

# Werner Schmoelz

## List of Publications by Year in descending order

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Version: 2024-02-01

118  
papers

3,146  
citations

159585

30  
h-index

175258

52  
g-index

128  
all docs

128  
docs citations

128  
times ranked

2604  
citing authors

#	ARTICLE	IF	CITATIONS
1	A biomechanical comparison of steel screws versus PLLA and magnesium screws for the Latarjet procedure. Archives of Orthopaedic and Trauma Surgery, 2022, 142, 1091-1098.	2.4	3
2	Evaluation of mushroom-shaped allograft for unstable proximal humerus fractures. Archives of Orthopaedic and Trauma Surgery, 2022, 142, 409-416.	2.4	4
3	Standardized fracture creation in the distal humerus and the olecranon for surgical training and biomechanical testing. Archives of Orthopaedic and Trauma Surgery, 2022, 142, 3853-3861.	2.4	1
4	A New System for Periprosthetic Fracture Stabilization—A Biomechanical Comparison. Journal of Clinical Medicine, 2022, 11, 892.	2.4	1
5	Active Soft Brace for Scoliotic Spine: A Finite Element Study to Evaluate in-Brace Correction. Robotics, 2022, 11, 37.	3.5	3
6	Modified Lemaire tenodesis reduces anterior cruciate ligament graft forces during internal tibial torque loading. Journal of Experimental Orthopaedics, 2022, 9, 45.	1.8	5
7	Actuator and Contact Force Modeling of an Active Soft Brace for Scoliosis. Bioengineering, 2022, 9, 303.	3.5	2
8	Soft Active Dynamic Brace for Spinal Deformities. , 2021, , .		3
9	Mechanical and Morphological Assessment of an Innovative Textile for Patient Positioning Applications: Comparison to Two Standard Bandage Systems. Materials, 2021, 14, 1508.	2.9	1
10	Nail Versus Plate: A Biomechanical Comparison of a Locking Plate Versus an Intramedullary Nail With an Angular Stable Locking System in a Shoulder Simulator With Active Muscle Forces Using a Two-Part Fracture Model. Journal of Orthopaedic Trauma, 2021, 35, e71-e76.	1.4	1
11	Single column plate plus other column lag screw fixation vs. both column plate fixation for anterior column with posterior hemitransverse acetabular fractures — a biomechanical analysis using different loading protocols. Injury, 2021, 52, 699-704.	1.7	6
12	Surgical nuances and construct patterns influence construct stiffness in C1-2 stabilizations: a biomechanical study of C1-2 gapping and advanced C1-2 fixation. European Spine Journal, 2021, 30, 1596-1606.	2.2	0
13	Systematic Review of Back-Support Exoskeletons and Soft Robotic Suits. Frontiers in Bioengineering and Biotechnology, 2021, 9, 765257.	4.1	37
14	Spinal Deformities and Advancement in Corrective Orthoses. Bioengineering, 2021, 8, 2.	3.5	16
15	Functional and radiographic evaluation of an interspinous device as an adjunct for lumbar interbody fusion procedures. Biomedizinische Technik, 2020, 65, 183-189.	0.8	1
16	Biomechanical comparison of fixation techniques for transverse acetabular fractures — Single-leg stance vs. sit-to-stand loading. Injury, 2020, 51, 2158-2164.	1.7	10
17	Local osteo-enhancement of osteoporotic vertebra with a triphasic bone implant material increases strength—a biomechanical study. Archives of Orthopaedic and Trauma Surgery, 2020, 140, 1395-1401.	2.4	10
18	The Effect of Rod Pattern, Outrigger, and Multiple Screw-Rod Constructs for Surgical Stabilization of the 3-Column Destabilized Cervical Spine - A Biomechanical Analysis and Introduction of a Novel Technique. Neurospine, 2020, 17, 610-629.	2.9	5

