Beth A Winkelstein

List of Publications by Year
in descending order

160 papers	4,827 citations	81900 39 h-index	133252 59 g-index
162 all docs	162 docs citations	162 times ranked	3315 citing authors

#	Article	IF	Citations
1	Spinal Facet Joint Biomechanics and Mechanotransduction in Normal, Injury and Degenerative Conditions. Journal of Biomechanical Engineering, 2011, 133, 071010.	1.3	247
2	Nerve injury proximal or distal to the DRG induces similar spinal glial activation and selective cytokine expression but differential behavioral responses to pharmacologic treatment. Journal of Comparative Neurology, 2001, 439, 127-139.	1.6	211
3	The Cervical Facet Capsule and Its Role in Whiplash Injury. Spine, 2000, 25, 1238-1246.	2.0	181
4	Comparative strengths and structural properties of the upper and lower cervical spine in flexion and extension. Journal of Biomechanics, 2002, 35, 725-732.	2.1	134
5	Mechanical Evidence of Cervical Facet Capsule Injury During Whiplash. Spine, 2001, 26, 2095-2101.	2.0	131
6	The Role of Tissue Damage in Whiplash-Associated Disorders. Spine, 2011, 36, S309-S315.	2.0	101
7	The Anatomy and Biomechanics of Acute and Chronic Whiplash Injury. Traffic Injury Prevention, 2009, 10, 101-112.	1.4	98
8	A novel rodent neck pain model of facet-mediated behavioral hypersensitivity: implications for persistent pain and whiplash injury. Journal of Neuroscience Methods, 2004, 137, 151-159.	2.5	84
9	Nerve root injury severity differentially modulates spinal glial activation in a rat lumbar radiculopathy model: considerations for persistent pain. Brain Research, 2002, 956, 294-301.	2.2	79
10	Physiology of Chronic Spinal Pain Syndromes. Spine, 2002, 27, 2526-2537.	2.0	75
11	Burst and Tonic Spinal Cord Stimulation Differentially Activate GABAergic Mechanisms to Attenuate Pain in a Rat Model of Cervical Radiculopathy. IEEE Transactions on Biomedical Engineering, 2015, 62, 1604-1613.	4.2	75
12	Transient Cervical Nerve Root Compression in the Rat Induces Bilateral Forepaw Allodynia and Spinal Glial Activation: Mechanical Factors in Painful Neck Injuries. Spine, 2005, 30, 1924-1932.	2.0	73
13	The Role of Mechanical Deformation in Lumbar Radiculopathy. Spine, 2002, 27, 27-33.	2.0	68
14	Lumbar Nerve Root Injury Induces Central Nervous System Neuroimmune Activation and Neuroinflammation in the Rat. Spine, 2002, 27, 1604-1613.	2.0	65
15	Altered collagen fiber kinematics define the onset of localized ligament damage during loading. Journal of Applied Physiology, 2008, 105, 1881-1888.	2.5	65
16	Repeated Injury to the Lumbar Nerve Roots Produces Enhanced Mechanical Allodynia and Persistent Spinal Neuroinflammation. Spine, 2001, 26, 2073-2079.	2.0	64
17	Annular puncture with tumor necrosis factor-alpha injection enhances painful behavior with disc degeneration in vivo. Spine Journal, 2016, 16, 420-431.	1.3	64
18	Capsular Ligament Involvement in the Development of Mechanical Hyperalgesia after Facet Joint Loading: Behavioral and Inflammatory Outcomes in a Rodent Model of Pain. Journal of Neurotrauma, 2008, 25, 1383-1393.	3.4	63

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19	Neuronal hyperexcitability in the dorsal horn after painful facet joint injury. Pain, 2010, 151, 414-421.	4.2	62
20	Cervical facet capsular ligament yield defines the threshold for injury and persistent joint-mediated neck pain. Journal of Biomechanics, 2007, 40, 2299-2306.	2.1	60
21	Mechanisms of central sensitization, neuroimmunology & injury biomechanics in persistent pain: implications for musculoskeletal disorders. Journal of Electromyography and Kinesiology, 2004, 14, 87-93.	1.7	59
