

# Wilson Z Ray

## List of Publications by Year in descending order

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Version: 2024-02-01

116  
papers

5,670  
citations

109321

35  
h-index

82547

72  
g-index

121  
all docs

121  
docs citations

121  
times ranked

7482  
citing authors

| #  | ARTICLE   | IF   | CITATIONS |
|----|---|------|-----------|
| 1  | Bioresorbable silicon electronic sensors for the brain. <i>Nature</i> , 2016, 530, 71-76.   | 27.8 | 778       |
| 2  | Wireless Optofluidic Systems for Programmable In Vivo Pharmacology and Optogenetics. <i>Cell</i> , 2015, 162, 662-674.  | 28.9 | 417       |
| 3  | Management of nerve gaps: Autografts, allografts, nerve transfers, and end-to-side neurorrhaphy. <i>Experimental Neurology</i> , 2010, 223, 77-85.  | 4.1  | 380       |
| 4  | Wireless bioresorbable electronic system enables sustained nonpharmacological neuroregenerative therapy. <i>Nature Medicine</i> , 2018, 24, 1830-1836.  | 30.7 | 331       |
| 5  | Radially Aligned, Electrospun Nanofibers as Dural Substitutes for Wound Closure and Tissue Regeneration Applications. <i>ACS Nano</i> , 2010, 4, 5027-5036.   | 14.6 | 268       |
| 6  | Bioresorbable pressure sensors protected with thermally grown silicon dioxide for the monitoring of chronic diseases and healing processes. <i>Nature Biomedical Engineering</i> , 2019, 3, 37-46.                        | 22.5 | 185       |
| 7  | Acellular nerve allografts in peripheral nerve regeneration: A comparative study. <i>Muscle and Nerve</i> , 2011, 44, 221-234.  | 2.2  | 183       |
| 8  | CVD-grown monolayer MoS <sub>2</sub> in bioabsorbable electronics and biosensors. <i>Nature Communications</i> , 2018, 9, 1690.   | 12.8 | 155       |
| 9  | Bioresorbable optical sensor systems for monitoring of intracranial pressure and temperature. <i>Science Advances</i> , 2019, 5, eaaw1899.  | 10.3 | 146       |
| 10 | Stretchable, dynamic covalent polymers for soft, long-lived bioresorbable electronic stimulators designed to facilitate neuromuscular regeneration. <i>Nature Communications</i> , 2020, 11, 5990.                        | 12.8 | 144       |
| 11 | Clinical Outcomes Following Median to Radial Nerve Transfers. <i>Journal of Hand Surgery</i> , 2011, 36, 201-208.   | 1.6  | 114       |
| 12 | Combined endovascular embolization and stereotactic radiosurgery in the treatment of large arteriovenous malformations. <i>Journal of Neurosurgery</i> , 2011, 114, 1758-1767.  | 1.6  | 94        |
| 13 | Wirelessly controlled, bioresorbable drug delivery device with active valves that exploit electrochemically triggered crevice corrosion. <i>Science Advances</i> , 2020, 6, eabb1093.                                     | 10.3 | 87        |
| 14 | Bioresorbable, Wireless, Passive Sensors as Temporary Implants for Monitoring Regional Body Temperature. <i>Advanced Healthcare Materials</i> , 2020, 9, e2000942.  | 7.6  | 87        |
| 15 | Double fascicular nerve transfer to the biceps and brachialis muscles after brachial plexus injury: clinical outcomes in a series of 29 cases. <i>Journal of Neurosurgery</i> , 2011, 114, 1520-1528.                     | 1.6  | 86        |
| 16 | Incidence of deep venous thrombosis after subarachnoid hemorrhage. <i>Journal of Neurosurgery</i> , 2009, 110, 1010-1014.   | 1.6  | 84        |
| 17 | Nerve transfers for the restoration of hand function after spinal cord injury. <i>Journal of Neurosurgery</i> , 2012, 117, 176-185.   | 1.6  | 80        |
| 18 | Clinicopathologic features of recurrent dysembryoplastic neuroepithelial tumor and rare malignant transformation: a report of 5 cases and review of the literature. <i>Journal of Neuro-Oncology</i> , 2009, 94, 283-292. | 2.9  | 79        |

