

Antonius Rohlmann

List of Publications by Year in descending order

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133
papers

12,204
citations

30551

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160
all docs

160
docs citations

160
times ranked

6160
citing authors

#	ARTICLE	IF	CITATIONS
1	Comparison of in vivo measured loads in knee, hip and spinal implants during level walking. Journal of Biomechanics, 2017, 51, 128-132.	0.9	57
2	In vivo loads on a vertebral body replacement during different lifting techniques. Journal of Biomechanics, 2016, 49, 890-895.	0.9	46
3	Estimation of loads on human lumbar spine: A review of in vivo and computational model studies. Journal of Biomechanics, 2016, 49, 833-845.	0.9	160
4	In vivo implant forces acting on a vertebral body replacement during upper body flexion. Journal of Biomechanics, 2015, 48, 560-565.	0.9	23
5	Spinal loads as influenced by external loads: A combined in vivo and in silico investigation. Journal of Biomechanics, 2015, 48, 578-584.	0.9	26
6	Standardized Loads Acting in Knee Implants. PLoS ONE, 2014, 9, e86035.	1.1	262
7	Age-Related Loss of Lumbar Spinal Lordosis and Mobility – A Study of 323 Asymptomatic Volunteers. PLoS ONE, 2014, 9, e116186.	1.1	55
8	Spinal Loads during Post-Operative Physiotherapeutic Exercises. PLoS ONE, 2014, 9, e102005.	1.1	14
9	Discrepancies in anthropometric parameters between different models affect intervertebral rotations when loading finite element models with muscle forces from inverse static analyses. Biomedizinische Technik, 2014, 59, 197-202.	0.9	3
10	Investigation of different cage designs and mechano-regulation algorithms in the lumbar interbody fusion process – A finite element analysis. Journal of Biomechanics, 2014, 47, 1514-1519.	0.9	25
11	In vivo measurements of the effect of whole body vibration on spinal loads. European Spine Journal, 2014, 23, 666-672.	1.0	21
12	The effect of design parameters of interspinous implants on kinematics and load bearing: an in vitro study. European Spine Journal, 2014, 23, 762-771.	1.0	14
13	Measurement of the number of lumbar spinal movements in the sagittal plane in a 24-hour period. European Spine Journal, 2014, 23, 2375-2384.	1.0	32
14	Biomechanical behavior of MRI-signal-inducing bone cements after vertebroplasty in osteoporotic vertebral bodies: An experimental cadaver study. Clinical Biomechanics, 2014, 29, 571-576.	0.5	2
15	Automatic distinction of upper body motions in the main anatomical planes. Medical Engineering and Physics, 2014, 36, 516-521.	0.8	8
16	Activities of Everyday Life with High Spinal Loads. PLoS ONE, 2014, 9, e98510.	1.1	76
17	Spinal Loads during Cycling on an Ergometer. PLoS ONE, 2014, 9, e95497.	1.1	2
18	What have we learned from finite element model studies of lumbar intervertebral discs in the past four decades?. Journal of Biomechanics, 2013, 46, 2342-2355.	0.9	102