22	Cytokine mRNA Expression in Painful Radiculopathy. Journal of Pain, 2009, 10, 90-99.	1.4	56
23	Joint Distraction Magnitude Is Associated With Different Behavioral Outcomes and Substance P Levels for Cervical Facet Joint Loading in the Rat. Journal of Pain, 2009, 10, 436-445.	1.4	56
24	Assessment of functional and behavioral changes sensitive to painful disc degeneration. Journal of Orthopaedic Research, 2015, 33, 755-764.	2.3	56
25	Stimulation Parameters Define the Effectiveness of Burst Spinal Cord Stimulation in a Rat Model of Neuropathic Pain. Neuromodulation, 2015, 18, 1-8.	0.8	56
26	An anatomical investigation of the human cervical facet capsule, quantifying muscle insertion area. Journal of Anatomy, 2001, 198, 455-461.	1.5	54
27	Chemical and mechanical nerve root insults induce differential behavioral sensitivity and glial activation that are enhanced in combination. Brain Research, 2007, 1181, 30-43.	2.2	51
28	Preconditioning is Correlated With Altered Collagen Fiber Alignment in Ligament. Journal of Biomechanical Engineering, 2011, 133, 064506.	1.3	51
29	Inhibiting tumor necrosis factorâ€alpha at time of induced intervertebral disc injury limits longâ€term pain and degeneration in a rat model. JOR Spine, 2018, 1, e1014.	3.2	50
30	Spinal Neuropeptide Responses in Persistent and Transient Pain Following Cervical Nerve Root Injury. Spine, 2005, 30, 2491-2496.	2.0	47
31	In vivo cervical facet capsule distraction: mechanical implications for whiplash and neck pain. Stapp Car Crash Journal, 2004, 48, 373-95.	1.1	47
32	Quantification of neural tissue injury in a rat radiculopathy model: comparison of local deformation, behavioral outcomes, and spinal cytokine mRNA for two surgeons. Journal of Neuroscience Methods, 2001, 111, 49-57.	2.5	46
33	Transient cervical nerve root compression modulates pain: Load thresholds for allodynia and sustained changes in spinal neuropeptide expression. Journal of Biomechanics, 2008, 41, 677-685.	2.1	44
34	Simulated Whiplash Modulates Expression of the Glutamatergic System in the Spinal Cord Suggesting Spinal Plasticity Is Associated with Painful Dynamic Cervical Facet Loading. Journal of Neurotrauma, 2010, 27, 163-174.	3.4	44
35	Upregulation of GLTâ€1 by treatment with ceftriaxone alleviates radicular pain by reducing spinal astrocyte activation and neuronal hyperexcitability. Journal of Neuroscience Research, 2014, 92, 116-129.	2.9	44
36	Whiplash-like facet joint loading initiates glutamatergic responses in the DRG and spinal cord associated with behavioral hypersensitivity. Brain Research, 2012, 1461, 51-63.	2.2	43

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37	The biomechanics of cervical spine injury and implications for injury prevention. Medicine and Science in Sports and Exercise, 1997, 29, 246-255.	0.4	43
38	Painful facet joint injury induces neuronal stress activation in the DRG: Implications for cellular mechanisms of pain. Neuroscience Letters, 2008, 443, 90-94.	2.1	42
39	Superoxide Dismutaseâ€Loaded Porous Polymersomes as Highly Efficient Antioxidants for Treating Neuropathic Pain. Advanced Healthcare Materials, 2017, 6, 1700500.	7.6	41
40	An Intact Facet Capsular Ligament Modulates Behavioral Sensitivity and Spinal Glial Activation Produced by Cervical Facet Joint Tension. Spine, 2008, 33, 856-862.	2.0	37
41	Thrombospondin-4 and excitatory synaptogenesis promote spinal sensitization after painful mechanical joint injury. Experimental Neurology, 2015, 264, 111-120.	4.1	37
