Mark J Pearcy

List of Publications by Year
in descending order

142 papers	7,261 citations	76326 40 h-index	58581 82 g-index
143 all docs	143 docs citations	143 times ranked	6587 citing authors

#	Article	IF	Citations
1	Mediation of Biomaterialâ€“Cell Interactions by Adsorbed Proteins: A Review. Tissue Engineering, 2005, 11, 1-18.	4.6	1,464
2	Axial Rotation and Lateral Bending in the Normal Lumbar Spine Measured by Three-Dimensional Radiography. Spine, 1984, 9, 582-587.	2.0	333
3	Three-Dimensional X-ray Analysis of Normal Movement in the Lumbar Spine. Spine, 1984, 9, 294-297.	2.0	326
4	A Universal Model of the Lumbar Back Muscles in the Upright Position. Spine, 1992, 17, 897-913.	2.0	296
5	Instantaneous Axes of Rotation of the Lumbar Intervertebral Joints. Spine, 1988, 13, 1033-1041.	2.0	247
6	Anatomy and biomechanics of psoas major. Clinical Biomechanics, 1992, 7, 109-119.	1.2	193
7	New method for the non-invasive three-dimensional measurement of human back movement. Clinical Biomechanics, 1989, 4, 73-79.	1.2	183
8	Stereo radiography of lumbar spine motion. Acta Orthopaedica, 1985, 56, 1-45.	1.4	180
9	Direct measurement of hoop strains in the intact and torn human medial meniscus. Clinical Biomechanics, 1996, 11, 295-300.	1.2	176
10	Failure strengths of different meniscal suturing techniques. Arthroscopy - Journal of Arthroscopic and Related Surgery, 1995, 11, 146-150.	2.7	162
11	The Effect of Low-Back Pain on Lumbar Spinal Movements Measured by Three-Dimensional X-Ray Analysis. Spine, 1985, 10, 150-153.	2.0	145
12	The Response to Particulate Debris. Orthopedic Clinics of North America, 1993, 24, 571-581.	1.2	123
13	Three-dimensional analysis of active cervical motion: the effect of age and gender. Clinical Biomechanics, 1996, 11, 201-206.	1.2	118
14	In Vitro Human Monocyte Response To Wear Particles Of Titanium Alloy Containing Vanadium Or Niobium. Journal of Bone and Joint Surgery: British Volume, 1997, 79, 311-315.	3.4	104
15	Implant retrieval studies of the wear and loosening of prosthetic joints: a review. Wear, 2000, 241, 158-165.	3.1	99
16	Defining the Neutral Zone of sheep intervertebral joints during dynamic motions: an in vitro study. Clinical Biomechanics, 2003, 18, 89-98.	1.2	97
17	Kinetics of transfemoral amputees with osseointegrated fixation performing common activities of daily living. Clinical Biomechanics, 2007, 22, 665-673.	1.2	96
18	A Compact Mock Circulation Loop for the In Vitro Testing of Cardiovascular Devices. Artificial Organs, 2011, 35, 384-391.	1.9	90

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19	A new approach for assigning bone material properties from CT images into finite element models. Journal of Biomechanics, 2010, 43, 1011-1015.	2.1	75
20	The Effects of Flexion on the Geometry and Actions of the Lumbar Erector Spinae. Spine, 1993, 18, 884-893.	2.0	74
21	Lumbar Intervertebral Disc Heights in Normal Subjects and Patients with Disc Herniation. Spine, 1985, 10, 452-454.	2.0	70
22	Mechanical function of the human lumbar interspinous and supraspinous ligaments. Journal of Biomedical Engineering, 1990, 12, 340-344.	0.7	67
23	Dynamic back movement measured using a three-dimensional television system. Journal of Biomechanics, 1987, 20, 943-949.	2.1	66
24	Nonlinear finite element analysis of anular lesions in the L4/5 intervertebral disc. Journal of Biomechanics, 2007, 40, 2744-2751.	2.1	64
25	Measurement of back and spinal mobility. Clinical Biomechanics, 1986, 1, 44-51.	1.2	63
26	The Long-Term Wear of Retrieved McKee-Farrar Metal-on-Metal Total Hip Prostheses. Journal of Arthroplasty, 2005, 20, 350-357.	3.1	62