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19	Effect of an orthosis on the loads acting on a vertebral body replacement. <i>Clinical Biomechanics</i> , 2013, 28, 490-494.	0.5	17
20	Is it possible to estimate the compressive force in the lumbar spine from intradiscal pressure measurements? A finite element evaluation. <i>Medical Engineering and Physics</i> , 2013, 35, 1385-1390.	0.8	51
21	Parameters influencing the outcome after total disc replacement at the lumbosacral junction. Part 2: distraction and posterior translation lead to clinical failure after a mean follow-up of 5 years. <i>European Spine Journal</i> , 2013, 22, 2279-2287.	1.0	17
22	Computational biomechanics of a lumbar motion segment in pure and combined shear loads. <i>Journal of Biomechanics</i> , 2013, 46, 2513-2521.	0.9	27
23	Considerations when loading spinal finite element models with predicted muscle forces from inverse static analyses. <i>Journal of Biomechanics</i> , 2013, 46, 1376-1378.	0.9	19
24	Correlation between back shape and spinal loads. <i>Journal of Biomechanics</i> , 2013, 46, 1972-1975.	0.9	14
25	Lumbar spinal loads vary with body height and weight. <i>Medical Engineering and Physics</i> , 2013, 35, 969-977.	0.8	81
26	Lifting up and laying down a weight causes high spinal loads. <i>Journal of Biomechanics</i> , 2013, 46, 511-514.	0.9	25
27	An enhanced and validated generic thoraco-lumbar spine model for prediction of muscle forces. <i>Medical Engineering and Physics</i> , 2012, 34, 709-716.	0.8	94
28	Optimised in vitro applicable loads for the simulation of lateral bending in the lumbar spine. <i>Medical Engineering and Physics</i> , 2012, 34, 777-780.	0.8	26
29	Which postures are most suitable in assessing spinal fusion using radiostereometric analysis?. <i>Clinical Biomechanics</i> , 2012, 27, 111-116.	0.5	13
30	In vivo measurement of shoulder joint loads during walking with crutches. <i>Clinical Biomechanics</i> , 2012, 27, 711-718.	0.5	30
31	Comparison of four reconstruction methods after total sacrectomy: A finite element study. <i>Clinical Biomechanics</i> , 2012, 27, 771-776.	0.5	29
32	Loading of the Knee Joint During Ergometer Cycling: Telemetric In Vivo Data. <i>Journal of Orthopaedic and Sports Physical Therapy</i> , 2012, 42, 1032-1038.	1.7	53
33	Effect of ligament stiffness on spinal loads and muscle forces in flexed positions. <i>International Journal of Precision Engineering and Manufacturing</i> , 2012, 13, 2233-2238.	1.1	6
34	Comparative evaluation of a novel measurement tool to assess lumbar spine posture and range of motion. <i>European Spine Journal</i> , 2012, 21, 2170-2180.	1.0	69
35	Velocity of Lordosis Angle during Spinal Flexion and Extension. <i>PLoS ONE</i> , 2012, 7, e50135.	1.1	31
36	Which Radiographic Parameters Are Linked to Failure of a Dynamic Spinal Implant?. <i>Clinical Orthopaedics and Related Research</i> , 2012, 470, 1834-1846.	0.7	12