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|----|---|------|-----------|
| 19 | Cubital Tunnel Syndrome: Incidence and Demographics in a National Administrative Database. <i>Neurosurgery</i> , 2017, 80, 417-420.   | 1.1  | 78        |
| 20 | Motor Nerve Transfers. <i>Neurosurgery</i> , 2016, 78, 1-26.  | 1.1  | 76        |
| 21 | Vitamin D Levels and 1-Year Fusion Outcomes in Elective Spine Surgery. <i>Spine</i> , 2015, 40, 1536-1541.  | 2.0  | 65        |
| 22 | Schwann cells seeded in acellular nerve grafts improve functional recovery. <i>Muscle and Nerve</i> , 2014, 49, 267-276.  | 2.2  | 64        |
| 23 | Electrical Stimulation and Bone Healing: A Review of Current Technology and Clinical Applications. <i>IEEE Reviews in Biomedical Engineering</i> , 2018, 11, 217-232.                 | 18.0 | 64        |
| 24 | Soft, bioresorbable coolers for reversible conduction block of peripheral nerves. <i>Science</i> , 2022, 377, 109-115.  | 12.6 | 62        |
| 25 | Clinical outcomes following brachialis to anterior interosseous nerve transfers. <i>Journal of Neurosurgery</i> , 2012, 117, 604-609.   | 1.6  | 57        |
| 26 | Developing an Anterior Cervical Discectomy and Fusion Simulator for Neurosurgical Resident Training. <i>Neurosurgery</i> , 2013, 73, S100-S106.                                       | 1.1  | 57        |
| 27 | Stereotactic navigation with the O-arm for placement of S-2 alar iliac screws in pelvic lumbar fixation. <i>Journal of Neurosurgery: Spine</i> , 2013, 18, 490-495.                   | 1.7  | 54        |
| 28 | Bioresorbable Wireless Sensors as Temporary Implants for In Vivo Measurements of Pressure. <i>Advanced Functional Materials</i> , 2020, 30, 2003754.                                  | 14.9 | 53        |
| 29 | Materials, Mechanics Designs, and Bioresorbable Multisensor Platforms for Pressure Monitoring in the Intracranial Space. <i>Advanced Functional Materials</i> , 2020, 30, 1910718.    | 14.9 | 53        |
| 30 | Nerve Allograft Transplantation as it Pertains to Composite Tissue Transplantation. <i>Hand</i> , 2009, 4, 239-244.   | 1.2  | 52        |
| 31 | Spinal Cord Injury Disrupts Resting-State Networks in the Human Brain. <i>Journal of Neurotrauma</i> , 2018, 35, 864-873.   | 3.4  | 51        |
| 32 | Human cells and networks of pain: Transforming pain target identification and therapeutic development. <i>Neuron</i> , 2021, 109, 1426-1429.  | 8.1  | 47        |
| 33 | The Natural History and Clinical Presentation of Cervical Spondylotic Myelopathy. <i>Advances in Orthopedics</i> , 2012, 2012, 1-4.   | 1.0  | 44        |
| 34 | Prevalence of Vitamin D Deficiency in Patients Undergoing Elective Spine Surgery: A Cross-Sectional Analysis. <i>World Neurosurgery</i> , 2015, 83, 1114-1119.                        | 1.3  | 40        |
| 35 | The natural history of complete spinal cord injury: a pooled analysis of 1162 patients and a meta-analysis of modern data. <i>Journal of Neurosurgery: Spine</i> , 2018, 28, 436-443. | 1.7  | 39        |
| 36 | Nerve Transfer to the Triceps After Brachial Plexus Injury: Report of Four Cases. <i>Journal of Hand Surgery</i> , 2011, 36, 398-405.   | 1.6  | 38        |

