

# Gwendolyn A Sowa

## List of Publications by Year in descending order

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Version: 2024-02-01

94  
papers

2,957  
citations

218381

26  
h-index

182168

51  
g-index

95  
all docs

95  
docs citations

95  
times ranked

3007  
citing authors

#	ARTICLE	IF	CITATIONS
1	Expression and regulation of metalloproteinases and their inhibitors in intervertebral disc aging and degeneration. <i>Spine Journal</i> , 2013, 13, 331-341.	0.6	314
2	Molecular mechanisms of biological aging in intervertebral discs. <i>Journal of Orthopaedic Research</i> , 2016, 34, 1289-1306.	1.2	270
3	Molecular Basis of Intervertebral Disc Degeneration and Herniations: What Are the Important Translational Questions?. <i>Clinical Orthopaedics and Related Research</i> , 2015, 473, 1903-1912.	0.7	196
4	Mitochondrial-derived reactive oxygen species (ROS) play a causal role in aging-related intervertebral disc degeneration. <i>Journal of Orthopaedic Research</i> , 2013, 31, 1150-1157.	1.2	148
5	Risk Factors Associated With Transition From Acute to Chronic Low Back Pain in US Patients Seeking Primary Care. <i>JAMA Network Open</i> , 2021, 4, e2037371.	2.8	136
6	Systemic clearance of p16 <sup>INK4a</sup> -positive senescent cells mitigates age-associated intervertebral disc degeneration. <i>Aging Cell</i> , 2019, 18, e12927.	3.0	118
7	Injection of AAV2-BMP2 and AAV2-TIMP1 into the nucleus pulposus slows the course of intervertebral disc degeneration in an in vivo rabbit model. <i>Spine Journal</i> , 2012, 12, 7-20.	0.6	110
8	p38 MAPK inhibition modulates rabbit nucleus pulposus cell response to IL-1. <i>Journal of Orthopaedic Research</i> , 2008, 26, 991-998.	1.2	87
9	Characterization of Intervertebral Disc Aging. <i>Spine</i> , 2008, 33, 1821-1828.	1.0	83
10	ISSLS Prize Winner. <i>Spine</i> , 2012, 37, 1819-1825.	1.0	68
11	Investigating the role of DNA damage in tobacco smoking-induced spine degeneration. <i>Spine Journal</i> , 2014, 14, 416-423.	0.6	57
12	Cellular Senescence in Intervertebral Disc Aging and Degeneration. <i>Current Molecular Biology Reports</i> , 2018, 4, 180-190.	0.8	55
13	Skeletal muscle as a regulator of the longevity protein, Klotho. <i>Frontiers in Physiology</i> , 2014, 5, 189.	1.3	52
14	Activated Macrophage-Like THP-1 Cells Modulate Anulus Fibrosus Cell Production of Inflammatory Mediators in Response to Cytokines. <i>Spine</i> , 2008, 33, 2253-2259.	1.0	49
15	Bupivacaine decreases cell viability and matrix protein synthesis in an intervertebral disc organ model system. <i>Spine Journal</i> , 2011, 11, 139-146.	0.6	47
16	Associations Between Serum Biomarkers and Pain and Pain-Related Function in Older Adults with Low Back Pain: A Pilot Study. <i>Journal of the American Geriatrics Society</i> , 2014, 62, 2047-2055.	1.3	46
17	Effect of bupivacaine on intervertebral disc cell viability. <i>Spine Journal</i> , 2010, 10, 159-166.	0.6	45
18	Cyclic Tensile Stress Exerts a Protective Effect on Intervertebral Disc Cells. <i>American Journal of Physical Medicine and Rehabilitation</i> , 2008, 87, 537-544.	0.7	43

