Antonius Rohlmann

List of Publications by Year
in descending order

133 papers	12,204 citations	26630 56 h-index	26613 107 g-index
160 all docs	160 docs citations	160 times ranked	5772 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.	2.1	57
2	In vivo loads on a vertebral body replacement during different lifting techniques. Journal of Biomechanics, 2016, 49, 890-895.	2.1	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.	2.1	160
4	In vivo implant forces acting on a vertebral body replacement during upper body flexion. Journal of Biomechanics, 2015, 48, 560-565.	2.1	23
5	Spinal loads as influenced by external loads: A combined in vivo and in silico investigation. Journal of Biomechanics, 2015, 48, 578-584.	2.1	26
6	Standardized Loads Acting in Knee Implants. PLoS ONE, 2014, 9, e86035.	2.5	262
7	Age-Related Loss of Lumbar Spinal Lordosis and Mobility â€“ A Study of 323 Asymptomatic Volunteers. PLoS ONE, 2014, 9, e116186.	2.5	55
8	Spinal Loads during Post-Operative Physiotherapeutic Exercises. PLoS ONE, 2014, 9, e102005.	2.5	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.	0.8	3
10	Investigation of different cage designs and mechano-regulation algorithms in the lumbar interbody fusion process â€“ A finite element analysis. Journal of Biomechanics, 2014, 47, 1514-1519.	2.1	25
11	In vivo measurements of the effect of whole body vibration on spinal loads. European Spine Journal, 2014, 23, 666-672.	2.2	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.	2.2	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.	2.2	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.	1.2	2
15	Automatic distinction of upper body motions in the main anatomical planes. Medical Engineering and Physics, 2014, 36, 516-521.	1.7	8
16	Activities of Everyday Life with High Spinal Loads. PLoS ONE, 2014, 9, e98510.	2.5	76
17	Spinal Loads during Cycling on an Ergometer. PLoS ONE, 2014, 9, e95497.	2.5	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.	2.1	102

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19	Effect of an orthosis on the loads acting on a vertebral body replacement. Clinical Biomechanics, 2013, 28, 490-494.	1.2	17
20	Is it possible to estimate the compressive force in the lumbar spine from intradiscal pressure measurements? A finite element evaluation. Medical Engineering and Physics, 2013, 35, 1385-1390.	1.7	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. European Spine Journal, 2013, 22, 2279-2287.	2.2	17
22	Computational biomechanics of a lumbar motion segment in pure and combined shear loads. Journal of Biomechanics, 2013, 46, 2513-2521.	2.1	27
23	Considerations when loading spinal finite element models with predicted muscle forces from inverse static analyses. Journal of Biomechanics, 2013, 46, 1376-1378.	2.1	19
24	Correlation between back shape and spinal loads. Journal of Biomechanics, 2013, 46, 1972-1975.	2.1	14
25	Lumbar spinal loads vary with body height and weight. Medical Engineering and Physics, 2013, 35, 969-977.	1.7	81
26	Lifting up and laying down a weight causes high spinal loads. Journal of Biomechanics, 2013, 46, 511-514.	2.1	25
27	An enhanced and validated generic thoraco-lumbar spine model for prediction of muscle forces. Medical Engineering and Physics, 2012, 34, 709-716.	1.7	94
28	Optimised in vitro applicable loads for the simulation of lateral bending in the lumbar spine. Medical Engineering and Physics, 2012, 34, 777-780.	1.7	26
29	Which postures are most suitable in assessing spinal fusion using radiostereometric analysis?. Clinical Biomechanics, 2012, 27, 111-116.	1.2	13
30	In vivo measurement of shoulder joint loads during walking with crutches. Clinical Biomechanics, 2012, 27, 711-718.	1.2	30
31	Comparison of four reconstruction methods after total sacrectomy: A finite element study. Clinical Biomechanics, 2012, 27, 771-776.	1.2	29
32	Loading of the Knee Joint During Ergometer Cycling: Telemetric In Vivo Data. Journal of Orthopaedic and Sports Physical Therapy, 2012, 42, 1032-1038.	3.5	53
33	Effect of ligament stiffness on spinal loads and muscle forces in flexed positions. International Journal of Precision Engineering and Manufacturing, 2012, 13, 2233-2238.	2.2	6
34	Comparative evaluation of a novel measurement tool to assess lumbar spine posture and range of motion. European Spine Journal, 2012, 21, 2170-2180.	2.2	69