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37	Effect of multilevel lumbar disc arthroplasty on spine kinematics and facet joint loads in flexion and extension: a finite element analysis. <i>European Spine Journal</i> , 2012, 21, 663-674.	1.0	121
38	Optimal stiffness of a pedicle-screw-based motion preservation implant for the lumbar spine. <i>European Spine Journal</i> , 2012, 21, 666-673.	1.0	21
39	High-Tech Hip Implant for Wireless Temperature Measurements In Vivo. <i>PLoS ONE</i> , 2012, 7, e43489.	1.1	44
40	Measurement of shoulder joint loads during wheelchair propulsion measured in vivo. <i>Clinical Biomechanics</i> , 2011, 26, 982-989.	0.5	14
41	Optimised loads for the simulation of axial rotation in the lumbar spine. <i>Journal of Biomechanics</i> , 2011, 44, 2323-2327.	0.9	49
42	Measured loads on a vertebral body replacement during sitting. <i>Spine Journal</i> , 2011, 11, 870-875.	0.6	44
43	The effect of design parameters of dynamic pedicle screw systems on kinematics and load bearing: an in vitro study. <i>European Spine Journal</i> , 2011, 20, 297-307.	1.0	79
44	Spinal muscles can create compressive follower loads in the lumbar spine in a neutral standing posture. <i>Medical Engineering and Physics</i> , 2011, 33, 472-478.	0.8	45
45	In vivo gleno-humeral joint loads during forward flexion and abduction. <i>Journal of Biomechanics</i> , 2011, 44, 1543-1552.	0.9	124
46	Pedicle-screw-based dynamic implants may increase posterior intervertebral disc bulging during flexion. <i>Biomedizinische Technik</i> , 2011, 56, 327-331.	0.9	4
47	Different Arm Positions and the Shape of the Thoracic Spine Can Explain Contradictory Results in the Literature About Spinal Loads for Sitting and Standing. <i>Spine</i> , 2010, 35, 2015-2021.	1.0	31
48	A novel system for the dynamic assessment of back shape. <i>Medical Engineering and Physics</i> , 2010, 32, 1080-1083.	0.8	44
49	Loads on a spinal implant measured in vivo during whole-body vibration. <i>European Spine Journal</i> , 2010, 19, 1129-1135.	1.0	23
50	A probabilistic finite element analysis of the stresses in the augmented vertebral body after vertebroplasty. <i>European Spine Journal</i> , 2010, 19, 1585-1595.	1.0	49
51	Loading of the knee joint during activities of daily living measured in vivo in five subjects. <i>Journal of Biomechanics</i> , 2010, 43, 2164-2173.	0.9	604
52	A non-optimized follower load path may cause considerable intervertebral rotations. <i>Journal of Biomechanics</i> , 2010, 43, 2625-2628.	0.9	56
53	Effect of a pedicle-screw-based motion preservation system on lumbar spine biomechanics: A probabilistic finite element study with subsequent sensitivity analysis. <i>Journal of Biomechanics</i> , 2010, 43, 2963-2969.	0.9	41
54	Total hip joint prosthesis for in vivo measurement of forces and moments. <i>Medical Engineering and Physics</i> , 2010, 32, 95-100.	0.8	91

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55	Realistic loads for testing hip implants. <i>Bio-Medical Materials and Engineering</i> , 2010, 20, 65-75.	0.4	138
56	Diurnal variations in intervertebral disc height affect spine flexibility, intradiscal pressure and contact compressive forces in the facet joints. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2010, 13, 551-557.	0.9	21
57	Effect of an artificial disc on lumbar spine biomechanics: a probabilistic finite element study. <i>European Spine Journal</i> , 2009, 18, 89-97.	1.0	69
58	Large sizes of vertebral body replacement do not reduce the contact pressure on adjacent vertebral bodies per se. <i>Medical Engineering and Physics</i> , 2009, 31, 1307-1312.	0.8	14
59	An instrumented implant for in vivo measurement of contact forces and contact moments in the shoulder joint. <i>Medical Engineering and Physics</i> , 2009, 31, 207-213.	0.8	60
60	Applying a follower load delivers realistic results for simulating standing. <i>Journal of Biomechanics</i> , 2009, 42, 1520-1526.	0.9	143
61	In vivo measurement of shoulder joint loads during activities of daily living. <i>Journal of Biomechanics</i> , 2009, 42, 1840-1849.	0.9	139
62	Influence of different artificial disc kinematics on spine biomechanics. <i>Clinical Biomechanics</i> , 2009, 24, 135-142.	0.5	111
63	ESB clinical biomechanics award 2008: Complete data of total knee replacement loading for level walking and stair climbing measured in vivo with a follow-up of 6-10 months. <i>Clinical Biomechanics</i> , 2009, 24, 315-326.	0.5	161
64	Flexible non-fusion scoliosis correction systems reduce intervertebral rotation less than rigid implants and allow growth of the spine: a finite element analysis of different features of orthobiomaterials. <i>European Spine Journal</i> , 2008, 17, 217-223.	1.0	15
65	Design and Calibration of Load Sensing Orthopaedic Implants. <i>Journal of Biomechanical Engineering</i> , 2008, 130, 021009.	0.6	33
66	Loads on a telemeterized vertebral body replacement measured in three patients within the first postoperative month. <i>Clinical Biomechanics</i> , 2008, 23, 147-158.	0.5	64
67	Effect of position and height of a mobile core type artificial disc on the biomechanical behaviour of the lumbar spine. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , 2008, 222, 229-239.	1.0	19
68	Loads on a Telemeterized Vertebral Body Replacement Measured in Two Patients. <i>Spine</i> , 2008, 33, 1170-1179.	1.0	70
69	The risk of disc prolapses with complex loading in different degrees of disc degeneration - A finite element analysis. <i>Clinical Biomechanics</i> , 2007, 22, 988-998.	0.5	153
70	An instrumented implant for vertebral body replacement that measures loads in the anterior spinal column. <i>Medical Engineering and Physics</i> , 2007, 29, 580-585.	0.8	74
71	In vivo glenohumeral contact forces - Measurements in the first patient 7 months postoperatively. <i>Journal of Biomechanics</i> , 2007, 40, 2139-2149.	0.9	198
72	Design, calibration and pre-clinical testing of an instrumented tibial tray. <i>Journal of Biomechanics</i> , 2007, 40, S4-S10.	0.9	114

