1.7	71
25	Histological Evidence of Muscle Degeneration in Advanced Human Rotator Cuff Disease. Journal of Bone and Joint Surgery - Series A, 2017, 99, 190-199.	3.0	70
26	Chronic Degeneration Leads to Poor Healing of Repaired Massive Rotator Cuff Tears in Rats. American Journal of Sports Medicine, 2015, 43, 2401-2410.	4.2	69
27	The Effect of Bracing on Patellofemoral Joint Stress during Free and Fast Walking. American Journal of Sports Medicine, 2004, 32, 224-231.	4.2	62
28	Influence of patella alta on knee extensor mechanics. Journal of Biomechanics, 2005, 38, 2415-2422.	2.1	60
29	Relationships between tissue microstructure and the diffusion tensor in simulated skeletal muscle. Magnetic Resonance in Medicine, 2018, 80, 317-329.	3.0	59
30	Intrinsic foot muscle deterioration is associated with metatarsophalangeal joint angle in people with diabetes and neuropathy. Clinical Biomechanics, 2013, 28, 1055-1060.	1.2	55
31	Skeletal muscle fibrosis and stiffness increase after rotator cuff tendon injury and neuromuscular compromise in a rat model. Journal of Orthopaedic Research, 2014, 32, 1111-1116.	2.3	55
32	ISSLS Prize Winner. Spine, 2011, 36, 1728-1736.	2.0	54
33	Human skeletal muscle biochemical diversity. Journal of Experimental Biology, 2012, 215, 2551-2559.	1.7	52
34	Comparison of rotator cuff muscle architecture among humans and selected vertebrate species. Journal of Experimental Biology, 2014, 217, 261-73.	1.7	50
35	Quantification of patellofemoral joint contact area using magnetic resonance imaging. Magnetic Resonance Imaging, 2003, 21, 955-959.	1.8	49
36	Increased efficacy and decreased systemicâ€effects of botulinum toxin A injection after active or passive muscle manipulation. Developmental Medicine and Child Neurology, 2007, 49, 907-914.	2.1	49

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37	Plasticity of Muscle Architecture After Supraspinatus Tears. Journal of Orthopaedic and Sports Physical Therapy, 2010, 40, 729-735.	3.5	49
38	The effects of chronic unloading and gap formation on tendon-to-bone healing in a rat model of massive rotator cuff tears. Journal of Orthopaedic Research, 2014, 32, 439-447.	2.3	49
39	Psoas Muscle Architectural Design, In Vivo Sarcomere Length Range, and Passive Tensile Properties Support Its Role as a Lumbar Spine Stabilizer. Spine, 2011, 36, E1666-E1674.	2.0	48
40	Architectural Analysis of Human Abdominal Wall Muscles. Spine, 2010, 36, 1.	2.0	47
41	Dramatic changes in muscle contractile and structural properties after 2 botulinum toxin injections. Muscle and Nerve, 2015, 52, 649-657.	2.2	46
42	Perm1 enhances mitochondrial biogenesis, oxidative capacity, and fatigue resistance in adult skeletal muscle. FASEB Journal, 2016, 30, 674-687.	0.5	46
43	The role of the peripheral and central nervous systems in rotator cuff disease. Journal of Shoulder and Elbow Surgery, 2015, 24, 1322-1335.	2.6	45
44	Passive mechanical properties and related proteins change with botulinum neurotoxin A injection of normal skeletal muscle. Journal of Orthopaedic Research, 2012, 30, 497-502.	2.3	44
45	Effect of Bracing on Patellofemoral Joint Stress While Ascending and Descending Stairs. Clinical Journal of Sport Medicine, 2004, 14, 206-214.	1.8	43
46	Assessment of patellofemoral relationships using kinematic MRI: Comparison between qualitative and quantitative methods. Journal of Magnetic Resonance Imaging, 2002, 16, 69-74.	3.4	41
47	Effect of Load Carriage on Lumbar Spine Kinematics. Spine, 2013, 38, E783-E791.	2.0	41