42	Grading facial expression is a sensitive means to detect grimace differences in orofacial pain in a rat model. Scientific Reports, 2018, 8, 13894.	3.3	37
43	Dorsal root compression produces myelinated axonal degeneration near the biomechanical thresholds for mechanical behavioral hypersensitivity. Experimental Neurology, 2008, 212, 482-489.	4.1	36
44	Time-Dependent Mechanics and Measures of Glial Activation and Behavioral Sensitivity in a Rodent Model of Radiculopathy. Journal of Neurotrauma, 2010, 27, 803-814.	3.4	36
45	Cytokine Antagonism Reduces Pain and Modulates Spinal Astrocytic Reactivity After Cervical Nerve Root Compression. Annals of Biomedical Engineering, 2010, 38, 2563-2576.	2.5	35
46	Tensile cervical facet capsule ligament mechanics: Failure and subfailure responses in the rat. Journal of Biomechanics, 2006, 39, 1256-1264.	2.1	34
47	Vector correlation technique for pixel-wise detection of collagen fiber realignment during injurious tensile loading. Journal of Biomedical Optics, 2009, 14, 054010.	2.6	34
48	Structural changes in the cervical facet capsular ligament: potential contributions to pain following subfailure loading. Stapp Car Crash Journal, 2007, 51, 169-87.	1.1	33
49	Brain-derived neurotrophic factor is upregulated in the cervical dorsal root ganglia and spinal cord and contributes to the maintenance of pain from facet joint injury in the rat. Journal of Neuroscience Research, 2013, 91, 1312-1321.	2.9	32
50	Upregulation of BDNF and NGF in Cervical Intervertebral Discs Exposed to Painful Whole-Body Vibration. Spine, 2014, 39, 1542-1548.	2.0	32
51	Ablating Spinal NK1-Bearing Neurons Eliminates the Development of Pain and Reduces Spinal Neuronal Hyperexcitability and Inflammation From Mechanical Joint Injury in the Rat. Journal of Pain, 2014, 15, 378-386.	1.4	32
52	Relevant Anatomic and Morphological Measurements of the Rat Spine. Spine, 2015, 40, E1084-E1092.	2.0	32
53	Mechanical Thresholds for Initiation and Persistence of Pain Following Nerve Root Injury: Mechanical and Chemical Contributions at Injury. Journal of Biomechanical Engineering, 2004, 126, 258-263.	1.3	30
54	Anomalous fiber realignment during tensile loading of the rat facet capsular ligament identifies mechanically induced damage and physiological dysfunction. Journal of Biomechanics, 2010, 43, 1870-1875.	2.1	30

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55	Metabotropic Glutamate Receptor-5 and Protein Kinase C-Epsilon Increase in Dorsal Root Ganglion Neurons and Spinal Glial Activation in an Adolescent Rat Model of Painful Neck Injury. Journal of Neurotrauma, 2010, 27, 2261-2271.	3.4	30
56	Schwann Cell Proliferation and Macrophage Infiltration Are Evident at Day 14 after Painful Cervical Nerve Root Compression in the Rat. Journal of Neurotrauma, 2011, 28, 2429-2438.	3.4	29
57	Ketorolac Reduces Spinal Astrocytic Activation and PAR1 Expression Associated with Attenuation of Pain after Facet Joint Injury. Journal of Neurotrauma, 2013, 30, 818-825.	3.4	29
58	Activating transcription factor 4, a mediator of the integrated stress response, is increased in the dorsal root ganglia following painful facet joint distraction. Neuroscience, 2011, 193, 377-386.	2.3	28
59	Characterization of the Frequency and Muscle Responses of the Lumbar and Thoracic Spines of Seated Volunteers During Sinusoidal Whole Body Vibration. Journal of Biomechanical Engineering, 2014, 136, 101002.	1.3	28
60	Increased Interleukin-1Î± and Prostaglandin E2 Expression in the Spinal Cord at 1 Day After Painful Facet Joint Injury. Spine, 2014, 39, 207-212.	2.0	28