35	Velocity of Lordosis Angle during Spinal Flexion and Extension. PLoS ONE, 2012, 7, e50135.	2.5	31
36	Which Radiographic Parameters Are Linked to Failure of a Dynamic Spinal Implant?. Clinical Orthopaedics and Related Research, 2012, 470, 1834-1846.	1.5	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. European Spine Journal, 2012, 21, 663-674.	2.2	121
38	Optimal stiffness of a pedicle-screw-based motion preservation implant for the lumbar spine. European Spine Journal, 2012, 21, 666-673.	2.2	21
39	High-Tech Hip Implant for Wireless Temperature Measurements In Vivo. PLoS ONE, 2012, 7, e43489.	2.5	44
40	Measurement of shoulder joint loads during wheelchair propulsion measured in vivo. Clinical Biomechanics, 2011, 26, 982-989.	1.2	14
41	Optimised loads for the simulation of axial rotation in the lumbar spine. Journal of Biomechanics, 2011, 44, 2323-2327.	2.1	49
42	Measured loads on a vertebral body replacement during sitting. Spine Journal, 2011, 11, 870-875.	1.3	44
43	The effect of design parameters of dynamic pedicle screw systems on kinematics and load bearing: an in vitro study. European Spine Journal, 2011, 20, 297-307.	2.2	79
44	Spinal muscles can create compressive follower loads in the lumbar spine in a neutral standing posture. Medical Engineering and Physics, 2011, 33, 472-478.	1.7	45
45	In vivo gleno-humeral joint loads during forward flexion and abduction. Journal of Biomechanics, 2011, 44, 1543-1552.	2.1	124
46	Pedicle-screw-based dynamic implants may increase posterior intervertebral disc bulging during flexion. Biomedizinische Technik, 2011, 56, 327-331.	0.8	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. Spine, 2010, 35, 2015-2021.	2.0	31
48	A novel system for the dynamic assessment of back shape. Medical Engineering and Physics, 2010, 32, 1080-1083.	1.7	44
49	Loads on a spinal implant measured in vivo during whole-body vibration. European Spine Journal, 2010, 19, 1129-1135.	2.2	23
50	A probabilistic finite element analysis of the stresses in the augmented vertebral body after vertebroplasty. European Spine Journal, 2010, 19, 1585-1595.	2.2	49
51	Loading of the knee joint during activities of daily living measured in vivo in five subjects. Journal of Biomechanics, 2010, 43, 2164-2173.	2.1	604
52	A non-optimized follower load path may cause considerable intervertebral rotations. Journal of Biomechanics, 2010, 43, 2625-2628.	2.1	56
53	Effect of a pedicle-screw-based motion preservation system on lumbar spine biomechanics: A probabilistic finite element study with subsequent sensitivity analysis. Journal of Biomechanics, 2010, 43, 2963-2969.	2.1	41
54	Total hip joint prosthesis for in vivo measurement of forces and moments. Medical Engineering and Physics, 2010, 32, 95-100.	1.7	91

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55	Realistic loads for testing hip implants. Bio-Medical Materials and Engineering, 2010, 20, 65-75.	0.6	138
56	Diurnal variations in intervertebral disc height affect spine flexibility, intradiscal pressure and contact compressive forces in the facet joints. Computer Methods in Biomechanics and Biomedical Engineering, 2010, 13, 551-557.	1.6	21
57	Effect of an artificial disc on lumbar spine biomechanics: a probabilistic finite element study. European Spine Journal, 2009, 18, 89-97.	2.2	69
58	Large sizes of vertebral body replacement do not reduce the contact pressure on adjacent vertebral bodies per se. Medical Engineering and Physics, 2009, 31, 1307-1312.	1.7	14
59	An instrumented implant for in vivo measurement of contact forces and contact moments in the shoulder joint. Medical Engineering and Physics, 2009, 31, 207-213.	1.7	60
60	Applying a follower load delivers realistic results for simulating standing. Journal of Biomechanics, 2009, 42, 1520-1526.	2.1	143
61	In vivo measurement of shoulder joint loads during activities of daily living. Journal of Biomechanics, 2009, 42, 1840-1849.	2.1	139
62	Influence of different artificial disc kinematics on spine biomechanics. Clinical Biomechanics, 2009, 24, 135-142.	1.2	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 6â€“10 months. Clinical Biomechanics, 2009, 24, 315-326.	1.2	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 orthobiomâ„¢. European Spine Journal, 2008, 17, 217-223.	2.2	15