48	Methodological considerations in region of interest definitions for paraspinal muscles in axial MRIs of the lumbar spine. BMC Musculoskeletal Disorders, 2018, 19, 135.	1.9	41
49	Non-linear Scaling of Passive Mechanical Properties in Fibers, Bundles, Fascicles and Whole Rabbit Muscles. Frontiers in Physiology, 2020, 11, 211.	2.8	41
50	Ultrasound assessment of the lateral collateral ligamentous complex of the elbow: imaging aspects in cadavers and normal volunteers. European Radiology, 2011, 21, 1492-1498.	4.5	37
51	Passive mechanical properties of rat abdominal wall muscles suggest an important role of the extracellular connective tissue matrix. Journal of Orthopaedic Research, 2012, 30, 1321-1326.	2.3	36
52	Systems analysis of transcriptional data provides insights into muscle's biological response to botulinum toxin. Muscle and Nerve, 2014, 50, 744-758.	2.2	33
53	Comparison of pelvic muscle architecture between humans and commonly used laboratory species. International Urogynecology Journal, 2014, 25, 1507-1515.	1.4	30
54	<sup />A 3D Tissue-Printing Approach for Validation of Diffusion Tensor Imaging in Skeletal Muscle. Tissue Engineering - Part A, 2017, 23, 980-988.	3.1	30

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55	Correlation between isometric force and intramuscular pressure in rabbit tibialis anterior muscle with an intact anterior compartment. Muscle and Nerve, 2009, 40, 79-85.	2.2	29
56	Activity, balance, learning, and exposure (ABLE): a new intervention for fear of falling. International Journal of Geriatric Psychiatry, 2016, 31, 791-798.	2.7	29
57	Integrated Exposure Therapy and Exercise Reduces Fear of Falling and Avoidance in Older Adults: A Randomized Pilot Study. American Journal of Geriatric Psychiatry, 2018, 26, 849-859.	1.2	29
58	High Stiffness of Human Digital Flexor Tendons Is Suited for Precise Finger Positional Control. Journal of Neurophysiology, 2006, 96, 2815-2818.	1.8	28
59	Patient Perception of Physician Reimbursement in Elective Total Hip and Knee Arthroplasty. Journal of Arthroplasty, 2012, 27, 703-709.	3.1	28
60	Muscle Gene Expression Patterns in Human Rotator Cuff Pathology. Journal of Bone and Joint Surgery - Series A, 2014, 96, 1558-1565.	3.0	28
61	Effect of Supraspinatus Tendon Injury on Supraspinatus and Infraspinatus Muscle Passive Tension and Associated Biochemistry. Journal of Bone and Joint Surgery - Series A, 2014, 96, e175.	3.0	28
62	Effect of body mass index on patient outcomes of surgical intervention for the lumbar spine. Journal of Spine Surgery, 2017, 3, 349-357.	1.2	28
63	Muscle progenitor cell regenerative capacity in the torn rotator cuff. Journal of Orthopaedic Research, 2015, 33, 421-429.	2.3	27
64	The effect of high-intensity resistance exercise on lumbar musculature in patients with low back pain: a preliminary study. BMC Musculoskeletal Disorders, 2019, 20, 290.	1.9	27
65	Pronator Teres Is an Appropriate Donor Muscle for Restoration of Wrist and Thumb Extension. Journal of Hand Surgery, 2005, 30, 1068-1073.	1.6	25
66	Architectural and morphological assessment of rat abdominal wall muscles: comparison for use as a human model. Journal of Anatomy, 2010, 217, 196-202.	1.5	25
67	Functional recovery of muscles after minimally invasive total hip arthroplasty. Instructional Course Lectures, 2008, 57, 249-54.	0.2	25
68	Muscle geometry affects accuracy of forearm volume determination by magnetic resonance imaging (MRI). Journal of Biomechanics, 2007, 40, 3261-3266.	2.1	24