61	Head-Turned Postures Increase the Risk of Cervical Facet Capsule Injury During Whiplash. Spine, 2008, 33, 1643-1649.	2.0	27
62	How Can Animal Models Inform on the Transition to Chronic Symptoms in Whiplash?. Spine, 2011, 36, S218-S225.	2.0	27
63	Spinal neuronal plasticity is evident within 1 day after a painful cervical facet joint injury. Neuroscience Letters, 2013, 542, 102-106.	2.1	27
64	Collagen Organization in Facet Capsular Ligaments Varies With Spinal Region and With Ligament Deformation. Journal of Biomechanical Engineering, 2017, 139, .	1.3	27
65	Spinal microglial proliferation is evident in a rat model of painful disc herniation both in the presence of behavioral hypersensitivity and following minocycline treatment sufficient to attenuate allodynia. Journal of Neuroscience Research, 2009, 87, 2709-2717.	2.9	26
66	Pre-treatment with Meloxicam Prevents the Spinal Inflammation and Oxidative Stress in DRG Neurons that Accompany Painful Cervical Radiculopathy. Neuroscience, 2018, 388, 393-404.	2.3	26
67	In Vivo Cervical Facet Capsule Distraction: Mechanical Implications for Whiplash and Neck Pain. , 0, , .		26
68	Riluzole effects on behavioral sensitivity and the development of axonal damage and spinal modifications that occur after painful nerve root compression. Journal of Neurosurgery: Spine, 2014, 20, 751-762.	1.7	25
69	Tissue Strain Reorganizes Collagen With a Switchlike Response That Regulates Neuronal Extracellular Signal-Regulated Kinase Phosphorylation In Vitro: Implications for Ligamentous Injury and Mechanotransduction. Journal of Biomechanical Engineering, 2016, 138, 021013.	1.3	25
70	CT Imaging Techniques for Describing Motions of the Cervicothoracic Junction and Cervical Spine During Flexion, Extension, and Cervical Traction. Spine, 2006, 31, 44-50.	2.0	24
71	Full field strain measurements of collagenous tissue by tracking fiber alignment through vector correlation. Journal of Biomechanics, 2010, 43, 2637-2640.	2.1	24
72	Intra-articular nerve growth factor regulates development, but not maintenance, of injury-induced facet joint pain & spinal neuronal hypersensitivity. Osteoarthritis and Cartilage, 2015, 23, 1999-2008.	1.3	24

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73	Pain from intra-articular NGF or joint injury in the rat requires contributions from peptidergic joint afferents. Neuroscience Letters, 2015, 604, 193-198.	2.1	24
74	Development of a Rat Model of Mechanically Induced Tunable Pain and Associated Temporomandibular Joint Responses. Journal of Oral and Maxillofacial Surgery, 2016, 74, 54.e1-54.e10.	1.2	24
75	Tissue loading and microstructure regulate the deformation of embedded nerve fibres: predictions from single-scale and multiscale simulations. Journal of the Royal Society Interface, 2017, 14, 20170326.	3.4	24
76	Early afferent activity from the facet joint after painful trauma to its capsule potentiates neuronal excitability and glutamate signaling in the spinal cord. Pain, 2014, 155, 1878-1887.	4.2	23
77	Detection of Altered Collagen Fiber Alignment in the Cervical Facet Capsule After Whiplash-Like Joint Retraction. Annals of Biomedical Engineering, 2011, 39, 2163-2173.	2.5	22
78	Use of the Rat Grimace Scale to Evaluate Neuropathic Pain in a Model of Cervical Radiculopathy. Comparative Medicine, 2017, 67, 34-42.	1.0	22
79	Rigid model-based 3D segmentation of the bones of joints in MR and CT images for motion analysis. Medical Physics, 2008, 35, 3637-3649.	3.0	21
