Peter A Cripton

List of Publications by Year
in descending order

140 papers	4,822 citations	101496 36 h-index	118793 62 g-index
141 all docs	141 docs citations	141 times ranked	4233 citing authors

#	Article	IF	Citations
1	The impact of transportation infrastructure on bicycling injuries and crashes: a review of the literature. Environmental Health, 2009, 8, 47.	1.7	350
2	Route Infrastructure and the Risk of Injuries to Bicyclists: A Case-Crossover Study. American Journal of Public Health, 2012, 102, 2336-2343.	1.5	235
3	Interbody cage stabilisation in the lumbar spine: Biomechanical evaluation of cage design, posterior instrumentation and bone density. Journal of Bone and Joint Surgery: British Volume, 1998, 80, 351-359.	3.4	194
4	During sideways falls proximal femur fractures initiate in the superolateral cortex: Evidence from high-speed video of simulated fractures. Journal of Biomechanics, 2009, 42, 1917-1925.	0.9	173
5	Compressive strength of interbody cages in the lumbar spine: the effect of cage shape, posterior instrumentation and bone density. European Spine Journal, 1998, 7, 132-141.	1.0	171
6	Merging pathology with biomechanics using CHIMERA (Closed-Head Impact Model of Engineered) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 Neurodegeneration, 2014, 9, 55.	4.4	148
7	A Novel Porcine Model of Traumatic Thoracic Spinal Cord Injury. Journal of Neurotrauma, 2013, 30, 142-159.	1.7	123
8	Comparing the effects of infrastructure on bicycling injury at intersections and non-intersections using a caseâ€“crossover design. Injury Prevention, 2013, 19, 303-310.	1.2	120
9	Bicycle helmets are highly effective at preventing head injury during head impact: Head-form accelerations and injury criteria for helmeted and unhelmeted impacts. Accident Analysis and Prevention, 2014, 70, 1-7.	3.0	109
10	In vitro axial preload application during spine flexibility testing: towards reduced apparatus-related artefacts. Journal of Biomechanics, 2000, 33, 1559-1568.	0.9	105
11	The Biomechanical Effects of Kyphoplasty on Treated and Adjacent Nontreated Vertebral Bodies. Journal of Spinal Disorders and Techniques, 2005, 18, 84-91.	1.8	99
12	The Relative Importance of Vertebral Bone Density and Disc Degeneration in Spinal Flexibility and Interbody Implant Performance. Spine, 1996, 21, 2558-2569.	1.0	97
13	Proximal femur bone strength estimated by a computationally fast finite element analysis in a sideways fall configuration. Journal of Biomechanics, 2013, 46, 1231-1236.	0.9	92
14	A Method to Simulate In Vivo Cervical Spine Kinematics Using In Vitro Compressive Preload. Spine, 2002, 27, 43-48.	1.0	90
15	Towards clinical management of traumatic brain injury: a review of models and mechanisms from a biomechanical perspective. DMM Disease Models and Mechanisms, 2013, 6, 1325-38.	1.2	84
16	Safe Cycling: How Do Risk Perceptions Compare With Observed Risk?. Canadian Journal of Public Health, 2012, 103, S42-S47.	1.1	75
17	Load-Sharing Characteristics of Stabilized Lumbar Spine Segments. Spine, 2000, 25, 170.	1.0	71
18	Hip protectors: recommendations for biomechanical testingâ€”an international consensus statement (part I). Osteoporosis International, 2009, 20, 1977-1988.	1.3	66

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19	Biomechanical Evaluation of the Total Facet Arthroplasty Systemâ„¢. Spine, 2007, 32, 55-62.	1.0	65
20	Defining the biomechanical and biological threshold of murine mild traumatic brain injury using CHIMERA (Closed Head Impact Model of Engineered Rotational Acceleration). Experimental Neurology, 2017, 292, 80-91.	2.0	61
21	A minimally disruptive technique for measuring intervertebral disc pressure in vitro: application to the cervical spine. Journal of Biomechanics, 2001, 34, 545-549.	0.9	60
22	Shear deformation and fracture of human cortical bone. Bone, 2015, 71, 25-35.	1.4	57