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|----|---|-----|-----------|
| 37 | Transcardial perfusion versus immersion fixation for assessment of peripheral nerve regeneration. <i>Journal of Neuroscience Methods</i> , 2009, 184, 303-309.  | 2.5 | 36        |
| 38 | Simpson Grade I-III Resection of Spinal Atypical (World Health Organization Grade II) Meningiomas is Associated With Symptom Resolution and Low Recurrence. <i>Neurosurgery</i> , 2015, 76, 739-746.                    | 1.1 | 36        |
| 39 | Indirect Cost of Traumatic Brachial Plexus Injuries in the United States. <i>Journal of Bone and Joint Surgery - Series A</i> , 2019, 101, e80.   | 3.0 | 36        |
| 40 | Risks and outcomes of spinal deformity surgery in Chiari malformation, Type 1, with syringomyelia versus adolescent idiopathic scoliosis. <i>Spine Journal</i> , 2015, 15, 2002-2008.                                   | 1.3 | 34        |
| 41 | Repair of a median nerve transection injury using multiple nerve transfers, with long-term functional recovery. <i>Journal of Neurosurgery</i> , 2012, 117, 886-889.  | 1.6 | 32        |
| 42 | Magnetic Resonance Imaging Biomarker of Axon Loss Reflects Cervical Spondylotic Myelopathy Severity. <i>Spine</i> , 2016, 41, 751-756.  | 2.0 | 32        |
| 43 | Medial Pectoral Nerve to Axillary Nerve Neurotization following Traumatic Brachial Plexus Injuries: Indications and Clinical Outcomes. <i>Hand</i> , 2012, 7, 59-65.  | 1.2 | 31        |
| 44 | An Update on Civilian Spinal Gunshot Wounds. <i>Spine</i> , 2015, 40, 450-461.  | 2.0 | 31        |
| 45 | Multi-modal biomarkers of low back pain: A machine learning approach. <i>NeuroImage: Clinical</i> , 2021, 29, 102530.   | 2.7 | 30        |
| 46 | Onyx is associated with poor venous penetration in the treatment of spinal dural arteriovenous fistulas. <i>Journal of NeuroInterventional Surgery</i> , 2014, 6, 536-540.  | 3.3 | 28        |
| 47 | Diffusion Assessment of Cortical Changes, Induced by Traumatic Spinal Cord Injury. <i>Brain Sciences</i> , 2017, 7, 21.   | 2.3 | 28        |
| 48 | Application of electrical stimulation for peripheral nerve regeneration: Stimulation parameters and future horizons. <i>Interdisciplinary Neurosurgery: Advanced Techniques and Case Management</i> , 2021, 24, 101117. | 0.3 | 27        |
| 49 | Transfer of the Brachialis to the Anterior Interosseous Nerve as a Treatment Strategy for Cervical Spinal Cord Injury: Technical Note. <i>Global Spine Journal</i> , 2015, 5, 110-117.                                  | 2.3 | 22        |
| 50 | New Clinical-Pathological Classification of Intraspinial Injury Following Traumatic Acute Complete Thoracic Spinal Cord Injury. <i>Neurosurgery</i> , 2017, 64, 105-109.  | 1.1 | 21        |
| 51 | The differential effects of pathway- versus target-derived glial cell line-derived neurotrophic factor on peripheral nerve regeneration. <i>Journal of Neurosurgery</i> , 2010, 113, 102-109.                           | 1.6 | 20        |
| 52 | Therapeutic electrical stimulation of injured peripheral nerve tissue using implantable thin-film wireless nerve stimulators. <i>Journal of Neurosurgery</i> , 2019, 130, 486-495.                                      | 1.6 | 20        |
| 53 | Noninvasive Quantification of Axonal Loss in the Presence of Tissue Swelling in Traumatic Spinal Cord Injury Mice. <i>Journal of Neurotrauma</i> , 2019, 36, 2308-2315.   | 3.4 | 19        |
| 54 | Nerve Problems in the Lower Extremity. <i>Foot and Ankle Clinics</i> , 2011, 16, 243-254.   | 1.3 | 18        |