80	An anatomical investigation of the human cervical facet capsule, quantifying muscle insertion area. Journal of Anatomy, 2001, 198, 455-461.	1.5	20
81	Facet joint contact pressure is not significantly affected by ProDisc cervical disc arthroplasty in sagittal bending: a single-level cadavericÂstudy. Spine Journal, 2012, 12, 949-959.	1.3	20
82	An Anatomical and Immunohistochemical Characterization of Afferents Innervating the C6â€“C7 Facet Joint After Painful Joint Loading in the Rat. Spine, 2013, 38, E325-E331.	2.0	20
83	Wholeâ€body vibration induces pain and lumbar spinal inflammation responses in the rat that vary with the vibration profile. Journal of Orthopaedic Research, 2016, 34, 1439-1446.	2.3	20
84	Salmon-derived thrombin inhibits development of chronic pain through an endothelial barrier protective mechanism dependent on APC. Biomaterials, 2016, 80, 96-105.	11.4	20
85	The Interface of Mechanics and Nociception in Joint Pathophysiology: Insights From the Facet and Temporomandibular Joints. Journal of Biomechanical Engineering, 2017, 139, .	1.3	20
86	Cervical Facet Joint Mechanics: Its Application to Whiplash Injury. , 1999, , .		19
87	ProDisc Cervical Arthroplasty Does Not Alter Facet Joint Contact Pressure During Lateral Bending or Axial Torsion. Spine, 2013, 38, E84-E93.	2.0	19
88	The role of graded nerve root compression on axonal damage, neuropeptide changes, and pain-related behaviors. Stapp Car Crash Journal, 2008, 52, 33-58.	1.1	18
89	Superparamagnetic Iron Oxideâ€“Enhanced Magnetic Resonance Imaging of Neuroinflammation in a Rat Model of Radicular Pain. Molecular Imaging, 2011, 10, 7290.2010.00042.	1.4	17
90	The Prostaglandin E2 Receptor, EP2, Is Upregulated in the Dorsal Root Ganglion After Painful Cervical Facet Joint Injury in the Rat. Spine, 2013, 38, 217-222.	2.0	17

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91	Whole-body Vibration at Thoracic Resonance Induces Sustained Pain and Widespread Cervical Neuroinflammation in the Rat. Clinical Orthopaedics and Related Research, 2015, 473, 2936-2947.	1.5	17
92	A Nociceptive Role for Integrin Signaling in Pain After Mechanical Injury to the Spinal Facet Capsular Ligament. Annals of Biomedical Engineering, 2017, 45, 2813-2825.	2.5	17
93	The Physiological Basis of Cervical Facet-Mediated Persistent Pain: Basic Science and Clinical Challenges. Journal of Orthopaedic and Sports Physical Therapy, 2017, 47, 450-461.	3.5	16
94	Perspectives on Sharing Models and Related Resources in Computational Biomechanics Research. Journal of Biomechanical Engineering, 2018, 140, .	1.3	16
95	Phospholipase A₂ Inhibitor-Loaded Phospholipid Micelles Abolish Neuropathic Pain. ACS Nano, 2020, 14, 8103-8115.	14.6	16
96	Multiscale mechanics of the cervical facet capsular ligament, with particular emphasis on anomalous fiber realignment prior to tissue failure. Biomechanics and Modeling in Mechanobiology, 2018, 17, 133-145.	2.8	15
97	Intraâ€articular etanercept attenuates pain and hypoxia from TMJ loading in the rat. Journal of Orthopaedic Research, 2020, 38, 1316-1326.	2.3	14
98	Early changes in brain network topology and activation of affective pathways predict persistent pain in the rat. Pain, 2021, 162, 45-55.	4.2	14
99	A rat model of temporomandibular joint pain with histopathologic modifications. Journal of Orofacial Pain, 2010, 24, 298-304.	1.7	14
100	Inflammatory Cytokine and Chemokine Expression Is Differentially Modulated Acutely in the Dorsal Root Ganglion in Response to Different Nerve Root Compressions. Spine, 2011, 36, 197-202.	2.0	13