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19	Dynamic locking screws in proximal humeral plate osteosynthesis demonstrate superior fixation properties: a biomechanical study. <i>Journal of Experimental Orthopaedics</i> , 2020, 7, 82.	1.8	1
20	Isolated medial patellofemoral ligament reconstruction for patella instability is insufficient for higher degrees of internal femoral torsion. <i>Knee Surgery, Sports Traumatology, Arthroscopy</i> , 2019, 27, 758-765.	4.2	55
21	Mallet finger – A modified technique using the finger nail as a fixation point for the temporary immobilization of the distal interphalangeal joint – A biomechanical study. <i>Clinical Biomechanics</i> , 2019, 69, 64-70.	1.2	1
22	Biomechanical Study of a Novel, Expandable, Non-Metallic and Radiolucent CF/PEEK Vertebral Body Replacement (VBR). <i>Materials</i> , 2019, 12, 2732.	2.9	15
23	Locking plate constructs benefit from interfragmentary lag screw fixation with decreased shear movements and more predictable fracture gap motion in simple fracture patterns. <i>Clinical Biomechanics</i> , 2019, 70, 89-96.	1.2	15
24	How does a novel knitted titanium nucleus prosthesis change the kinematics of a cervical spine segment? A biomechanical cadaveric study. <i>Clinical Biomechanics</i> , 2019, 63, 134-139.	1.2	3
25	Ultrasound melted polymer sleeve for improved primary pedicle screw anchorage: A novel augmentation technique. <i>Clinical Biomechanics</i> , 2019, 63, 16-20.	1.2	3
26	Screw tip augmentation leads to improved primary stability in the minimally invasive treatment of displaced intra-articular fractures of the calcaneus: a biomechanical study. <i>International Orthopaedics</i> , 2019, 43, 2175-2181.	1.9	6
27	Pedicle screw anchorage of carbon fiber-reinforced PEEK screws under cyclic loading. <i>European Spine Journal</i> , 2018, 27, 1775-1784.	2.2	64
28	Biomechanical in vitro comparison of suture anchors for thumb UCL repair. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2018, 138, 435-442.	2.4	5
29	Effects of multilevel posterior ligament dissection after spinal instrumentation on adjacent segment biomechanics as a potential risk factor for proximal junctional kyphosis: a biomechanical study. <i>BMC Musculoskeletal Disorders</i> , 2018, 19, 57.	1.9	16
30	Biomechanical investigation of lumbar hybrid stabilization in two-level posterior instrumentation. <i>European Spine Journal</i> , 2018, 27, 1887-1894.	2.2	9
31	Validation of a novel biomechanical test bench for the knee joint with six degrees of freedom. <i>Biomedizinische Technik</i> , 2018, 63, 709-717.	0.8	6
32	Letter to the editor regarding –The quantity of bone cement influences the anchorage of augmented pedicle screws in the osteoporotic spine: A biomechanical human cadaveric study– by Pishnamaz M et al. <i>Clin Biomech</i> 2018;52:14–19. <i>Clinical Biomechanics</i> , 2018, 59, 211.	1.2	1
33	Effect of pedicle screw augmentation with a self-curing elastomeric material under cranio-caudal cyclic loading – a cadaveric biomechanical study. <i>Journal of Orthopaedic Surgery and Research</i> , 2018, 13, 251.	2.3	9
34	Biomechanical evaluation of cable and suture cerclages for tuberosity reattachment in a 4-part proximal humeral fracture model treated with reverse shoulder arthroplasty. <i>Journal of Shoulder and Elbow Surgery</i> , 2018, 27, 1816-1823.	2.6	20
35	Biomechanics of Vertebral Fractures and Their Treatment. , 2018, , 395-407.		0
36	Screw oversizing for anterior cruciate ligament graft fixation in primary and enlarged tibial tunnels: A biomechanical study in a porcine model. <i>Knee</i> , 2018, 25, 774-781.	1.6	4