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|----|---|-----|-----------|
| 55 | Two-level motor nerve transfer for the treatment of long thoracic nerve palsy. Journal of Neurosurgery, 2011, 115, 858-864.   | 1.6 | 18        |
| 56 | An update on addressing important peripheral nerve problems: challenges and potential solutions. Acta Neurochirurgica, 2017, 159, 1765-1773.  | 1.7 | 18        |
| 57 | Prevalence, management, and outcome of problem residents among neurosurgical training programs in the United States. Journal of Neurosurgery, 2018, 130, 322-326.   | 1.6 | 18        |
| 58 | Developing an Anterior Cervical Discectomy and Fusion Simulator for Neurosurgical Resident Training. Neurosurgery, 2013, 73, S100-S106.   | 1.1 | 17        |
| 59 | Effect of cold nerve allograft preservation on antigen presentation and rejection. Journal of Neurosurgery, 2011, 114, 256-262.   | 1.6 | 16        |
| 60 | Comparison of structural allograft and traditional autograft technique in occipitocervical fusion: radiological and clinical outcomes from a single institution. Journal of Neurosurgery: Spine, 2015, 23, 144-152. | 1.7 | 16        |
| 61 | Clinical outcomes of unstable thoracolumbar junction burst fractures: combined posterior short-segment correction followed by thoracoscopic corpectomy and fusion. Acta Neurochirurgica, 2013, 155, 1179-1186.      | 1.7 | 15        |
| 62 | Transient Obstructive Hydrocephalus due to Intraventricular Hemorrhage: A Case Report and Review  |     |           |