23	Development of a System for In Vitro Neck Muscle Force Replication in Whole Cervical Spine Experiments. Spine, 2001, 26, 2214-2219.	1.0	55
24	Changes in Pressure, Hemodynamics, and Metabolism within the Spinal Cord during the First 7 Days after Injury Using a Porcine Model. Journal of Neurotrauma, 2017, 34, 3336-3350.	1.7	51
25	CHIMERA repetitive mild traumatic brain injury induces chronic behavioural and neuropathological phenotypes in wild-type and APP/PS1 mice. Alzheimer's Research and Therapy, 2019, 11, 6.	3.0	50
26	A scoping review of the proximal humerus fracture literature. BMC Musculoskeletal Disorders, 2015, 16, 112.	0.8	48
27	Kinematic response of lumbar functional spinal units to axial torsion with and without superimposed compression and flexion/extension. European Spine Journal, 2004, 13, 560-566.	1.0	46
28	Development of a balanced experimentalâ€“computational approach to understanding the mechanics of proximal femur fractures. Medical Engineering and Physics, 2014, 36, 793-799.	0.8	45
29	Severity of urban cycling injuries and the relationship with personal, trip, route and crash characteristics: analyses using four severity metrics. BMJ Open, 2015, 5, e006654-e006654.	0.8	45
30	Biofidelic whole cervical spine model with muscle force replication for whiplash simulation. European Spine Journal, 2005, 14, 346-355.	1.0	43
31	Development of an Inertia-Driven Model of Sideways Fall for Detailed Study of Femur Fracture Mechanics. Journal of Biomechanical Engineering, 2013, 135, 121001.	0.6	41
32	Ex vivo measurement of lumbar intervertebral disc pressure using fibre-Bragg gratings. Journal of Biomechanics, 2008, 41, 221-225.	0.9	40
33	Bicycling crash circumstances vary by route type: a cross-sectional analysis. BMC Public Health, 2014, 14, 1205.	1.2	40
34	The influence of the modulusâ€“density relationship and the material mapping method on the simulated mechanical response of the proximal femur in side-ways fall loading configuration. Medical Engineering and Physics, 2016, 38, 679-689.	0.8	40
35	Hip protectors: recommendations for conducting clinical trialsâ€”an international consensus statement (part II). Osteoporosis International, 2010, 21, 1-10.	1.3	38
36	Wear and Corrosion in Retrieved Thoracolumbar Posterior Internal Fixation. Spine, 2006, 31, 2454-2462.	1.0	37

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37	Age at injury and genotype modify acute inflammatory and neurofilament-light responses to mild CHIMERA traumatic brain injury in wild-type and APP/PS1 mice. Experimental Neurology, 2018, 301, 26-38.	2.0	37
38	The Effect of Cerebrospinal Fluid on the Biomechanics of Spinal Cord. Spine, 2008, 33, E580-E588.	1.0	36
39	Cervical spinal cord deformation during simulated head-first impact injuries. Journal of Biomechanics, 2011, 44, 2565-2571.	0.9	36
40	Gross Morphological Changes of the Spinal Cord Immediately After Surgical Decompression in a Large Animal Model of Traumatic Spinal Cord Injury. Spine, 2012, 37, E890-E899.	1.0	35
41	A Review of Impact Testing Methods for Headgear in Sports: Considerations for Improved Prevention of Head Injury Through Research and Standards. Journal of Biomechanical Engineering, 2019, 141, .	0.6	35
42	Cement Augmentation of Vertebral Screws Enhances the Interface Strength Between Interbody Device and Vertebral Body. Spine, 2007, 32, 334-341.	1.0	34
43	The Pressure Distribution of Cerebrospinal Fluid Responds to Residual Compression and Decompression in an Animal Model of Acute Spinal Cord Injury. Spine, 2012, 37, E1422-E1431.	1.0	34
44	Comparison of explicit finite element and mechanical simulation of the proximal femur during dynamic drop-tower testing. Journal of Biomechanics, 2015, 48, 224-232.	0.9	34