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19	Fear Avoidance Beliefs Predict Disability in Older Adults With Chronic Low Back Pain. <i>PM and R</i> , 2012, 4, 493-497.	0.9	43
20	Stratified care to prevent chronic low back pain in high-risk patients: The TARGET trial. A multi-site pragmatic cluster randomized trial. <i>EClinicalMedicine</i> , 2021, 34, 100795.	3.2	43
21	Alterations in gene expression in response to compression of nucleus pulposus cells. <i>Spine Journal</i> , 2011, 11, 36-43.	0.6	38
22	Determination of annulus fibrosus cell response to tensile strain as a function of duration, magnitude, and frequency. <i>Journal of Orthopaedic Research</i> , 2011, 29, 1275-1283.	1.2	37
23	Prioritized Research for the Prevention, Treatment, and Reversal of Chronic Disease: Recommendations From the Lifestyle Medicine Research Summit. <i>Frontiers in Medicine</i> , 2020, 7, 585744.	1.2	36
24	Senescent intervertebral disc cells exhibit perturbed matrix homeostasis phenotype. <i>Mechanisms of Ageing and Development</i> , 2017, 166, 16-23.	2.2	34
25	The Role of Type I Diabetes in Intervertebral Disc Degeneration. <i>Spine</i> , 2019, 44, 1177-1185.	1.0	32
26	A Computational, Tissue-Realistic Model of Pressure Ulcer Formation in Individuals with Spinal Cord Injury. <i>PLoS Computational Biology</i> , 2015, 11, e1004309.	1.5	30
27	Serum and nutrient deprivation increase autophagic flux in intervertebral disc annulus fibrosus cells: an in vitro experimental study. <i>European Spine Journal</i> , 2019, 28, 993-1004.	1.0	28
28	Gene Therapy for the Treatment of Degenerative Disk Disease. <i>Journal of the American Academy of Orthopaedic Surgeons</i> , The, 2008, 16, 312-319.	1.1	28
29	Regulation of Transgene Expression Using an Inducible System for Improved Safety of Intervertebral Disc Gene Therapy. <i>Spine</i> , 2007, 32, 1381-1387.	1.0	27
30	In Vitro and in Vivo Testing of a Novel Regulatory System for Gene Therapy for Intervertebral Disc Degeneration. <i>Spine</i> , 2011, 36, E623-E628.	1.0	27
31	Role of autophagy in intervertebral disc degeneration. <i>Journal of Cellular Physiology</i> , 2022, 237, 1266-1284.	2.0	27
32	Influence of varying compressive loading methods on physiologic motion patterns in the cervical spine. <i>Journal of Biomechanics</i> , 2016, 49, 167-172.	0.9	25
33	Effect of Comprehensive Behavioral and Exercise Intervention on Physical Function and Activity Participation After Total Knee Replacement: A Pilot Randomized Study. <i>Arthritis Care and Research</i> , 2017, 69, 1855-1862.	1.5	25
34	Biomechanical Evaluation of Transpedicular Nucleotomy With Intact Annulus Fibrosus. <i>Spine</i> , 2017, 42, E193-E201.	1.0	25
35	NF- $\kappa$ B Signaling Pathway in Controlling Intervertebral Disk Cell Response to Inflammatory and Mechanical Stressors. <i>Physical Therapy</i> , 2016, 96, 704-711.	1.1	23
36	The influence of continuous versus interval walking exercise on knee joint loading and pain in patients with knee osteoarthritis. <i>Gait and Posture</i> , 2017, 56, 129-133.	0.6	23

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37	Novel ex-vivo mechanobiological intervertebral disc culture system. <i>Journal of Biomechanics</i> , 2012, 45, 382-385.	0.9	22
38	Dynamic knee joint stiffness and contralateral knee joint loading during prolonged walking in patients with unilateral knee osteoarthritis. <i>Gait and Posture</i> , 2019, 68, 44-49.	0.6	22
39	Cells from Degenerative Intervertebral Discs Demonstrate Unfavorable Responses to Mechanical and Inflammatory Stimuli. <i>American Journal of Physical Medicine and Rehabilitation</i> , 2012, 91, 846-855.	0.7	20
40	Early Detection of Pressure Ulcer Development Following Traumatic Spinal Cord Injury Using Inflammatory Mediators. <i>Archives of Physical Medicine and Rehabilitation</i> , 2016, 97, 1656-1662.	0.5	20
41	Identification of Distinct Monocyte Phenotypes and Correlation With Circulating Cytokine Profiles in Acute Response to Spinal Cord Injury: A Pilot Study. <i>PM and R</i> , 2014, 6, 332-341.	0.9	19
42	ADAMTS5 Deficiency Protects Mice From Chronic Tobacco Smoking-induced Intervertebral Disc Degeneration. <i>Spine</i> , 2017, 42, 1521-1528.	1.0	19
43	Association of a Functional Polymorphism in the <i>CHRFAM7A</i> Gene with Inflammatory Response Mediators and Neuropathic Pain after Spinal Cord Injury. <i>Journal of Neurotrauma</i> , 2019, 36, 3026-3033.	1.7	18
44	Attenuation of ataxia telangiectasia mutated signalling mitigates age-associated intervertebral disc degeneration. <i>Aging Cell</i> , 2020, 19, e13162.	3.0	18
45	Biological responses to flexion/extension in spinal segments ex vivo. <i>Journal of Orthopaedic Research</i> , 2015, 33, 1255-1264.	1.2	17
46	Stabilization exercises combined with neuromuscular electrical stimulation for patients with chronic low back pain: a randomized controlled trial. <i>Brazilian Journal of Physical Therapy</i> , 2019, 23, 506-515.	1.1	16
47	Mechanical role of the posterior column components in the cervical spine. <i>European Spine Journal</i> , 2016, 25, 2129-2138.	1.0	15
48	A Stimulus-Response Framework to Investigate the Influence of Continuous Versus Interval Walking Exercise on Select Serum Biomarkers in Knee Osteoarthritis. <i>American Journal of Physical Medicine and Rehabilitation</i> , 2019, 98, 287-291.	0.7	15
49	Effectiveness of Later-Stage Exercise Programs vs Usual Medical Care on Physical Function and Activity After Total Knee Replacement. <i>JAMA Network Open</i> , 2019, 2, e190018.	2.8	15
50	Rabbit Annulus Fibrosus Cells Express Neuropeptide Y, Which Is Influenced by Mechanical and Inflammatory Stress. <i>Neurospine</i> , 2020, 17, 69-76.	1.1	15
51	Rehabilomics Research. <i>American Journal of Physical Medicine and Rehabilitation</i> , 2014, 93, 913-916.	0.7	14
52	Catabolic effects of endothelial cell-derived microparticles on disc cells: Implications in intervertebral disc neovascularization and degeneration. <i>Journal of Orthopaedic Research</i> , 2016, 34, 1466-1474.	1.2	14
53	Predictive validity of the Spinal Cord Injury Pressure Ulcer Scale (SCIPUS) in acute care and inpatient rehabilitation in individuals with traumatic spinal cord injury. <i>NeuroRehabilitation</i> , 2016, 38, 401-409.	0.5	14
54	Use of Adipose-Derived Orthobiologics for Musculoskeletal Injuries: A Narrative Review. <i>PM and R</i> , 2020, 12, 805-816.	0.9	14