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37	Effect of augmentation techniques on the failure of pedicle screws under cranio-caudal cyclic loading. <i>European Spine Journal</i> , 2017, 26, 181-188.	2.2	60
38	Cement-augmented screws in a cervical two-level corpectomy with anterior titanium mesh cage reconstruction: a biomechanical study. <i>European Spine Journal</i> , 2017, 26, 1047-1057.	2.2	10
39	Biomechanical evaluation of straight antegrade nailing in proximal humeral fractures: the rationale of the "proximal anchoring point". <i>International Orthopaedics</i> , 2017, 41, 1715-1721.	1.9	22
40	Timing of PMMA cement application for pedicle screw augmentation affects screw anchorage. <i>European Spine Journal</i> , 2017, 26, 2883-2890.	2.2	16
41	Increased internal femoral torsion can be regarded as a risk factor for patellar instability " A biomechanical study. <i>Clinical Biomechanics</i> , 2017, 47, 103-109.	1.2	82
42	Is a gradual reduction of stiffness on top of posterior instrumentation possible with a suitable proximal implant? A biomechanical study. <i>Spine Journal</i> , 2017, 17, 1148-1155.	1.3	29
43	The Influence of Liquids on the Mechanical Properties of Allografts in Bone Impaction Grafting. <i>Biopreservation and Biobanking</i> , 2017, 15, 410-416.	1.0	1
44	Effect of cage design, supplemental posterior instrumentation and approach on primary stability of a lumbar interbody fusion " A biomechanical in vitro study. <i>Clinical Biomechanics</i> , 2017, 48, 30-34.	1.2	7
45	Significant differences in femoral torsion values depending on the CT measurement technique. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2016, 136, 1259-1264.	2.4	113
46	The use of augmentation techniques in osteoporotic fracture fixation. <i>Injury</i> , 2016, 47, S36-S43.	1.7	60
47	Prophylactic augmentation of the proximal femur: an investigation of two techniques. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2016, 136, 345-351.	2.4	10
48	Biomechanical evaluation of a novel dynamic posterior cruciate ligament brace. <i>Clinical Biomechanics</i> , 2016, 33, 20-25.	1.2	8
49	Ultrasound melted polymer sleeve for improved screw anchorage in trabecular bone "A novel screw augmentation technique. <i>Clinical Biomechanics</i> , 2016, 33, 79-83.	1.2	1
50	Preparation techniques for all-inside ACL cortical button grafts: a biomechanical study. <i>Knee Surgery, Sports Traumatology, Arthroscopy</i> , 2016, 24, 2983-2989.	4.2	26
51	Construct stability of an instrumented 2-level cervical corpectomy model following fatigue testing: biomechanical comparison of circumferential antero-posterior instrumentation versus a novel anterior-only transpedicular screw "plate fixation technique. <i>European Spine Journal</i> , 2015, 24, 2848-2856.	2.2	29
52	Effect of additional fixation in tibial plateau impression fractures treated with balloon reduction and cement augmentation. <i>Clinical Biomechanics</i> , 2015, 30, 847-851.	1.2	11
53	Inverse Finite Element Modeling for Characterization of Local Elastic Properties in Image-Guided Failure Assessment of Human Trabecular Bone. <i>Journal of Biomechanical Engineering</i> , 2015, 137, .	1.3	13
54	Biomechanical Comparison of 2 Anterior Cruciate Ligament Graft Preparation Techniques for Tibial Fixation. <i>American Journal of Sports Medicine</i> , 2015, 43, 1380-1385.	4.2	85