27	The BiVACOR Rotary Biventricular Assist Device: Concept and In Vitro Investigation. Artificial Organs, 2008, 32, 816-819.	1.9	62
28	Twisting Mobility of the Human Back in Flexed Postures. Spine, 1993, 18, 114-119.	2.0	61
29	Disc Lesions and the Mechanics of the Intervertebral Joint Complex. Spine, 2000, 25, 3026-3035.	2.0	60
30	A Biological Basis for Instantaneous Centres of Rotation of the Vertebral Column. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 1995, 209, 177-183.	1.8	58
31	Is There Instability in Spondylolisthesis?. Spine, 1985, 10, 175-177.	2.0	55
32	Load on Osseointegrated Fixation of a Transfemoral Amputee During a Fall. Prosthetics and Orthotics International, 2010, 34, 85-97.	1.0	55
33	Movements of the lumbar spine measured by three-dimensional X-ray analysis. Journal of Biomedical Engineering, 1982, 4, 107-112.	0.7	53
34	Mechanical properties of the human anterior cruciate ligament. Clinical Biomechanics, 1995, 10, 339-344.	1.2	53
35	The mechanical effects of intervertebral disc lesions. Clinical Biomechanics, 2004, 19, 448-455.	1.2	52
36	Three-dimensional kinematics of the human back. Clinical Biomechanics, 1990, 5, 218-228.	1.2	49

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37	Stress analysis of interbody fusionâ€“â€“finite element modelling of intervertebral implant and vertebral body. Clinical Biomechanics, 2003, 18, 265-272.	1.2	48
38	Simulation of the nutrient supply in fracture healing. Journal of Biomechanics, 2009, 42, 2575-2583.	2.1	47
39	FE stress analysis of the interface between the bone and an osseointegrated implant for amputees â€“ Implications to refine the rehabilitation program. Clinical Biomechanics, 2008, 23, 1243-1250.	1.2	45
40	Are coupled rotations in the lumbar spine largely due to the osseo-ligamentous anatomy?â€”A modeling study. Computer Methods in Biomechanics and Biomedical Engineering, 2008, 11, 95-103.	1.6	43
41	Drug Inhibition of the Macrophage Response to Metal Wear Particles In Vitro. Clinical Orthopaedics and Related Research, 1996, 323, 316-326.	1.5	42
42	Kinematics and movement sequencing during flexion of the lumbar spine. Clinical Biomechanics, 1999, 14, 376-383.	1.2	42
43	Abnormal Motion in Spondylolytic Spondylolisthesis. Spine, 2005, 30, 1159-1164.	2.0	42
44	Rotational mobility of the human back in forward flexion. Journal of Biomedical Engineering, 1989, 11, 219-223.	0.7	41
45	Computational investigations of mechanical failures of internal plate fixation. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2010, 224, 119-126.	1.8	41
46	Is There Asymmetry Between the Concave and Convex Pedicles in Adolescent Idiopathic Scoliosis? A CT Investigation. Clinical Orthopaedics and Related Research, 2017, 475, 884-893.	1.5	41
47	A three-dimensional mathematical model of the thoracolumbar fascia and an estimate of its biomechanical effect. Journal of Biomechanics, 2010, 43, 2792-2797.	2.1	38
48	Computational Fluid Dynamic Analysis of Intracranial Aneurysmal Bleb Formation. Neurosurgery, 2013, 73, 1061-1069.	1.1	38
49	Mechanical consequences of annular tears and subsequent intervertebral disc degeneration. Clinical Biomechanics, 1994, 9, 211-219.	1.2	37
50	Replication of the Frank-Starling response in a mock circulation loop. , 2011, 2011, 6825-8.		37
51	Assessment of bony union after interbody fusion of the lumbar spine using a biplanar radiographic technique. Journal of Bone and Joint Surgery: British Volume, 1982, 64-B, 228-232.	3.4	36
52	Apparatus for monitoring load bearing rehabilitation exercises of a transfemoral amputee fitted with an osseointegrated fixation: A proof-of-concept study. Gait and Posture, 2010, 31, 223-228.	1.4	36
