

# Gwendolyn A Sowa

## List of Publications by Citations

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90  
papers

1,952  
citations

23  
h-index

42  
g-index

95  
ext. papers

2,457  
ext. citations

3.2  
avg, IF

4.66  
L-index

#	Paper	IF	Citations
90	Expression and regulation of metalloproteinases and their inhibitors in intervertebral disc aging and degeneration. <i>Spine Journal</i> , <b>2013</b> , 13, 331-41	4	226
89	Molecular mechanisms of biological aging in intervertebral discs. <i>Journal of Orthopaedic Research</i> , <b>2016</b> , 34, 1289-306	3.8	195
88	Molecular basis of intervertebral disc degeneration and herniations: what are the important translational questions?. <i>Clinical Orthopaedics and Related Research</i> , <b>2015</b> , 473, 1903-12	2.2	136
87	Mitochondrial-derived reactive oxygen species (ROS) play a causal role in aging-related intervertebral disc degeneration. <i>Journal of Orthopaedic Research</i> , <b>2013</b> , 31, 1150-7	3.8	115
86	Injection of AAV2-BMP2 and AAV2-TIMP1 into the nucleus pulposus slows the course of intervertebral disc degeneration in an <i>in vivo</i> rabbit model. <i>Spine Journal</i> , <b>2012</b> , 12, 7-20	4	92
85	Characterization of intervertebral disc aging: longitudinal analysis of a rabbit model by magnetic resonance imaging, histology, and gene expression. <i>Spine</i> , <b>2008</b> , 33, 1821-8	3.3	74
84	p38 MAPK inhibition modulates rabbit nucleus pulposus cell response to IL-1. <i>Journal of Orthopaedic Research</i> , <b>2008</b> , 26, 991-8	3.8	72
83	Systemic clearance of p16 -positive senescent cells mitigates age-associated intervertebral disc degeneration. <i>Aging Cell</i> , <b>2019</b> , 18, e12927	9.9	62
82	ISSLS prize winner: inhibition of NF- $\kappa$ B activity ameliorates age-associated disc degeneration in a mouse model of accelerated aging. <i>Spine</i> , <b>2012</b> , 37, 1819-25	3.3	55
81	Activated macrophage-like THP-1 cells modulate annulus fibrosus cell production of inflammatory mediators in response to cytokines. <i>Spine</i> , <b>2008</b> , 33, 2253-9	3.3	45
80	Bupivacaine decreases cell viability and matrix protein synthesis in an intervertebral disc organ model system. <i>Spine Journal</i> , <b>2011</b> , 11, 139-46	4	38
79	Effect of bupivacaine on intervertebral disc cell viability. <i>Spine Journal</i> , <b>2010</b> , 10, 159-66	4	38
78	Cyclic tensile stress exerts a protective effect on intervertebral disc cells. <i>American Journal of Physical Medicine and Rehabilitation</i> , <b>2008</b> , 87, 537-44	2.6	37
77	Skeletal muscle as a regulator of the longevity protein, Klotho. <i>Frontiers in Physiology</i> , <b>2014</b> , 5, 189	4.6	36
76	Investigating the role of DNA damage in tobacco smoking-induced spine degeneration. <i>Spine Journal</i> , <b>2014</b> , 14, 416-23	4	34
75	Determination of annulus fibrosus cell response to tensile strain as a function of duration, magnitude, and frequency. <i>Journal of Orthopaedic Research</i> , <b>2011</b> , 29, 1275-83	3.8	34
74	Fear avoidance beliefs predict disability in older adults with chronic low back pain. <i>PM and R</i> , <b>2012</b> , 4, 493-7	2.2	30