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55	Lactate oxidative phosphorylation by annulus fibrosus cells: evidence for lactate-dependent metabolic symbiosis in intervertebral discs. <i>Arthritis Research and Therapy</i> , 2021, 23, 145.	1.6	13
56	Glucosamine Supplementation Demonstrates a Negative Effect on Intervertebral Disc Matrix in an Animal Model of Disc Degeneration. <i>Spine</i> , 2013, 38, 984-990.	1.0	11
57	Study protocol for targeted interventions to prevent chronic low back pain in high-risk patients: A multi-site pragmatic cluster randomized controlled trial (TARGET Trial). <i>Contemporary Clinical Trials</i> , 2019, 82, 66-76.	0.8	11
58	Inflammatory Mediators Associated With Pressure Ulcer Development in Individuals With Pneumonia After Traumatic Spinal Cord Injury: A Pilot Study. <i>Archives of Physical Medicine and Rehabilitation</i> , 2017, 98, 1792-1799.	0.5	10
59	Effect of CHRFAM7A $\hat{r}$ 2bp gene variant on secondary inflammation after spinal cord injury. <i>PLoS ONE</i> , 2021, 16, e0251110.	1.1	9
60	The effects of glucosamine sulfate on intervertebral disc annulus fibrosus cells in vitro. <i>Spine Journal</i> , 2015, 15, 1339-1346.	0.6	8
61	Identification of Candidate Serum Biomarkers for Intervertebral Disk Degeneration in an Animal Model. <i>PM and R</i> , 2009, 1, 536-540.	0.9	7
62	Biological Basis of Exercise-Based Treatments for Musculoskeletal Conditions. <i>PM and R</i> , 2011, 3, S59-63.	0.9	7
63	Needle Puncture in Rabbit Functional Spinal Units Alters Rotational Biomechanics. <i>Journal of Spinal Disorders and Techniques</i> , 2015, 28, E146-E153.	1.8	7
64	NSAID use in intervertebral disc degeneration: what are the effects on matrix homeostasis in vivo?. <i>Spine Journal</i> , 2017, 17, 1163-1170.	0.6	7
65	Subjective and Objective Measures in Assessing Neck Disability and Pain in Head and Neck Cancer. <i>Laryngoscope</i> , 2021, 131, 2015-2022.	1.1	7
66	Percutaneous lumbar annular puncture: A rat model to study intervertebral disc degeneration and $\langle$ scp>pain-related behavior. <i>JOR Spine</i> , 2022, 5, .	1.5	7
67	Biomarker Development for Musculoskeletal Diseases. <i>PM and R</i> , 2011, 3, S39-44.	0.9	6
68	Use of healthcare resources in patients with low back pain and comorbid depression or anxiety. <i>Spine Journal</i> , 2021, 21, 1440-1449.	0.6	6
69	Pancreatic Pain Knowledge Gaps and Research Opportunities in Children and Adults. <i>Pancreas</i> , 2021, 50, 906-915.	0.5	6
70	Association of Protein and Genetic Biomarkers With Response to Lumbar Epidural Steroid Injections in Subjects With Axial Low Back Pain. <i>American Journal of Physical Medicine and Rehabilitation</i> , 2021, 100, 48-56.	0.7	6
71	Descriptive Analysis of an Interdisciplinary Musculoskeletal Program. <i>PM and R</i> , 2020, 12, 639-646.	0.9	5
72	Influences of circulatory factors on intervertebral disc aging phenotype. <i>Aging</i> , 2020, 12, 12285-12304.	1.4	5