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73	Implantable 9-Channel Telemetry System for In Vivo Load Measurements With Orthopedic Implants. IEEE Transactions on Biomedical Engineering, 2007, 54, 253-261.	2.5	147
74	Comparison of the effects of bilateral posterior dynamic and rigid fixation devices on the loads in the lumbar spine: a finite element analysis. European Spine Journal, 2007, 16, 1223-1231.	1.0	174
75	Effects of fusion-bone stiffness on the mechanical behavior of the lumbar spine after vertebral body replacement. Clinical Biomechanics, 2006, 21, 221-227.	0.5	35
76	Application of a new calibration method for a three-dimensional finite element model of a human lumbar annulus fibrosus. Clinical Biomechanics, 2006, 21, 337-344.	0.5	292
77	Effect of a posterior dynamic implant adjacent to a rigid spinal fixator. Clinical Biomechanics, 2006, 21, 767-774.	0.5	51
78	Determination of trunk muscle forces for flexion and extension by using a validated finite element model of the lumbar spine and measured in vivo data. Journal of Biomechanics, 2006, 39, 981-989.	0.9	140
79	Analysis of the influence of disc degeneration on the mechanical behaviour of a lumbar motion segment using the finite element method. Journal of Biomechanics, 2006, 39, 2484-2490.	0.9	302
80	Spinal loads after osteoporotic vertebral fractures treated by vertebroplasty or kyphoplasty. European Spine Journal, 2006, 15, 1255-1264.	1.0	106
81	Effect of different surgical strategies on screw forces after correction of scoliosis with a VDS implant. European Spine Journal, 2006, 15, 457-464.	1.0	22
82	Effect of Total Disc Replacement with ProDisc on Intersegmental Rotation of the Lumbar Spine. Spine, 2005, 30, 738-743.	1.0	102
83	Comparison of the biomechanical effects of posterior and anterior spine-stabilizing implants. European Spine Journal, 2005, 14, 445-453.	1.0	43
84	Effect of an interspinous implant on loads in the lumbar spine / Einfluss eines interspinösen Implantats auf die Belastungen der Lendenwirbelsäule. Biomedizinische Technik, 2005, 50, 343-347.	0.9	11
85	Effects of the Rib Cage on Thoracic Spine Flexibility / Einfluss des Brustkorbs auf die Flexibilität der Brustwirbelsäule. Biomedizinische Technik, 2005, 50, 361-365.	0.9	25
86	Analysis of Simulated Single Ligament Transection on the Mechanical Behaviour of a Lumbar Functional Spinal Unit / Rechnerische Analyse des Einflusses der Bänder auf das mechanische Verhalten eines Bewegungssegments der Lendenwirbelsäule. Biomedizinische Technik, 2004, 49, 27-32.	0.9	13
87	Hip joint contact forces during stumbling. Langenbeck's Archives of Surgery, 2004, 389, 53-59.	0.8	171
88	Influence of ligament stiffness on the mechanical behavior of a functional spinal unit. Journal of Biomechanics, 2004, 37, 1107-1111.	0.9	51
89	Influence of a screw with a hinge on the pull-out force at the cranial end vertebra in ventral derotation spondylodesis (VDS). Archives of Orthopaedic and Trauma Surgery, 2003, 123, 410-413.	1.3	0
90	Influence of graded facetectomy and laminectomy on spinal biomechanics. European Spine Journal, 2003, 12, 427-434.	1.0	135