73	Cellular senescence in intervertebral disc aging and degeneration. <i>Current Molecular Biology Reports</i> , <b>2018</b> , 4, 180-190	2	30
72	Alterations in gene expression in response to compression of nucleus pulposus cells. <i>Spine Journal</i> , <b>2011</b> , 11, 36-43	4	29
71	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> , <b>2014</b> , 62, 2047-55	5.6	26
70	In vitro and in vivo testing of a novel regulatory system for gene therapy for intervertebral disc degeneration. <i>Spine</i> , <b>2011</b> , 36, E623-8	3.3	25
69	Gene therapy for the treatment of degenerative disk disease. <i>Journal of the American Academy of Orthopaedic Surgeons</i> , <b>2008</b> , 16, 312-9	4.5	25
68	Risk Factors Associated With Transition From Acute to Chronic Low Back Pain in US Patients Seeking Primary Care. <i>JAMA Network Open</i> , <b>2021</b> , 4, e2037371	10.4	25
67	A Computational, Tissue-Realistic Model of Pressure Ulcer Formation in Individuals with Spinal Cord Injury. <i>PLoS Computational Biology</i> , <b>2015</b> , 11, e1004309	5	22
66	Influence of varying compressive loading methods on physiologic motion patterns in the cervical spine. <i>Journal of Biomechanics</i> , <b>2016</b> , 49, 167-72	2.9	21
65	Regulation of transgene expression using an inducible system for improved safety of intervertebral disc gene therapy. <i>Spine</i> , <b>2007</b> , 32, 1381-7	3.3	21
64	Senescent intervertebral disc cells exhibit perturbed matrix homeostasis phenotype. <i>Mechanisms of Ageing and Development</i> , <b>2017</b> , 166, 16-23	5.6	19
63	Biomechanical Evaluation of Transpedicular Nucleotomy With Intact Annulus Fibrosus. <i>Spine</i> , <b>2017</b> , 42, E193-E201	3.3	18
62	NF- $\kappa$ B Signaling Pathway in Controlling Intervertebral Disk Cell Response to Inflammatory and Mechanical Stressors. <i>Physical Therapy</i> , <b>2016</b> , 96, 704-11	3.3	18
61	Novel ex-vivo mechanobiological intervertebral disc culture system. <i>Journal of Biomechanics</i> , <b>2012</b> , 45, 382-5	2.9	18
60	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> , <b>2017</b> , 69, 1855-1862	4.7	17
59	The influence of continuous versus interval walking exercise on knee joint loading and pain in patients with knee osteoarthritis. <i>Gait and Posture</i> , <b>2017</b> , 56, 129-133	2.6	16
58	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> , <b>2014</b> , 6, 332-41	2.2	15
57	Cells from degenerative intervertebral discs demonstrate unfavorable responses to mechanical and inflammatory stimuli: a pilot study. <i>American Journal of Physical Medicine and Rehabilitation</i> , <b>2012</b> , 91, 846-55	2.6	15
56	Early Detection of Pressure Ulcer Development Following Traumatic Spinal Cord Injury Using Inflammatory Mediators. <i>Archives of Physical Medicine and Rehabilitation</i> , <b>2016</b> , 97, 1656-62	2.8	14