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73	Actions of Prostaglandins on Human Nucleus Pulposus Metabolism Inferred by Cyclooxygenase 2 Inhibition of Cytokine Activated Cells. <i>Neurospine</i> , 2020, 17, 60-68.	1.1	5
74	Abnormal Vitamin B6 and Response to Supplementation with Pyridoxal 5-Phosphate (P5P) in Patients with Neuropathic Pain: A Case Series. <i>PM and R</i> , 2013, 5, S216.	0.9	4
75	Optimization of compressive loading parameters to mimic in vivo cervical spine kinematics in vitro. <i>Journal of Biomechanics</i> , 2019, 87, 107-113.	0.9	4
76	Biomechanical contribution of the alar ligaments to upper cervical stability. <i>Journal of Biomechanics</i> , 2020, 99, 109508.	0.9	4
77	Intradiskal Steroids: A Viable Treatment for Low Back Pain?. <i>PM and R</i> , 2014, 6, 547-555.	0.9	3
78	Emerging Technologies for Degenerative Disk Disease: Potential Synergy Between Biochemical Signaling and Spinal Biomechanics. <i>PM and R</i> , 2009, 1, 466-470.	0.9	2
79	Commentary: Do no harm: the potential negative effects of injectates used in spinal intervention. <i>Spine Journal</i> , 2012, 12, 674-675.	0.6	2
80	Biologic Treatments in Intervertebral Disc Degeneration: Protein-Based and Cell-Based Therapies. <i>Operative Techniques in Orthopaedics</i> , 2016, 26, 189-197.	0.2	2
81	Scoping review to develop common data elements for lumbar spinal stenosis. <i>Spine Journal</i> , 2017, 17, 1045-1057.	0.6	2
82	ISSLS prize in basic science 2021: a novel inducible system to regulate transgene expression of TIMP1. <i>European Spine Journal</i> , 2021, 30, 1098-1107.	1.0	2
83	Investigation into the anti-inflammatory properties of metformin in intervertebral disc cells. <i>JOR Spine</i> , 2022, 5, .	1.5	2
84	Comparison of Clinically Relevant Adipose Preparations on Articular Chondrocyte Phenotype in a Novel In Vitro Co-Culture Model. <i>Stem Cells and Development</i> , 2022, , .	1.1	2
85	Using Biology to Define Optimal Treatments for Low Back Pain. <i>American Journal of Physical Medicine and Rehabilitation</i> , 2013, 92, 841-848.	0.7	1
86	The Influence of Continuous Versus Interval Walking Exercise on Joint Loading and Serum Biomarker Profile in Patients with Knee Osteoarthritis. <i>PM and R</i> , 2015, 7, S89-S90.	0.9	1
87	ISSLS Prize in Bioengineering Science 2022: low rate cyclic loading as a therapeutic strategy for intervertebral disc regeneration. <i>European Spine Journal</i> , 2022, 31, 1088-1098.	1.0	1
88	Why a Supplement on Biologics in <i>PM&amp;R?</i> . <i>PM and R</i> , 2011, 3, S1-2.	0.9	0
89	The Identification of Biomarkers That Are Predictive of Response to Interventional Spinal Procedures for Axial Low Back Pain: A Pilot Study. <i>PM and R</i> , 2013, 5, S296-S297.	0.9	0
90	Poster 113: Association of Clinical Characteristics and Response to Lumbar Epidural Steroid Injections in Subjects with Axial Low Back Pain. <i>PM and R</i> , 2017, 9, S171.	0.9	0

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91	Rapamycin Ameliorates Age-Associated Intervertebral Disc Degeneration in Male Marmosets. FASEB Journal, 2021, 35, .	0.2	0
92	Biologics for Disk Regeneration. , 2014, , 1-25.		0
93	Mechanotransduction as a Tool to Influence Musculoskeletal Tissue Biology. , 2014, , 1-20.		0
94	Effects of the Insulin-like Growth Factor Axis and its Relationship in Nonsurgical Treatments in Patients with Lumbar Spinal Stenosis. FASEB Journal, 2018, 32, 588.24.	0.2	0