53	Clinical Implications Of Stiffness And Strength Changes In Fracture Healing. Journal of Bone and Joint Surgery: British Volume, 1997, 79, 9-12.	3.4	36
54	A Prospective Study of Lumbar Spinal Movements Before and After Discectomy Using Biplanar Radiography. Spine, 1985, 10, 455-460.	2.0	33

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55	Temperature dependence of the tensile properties of interspinous ligaments of sheep. Journal of Biomedical Engineering, 1986, 8, 62-66.	0.7	33
56	Development of a multi-scale finite element model of the osteoporotic lumbar vertebral body for the investigation of apparent level vertebra mechanics and micro-level trabecular mechanics. Medical Engineering and Physics, 2010, 32, 653-661.	1.7	33
57	Aging Performance of a Compliant Layer Bearing Acetabular Prosthesis in an Ovine Hip Arthroplasty Model. Journal of Arthroplasty, 2006, 21, 899-906.	3.1	32
58	The mechanical response of the ovine lumbar anulus fibrosus to uniaxial, biaxial and shear loads. Journal of the Mechanical Behavior of Biomedical Materials, 2010, 3, 146-157.	3.1	31
59	Measurement of human back movements in three dimensions by opto-electronic devices. Clinical Biomechanics, 1987, 2, 199-204.	1.2	30
60	A method for production and characterization of metal prosthesis wear particles. Journal of Orthopaedic Research, 1993, 11, 856-864.	2.3	30
61	Comparison of two numerical approaches for bone remodelling. Medical Engineering and Physics, 2007, 29, 134-139.	1.7	30
62	THE AXIAL TORQUE OF THE LUMBAR BACK MUSCLES: TORSION STRENGTH OF THE BACK MUSCLES. ANZ Journal of Surgery, 1993, 63, 205-212.	0.7	28
63	Timing of pulsed electromagnetic field stimulation does not affect the promotion of bone cell development. Bioelectromagnetics, 2005, 26, 670-676.	1.6	28
64	An experimental and finite element poroelastic creep response analysis of an intervertebral hydrogel disc model in axial compression. Journal of Materials Science: Materials in Medicine, 2005, 16, 663-669.	3.6	28
65	Simulation and enhancement of a cardiovascular device test rig. Journal of Simulation, 2010, 4, 34-41.	1.5	26
66	A three-dimensional definition for the flexion/extension and abduction/adduction angles. Medical and Biological Engineering and Computing, 1999, 37, 440-444.	2.8	25
67	The role of quadratus lumborum asymmetry in the occurrence of lesions in the lumbar vertebrae of cricket fast bowlers. Medical Engineering and Physics, 2007, 29, 877-885.	1.7	25
68	A diffusion andT2relaxation MRI study of the ovine lumbar intervertebral disc under compressionin vitro. Physics in Medicine and Biology, 2004, 49, 3585-3592.	3.0	24
69	Gravity-Induced Torque and Intravertebral Rotation in Idiopathic Scoliosis. Spine, 2008, 33, E30-E37.	2.0	24
70	Evaluation of Left Ventricular Assist Device Performance and Hydraulic Force in a Complete Mock Circulation Loop. Artificial Organs, 2005, 29, 573-580.	1.9	23
71	Mechanical Function of the Nucleus Pulposus of the Intervertebral Disc Under High Rates of Loading. Spine, 2019, 44, 1035-1041.	2.0	23
72	Modelling the line of action for the oblique abdominal muscles using an elliptical torso model. Journal of Biomechanics, 2001, 34, 1203-1207.	2.1	22

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73	Atrial Versus Ventricular Cannulation for a Rotary Ventricular Assist Device. Artificial Organs, 2010, 34, 714-720.	1.9	22
74	Modelling external bone adaptation using evolutionary structural optimisation. Biomechanics and Modeling in Mechanobiology, 2007, 6, 275-285.	2.8	21
75	Frank-starling control of a left ventricular assist device. , 2011, 2011, 1335-8.		21