65	Design and Calibration of Load Sensing Orthopaedic Implants. Journal of Biomechanical Engineering, 2008, 130, 021009.	1.3	33
66	Loads on a telemeterized vertebral body replacement measured in three patients within the first postoperative month. Clinical Biomechanics, 2008, 23, 147-158.	1.2	64
67	Effect of position and height of a mobile core type artificial disc on the biomechanical behaviour of the lumbar spine. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2008, 222, 229-239.	1.8	19
68	Loads on a Telemeterized Vertebral Body Replacement Measured in Two Patients. Spine, 2008, 33, 1170-1179.	2.0	70
69	The risk of disc prolapses with complex loading in different degrees of disc degeneration â€“ A finite element analysis. Clinical Biomechanics, 2007, 22, 988-998.	1.2	153
70	An instrumented implant for vertebral body replacement that measures loads in the anterior spinal column. Medical Engineering and Physics, 2007, 29, 580-585.	1.7	74
71	In vivo glenohumeral contact forcesâ€"Measurements in the first patient 7 months postoperatively. Journal of Biomechanics, 2007, 40, 2139-2149.	2.1	198
72	Design, calibration and pre-clinical testing of an instrumented tibial tray. Journal of Biomechanics, 2007, 40, S4-S10.	2.1	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.	4.2	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.	2.2	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.	1.2	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.	1.2	292
77	Effect of a posterior dynamic implant adjacent to a rigid spinal fixator. Clinical Biomechanics, 2006, 21, 767-774.	1.2	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.	2.1	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.	2.1	302
80	Spinal loads after osteoporotic vertebral fractures treated by vertebroplasty or kyphoplasty. European Spine Journal, 2006, 15, 1255-1264.	2.2	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.	2.2	22
82	Effect of Total Disc Replacement with ProDisc on Intersegmental Rotation of the Lumbar Spine. Spine, 2005, 30, 738-743.	2.0	102
83	Comparison of the biomechanical effects of posterior and anterior spine-stabilizing implants. European Spine Journal, 2005, 14, 445-453.	2.2	43
84	Effect of an interspinous implant on loads in the lumbar spine / Einfluss eines interspinÃ¶sen Implantats auf die Belastungen der LendenwirbelsÃule. Biomedizinische Technik, 2005, 50, 343-347.	0.8	11
85	Effects of the Rib Cage on Thoracic Spine Flexibility / Einfluss des Brustkorbs auf die FlexibilitÃt der BrustwirbelsÃule. Biomedizinische Technik, 2005, 50, 361-365.	0.8	25
86	Analysis of Simulated Single Ligament Transection on the Mechanical Behaviour of a Lumbar Functional Spinal Unit / Rechnerische Analyse des Einflusses der BÃnder auf das mechanische Verhalten eines Bewegungssegments der LendenwirbelsÃule. Biomedizinische Technik, 2004, 49, 27-32.	0.8	13
87	Hip joint contact forces during stumbling. Langenbeck's Archives of Surgery, 2004, 389, 53-59.	1.9	171
88	Influence of ligament stiffness on the mechanical behavior of a functional spinal unit. Journal of Biomechanics, 2004, 37, 1107-1111.	2.1	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.	2.4	0
90	Influence of graded facetectomy and laminectomy on spinal biomechanics. European Spine Journal, 2003, 12, 427-434.	2.2	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 ZugkrÃfte im Gewindestab des VDS-Instrumentariums bei der Skoliosekorrektur. Biomedizinische Technik, 2003, 48, 362-364.	0.8	4
92	ISSLS Prize Winner: A Novel Approach to Determine Trunk Muscle Forces During Flexion and Extension. Spine, 2003, 28, 2585-2593.	2.0	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.	2.4	39
95	Comparison of the mechanical behavior of the lumbar spine following mono- and bisegmental stabilization. Clinical Biomechanics, 2002, 17, 439-445.	1.2	29
96	Effect of bone graft characteristics on the mechanical behavior of the lumbar spine. Journal of Biomechanics, 2002, 35, 491-497.	2.1	35
97	Estimation of muscle forces in the lumbar spine during upper-body inclination. Clinical Biomechanics, 2001, 16, S73-S80.	1.2	119
98	Influence of a Follower Load on Intradiscal Pressure and Intersegmental Rotation of the Lumbar Spine. Spine, 2001, 26, E557-E561.	2.0	234