69	Theoretical Predictions of the Effects of Force Transmission by Desmin on Intersarcomere Dynamics. Biophysical Journal, 2010, 98, 258-266.	0.5	24
70	Architectural design of the pelvic floor is consistent with muscle functional subspecialization. International Urogynecology Journal, 2014, 25, 205-212.	1.4	24
71	Epimuscular Fat in the Human Rotator Cuff Is a Novel Beige Depot. Stem Cells Translational Medicine, 2015, 4, 764-774.	3.3	24
72	Anatomic Evaluation of the Sacroiliac Joint: A Radiographic Study with Implications for Procedures. Pain Physician, 2015, 18, 583-92.	0.4	24

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73	Relationship between muscle stress and intramuscular pressure during dynamic muscle contractions. Muscle and Nerve, 2007, 36, 313-319.	2.2	22
74	Recovery of rat muscle size but not function more than 1 year after a single botulinum toxin injection. Muscle and Nerve, 2018, 57, 435-441.	2.2	22
75	Increased Fibrogenic Gene Expression in Multifidus Muscles of Patients With Chronic Versus Acute Lumbar Spine Pathology. Spine, 2020, 45, E189-E195.	2.0	22
76	A novel muscle biopsy clamp yields accurate in vivo sarcomere length values. Journal of Biomechanics, 2009, 42, 193-196.	2.1	21
77	Mechanical Feasibility of Immediate Mobilization of the Brachioradialis Muscle After Tendon Transfer. Journal of Hand Surgery, 2010, 35, 1473-1478.	1.6	21
78	Muscle architectural changes after massive human rotator cuff tear. Journal of Orthopaedic Research, 2016, 34, 2089-2095.	2.3	21
79	The role of mechanobiology in progression of rotator cuff muscle atrophy and degeneration. Journal of Orthopaedic Research, 2018, 36, 546-556.	2.3	21
80	Concurrent Criterion-Related Validity and Reliability of a Clinical Device Used to Assess Lateral Patellar Displacement. Journal of Orthopaedic and Sports Physical Therapy, 2006, 36, 645-652.	3.5	20
81	Intraoperative and biomechanical studies of human vastus lateralis and vastus medialis sarcomere length operating range. Journal of Biomechanics, 2018, 67, 91-97.	2.1	20
82	Regional Myosin Heavy Chain Distribution in Selected Paraspinal Muscles. Spine, 2010, 35, 1265-1270.	2.0	19
83	Human motor endplate remodeling after traumatic nerve injury. Journal of Neurosurgery, 2020, 135, 220-227.	1.6	19
84	Skeletal Muscle Atrophy and Degeneration in a Mouse Model of Traumatic Brain Injury. Journal of Neurotrauma, 2018, 35, 398-401.	3.4	18
85	p300 and cAMP response elementâ€binding proteinâ€binding protein in skeletal muscle homeostasis, contractile function, and survival. Journal of Cachexia, Sarcopenia and Muscle, 2020, 11, 464-477.	7.3	18
86	Dorsal Transfer of the Brachioradialis to the Flexor Pollicis Longus Enables Simultaneous Powering of Key Pinch and Forearm Pronation. Journal of Hand Surgery, 2006, 31, 993-997.	1.6	17
87	Architecture of the Short External Rotator Muscles of the Hip. BMC Musculoskeletal Disorders, 2019, 20, 611.	1.9	17
88	Postoperative Pain Management Following Total Knee Arthroplasty: A Randomized Comparison of Continuous Epidural Versus Femoral Nerve Infusion. Journal of Knee Surgery, 2006, 19, 137-143.	1.6	16
89	The effect of age on rat rotator cuff muscle architecture. Journal of Shoulder and Elbow Surgery, 2014, 23, 1786-1791.	2.6	16
90	Regional Ulnar Nerve Strain Following Decompression and Anterior Subcutaneous Transposition in Patients With Cubital Tunnel Syndrome. Journal of Hand Surgery, 2016, 41, e343-e350.	1.6	16