55	Serum and nutrient deprivation increase autophagic flux in intervertebral disc annulus fibrosus cells: an in vitro experimental study. <i>European Spine Journal</i> , <b>2019</b> , 28, 993-1004	2.7	13
54	ADAMTS5 Deficiency Protects Mice From Chronic Tobacco Smoking-induced Intervertebral Disc Degeneration. <i>Spine</i> , <b>2017</b> , 42, 1521-1528	3.3	12
53	The Role of Type I Diabetes in Intervertebral Disc Degeneration. <i>Spine</i> , <b>2019</b> , 44, 1177-1185	3.3	12
52	Biological responses to flexion/extension in spinal segments ex-vivo. <i>Journal of Orthopaedic Research</i> , <b>2015</b> , 33, 1255-64	3.8	11
51	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> , <b>2016</b> , 38, 401-9	2	11
50	Mechanical role of the posterior column components in the cervical spine. <i>European Spine Journal</i> , <b>2016</b> , 25, 2129-38	2.7	11
49	Glucosamine supplementation demonstrates a negative effect on intervertebral disc matrix in an animal model of disc degeneration. <i>Spine</i> , <b>2013</b> , 38, 984-90	3.3	10
48	Dynamic knee joint stiffness and contralateral knee joint loading during prolonged walking in patients with unilateral knee osteoarthritis. <i>Gait and Posture</i> , <b>2019</b> , 68, 44-49	2.6	10
47	Effectiveness of Later-Stage Exercise Programs vs Usual Medical Care on Physical Function and Activity After Total Knee Replacement: A Randomized Clinical Trial. <i>JAMA Network Open</i> , <b>2019</b> , 2, e190018	10.4	9
46	Rehabilomics research: a model for translational rehabilitation and comparative effectiveness rehabilitation research. <i>American Journal of Physical Medicine and Rehabilitation</i> , <b>2014</b> , 93, 913-6	2.6	9
45	Catabolic effects of endothelial cell-derived microparticles on disc cells: Implications in intervertebral disc neovascularization and degeneration. <i>Journal of Orthopaedic Research</i> , <b>2016</b> , 34, 1466-74	2.8	9
44	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> , <b>2017</b> , 98, 1792-1799	2.8	8
43	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> , <b>2019</b> , 98, 287-291	2.6	8
42	Association of a Functional Polymorphism in the Gene with Inflammatory Response Mediators and Neuropathic Pain after Spinal Cord Injury. <i>Journal of Neurotrauma</i> , <b>2019</b> , 36, 3026-3033	5.4	8
41	Use of Adipose-Derived Orthobiologics for Musculoskeletal Injuries: A Narrative Review. <i>PM and R</i> , <b>2020</b> , 12, 805-816	2.2	8
40	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> , <b>2021</b> , 34, 100795	11.3	8
39	Needle puncture in rabbit functional spinal units alters rotational biomechanics. <i>Journal of Spinal Disorders and Techniques</i> , <b>2015</b> , 28, E146-53		7
38	The effects of glucosamine sulfate on intervertebral disc annulus fibrosus cells in vitro. <i>Spine Journal</i> , <b>2015</b> , 15, 1339-46	4	7

37	NSAID use in intervertebral disc degeneration: what are the effects on matrix homeostasis in vivo?. <i>Spine Journal</i> , <b>2017</b> , 17, 1163-1170	4	6
36	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> , <b>2019</b> , 82, 66-76	2.3	6
35	Attenuation of ataxia telangiectasia mutated signalling mitigates age-associated intervertebral disc degeneration. <i>Aging Cell</i> , <b>2020</b> , 19, e13162	9.9	6
34	Biological basis of exercise-based treatments for musculoskeletal conditions. <i>PM and R</i> , <b>2011</b> , 3, S59-63	2.2	6
33	Identification of candidate serum biomarkers for intervertebral disk degeneration in an animal model. <i>PM and R</i> , <b>2009</b> , 1, 536-40	2.2	6
32	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> , <b>2019</b> , 23, 506-515	3.7	6
31	Role of autophagy in intervertebral disc degeneration. <i>Journal of Cellular Physiology</i> , <b>2021</b> ,	7	5
30	Prioritized Research for the Prevention, Treatment, and Reversal of Chronic Disease: Recommendations From the Lifestyle Medicine Research Summit. <i>Frontiers in Medicine</i> , <b>2020</b> , 7, 585744	4.9	5
29	Optimization of compressive loading parameters to mimic in vivo cervical spine kinematics in vitro. <i>Journal of Biomechanics</i> , <b>2019</b> , 87, 107-113	2.9	4
28	Biomarker development for musculoskeletal diseases. <i>PM and R</i> , <b>2011</b> , 3, S39-44	2.2	4
27	Rabbit Annulus Fibrosus Cells Express Neuropeptide Y, Which Is Influenced by Mechanical and Inflammatory Stress. <i>Neurospine</i> , <b>2020</b> , 17, 69-76	3.1	3
26	Influences of circulatory factors on intervertebral disc aging phenotype. <i>Aging</i> , <b>2020</b> , 12, 12285-12304	5.6	3
25	Biomechanical contribution of the alar ligaments to upper cervical stability. <i>Journal of Biomechanics</i> , <b>2020</b> , 99, 109508	2.9	3
24	Use of healthcare resources in patients with low back pain and comorbid depression or anxiety. <i>Spine Journal</i> , <b>2021</b> , 21, 1440-1449	4	3
23	Scoping review to develop common data elements for lumbar spinal stenosis. <i>Spine Journal</i> , <b>2017</b> , 17, 1045-1057	4	2
22	Intradiskal steroids: a viable treatment for low back pain?. <i>PM and R</i> , <b>2014</b> , 6, 547-55	2.2	2
21	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> , <b>2013</b> , 5, S216-S216	2.2	2
20	Commentary: Do no harm: the potential negative effects of injectates used in spinal intervention. <i>Spine Journal</i> , <b>2012</b> , 12, 674-5	4	2