76	Supine to standing Cobb angle change in idiopathic scoliosis: the effect of endplate pre-selection. Scoliosis, 2014, 9, 16.	0.4	18
77	Quantifying Progressive Anterior Overgrowth in the Thoracic Vertebrae of Adolescent Idiopathic Scoliosis Patients. Spine, 2016, 41, E382-E387.	2.0	18
78	Metal debris from bony resection in knee arthroplastyâ€"is it an issue?. Monthly Notices of the Royal Astronomical Society: Letters, 2005, 76, 475-480.	3.3	17
79	Difficulties in Estimating Muscle Forces From Muscle Cross-Sectional Area. Spine, 1999, 24, 1487.	2.0	16
80	Parametric equations to represent the profile of the human intervertebral disc in the transverse plane. Medical and Biological Engineering and Computing, 2007, 45, 939-945.	2.8	16
81	A robotic testing facility for the measurement of the mechanics of spinal joints. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2007, 221, 221-227.	1.8	15
82	Comparison of Silicate-Substituted Calcium Phosphate (Actifuse) with Recombinant Human Bone Morphogenetic Protein-2 (Infuse) in Posterolateral Instrumented Lumbar Fusion. Global Spine Journal, 2015, 5, 471-478.	2.3	15
83	A naturally shaped silicone ventricle evaluated in a mock circulation loop: A preliminary study. Journal of Medical Engineering and Technology, 2009, 33, 185-191.	1.4	14
84	Passive Control of a Biventricular Assist Device With Compliant Inflow Cannulae. Artificial Organs, 2012, 36, 683-690.	1.9	14
85	Three-Dimensional Lumbar Spine Postures Measured by Magnetic Resonance Imaging Reconstruction. Spine, 2007, 32, 1242-1248.	2.0	13
86	Understanding how axial loads on the spine influence segmental biomechanics for idiopathic scoliosis patients: A magnetic resonance imaging study. Clinical Biomechanics, 2016, 32, 220-228.	1.2	13
87	Ability of modal analysis to detect osseointegration of implants in transfemoral amputees: a physical model study. Medical and Biological Engineering and Computing, 2013, 51, 39-47.	2.8	12
88	Evaluation of Inflow Cannulation Site for Implantation of Rightâ€Sided Rotary Ventricular Assist Device. Artificial Organs, 2013, 37, 704-711.	1.9	12
89	In Vitro Evaluation of a Compliant Inflow Cannula Reservoir to Reduce Suction Events With Extracorporeal Rotary Ventricular Assist Device Support. Artificial Organs, 2011, 35, 765-772.	1.9	11
90	A Compliant, Banded Outflow Cannula for Decreased Afterload Sensitivity of Rotary Right Ventricular Assist Devices. Artificial Organs, 2015, 39, 102-109.	1.9	11

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91	Vertebral Motion Measured Using Biplanar Radiography Before and After Harrington Rod Removal for Unstable Thoracolumbar Fractures of the Spine. Spine, 1986, 11, 452-455.	2.0	10
92	Soft layer lubrication of artificial hip joints. Journal of Synthetic Lubrication: Research, Development and Application of Synthetic Lubricants and Functional Fluids, 1988, 5, 55-72.	0.7	10
93	Loadâ€induced changes in the diffusion tensor of ovine anulus fibrosus: A pilot MRI study. Journal of Magnetic Resonance Imaging, 2017, 45, 1723-1735.	3.4	10
94	Sequential Magnetic Resonance Imaging Reveals Individual Level Deformities of Vertebrae and Discs in the Growing Scoliotic Spine. Spine Deformity, 2017, 5, 197-207.	1.5	10
95	A Passively Controlled Biventricular Support Device. Artificial Organs, 2010, 34, 473-480.	1.9	9
96	Computational model of the lumbar spine musculature: Implications of spinal surgery. Clinical Biomechanics, 2011, 26, 116-122.	1.2	9
97	Shortening Cemented Femoral Implants. Journal of Arthroplasty, 2012, 27, 934-939.	3.1	9