45	Material mapping strategy to improve the predicted response of the proximal femur to a sideways fall impact. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 78, 196-205.	1.5	33
46	Development of a large-animal model to measure dynamic cerebrospinal fluid pressure during spinal cord injury. Journal of Neurosurgery: Spine, 2012, 16, 624-635.	0.9	32
47	Nonlinear viscoelastic characterization of the porcine spinal cord. Acta Biomaterialia, 2014, 10, 792-797.	4.1	32
48	Defining an Analytic Framework to Evaluate Quantitative MRI Markers of Traumatic Axonal Injury: Preliminary Results in a Mouse Closed Head Injury Model. ENeuro, 2017, 4, ENEURO.0164-17.2017.	0.9	32
49	Chronic Exposure to Androgenic-Anabolic Steroids Exacerbates Axonal Injury and Microgliosis in the CHIMERA Mouse Model of Repetitive Concussion. PLoS ONE, 2016, 11, e0146540.	1.1	31
50	Increased severity of the CHIMERA model induces acute vascular injury, sub-acute deficits in memory recall, and chronic white matter gliosis. Experimental Neurology, 2020, 324, 113116.	2.0	30
51	Proximal femur elastic behaviour is the same in impact and constant displacement rate fall simulation. Journal of Biomechanics, 2014, 47, 3744-3749.	0.9	29
52	Effects of hip abductor muscle forces and knee boundary conditions on femoral neck stresses during simulated falls. Osteoporosis International, 2015, 26, 291-301.	1.3	29
53	Morphology based anisotropic finite element models of the proximal femur validated with experimental data. Medical Engineering and Physics, 2016, 38, 1339-1347.	0.8	29
54	Mechanisms of cervical spine injury in rugby union: is it premature to abandon hyperflexion as the main mechanism underpinning injury?. British Journal of Sports Medicine, 2012, 46, 545-549.	3.1	26

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55	Pull-out strength of pedicle hooks with fixation screws: influence of screw length and angulation. European Spine Journal, 1996, 5, 71-73.	1.0	25
56	Pediatric lumbar Chance fractures in British Columbia: Chart review and analysis of the use of shoulder restraints in MVAs. Accident Analysis and Prevention, 2008, 40, 1424-1429.	3.0	25
57	Acoustic emission signals can discriminate between compressive bone fractures and tensile ligament injuries in the spine during dynamic loading. Journal of Biomechanics, 2012, 45, 1643-1649.	0.9	25
58	Explicit Finite Element Models Accurately Predict Subject-Specific and Velocity-Dependent Kinetics of Sideways Fall Impact. Journal of Bone and Mineral Research, 2019, 34, 1837-1850.	3.1	25
59	Optical Assessment of Spinal Cord Tissue Oxygenation Using a Miniaturized Near Infrared Spectroscopy Sensor. Journal of Neurotrauma, 2019, 36, 3034-3043.	1.7	25
60	A minimally invasive in-fiber Bragg grating sensor for intervertebral disc pressure measurements. Measurement Science and Technology, 2008, 19, 085201.	1.4	24
61	Pediatric and Adult Three-Dimensional Cervical Spine Kinematics. Spine, 2009, 34, 1650-1657.	1.0	24
62	Animation of in vitro biomechanical tests. Journal of Biomechanics, 2001, 34, 1091-1096.	0.9	23
63	Validation of a Novel Minimally Invasive Intervertebral Disc Pressure Sensor Utilizing In-Fiber Bragg Gratings in a Porcine Model. Spine, 2008, 33, E589-E594.	1.0	22
64	The development of an improved physical surrogate model of the human spinal cordâ€”Tension and transverse compression. Journal of Biomechanics, 2009, 42, 878-883.	0.9	22
65	Comparison of specimen-specific vertebral body finite element models with experimental digital image correlation measurements. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 65, 801-807.	1.5	21
66	A novel sideways fall simulator to study hip fractures ex vivo. PLoS ONE, 2018, 13, e0201096.	1.1	21
67	The Bicyclists' Injuries and the Cycling Environment study: a protocol to tackle methodological issues facing studies of bicycling safety. Injury Prevention, 2011, 17, e6-e6.	1.2	20