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|----|--|-----|-----------|
| 73 | Readmission after spinal cord injury: analysis of an institutional cohort of 795 patients. <i>Journal of Neurosurgical Sciences</i> , 2018, 62, 265-270.   | 0.6 | 12        |
| 74 | Pseudotumor cerebri following tapered corticosteroid treatment in an 8-month-old infant. <i>Journal of Neurosurgery: Pediatrics</i> , 2008, 1, 88-90.  | 1.3 | 11        |
| 75 | Functional Disruptions of the Brain in Low Back Pain: A Potential Imaging Biomarker of Functional Disability. <i>Frontiers in Neurology</i> , 2021, 12, 669076.                                    | 2.4 | 11        |
| 76 | Subarachnoid Hemorrhage from a Thoracic Radicular Artery Pseudoaneurysm after Methamphetamine and Synthetic Cannabinoid Abuse: Case Report. <i>Global Spine Journal</i> , 2013, 3, 119-123.        | 2.3 | 10        |
| 77 | Novel Nerve Transfers for Motor and Sensory Restoration in High Cervical Spinal Cord Injury. <i>World Neurosurgery</i> , 2019, 128, 611-615.e1.  | 1.3 | 10        |
| 78 | A qualitative study of life satisfaction after surgery for adult traumatic brachial plexus injury. <i>Bone &amp; Joint Open</i> , 2021, 2, 9-15.   | 2.6 | 10        |
| 79 | Cervical Total Disc Replacement. <i>Neurosurgery Clinics of North America</i> , 2021, 32, 473-481.   | 1.7 | 10        |
| 80 | Advances in Techniques and Technology in Minimally Invasive Lumbar Interbody Spinal Fusion. <i>JBJS Reviews</i> , 2020, 8, e0171-e0171.  | 2.0 | 9         |
| 81 | Incidence of Surgically Treated Brachial Plexus Injury in Privately Insured Adults Under 65 Years of Age in the USA. <i>HSS Journal</i> , 2020, 16, 339-343.                                       | 1.7 | 9         |
| 82 | Variability in Surgeon Approaches to Emotional Recovery and Expectation Setting After Adult Traumatic Brachial Plexus Injury. <i>Journal of Hand Surgery Global Online</i> , 2021, 3, 30-35.       | 0.8 | 9         |
| 83 | Near-complete resolution of angiographic cerebral vasospasm after extreme elevation of mean arterial pressure: case report. <i>World Neurosurgery</i> , 2009, 72, 347-353.                         | 1.3 | 8         |
| 84 | Early Endovascular Coiling of Posterior Communicating Artery Sacular Aneurysm in the Setting of Staphylococcus Bacteremia. <i>Neurosurgery</i> , 2010, 66, E847.                                   | 1.1 | 8         |
| 85 | Thoracoscopic Vertebrectomy for Thoracolumbar Junction Fractures and Tumors. <i>Clinical Spine Surgery</i> , 2016, 29, E344-E350.  | 1.3 | 8         |
| 86 | Transfacet Minimally Invasive Transforaminal Lumbar Interbody Fusion With an Expandable Interbody Device—Part II: Consecutive Case Series. <i>Operative Neurosurgery</i> , 2020, 19, 518-529.      | 0.8 | 8         |
| 87 | Anterior cervical arthrodesis using an osteoconductive scaffold: The use of beta-tricalcium phosphate with local bone marrow aspirate in over 100 patients. <i>SAS Journal</i> , 2009, 3, 114-117. | 1.3 | 7         |
| 88 | Interfacing peripheral nerve with macro-sieve electrodes following spinal cord injury. <i>Neural Regeneration Research</i> , 2017, 12, 906.  | 3.0 | 7         |
| 89 | Anatomic visualization with ultrasound-assisted intracranial image guidance in neurosurgery: a report of 30 patients. <i>Journal of the American College of Surgeons</i> , 2004, 199, 338-343.     | 0.5 | 6         |
| 90 | The role of T helper cell differentiation in promoting nerve allograft survival with costimulation blockade. <i>Journal of Neurosurgery</i> , 2010, 112, 386-393.                                  | 1.6 | 6         |