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91	Paraspinal muscle morphology and composition in adolescent idiopathic scoliosis: A histological analysis. JOR Spine, 2021, 4, e1169.	3.2	16
92	Architectural and Biochemical Adaptations in Skeletal Muscle and Bone Following Rotator Cuff Injury in a Rat Model. Journal of Bone and Joint Surgery - Series A, 2015, 97, 565-573.	3.0	15
93	Sarcomere length distribution quantification in whole muscle frozen sections. Journal of Experimental Biology, 2016, 219, 1432-6.	1.7	15
94	Muscle excursion does not correlate with increased serial sarcomere number after muscle adaptation to stretched tendon transfer. Journal of Orthopaedic Research, 2012, 30, 1774-1780.	2.3	14
95	Cell populations and muscle fiber morphology associated with acute and chronic muscle degeneration in lumbar spine pathology. JOR Spine, 2020, 3, e1087.	3.2	14
96	Intraoperative Single-Site Sarcomere Length Measurement Accurately Reflects Whole-Muscle Sarcomere Length in the Rabbit. Journal of Hand Surgery, 2007, 32, 612-617.	1.6	13
97	Lumbar spine postures in Marines during simulated operational positions. Journal of Orthopaedic Research, 2017, 35, 2145-2153.	2.3	13
98	Design Considerations of a Fiber Optic Pressure Sensor Protective Housing for Intramuscular Pressure Measurements. Annals of Biomedical Engineering, 2017, 45, 739-746.	2.5	13
99	Developmental Biology and Regenerative Medicine: Addressing the Vexing Problem of Persistent Muscle Atrophy in the Chronically Torn Human Rotator Cuff. Physical Therapy, 2016, 96, 722-733.	2.4	12
100	Systematic test of neurotoxin dose and volume on muscle function in a rat model. Muscle and Nerve, 2014, 49, 709-715.	2.2	10
101	Lumbar Muscle Structure Predicts Operational Postures in Active-Duty Marines. Journal of Orthopaedic and Sports Physical Therapy, 2018, 48, 613-621.	3.5	10
102	Lumbar spine angles and intervertebral disc characteristics with end-range positions in three planes of motion in healthy people using upright MRI. Journal of Biomechanics, 2019, 89, 95-104.	2.1	10
103	Regional differences between superficial and deep lumbar multifidus in patients with chronic lumbar spine pathology. BMC Musculoskeletal Disorders, 2020, 21, 764.	1.9	10
104	Strategies to Identify Mesenchymal Stromal Cells in Minimally Manipulated Human Bone Marrow Aspirate Concentrate Lack Consensus. American Journal of Sports Medicine, 2021, 49, 1313-1322.	4.2	10
105	Distal insertional anatomy of the triceps brachii muscle: MRI assessment in cadaveric specimens employing histologic correlation and Play-dohÂ® models of the anatomic findings. Skeletal Radiology, 2020, 49, 1057-1067.	2.0	9
106	Varying diffusion time to discriminate between simulated skeletal muscle injury models using stimulated echo diffusion tensor imaging. Magnetic Resonance in Medicine, 2021, 85, 2524-2536.	3.0	9
107	Progression of muscle loss and fat accumulation in a rabbit model of rotator cuff tear. Journal of Orthopaedic Research, 2022, 40, 1016-1025.	2.3	9
108	Heterogeneous muscle gene expression patterns in patients with massive rotator cuff tears. PLoS ONE, 2018, 13, e0190439.	2.5	8

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109	An Endplate-Based Joint Coordinate System for Measuring Kinematics in Normal and Abnormally-Shaped Lumbar Vertebrae. Journal of Applied Biomechanics, 2015, 31, 499-503.	0.8	6
110	Effect of Load Magnitude and Distribution on Lumbar Spine Posture in Active-duty Marines. Spine, 2017, 42, 345-351.	2.0	6