68	Exposure-based Traffic Crash Injury Rates by Mode of Travel in British Columbia. Canadian Journal of Public Health, 2013, 104, e75-e79.	1.1	20
69	Responses of the Acutely Injured Spinal Cord to Vibration that Simulates Transport in Helicopters or Mine-Resistant Ambush-Protected Vehicles. Journal of Neurotrauma, 2016, 33, 2217-2226.	1.7	20
70	Review of the UBC Porcine Model of Traumatic Spinal Cord Injury. Journal of Korean Neurosurgical Society, 2018, 61, 539-547.	0.5	20
71	Biomechanical evaluation of the Total Facet Arthroplasty SystemÂ® (TFASÂ®): loading as compared to a rigid posterior instrumentation system. European Spine Journal, 2012, 21, 1660-1673.	1.0	19
72	The Effect of Whole-Body Resonance Vibration in a Porcine Model of Spinal Cord Injury. Journal of Neurotrauma, 2015, 32, 908-921.	1.7	19

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73	Comparison of Strain Rosettes and Digital Image Correlation for Measuring Vertebral Body Strain. Journal of Biomechanical Engineering, 2016, 138, 054501.	0.6	19
74	Comparison of in vivo and ex vivo viscoelastic behavior of the spinal cord. Acta Biomaterialia, 2018, 68, 78-89.	4.1	19
75	On the internal reaction forces, energy absorption, and fracture in the hip during simulated sideways fall impact. PLoS ONE, 2018, 13, e0200952.	1.1	19
76	Repetitive closed-head impact model of engineered rotational acceleration (CHIMERA) injury in rats increases impulsivity, decreases dopaminergic innervation in the olfactory tubercle and generates white matter inflammation, tau phosphorylation and degeneration. Experimental Neurology, 2019, 317, 87-99.	2.0	19
77	Translational constraint influences dynamic spinal canal occlusion of the thoracic spine: An in vitro experimental study. Journal of Biomechanics, 2008, 41, 171-179.	0.9	18
78	Kinematic evaluation of one- and two-level Maverick lumbar total disc replacement caudal to a long thoracolumbar spinal fusion. European Spine Journal, 2012, 21, 599-611.	1.0	18
79	New means in spinal pedicle hook fixation. European Spine Journal, 1995, 4, 114-122.	1.0	17
80	The appropriate and inappropriate use of child restraint seats in Manitoba. International Journal of Injury Control and Safety Promotion, 2008, 15, 151-156.	1.0	17
81	Personal and trip characteristics associated with safety equipment use by injured adult bicyclists: a cross-sectional study. BMC Public Health, 2012, 12, 765.	1.2	17
82	Compressive Follower Load Influences Cervical Spine Kinematics and Kinetics During Simulated Head-First Impact in an in Vitro Model. Journal of Biomechanical Engineering, 2013, 135, 111003.	0.6	17
83	Cerebrospinal Fluid Pressures Resulting From Experimental Traumatic Spinal Cord Injuries in a Pig Model. Journal of Biomechanical Engineering, 2013, 135, 101005.	0.6	17
84	A Repeatable Ex Vivo Model of Spondylolysis and Spondylolisthesis. Spine, 2008, 33, 2387-2393.	1.0	16
85	Transmission of Force in the Lumbosacral Spine During Backward Falls. Spine, 2012, 37, E519-E527.	1.0	16
86	Neck posture and muscle activity are different when upside down: A human volunteer study. Journal of Biomechanics, 2013, 46, 2837-2843.	0.9	16
87	A scoping review of biomechanical testing for proximal humerus fracture implants. BMC Musculoskeletal Disorders, 2015, 16, 175.	0.8	16
88	Clinical hip fracture is accompanied by compression induced failure in the superior cortex of the femoral neck. Bone, 2018, 108, 121-131.	1.4	16
89	An ex vivo biomechanical comparison of a novel vertebral compression fracture treatment system to kyphoplasty. Clinical Biomechanics, 2012, 27, 346-353.	0.5	15
90	Relating Histopathology and Mechanical Strain in Experimental Contusion Spinal Cord Injury in a Rat Model. Journal of Neurotrauma, 2016, 33, 1685-1695.	1.7	15

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91	On the Failure Initiation in the Proximal Human Femur Under Simulated Sideways Fall. Annals of Biomedical Engineering, 2018, 46, 270-283.	1.3	15