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|-----|---|-----|-----------|
| 91  | Decompression of Lumbar Central Spinal Canal Stenosis Following Minimally Invasive Transforaminal Lumbar Interbody Fusion. <i>Clinical Spine Surgery</i> , 2021, 34, E439-E449.   | 1.3 | 4         |
| 92  | Increased Spasticity From a Fracture in the Baclofen Catheter Caused by Charcot Spine: Case Report. <i>Archives of Physical Medicine and Rehabilitation</i> , 2015, 96, 697-701.  | 0.9 | 3         |
| 93  | Validation of the Disabilities of the Arm, Shoulder, and Hand in Patients Undergoing Cervical Spine Surgery. <i>Spine</i> , 2019, 44, 1676-1684.  | 2.0 | 3         |
| 94  | Transfacet Minimally Invasive Transforaminal Lumbar Interbody Fusion With an Expandable Interbody Device—Part I: 2-Dimensional Operative Video and Technical Report. <i>Operative Neurosurgery</i> , 2020, 19, E473-E479.                         | 0.8 | 3         |
| 95  | Acute Hemorrhage Following Gamma Knife Radiosurgery to a Clival Meningioma. <i>Journal of Spine &amp; Neurosurgery</i> , 2013, 02, 108.   | 0.1 | 3         |
| 96  | Population-based approaches to treatment and readmission after spinal cord injury. <i>Journal of Neurosurgical Sciences</i> , 2018, 62, 107-115.  | 0.6 | 3         |
| 97  | Costimulation blockade inhibits the indirect pathway of allorecognition in nerve allograft rejection. <i>Muscle and Nerve</i> , 2011, 43, 120-126.  | 2.2 | 2         |
| 98  | Social Support and Coping Strategies in Patients with Traumatic Brachial Plexus Injury. <i>HSS Journal</i> , 2020, 16, 468-474.   | 1.7 | 2         |
| 99  | High-Frequency Alternating Current Block Using Macro-Sieve Electrodes: A Pilot Study. <i>Cureus</i> , 2021, 13, e13728.   | 0.5 | 2         |
| 100 | Administrative Data Are Unreliable for Ranking Hospital Performance Based on Serious Complications After Spine Fusion. <i>Spine</i> , 2021, 46, 1181-1190.  | 2.0 | 2         |
| 101 | Project management for developing a spine "enhanced recovery after surgery" program in a large university-affiliated hospital. <i>Journal of Neurosurgical Sciences</i> , 2020, 64, 206-212.  | 0.6 | 2         |
| 102 | Introduction. Awake spinal surgery: where are we now and where are we going. <i>Neurosurgical Focus</i> , 2021, 51, E1.   | 2.3 | 2         |
| 103 | Analysis of combined clinical and diffusion basis spectrum imaging metrics to predict the outcome of chronic cervical spondylotic myelopathy following cervical decompression surgery. <i>Journal of Neurosurgery: Spine</i> , 2022, 37, 588-598. | 1.7 | 2         |
| 104 | Intervertebral Micro Access Surgery for Transforaminal Lumbar Interbody Fusion. <i>Operative Neurosurgery</i> , 2016, 12, 203-213.  | 0.8 | 1         |
| 105 | In Reply: Cubital Tunnel Syndrome: Incidence and Demographics in a National Administrative Database. <i>Neurosurgery</i> , 2017, 81, E63-E63.   | 1.1 | 1         |
| 106 | Novel nanofabricated dura substitute effectively repairs dural defects independent of defect size in a canine duraplasty model. <i>Interdisciplinary Neurosurgery: Advanced Techniques and Case Management</i> , 2018, 14, 150-155.               | 0.3 | 1         |
| 107 | Nerve transfer as a novel treatment for West Nile virus-associated acute flaccid paralysis. <i>Journal of the Neurological Sciences</i> , 2019, 407, 116502.  | 0.6 | 1         |
| 108 | Response. <i>Journal of Neurosurgery</i> , 2013, 118, 707-8.  | 1.6 | 1         |

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|-----|---|-----|-----------|
| 109 | Impact of lateral mass anatomic variation on ideal polyaxial screw head mobility: technical considerations. <i>British Journal of Neurosurgery</i> , 2012, 26, 864-867.   | 0.8 | 0         |
| 110 | Surgery for Idiopathic Scoliosis in Adolescents versus Young Adults: A Matched Cohort Analysis. <i>Spine Journal</i> , 2013, 13, S35-S36.   | 1.3 | 0         |
| 111 | Editorial: Autologous Schwann cells. <i>Neurosurgical Focus</i> , 2017, 42, E3.   | 2.3 | 0         |
| 112 | Comparison of cost and complication rates for profiling hospital performance in lumbar fusion for Spondylolisthesis. <i>Spine Journal</i> , 2021, 21, 2026-2034.  | 1.3 | 0         |
| 113 | Extended tulip cervical reduction screws to restore alignment in traumatic atlantoaxial dislocation after type 3 odontoid fracture: illustrative case. <i>Journal of Neurosurgery Case Lessons</i> , 2021, 2, . | 0.3 | 0         |
| 114 | Use of a Synthetic Dura Substitute in the Skull Base Reconstruction following Transsphenoidal Hypophysectomy. , 2019, 80, .   |     | 0         |
| 115 | Response. <i>Journal of Neurosurgery: Spine</i> , 2013, 19, 647.  | 1.7 | 0         |
| 116 | 338 Diffusion Basis Spectrum Imaging (DBSI) Prognosticates Outcomes for Cervical Spondylotic Myelopathy after Surgery. <i>Journal of Clinical and Translational Science</i> , 2022, 6, 62-62.                   | 0.6 | 0         |