19	Emerging technologies for degenerative disk disease: potential synergy between biochemical signaling and spinal biomechanics. <i>PM and R</i> , <b>2009</b> , 1, 466-70	2.2	2
18	Descriptive Analysis of an Interdisciplinary Musculoskeletal Program. <i>PM and R</i> , <b>2020</b> , 12, 639-646	2.2	2
17	Biologic Treatments in Intervertebral Disc Degeneration: Protein-Based and Cell-Based Therapies. <i>Operative Techniques in Orthopaedics</i> , <b>2016</b> , 26, 189-197	0.3	1
16	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> , <b>2015</b> , 7, S89-S90	2.2	1
15	Using biology to define optimal treatments for low back pain: opportunities for physiatrists. <i>American Journal of Physical Medicine and Rehabilitation</i> , <b>2013</b> , 92, 841-8	2.6	1
14	Actions of Prostaglandins on Human Nucleus Pulposus Metabolism Inferred by Cyclooxygenase 2 Inhibition of Cytokine Activated Cells. <i>Neurospine</i> , <b>2020</b> , 17, 60-68	3.1	1
13	Pancreatic Pain-Knowledge Gaps and Research Opportunities in Children and Adults: Summary of a National Institute of Diabetes and Digestive and Kidney Diseases Workshop. <i>Pancreas</i> , <b>2021</b> , 50, 906-915	2.6	1
12	Subjective and Objective Measures in Assessing Neck Disability and Pain in Head and Neck Cancer. <i>Laryngoscope</i> , <b>2021</b> , 131, 2015-2022	3.6	1
11	Lactate oxidative phosphorylation by annulus fibrosus cells: evidence for lactate-dependent metabolic symbiosis in intervertebral discs. <i>Arthritis Research and Therapy</i> , <b>2021</b> , 23, 145	5.7	1
10	Effect of CHRFAM7A $\Delta$ bp gene variant on secondary inflammation after spinal cord injury. <i>PLoS ONE</i> , <b>2021</b> , 16, e0251110	3.7	1
9	ISSLS prize in basic science 2021: a novel inducible system to regulate transgene expression of TIMP1. <i>European Spine Journal</i> , <b>2021</b> , 30, 1098-1107	2.7	1
8	ISSLS Prize in Bioengineering Science 2022: low rate cyclic loading as a therapeutic strategy for intervertebral disc regeneration.. <i>European Spine Journal</i> , <b>2022</b> , 31, 1088-1098	2.7	1
7	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> , <b>2021</b> , 100, 48-56	2.6	0
6	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> , <b>2013</b> , 5, S296-S297	2.2	
5	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> , <b>2017</b> , 9, S171	2.2	
4	Why a supplement on biologics in PM&R?. <i>PM and R</i> , <b>2011</b> , 3, S1-2	2.2	
3	Effects of the Insulin-like Growth Factor Axis and its Relationship in Nonsurgical Treatments in Patients with Lumbar Spinal Stenosis. <i>FASEB Journal</i> , <b>2018</b> , 32, 588.24	0.9	
2	Biologics for Disk Regeneration <b>2014</b> , 1-25		

- 1      Mechanotransduction as a Tool to Influence Musculoskeletal Tissue Biology **2014**, 1-20