92	Retrospective Assessment of Occupational Exposure to Whole-Body Vibration for a Case-Control Study. Journal of Occupational and Environmental Hygiene, 2012, 9, 371-380.	0.4	13
93	Subject-specific ex vivo simulations for hip fracture risk assessment in sideways falls. Bone, 2019, 125, 36-45.	1.4	13
94	Load Transfer Characteristics Between Posterior Spinal Implants and the Lumbar Spine Under Anterior Shear Loading. Spine, 2012, 37, E1126-E1133.	1.0	12
95	Title is missing!. Journal of Rehabilitation Research and Development, 2008, 45, 1280.	1.6	12
96	A New Biofidelic Sagittal Plane Surrogate Neck for Head-First Impacts. Traffic Injury Prevention, 2010, 11, 309-319.	0.6	11
97	An In Vitro Model of Degenerative Lumbar Spondylolisthesis. Spine, 2013, 38, E870-E877.	1.0	11
98	Cervical Vertebral Realignment When Voluntarily Adopting a Protective Neck Posture. Spine, 2014, 39, E885-E893.	1.0	10
99	In Vivo Measurement of Cervical Spinal Cord Deformation During Traumatic Spinal Cord Injury in a Rodent Model. Annals of Biomedical Engineering, 2016, 44, 1285-1298.	1.3	10
100	The effect of lateral eccentricity on failure loads, kinematics, and canal occlusions of the cervical spine in axial loading. Journal of Biomechanics, 2014, 47, 1164-1172.	0.9	9
101	Quantifying the internal deformation of the rodent spinal cord during acute spinal cord injury â€“ the validation of a method. Computer Methods in Biomechanics and Biomedical Engineering, 2016, 19, 386-395.	0.9	9
102	A neck compression injury criterion incorporating lateral eccentricity. Scientific Reports, 2020, 10, 7114.	1.6	9
103	Development of a novel, sensitive translational immunoassay to detect plasma glial fibrillary acidic protein (GFAP) after murine traumatic brain injury. Alzheimer's Research and Therapy, 2021, 13, 58.	3.0	9
104	Mechanical indicators of injury severity are decreased with increased thecal sac dimension in a bench-top model of contusion type spinal cord injury. Journal of Biomechanics, 2012, 45, 1003-1010.	0.9	8
105	Cervical spine injuries and flexibilities following axial impact with lateral eccentricity. European Spine Journal, 2015, 24, 136-147.	1.0	8
106	Technique and preliminary findings for in vivo quantification of brain motion during injurious head impacts. Journal of Biomechanics, 2019, 95, 109279.	0.9	8
107	Damage Identification on Vertebral Bodies During Compressive Loading Using Digital Image Correlation. Spine, 2017, 42, E1289-E1296.	1.0	7
108	Duraplasty in Traumatic Thoracic Spinal Cord Injury: Impact on Spinal Cord Hemodynamics, Tissue Metabolism, Histology, and Behavioral Recovery Using a Porcine Model. Journal of Neurotrauma, 2021, 38, 2937-2955.	1.7	7

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109	High-Speed Fluoroscopy to Measure Dynamic Spinal Cord Deformation in an In Vivo Rat Model. Journal of Neurotrauma, 2018, 35, 2572-2580.	1.7	6
110	Skiing and snowboarding head injury: A retrospective centre-based study and implications for helmet test standards. Clinical Biomechanics, 2020, 73, 122-129.	0.5	6
111	Biomechanical Aspects of Spinal Cord Injury. Studies in Mechanobiology, Tissue Engineering and Biomaterials, 2010, , 159-180.	0.7	5
112	The neutral posture of the cervical spine is not unique in human subjects. Journal of Biomechanics, 2018, 80, 53-62.	0.9	5
113	A novel helmet-mounted device for reducing the potential of catastrophic cervical spine fractures and spinal cord injuries in head-first impacts. Clinical Biomechanics, 2019, 64, 22-27.	0.5	5
114	Head and Neck Injury Potential With and Without Helmets During Head-First Impacts on Snow. , 2012, , 235-249.		5
115	Shear force measurements on low- and high-stiffness posterior fusion devices. Medical Engineering and Physics, 2012, 34, 1260-1267.	0.8	4