98	Segmental torso masses in adolescent idiopathic scoliosis. Clinical Biomechanics, 2014, 29, 773-779.	1.2	9
99	Optimizing the Response From a Passively Controlled Biventricular Assist Device. Artificial Organs, 2010, 34, 393-401.	1.9	8
100	Evaluation of modal analysis techniques using physical models to detect osseointegration of implants in transfemoral amputees. , 2011, 2011, 1600-3.		8
101	The effect of repeated loading and freezeâ€“thaw cycling on immature bovine thoracic motion segment stiffness. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2014, 228, 1100-1107.	1.8	8
102	A biomechanical investigation of dual growing rods used for fusionless scoliosis correction. Clinical Biomechanics, 2015, 30, 33-39.	1.2	8
103	Predicting spinal profile using 3D non-contact surface scanning: Changes in surface topography as a predictor of internal spinal alignment. PLoS ONE, 2019, 14, e0222453.	2.5	8
104	Characterization of progressive changes in pedicle morphometry and neurovascular anatomy during growth in adolescent idiopathic scoliosis versus adolescents without scoliosis. Spine Deformity, 2020, 8, 1193-1204.	1.5	8
105	Posterior intertransverse fusion assessed clinically and with biplanar radiography. International Orthopaedics, 1985, 9, 11-17.	1.9	7
106	In Vitro Analysis of Exeter Stem Torsional Stability. Journal of Arthroplasty, 2007, 22, 1024-1030.	3.1	7
107	Morphometric Analysis of the Thoracic Intervertebral Foramen Osseous Anatomy in Adolescent Idiopathic Scoliosis Using Low-Dose Computed Tomography. Spine Deformity, 2016, 4, 182-192.	1.5	7
108	Graphical presentation of the range of hip and knee rotations for clinical evaluation of gait. Clinical Biomechanics, 2001, 16, 84-86.	1.2	6

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109	Thermomechanical investigation of the cortical bone analogue in third-generation Sawbones femurs. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2007, 221, 213-217.	1.8	6
110	Artificial lumbar intervertebral disc replacement: accepted practice or experimental surgery?. Expert Review of Medical Devices, 2010, 7, 855-860.	2.8	6
111	The skeletal response to matt and polished cemented femoral stems. Journal of Bone and Joint Surgery: British Volume, 2000, 82, 1182-1188.	3.4	6
112	Spinal Movements in Ankylosing Spondylitis and the Effect of Treatment. Spine, 1985, 10, 472-474.	2.0	5
113	Correlations between the mechanical properties, radiology and histomorphometry of human femoral bone. Clinical Biomechanics, 1992, 7, 153-160.	1.2	5
114	The reliability of postural sway measures using the 3space Tracker. Clinical Biomechanics, 1996, 11, 361-363.	1.2	5
115	Development of a biaxial compression device for biological samples: Preliminary experimental results for a closed cell foam. Journal of the Mechanical Behavior of Biomedical Materials, 2009, 2, 305-309.	3.1	5
116	Mechanical tension as a driver of connective tissue growth in vitro. Medical Hypotheses, 2014, 83, 111-115.	1.5	5
117	Role of the Middle Lumbar Fascia on Spinal Mechanics. Spine, 2017, 42, E459-E465.	2.0	4
118	A comparison of vertebral venous networks in adolescent idiopathic scoliosis patients and healthy controls. Surgical and Radiologic Anatomy, 2017, 39, 281-291.	1.2	4
119	Re-design of the Exeter V40 long-stem femoral component for ease of removal. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2007, 221, 195-201.	1.8	3
120	Anatomic Fitting of Total Artificial Hearts for In Vivo Evaluation. Artificial Organs, 2013, 37, 735-741.	1.9	3
121	Minimizing Spine Autofusion With the Use of Semiconstrained Growing Rods for Early Onset Scoliosis in Children. Journal of Pediatric Orthopaedics, 2018, 38, e562-e571.	1.2	3