101	Whole body vibration induces forepaw and hind paw behavioral sensitivity in the rat. Journal of Orthopaedic Research, 2013, 31, 1739-1744.	2.3	13
102	Stretch-induced network reconfiguration of collagen fibres in the human facet capsular ligament. Journal of the Royal Society Interface, 2016, 13, 20150883.	3.4	13
103	Dietary polyphenols as a safe and novel intervention for modulating pain associated with intervertebral disc degeneration in an in-vivo rat model. PLoS ONE, 2019, 14, e0223435.	2.5	13
104	Gabapentin Alleviates Facet-Mediated Pain in the Rat Through Reduced Neuronal Hyperexcitability and Astrocytic Activation in the Spinal Cord. Journal of Pain, 2013, 14, 1564-1572.	1.4	12
105	Salmon and Human Thrombin Differentially Regulate Radicular Pain, Glial-Induced Inflammation and Spinal Neuronal Excitability through Protease-Activated Receptor-1. PLoS ONE, 2013, 8, e80006.	2.5	12
106	Superparamagnetic iron oxide-enhanced magnetic resonance imaging of neuroinflammation in a rat model of radicular pain. Molecular Imaging, 2011, 10, 206-14.	1.4	12
107	Controlled release of GDNF reduces nerve rootâ€mediated behavioral hypersensitivity. Journal of Orthopaedic Research, 2009, 27, 120-127.	2.3	11
108	The potential for salmon fibrin and thrombin to mitigate pain subsequent to cervical nerve root injury. Biomaterials, 2011, 32, 9738-9746.	11.4	11

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109	The failure response of the human cervical facet capsular ligament during facet joint retraction. Journal of Biomechanics, 2012, 45, 2325-2329.	2.1	11
110	Collagen organization regulates stretchâ€initiated painâ€related neuronal signals in vitro: Implications for structureâ€“function relationships in innervated ligaments. Journal of Orthopaedic Research, 2018, 36, 770-777.	2.3	11
111	Pressure Measurement in the Cervical Spinal Facet Joint. Spine, 2011, 36, 1197-1203.	2.0	10
112	Inter-subject FDG PET Brain Networks Exhibit Multi-scale Community Structure with Different Normalization Techniques. Annals of Biomedical Engineering, 2018, 46, 1001-1012.	2.5	10
113	Burst & High-Frequency Spinal Cord Stimulation Differentially Effect Spinal Neuronal Activity After Radiculopathy. Annals of Biomedical Engineering, 2020, 48, 112-120.	2.5	10
114	Development of a duration threshold for modulating evoked neuronal responses after nerve root compression injury. Stapp Car Crash Journal, 2011, 55, 1-24.	1.1	10
115	Importance of Nonlinear and Multivariable Flexibility Coefficients in the Prediction of Human Cervical Spine Motion. Journal of Biomechanical Engineering, 2002, 124, 504-511.	1.3	9
116	Sustained Neuronal Hyperexcitability Is Evident in the Thalamus After a Transient Cervical Radicular Injury. Spine, 2014, 39, E870-E877.	2.0	9
117	Changes in Neuronal Activity in the Anterior Cingulate Cortex and Primary Somatosensory Cortex With Nonlinear Burst and Tonic Spinal Cord Stimulation. Neuromodulation, 2020, 23, 594-604.	0.8	9
118	Advanced Multi-Axis Spine Testing: Clinical Relevance and Research Recommendations. International Journal of Spine Surgery, 2015, 9, 34.	1.5	9
119	Intervertebral Disc Herniation: Pathophysiology and Emerging Therapies. , 2014, , 305-326.		8
120	Spinal Astrocytic Thrombospondin-4 Induced by Excitatory Neuronal Signaling Mediates Pain After Facet Capsule Injury. Annals of Biomedical Engineering, 2016, 44, 3215-3224.	2.5	8
121	Painful Cervical Facet Joint Injury Is Accompanied by Changes in the Number of Excitatory and Inhibitory Synapses in the Superficial Dorsal Horn That Differentially Relate to Local Tissue Injury Severity. Spine, 2017, 42, E695-E701.	2.0	8