116	Characterization of the behavior of a novel low-stiffness posterior spinal implant under anterior shear loading on a degenerative spinal model. European Spine Journal, 2015, 24, 775-82.	1.0	4
117	The effect of disc degeneration on anterior shear translation in the lumbar spine. Journal of Orthopaedic Research, 2015, 33, 450-457.	1.2	4
118	Development of an Advanced Football Helmet to Provide Increased Protection against Concussion. , 2014, , 84-101.		4
119	Prophylactic augmentation implants in the proximal femur for hip fracture prevention: An in silico investigation of simulated sideways fall impacts. Journal of the Mechanical Behavior of Biomedical Materials, 2022, 126, 104957.	1.5	4
120	Incorporating neck biomechanics in helmet testing: Evaluation of commercially available WaveCel helmets. Clinical Biomechanics, 2022, 94, 105628.	0.5	4
121	Musculature Actuation and Biomechanics of the Spine. , 2006, , 99-143.		3
122	Ice hockey shoulder pad design and the effect on head response during shoulder-to-head impacts. Sports Biomechanics, 2016, 15, 385-396.	0.8	3
123	Shear stiffness in the lower cervical spine: Effect of sequential posterior element injury. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2020, 234, 141-147.	1.0	3
124	Neck Muscle and Head/Neck Kinematic Responses While Bracing Against the Steering Wheel During Front and Rear Impacts. Annals of Biomedical Engineering, 2021, 49, 1069-1082.	1.3	3
125	The Effect of Compression Applied Through Constrained Lateral Eccentricity on the Failure Mechanics and Flexibility of the Human Cervical Spine. Journal of Biomechanical Engineering, 2020, 142, .	0.6	3
126	Perspective: Protecting the neck. Nature, 2013, 503, S13-S13.	13.7	2

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127	Moment Measurements in Dynamic and Quasi-Static Spine Segment Testing Using Eccentric Compression are Susceptible to Artifacts Based on Loading Configuration. Journal of Biomechanical Engineering, 2014, 136, 124505.	0.6	2
128	Optical monitoring of spinal cord hemodynamics, a feasibility study. , 2017, , .		2
129	The Lack of Sex, Age, and Anthropometric Diversity in Neck Biomechanical Data. Frontiers in Bioengineering and Biotechnology, 2021, 9, 684217.	2.0	2
130	The diagnostic precision of computed tomography for traumatic cervical spine injury: An in vitro biomechanical investigation. Clinical Biomechanics, 2021, 92, 105529.	0.5	2
131	An Automated Kinematic Measurement System for Sagittal Plane Murine Head Impacts. Journal of Biomechanical Engineering, 2020, 142, .	0.6	1
132	Comparison of wheelchair wheels in terms of vibration and spasticity in people with spinal cord injury. Journal of Rehabilitation Research and Development, 2008, 45, 1269-79.	1.6	1
133	Improvement of spine implant performance through analysis of retrieved implants: preliminary results. , 0, , .		0
134	The Clinical Performance of UHMWPE in the Spine. , 2004, , 219-243.		0
135	BIOMECHANICAL EVALUATION OF INTERVERTEBRAL DISCS FOLLOWING A BURST FRACTURE. Journal of Musculoskeletal Research, 2008, 11, 97-106.	0.1	0
136	In Vitro Nonlinear Viscoelastic Characterization of the Porcine Spinal Cord. , 2013, , .		0
137	Reply: The effect of disc degeneration on anterior shear translation in the lumbar spine. Journal of Orthopaedic Research, 2016, 34, 730-731.	1.2	0
138	Radiography used to measure internal spinal cord deformation in an in vivo rat model. Journal of Biomechanics, 2018, 71, 286-290.	0.9	0
139	The effect of end condition on spine segment biomechanics in compression with lateral eccentricity. Journal of Biomechanics, 2021, 128, 110617.	0.9	0
140	Anteroposterior shear stiffness of the upper thoracic spine at quasiâ€static and dynamic loading ratesâ€"AnÂin vitro biomechanical study. Journal of Orthopaedic Research, 2021, , .	1.2	0