122	Coupled rotations in the lumbar spineâ€”are these a consequence of passive spinal anatomy?. WIT Transactions on Biomedicine and Health, 2007, , .	0.0	3
123	Bilateral femoral rotations measured during walking: a new parameter to summarize and describe individual gait. Clinical Biomechanics, 1996, 11, 354-357.	1.2	2
124	A semiautomatic method to identify vertebral end plate lesions (Schmorl's nodes). Spine Journal, 2015, 15, 1665-1673.	1.3	2
125	A comparison of four techniques to measure anterior and posterior vertebral body heights and sagittal plane wedge angles in adolescent idiopathic scoliosis. Medical and Biological Engineering and Computing, 2017, 55, 561-572.	2.8	2
126	Is vertebral rotation correction maintained after thoracoscopic anterior scoliosis surgery? A low-dose computed tomography study. Scoliosis and Spinal Disorders, 2017, 12, 22.	2.3	2

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127	The effect of soft tissue properties on overall biomechanical response of a human lumbar motion segment: a preliminary finite element study. WIT Transactions on Biomedicine and Health, 2007, , .	0.0	2
128	The effect of water content on the stiffness of seating foams. Prosthetics and Orthotics International, 1986, 10, 149-152.	1.0	2
129	Material properties of Velcro fastenings. Prosthetics and Orthotics International, 1982, 6, 93-96.	1.0	1
130	A graphical presentation of three-dimensional joint mobility. Clinical Biomechanics, 1987, 2, 14-21.	1.2	1
131	Power spectrum analysis of human femoral rotations during gait. Medical and Biological Engineering and Computing, 1997, 35, 553-555.	2.8	1
132	Are coupled rotations in the lumbar spine largely due to the osseo-ligamentous anatomy? â€“ A modelling study. Computer Methods in Biomechanics and Biomedical Engineering, 2008, 11, 214-214.	1.6	1
133	Growing rod analysis for the fusionless correction of Early Onset Scoliosis (EOS). Scoliosis, 2015, 10, .	0.4	1
134	Gravity-induced coronal plane joint moments in adolescent idiopathic scoliosis. Scoliosis, 2015, 10, 35.	0.4	1
135	The effect of vertebral body stapling on spine biomechanics and structure using a bovine model. Clinical Biomechanics, 2020, 74, 73-78.	1.2	1
136	Bioengineering Activities in the Department of Orthopaedic Surgery and Trauma, Royal Adelaide Hospital, Adelaide, South Australia. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 1991, 205, 257-259.	1.8	0
137	The effect of endplate preselection when measuring supine versus standing cobb angle change in idiopathic scoliosis. Scoliosis, 2015, 10, .	0.4	0
138	Load-induced changes in the diffusion tensor of ovine anulus fibrosus: A pilot MRI study. Journal of Magnetic Resonance Imaging, 2017, 45, spcone-spcone.	3.4	0
139	Finite Element Simulation of an L4/5 Lumbar Intervertebral Disc(Soft Tissue Mechanics). The Proceedings of the Asian Pacific Conference on Biomechanics Emerging Science and Technology in Biomechanics, 2004, 2004.1, 181-182.	0.0	0
140	The Relevance of Biomechanics to Orthopaedic Practice(Plenary Lectures). The Proceedings of the Asian Pacific Conference on Biomechanics Emerging Science and Technology in Biomechanics, 2004, 2004.1, 3-4.	0.0	0
141	Initiation of Mechanical Derangement in the Anulus Fibrosus Ground Matrix(Soft Tissue Mechanics). The Proceedings of the Asian Pacific Conference on Biomechanics Emerging Science and Technology in Biomechanics, 2004, 2004.1, 183-184.	0.0	0
142	The effect of trabecular micro-architecture on vertebra biomechanics: a finite element investigation. WIT Transactions on Biomedicine and Health, 2007, , .	0.0	0