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55	Subtalar arthrodesis stabilisation with screws in an angulated configuration is superior to the parallel disposition: a biomechanical study. <i>International Orthopaedics</i> , 2015, 39, 2275-2280.	1.9	11
56	Biomechanical Comparison of 2 Anterior Cruciate Ligament Graft Preparation Techniques for Tibial Fixation: Response. <i>American Journal of Sports Medicine</i> , 2015, 43, NP38-NP39.	4.2	4
57	Biomechanical testing of circumferential instrumentation after cervical multilevel corpectomy. <i>European Spine Journal</i> , 2015, 24, 2788-2798.	2.2	14
58	Interfragmentary lag screw fixation in locking plate constructs increases stiffness in simple fracture patterns. <i>Clinical Biomechanics</i> , 2015, 30, 814-819.	1.2	25
59	The influence of distal locking on the need for fibular plating in intramedullary nailing of distal metaphyseal tibiofibular fractures. <i>Bone and Joint Journal</i> , 2014, 96-B, 385-389.	4.4	20
60	Optimizing the grain size distribution of allografts in bone impaction grafting. <i>Journal of Orthopaedic Research</i> , 2014, 32, 1024-1029.	2.3	14
61	Morphological similarities after compression trauma of bovine and human intervertebral discs. Do disc cells have a chance of surviving?. <i>Journal of Orthopaedic Research</i> , 2014, 32, 1198-1207.	2.3	3
62	Primary Stiffness of a Modified Transforaminal Lumbar Interbody Fusion Cage With Integrated Screw Fixation. <i>Spine</i> , 2014, 39, E994-E1000.	2.0	9
63	Cement Augmentation in a Thoracolumbar Fracture Model. <i>Spine</i> , 2014, 39, E1147-E1153.	2.0	27
64	Augmented screws in angular stable plating of the proximal humerus: What to do when revision is needed?. <i>Clinical Biomechanics</i> , 2014, 29, 1023-1026.	1.2	12
65	The Mechanical Stability of Allografts After a Cleaning Process: Comparison of Two Preparation Modes. <i>Journal of Arthroplasty</i> , 2014, 29, 1642-1646.	3.1	13
66	Modelling and computation of acrylic bone cement injection and curing within the framework of vertebroplasty. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2014, 14, 121-122.	0.2	3
67	Biomechanical comparison of vertebral augmentation with silicone and PMMA cement and two filling grades. <i>European Spine Journal</i> , 2013, 22, 2695-2701.	2.2	24
68	Clinical and biomechanical investigation of an increased articular cavity depth after distal radius fractures: effect on range of motion, osteoarthritis and loading patterns. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2013, 133, 1249-1255.	2.4	12
69	Biomechanical in vitro assessment of screw augmentation in locked plating of proximal humerus fractures. <i>Injury</i> , 2013, 44, 1327-1332.	1.7	95
70	Biomechanical comparison of an angular stable plate with augmented and non-augmented screws in a newly developed shoulder test bench. <i>Clinical Biomechanics</i> , 2013, 28, 273-277.	1.2	51
71	Limited V-shaped cement augmentation of the proximal femur to prevent secondary hip fractures. <i>Journal of Biomaterials Applications</i> , 2013, 28, 136-143.	2.4	37
72	Image-guided failure assessment of human trabecular bone – Inverse finite element modelling for characterization of elastic properties. <i>Biomedizinische Technik</i> , 2013, 58 Suppl 1, .	0.8	0