99	Is It Possible to Simulate Physiologic Loading Conditions by Applying Pure Moments?. Spine, 2001, 26, 636-642.	2.0	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.	2.2	90
101	Frictional heating of total hip implants, Part 1: measurements in patients. Journal of Biomechanics, 2001, 34, 421-428.	2.1	117
102	Frictional heating of total hip implants. Part 2: finite element study. Journal of Biomechanics, 2001, 34, 429-435.	2.1	67
103	Loads on an internal spinal fixation device during sitting. Journal of Biomechanics, 2001, 34, 989-993.	2.1	36
104	Hip contact forces and gait patterns from routine activities. Journal of Biomechanics, 2001, 34, 859-871.	2.1	1,839
105	Monitoring In Vivo Implant Loads With a Telemeterized Internal Spinal Fixation Device. Spine, 2000, 25, 2981-2986.	2.0	117
106	Influence of load carrying on loads in internal spinal fixators. Journal of Biomechanics, 2000, 33, 1099-1104.	2.1	35
107	Spinal load changes during rotatory dynamic sitting. Clinical Biomechanics, 2000, 15, 295-297.	1.2	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, 445-449.	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. Journal of Biomechanics, 1999, 32, 727-731.	2.1	42
110	Hip endoprosthesis for in vivo measurement of joint force and temperature. Journal of Biomechanics, 1999, 32, 1113-1117.	2.1	87
111	Loads on internal spinal fixators measured in different body positions. European Spine Journal, 1999, 8, 354-359.	2.2	74
112	Braces do not reduce loads on internal spinal fixation devices. Clinical Biomechanics, 1999, 14, 97-102.	1.2	45
113	Internal Spinal Fixator Stiffness Has Only a Minor Influence on Stresses in the Adjacent Discs. Spine, 1999, 24, 1192-1196.	2.0	38
114	Placing a bone graft more posteriorly may reduce the risk of pedicle screw breakage. Journal of Biomechanics, 1998, 31, 763-767.	2.1	19
115	Influence of Muscle Forces on Loads in Internal Spinal Fixation Devices. Spine, 1998, 23, 537-542.	2.0	39
116	Hip Joint Forces During Load Carrying. Clinical Orthopaedics and Related Research, 1997, 335, 190-201.	1.5	63
117	Comparison of loads on internal spinal fixation devices measured in vitro and in vivo. Medical Engineering and Physics, 1997, 19, 539-546.	1.7	54
118	Loads on an internal spinal fixation device during walking. Journal of Biomechanics, 1997, 30, 41-47.	2.1	124
119	Clamping Stiffness and Its Influence on Load Distribution Between Paired Internal Spinal Fixation Devices. Journal of Spinal Disorders, 1996, 9, 234???240.	1.1	6
120	Telemeterized Load Measurement Using Instrumented spinal Internal Fixators in a Patient With Degenerative Instability. Spine, 1995, 20, 2683-2689.	2.0	56
121	A spinal fixation device for in vivo load measurement. Journal of Biomechanics, 1994, 27, 961-967.	2.1	83
122	Evaluation of ischial weight-bearing orthoses, based on in-vivo hip joint force measurements. Clinical Biomechanics, 1994, 9, 225-234.	1.2	13
123	Hip joint loading during walking and running, measured in two patients. Journal of Biomechanics, 1993, 26, 969-990.	2.1	1,107
124	Belastungsmessungen mit einem instrumentierten Wirbel-Fixateur interne. Measuring Loads with the Aid of an Instrumented Internal Spinal Fixation Device. Biomedizinische Technik, 1993, 38, 255-260.	0.8	3
125	Multichannel strain gauge telemetry for orthopaedic implants. Journal of Biomechanics, 1988, 21, 169-176.	2.1	106
126	A nonlinear finite element analysis of interface conditions in porous coated hip endoprostheses. Journal of Biomechanics, 1988, 21, 605-611.	2.1	44

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127	Effects of stem design and material properties on stresses in hip endoprostheses. 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.	2.1	115
129	Finite-element-analysis and experimental investigation in a femur with hip endoprosthesis. Journal of Biomechanics, 1983, 16, 727-742.	2.1	115
130	Die Beanspruchung von Femur, Zement und Implantat nach der Implantation einer HÃ¼ftendoprothese The Stresses in the femur, cement and implant after the Implantation of a total hip prosthesis. Biomedizinische Technik, 1982, 27, 291-302.	0.8	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 FÃ¼r OrthopÃdische 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 FÃ¼r OrthopÃdische Und Unfall-Chirurgie, 1980, 97, 257-262.	0.1	56