122	Image-based multi-scale mechanical analysis of strain amplification in neurons embedded in collagen gel. Computer Methods in Biomechanics and Biomedical Engineering, 2019, 22, 113-129.	1.6	8
123	Concentration-Dependent Effects of Fibroblast-Like Synoviocytes on Collagen Gel Multiscale Biomechanics and Neuronal Signaling: Implications for Modeling Human Ligamentous Tissues. Journal of Biomechanical Engineering, 2019, 141, .	1.3	8
124	Inhibiting spinal secretory phospholipase A₂ after painful nerve root injury attenuates established pain and spinal neuronal hyperexcitability by altering spinal glutamatergic signaling. Molecular Pain, 2021, 17, 174480692110662.	2.1	8
125	The roles of mechanical compression and chemical irritation in regulating spinal neuronal signaling in painful cervical nerve root injury. Stapp Car Crash Journal, 2013, 57, 219-42.	1.1	8
126	Immediate inhibition of spinal secretory phospholipase A2 prevents the pain and elevated spinal neuronal hyperexcitability and neuroimmune regulatory genes that develop with nerve root compression. NeuroReport, 2020, 31, 1084-1089.	1.2	7

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127	Intra-articular collagenase in the spinal facet joint induces pain, DRG neuron dysregulation and increased MMP-1 absent evidence of joint destruction. Scientific Reports, 2020, 10, 21965.	3.3	7
128	Synthetic Secoisolariciresinol Diglucoside Attenuates Established Pain, Oxidative Stress and Neuroinflammation in a Rodent Model of Painful Radiculopathy. Antioxidants, 2020, 9, 1209.	5.1	7
129	Nerve and Nerve Root Biomechanics. Studies in Mechanobiology, Tissue Engineering and Biomaterials, 2010, , 203-229.	1.0	6
130	Kinematic Magnetic Resonance Imaging to Define the Cervical Facet Joint Space for the Spine in Neutral and Torsion. Spine, 2014, 39, 664-672.	2.0	6
131	Developmental Changes in Pain and Spinal Immune Gene Expression after Radicular Trauma in the Rat. Frontiers in Neurology, 2016, 7, 223.	2.4	6
132	Ablation of IB4 non-peptidergic afferents in the rat facet joint prevents injury-induced pain and thalamic hyperexcitability via supraspinal glutamate transporters. Neuroscience Letters, 2017, 655, 82-89.	2.1	6
133	Nerve Root Compression Increases Spinal Astrocytic Vimentin in Parallel With Sustained Pain and Endothelial Vimentin in Association With Spinal Vascular Reestablishment. Spine, 2017, 42, 1434-1439.	2.0	6
134	The equivalence of multi-axis spine systems: Recommended stiffness limits using a standardized testing protocol. Journal of Biomechanics, 2018, 70, 59-66.	2.1	6
135	Local tissue heterogeneity may modulate neuronal responses via altered axon strain fields: insights about innervated joint capsules from a computational model. Biomechanics and Modeling in Mechanobiology, 2021, 20, 2269-2285.	2.8	6
136	Learning Environments and Evidence-Based Practices in Bioengineering and Biomedical Engineering. Biomedical Engineering Education, 2022, 2, 1-16.	0.7	6
137	The role of spinal thrombin through protease-activated receptor 1 in hyperalgesia after neural injury. Journal of Neurosurgery: Spine, 2017, 26, 532-541.	1.7	5
138	Techniques for Multiscale Neuronal Regulation via Therapeutic Materials and Drug Design. ACS Biomaterials Science and Engineering, 2017, 3, 2744-2760.	5.2	5
139	Repeated High Rate Facet Capsular Stretch at Strains That are Below the Pain Threshold Induces Pain and Spinal Inflammation With Decreased Ligament Strength in the Rat. Journal of Biomechanical Engineering, 2018, 140, .	1.3	5