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73	Biomechanical analysis of anterior stabilization techniques for different partial and total vertebral corpectomy defect models. <i>Biomedizinische Technik</i> , 2012, 57, 149-55.	0.8	1
74	Biomechanical analysis of screw fixation vs. K-wire fixation of a slipped capital femoral epiphysis model. <i>Biomedizinische Technik</i> , 2012, 57, 157-62.	0.8	6
75	Shoulder joint abduction motion test bench: A new shoulder test bench for in vitro experiments with active muscle force simulation. <i>Biomedizinische Technik</i> , 2012, 57, 163-8.	0.8	3
76	Motion of the fibula relative to the tibia and its alterations with syndesmosis screws: A cadaver study. <i>Foot and Ankle Surgery</i> , 2012, 18, 203-209.	1.7	75
77	The effect of in situ augmentation on implant anchorage in proximal humeral head fractures. <i>Injury</i> , 2012, 43, 1759-1763.	1.7	93
78	Measurement of intraarticular wrist joint biomechanics with a force controlled system. <i>Medical Engineering and Physics</i> , 2012, 34, 900-905.	1.7	16
79	The biomechanical effects of a deepened articular cavity during dynamic motion of the wrist joint. <i>Clinical Biomechanics</i> , 2012, 27, 557-561.	1.2	12
80	Is augmentation a possible salvage procedure after lateral migration of the proximal femur nail antirotation?. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2012, 132, 1577-1581.	2.4	21
81	The Humerusblock NG: a new concept for stabilization of proximal humeral fractures and its biomechanical evaluation. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2012, 132, 985-992.	2.4	15
82	Resect or not to resect: the role of posterior longitudinal ligament in lumbar total disc replacement. <i>European Spine Journal</i> , 2012, 21, 592-598.	2.2	10
83	The role of prosthesis design on segmental biomechanics. <i>European Spine Journal</i> , 2012, 21, 577-584.	2.2	35
84	Biomechanical analysis of a new expandable vertebral body replacement combined with a new polyaxial antero-lateral plate and/or pedicle screws and rods. <i>European Spine Journal</i> , 2012, 21, 546-553.	2.2	14
85	Biomechanical evaluation of a posterior non-fusion instrumentation of the lumbar spine. <i>European Spine Journal</i> , 2012, 21, 939-945.	2.2	32
86	Mechanical and Biomechanical Testing of Spinal Implants. , 2012, , 23-26.		0
87	Implant Materials in Spinal Surgery. , 2012, , 17-21.		1
88	Oncosurgical Results of Multilevel Thoracolumbar En-bloc Spondylectomy and Reconstruction with a Carbon Composite Vertebral Body Replacement System. <i>Spine</i> , 2011, 36, E647-E655.	2.0	40
89	Biomechanical effect of bone cement augmentation on rotational stability and pull-out strength of the Proximal Femur Nail Antirotation®,c. <i>Injury</i> , 2011, 42, 1322-1327.	1.7	74
90	Biomechanical testing of rectangular humeral shaft prosthesis: higher torsional stability without increased fracture risk. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2011, 131, 267-273.	2.4	6