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91	Instrumented Forceps for Measuring Tensile Forces in the Rod of the VDS Implant During Correction of Scoliosis. Eine Zange zur intraoperativen Messung der Zugkräfte im Gewindestab des VDS-Instrumentariums bei der Skoliosekorrektur. Biomedizinische Technik, 2003, 48, 362-364.	0.9	4
92	ISSLS Prize Winner: A Novel Approach to Determine Trunk Muscle Forces During Flexion and Extension. Spine, 2003, 28, 2585-2593.	1.0	97
93	Loads on an Internal Spinal Fixation Device Measured In Vivo. , 2003, , .		0
94	Loads on an Internal Spinal Fixation Device During Physical Therapy. Physical Therapy, 2002, 82, 44-52.	1.1	39
95	Comparison of the mechanical behavior of the lumbar spine following mono- and bisegmental stabilization. Clinical Biomechanics, 2002, 17, 439-445.	0.5	29
96	Effect of bone graft characteristics on the mechanical behavior of the lumbar spine. Journal of Biomechanics, 2002, 35, 491-497.	0.9	35
97	Estimation of muscle forces in the lumbar spine during upper-body inclination. Clinical Biomechanics, 2001, 16, S73-S80.	0.5	119
98	Influence of a Follower Load on Intradiscal Pressure and Intersegmental Rotation of the Lumbar Spine. Spine, 2001, 26, E557-E561.	1.0	234
99	Is It Possible to Simulate Physiologic Loading Conditions by Applying Pure Moments?. Spine, 2001, 26, 636-642.	1.0	106
100	Effect of an internal fixator and a bone graft on intersegmental spinal motion and intradiscal pressure in the adjacent regions. European Spine Journal, 2001, 10, 301-308.	1.0	90
101	Frictional heating of total hip implants, Part 1: measurements in patients. Journal of Biomechanics, 2001, 34, 421-428.	0.9	117
102	Frictional heating of total hip implants. Part 2: finite element study. Journal of Biomechanics, 2001, 34, 429-435.	0.9	67
103	Loads on an internal spinal fixation device during sitting. Journal of Biomechanics, 2001, 34, 989-993.	0.9	36
104	Hip contact forces and gait patterns from routine activities. Journal of Biomechanics, 2001, 34, 859-871.	0.9	1,839
105	Monitoring In Vivo Implant Loads With a Telemeterized Internal Spinal Fixation Device. Spine, 2000, 25, 2981-2986.	1.0	117
106	Influence of load carrying on loads in internal spinal fixators. Journal of Biomechanics, 2000, 33, 1099-1104.	0.9	35
107	Spinal load changes during rotatory dynamic sitting. Clinical Biomechanics, 2000, 15, 295-297.	0.5	18
108	Changes in the loads on an internal spinal fixator after iliac-crest autograft. Journal of Bone and Joint Surgery: British Volume, 2000, 82, 445-9.	3.4	18