140	Increased substance P and synaptic remodeling occur in the trigeminal sensory system with sustained osteoarthritic temporomandibular joint sensitivity. Pain Reports, 2021, 6, e911.	2.7	5
141	Painful temporomandibular joint overloading induces structural remodeling in the pericellular matrix of that joint's chondrocytes. Journal of Orthopaedic Research, 2022, 40, 348-358.	2.3	5
142	The Roles of Mechanical Compression and Chemical Irritation in Regulating Spinal Neuronal Signaling in Painful Cervical Nerve Root Injury. , 0, , .		5
143	Physiologic facet capsule stretch can induce pain & upregulate matrix metalloproteinase-3 in the dorsal root ganglia when preceded by a physiological mechanical or nonpainful chemical exposure. Clinical Biomechanics, 2019, 64, 122-130.	1.2	4
144	Pain After Whole-Body Vibration Exposure Is Frequency Dependent and Independent of the Resonant Frequency: Lessons From an In Vivo Rat Model. Journal of Biomechanical Engineering, 2020, 142, .	1.3	4

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145	Is there an antinociceptive role for peripheral brain-derived neurotrophic factor?. Spine Journal, 2010, 10, 733-735.	1.3	3
146	Upper Cervical Spine Loading Simulating a Dynamic Low-Speed Collision Significantly Increases the Risk of Pain Compared to Quasi-Static Loading With Equivalent Neck Kinematics. Journal of Biomechanical Engineering, 2016, 138, .	1.3	3
147	MMPs in tissues retrieved during surgery from patients with TMJ disorders relate to pain more than to radiological damage score. Journal of Orthopaedic Research, 2021, , .	2.3	3
148	Development of a Duration Threshold for Modulating Evoked Neuronal Responses After Nerve Root Compression Injury. , 0, , .		3
149	Impaired performance on the angle board test is induced in a model of painful whiplash injury but is only transient in a model of cervical radiculopathy. Journal of Orthopaedic Research, 2011, 29, 562-566.	2.3	2
150	Three-dimensional kinematic stress magnetic resonance image analysis shows promise for detecting altered anatomical relationships of tissues in the cervical spine associated with painful radiculopathy. Medical Hypotheses, 2013, 81, 738-744.	1.5	2
151	Pain Biomechanics. , 2015, , 549-580.		2
152	Transduction, Transmission and Perception of Pain. , 2008, , 29-37.		2
153	Nerve injury proximal or distal to the DRG induces similar spinal glial activation and selective cytokine expression but differential behavioral responses to pharmacologic treatment. Journal of Comparative Neurology, 2001, 439, 127-139.	1.6	1
154	Inhibiting the Î²1integrin subunit increases the strain threshold for neuronal dysfunction under tensile loading in collagen gels mimicking innervated ligaments. Biomechanics and Modeling in Mechanobiology, 2022, 21, 885-898.	2.8	1
155	ANNUAL SPECIAL ISSUE â€œBiomechanical Engineering: Year in Reviewâ€• Journal of Biomechanical Engineering, 2017, 139, .	1.3	0
156	ANNUAL SPECIAL ISSUE â€œBiomechanical Engineeringâ€”2018 Year in Reviewâ€• Journal of Biomechanical Engineering, 2019, 141, .	1.3	0
157	Imaging Approaches to Quantify Tissue Structure and Function from the Microscale to the Macroscale. , 2012, , 485-512.		0
158	Biomechanical Model of Low Back Pain. , 2013, , 1-5.		0
159	MMPs Regulate Neuronal Substance P After a Painful Equibiaxial Stretch in a Co-Culture Collagen Gel Model Simulating Injury of an Innervated Ligament. Frontiers in Mechanical Engineering, 2022, 8, .	1.8	0
160	Biomechanical Model of Low Back Pain. , 2022, , 457-460.		0