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91	Revision of Cannulated and Perforated Cement-Augmented Pedicle Screws. <i>Spine</i> , 2010, 35, E932-E939.	2.0	62
92	Vertebroplasty with self-locking hexagonal metal implants shows comparable primary and secondary stiffness to PMMA cement augmentation techniques in a biomechanical vertebral compression fracture model. <i>European Spine Journal</i> , 2010, 19, 1029-1036.	2.2	12
93	Effects of three different preservation methods on the mechanical properties of human and bovine cortical bone. <i>Bone</i> , 2010, 47, 1048-1053.	2.9	157
94	Extent of corpectomy determines primary stability following isolated anterior reconstruction in a thoracolumbar fracture model. <i>Clinical Biomechanics</i> , 2010, 25, 16-20.	1.2	26
95	The medial periosteal hinge, a key structure in fractures of the proximal humerus. <i>Journal of Bone and Joint Surgery: British Volume</i> , 2009, 91-B, 973-976.	3.4	53
96	Non-fusion instrumentation of the lumbar spine with a hinged pedicle screw rod system: an in vitro experiment. <i>European Spine Journal</i> , 2009, 18, 1478-1485.	2.2	47
97	A new distractable implant for vertebral body replacement: biomechanical testing of four implants for the thoracolumbar spine. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2009, 129, 1375-1382.	2.4	30
98	Statistical model based analysis of bone mineral density of lumbar spine. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2009, 4, 239-243.	2.8	1
99	The three-way stopcock may be a weak component of total intravenous anaesthesia. <i>Acta Anaesthesiologica Scandinavica</i> , 2009, 53, 1173-1175.	1.6	2
100	Comparison of mechanical characteristics of the human and porcine chest during cardiopulmonary resuscitation. <i>Resuscitation</i> , 2009, 80, 463-469.	3.0	41
101	Suspensory Fixation of Grafts in Anterior Cruciate Ligament Reconstruction: A Biomechanical Comparison of 3 Implants. <i>Arthroscopy - Journal of Arthroscopic and Related Surgery</i> , 2009, 25, 767-776.	2.7	90
102	Vertebroplasty With High-Viscosity Polymethylmethacrylate Cement Facilitates Vertebral Body Restoration In Vitro. <i>Spine</i> , 2009, 34, 2619-2625.	2.0	26
103	En bloc spondylectomy reconstructions in a biomechanical in-vitro study. <i>European Spine Journal</i> , 2008, 17, 715-725.	2.2	53
104	A BIOMECHANICAL ANALYSIS OF MICROMOTION DURING CYCLIC LOADING FOR ACL RECONSTRUCTION. <i>Journal of Biomechanics</i> , 2008, 41, S266.	2.1	0
105	Higher Risk of Adjacent Segment Degeneration After Floating Fusions: Long-Term Outcome After Low Lumbar Spine Fusions. <i>Journal of Spinal Disorders and Techniques</i> , 2008, 21, 79-85.	1.9	64
106	Angular Stable Anterior Plating Following Thoracolumbar Corpectomy Reveals Superior Segmental Stability Compared to Conventional Polyaxial Plate Fixation. <i>Spine</i> , 2008, 33, 1429-1437.	2.0	30
107	Level Set Segmentation of Lumbar Vertebrae Using Appearance Models. <i>Informatik Aktuell</i> , 2008, , 46-50.	0.6	0
108	Three-dimensional stiffness in a thoracolumbar en-bloc spondylectomy model: A biomechanical in vitro study. <i>Clinical Biomechanics</i> , 2007, 22, 957-964.	1.2	33

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109	A pelvic fracture model for the assessment of treatment options in a laboratory environment. <i>Injury</i> , 2007, 38, 1151-1157.	1.7	9
110	Biomechanical performance of the new BeadEx implant in the treatment of osteoporotic vertebral body compression fractures: Restoration and maintenance of height and stability. <i>Clinical Biomechanics</i> , 2006, 21, 676-682.	1.2	50
111	Biomechanical Evaluation of a New Total Posterior-Element Replacement System. <i>Spine</i> , 2006, 31, 2790-2796.	2.0	72
112	Influence of a dynamic stabilisation system on load bearing of a bridged disc: an in vitro study of intradiscal pressure. <i>European Spine Journal</i> , 2006, 15, 1276-1285.	2.2	114
113	Cementless hemiarthroplasty in femoral neck fractures: evaluation of clinical results and measurement of migration by EBRA-FCA. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2006, 126, 380-386.	2.4	10
114	Migration of two different cementless hip arthroplasty stems in combination with two different heads: a biomechanical in vitro study. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2006, 126, 387-393.	2.4	3
115	In Vitro Stabilizing Effect of a Transforaminal Compared With Two Posterior Lumbar Interbody Fusion Cages. <i>Spine</i> , 2005, 30, E665-E670.	2.0	56
116	Simulation of Fretting Wear at Orthopaedic Implant Interfaces. <i>Journal of Biomechanical Engineering</i> , 2005, 127, 357-363.	1.3	15
117	Dynamic Stabilization of the Lumbar Spine and Its Effects on Adjacent Segments. <i>Journal of Spinal Disorders and Techniques</i> , 2003, 16, 418-423.	1.9	299
118	The effect of stem geometry on stresses within the distal cement mantle in total hip replacement. <i>Technology and Health Care</i> , 2000, 8, 67-73.	1.2	3