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109	Estimation of trunk muscle forces using the finite element method and in vivo loads measured by telemeterized internal spinal fixation devices. <i>Journal of Biomechanics</i> , 1999, 32, 727-731.	0.9	42
110	Hip endoprosthesis for in vivo measurement of joint force and temperature. <i>Journal of Biomechanics</i> , 1999, 32, 1113-1117.	0.9	87
111	Loads on internal spinal fixators measured in different body positions. <i>European Spine Journal</i> , 1999, 8, 354-359.	1.0	74
112	Braces do not reduce loads on internal spinal fixation devices. <i>Clinical Biomechanics</i> , 1999, 14, 97-102.	0.5	45
113	Internal Spinal Fixator Stiffness Has Only a Minor Influence on Stresses in the Adjacent Discs. <i>Spine</i> , 1999, 24, 1192-1196.	1.0	38
114	Placing a bone graft more posteriorly may reduce the risk of pedicle screw breakage. <i>Journal of Biomechanics</i> , 1998, 31, 763-767.	0.9	19
115	Influence of Muscle Forces on Loads in Internal Spinal Fixation Devices. <i>Spine</i> , 1998, 23, 537-542.	1.0	39
116	Hip Joint Forces During Load Carrying. <i>Clinical Orthopaedics and Related Research</i> , 1997, 335, 190-201.	0.7	63
117	Comparison of loads on internal spinal fixation devices measured in vitro and in vivo. <i>Medical Engineering and Physics</i> , 1997, 19, 539-546.	0.8	54
118	Loads on an internal spinal fixation device during walking. <i>Journal of Biomechanics</i> , 1997, 30, 41-47.	0.9	124
119	Clamping Stiffness and Its Influence on Load Distribution Between Paired Internal Spinal Fixation Devices. <i>Journal of Spinal Disorders</i> , 1996, 9, 234-240.	1.1	6
120	Telemeterized Load Measurement Using Instrumented spinal Internal Fixators in a Patient With Degenerative Instability. <i>Spine</i> , 1995, 20, 2683-2689.	1.0	56
121	A spinal fixation device for in vivo load measurement. <i>Journal of Biomechanics</i> , 1994, 27, 961-967.	0.9	83
122	Evaluation of ischial weight-bearing orthoses, based on in-vivo hip joint force measurements. <i>Clinical Biomechanics</i> , 1994, 9, 225-234.	0.5	13
123	Hip joint loading during walking and running, measured in two patients. <i>Journal of Biomechanics</i> , 1993, 26, 969-990.	0.9	1,107
124	Belastungsmessungen mit einem instrumentierten Wirbel-Fixateur interne. Measuring Loads with the Aid of an Instrumented Internal Spinal Fixation Device. <i>Biomedizinische Technik</i> , 1993, 38, 255-260.	0.9	3
125	Multichannel strain gauge telemetry for orthopaedic implants. <i>Journal of Biomechanics</i> , 1988, 21, 169-176.	0.9	106
126	A nonlinear finite element analysis of interface conditions in porous coated hip endoprostheses. <i>Journal of Biomechanics</i> , 1988, 21, 605-611.	0.9	44

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127	Effects of stem design and material properties on stresses in hip endoprotheses. Journal of Biomedical Engineering, 1987, 9, 77-83.	0.7	45
128	A comparison of hip joint forces in sheep, dog and man. Journal of Biomechanics, 1984, 17, 907-921.	0.9	115
129	Finite-element-analysis and experimental investigation in a femur with hip endoprosthesis. Journal of Biomechanics, 1983, 16, 727-742.	0.9	115
130	Die Beanspruchung von Femur, Zement und Implantat nach der Implantation einer Hüftendoprothese The Stresses in the femur, cement and implant after the Implantation of a total hip prosthesis. Biomedizinische Technik, 1982, 27, 291-302.	0.9	4
131	Finite-element-analysis and experimental investigation of stresses in a femur. Journal of Biomedical Engineering, 1982, 4, 241-246.	0.7	91
132	Material properties of femoral cancellous bone in axial loading. Archives of Orthopaedic and Traumatic Surgery Archiv für Orthopädische Und Unfall-Chirurgie, 1980, 97, 95-102.	0.1	86
133	Material properties of femoral cancellous bone in axial loading. Archives of Orthopaedic and Traumatic Surgery Archiv für Orthopädische Und Unfall-Chirurgie, 1980, 97, 257-262.	0.1	56