111	Examination of the human motor endplate after brachial plexus injury with twoâ€photon microscopy. Muscle and Nerve, 2020, 61, 390-395.	2.2	6
112	An Integrated Approach to Musculoskeletal Performance, Disease, and Recovery. Physical Therapy, 2021, 101, .	2.4	6
113	On Sources of Error in Finite Element Simulations of Blast Effects in the Human Brain. Journal of Computational and Nonlinear Dynamics, 2012, 7, .	1.2	5
114	The effect of training on lumbar spine posture and intervertebral disc degeneration in active-duty Marines. Ergonomics, 2017, 60, 1055-1063.	2.1	5
115	Ultrashort echo time adiabatic T1Ï•(UTE-Adiab-T1Ï•) is sensitive to human cadaveric knee joint deformation induced by mechanical loading and unloading. Magnetic Resonance Imaging, 2021, 80, 98-105.	1.8	5
116	Transcriptional Time Course After Rotator Cuff Tear. Frontiers in Physiology, 2021, 12, 707116.	2.8	5
117	The â€œSecond Hitâ€•of Repair in a Rabbit Model of Chronic Rotator Cuff Tear. Frontiers in Physiology, 2022, 13, 801829.	2.8	5
118	Rotator cuff tear state modulates self-renewal and differentiation capacity of human skeletal muscle progenitor cells. Journal of Orthopaedic Research, 2017, 35, 1816-1823.	2.3	4
119	In vivo supraspinatus muscle contractility and architecture in rabbit. Journal of Applied Physiology, 2020, 129, 1405-1412.	2.5	4
120	Multiparametric MRI characterization of level dependent differences in lumbar muscle size, quality, and microstructure. JOR Spine, 2020, 3, e1079.	3.2	4
121	Co-Expression Network Approach to Studying the Effects of Botulinum Neurotoxin-A. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2018, 15, 2009-2016.	3.0	3
122	Patella Alta. Journal of Bone and Joint Surgery - Series A, 2007, 89, 1749-1755.	3.0	3
123	Sensor Anchoring Improves the Correlation Between Intramuscular Pressure and Muscle Tension in a Rabbit Model. Annals of Biomedical Engineering, 2021, 49, 912-921.	2.5	2
124	Surgical Mobilization of Skeletal Muscles Changes Functional Propertiesâ€”Implications for Tendon Transfers. Journal of Hand Surgery, 2021, 46, 341.e1-341.e10.	1.6	2
125	Evaluating associations of joint swelling, joint stiffness and joint pain with physical activity in first-degree relatives of patients with rheumatoid arthritis: Studies of the Aetiology of Rheumatoid Arthritis (SERA), a prospective cohort study. BMJ Open, 2021, 11, e050883.	1.9	2
126	Supraspinatus muscle architecture and physiology in a rabbit model of tenotomy and repair. Journal of Applied Physiology, 2021, 131, 1708-1717.	2.5	2

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127	Paraspinal Muscle Health is Related to Fibrogenic, Adipogenic, and Myogenic Gene Expression in Patients with Lumbar Spine Pathology. BMC Musculoskeletal Disorders, 2022, 23, .	1.9	2
128	Letter to the Editor Re: â€œState of the art: proximal junctional kyphosisâ€”diagnosis, management and preventionâ€• Spine Deformity, 2021, , 1.	1.5	1
129	IVIM Imaging of Paraspinal Muscles Following Moderate and High-Intensity Exercise in Healthy Individuals. Frontiers in Rehabilitation Sciences, 2022, 3, .	1.2	1
130	Intervertebral disc kinematics in active duty Marines with and without lumbar spine pathology. JOR Spine, 2019, 2, e1057.	3.2	0
131	Letter to Editor and Response. Spine, 2020, 45, E973-E974.	2.0	0
132	Biochemical diversity of human skeletal muscle. FASEB Journal, 2012, 26, 1141.2.	0.5	0
133	Shoulder Muscle Architecture, Physiology, and Plasticity. , 2017, , 215-225.		0