

Georg Duda

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

485
papers

21,578
citations

74
h-index

126
g-index

547
ext. papers

25,355
ext. citations

5.2
avg, IF

6.84
L-index

#	Paper	IF	Citations
485	Hip contact forces and gait patterns from routine activities. <i>Journal of Biomechanics</i> , 2001 , 34, 859-71	2.9	1514
484	Hydrogels with tunable stress relaxation regulate stem cell fate and activity. <i>Nature Materials</i> , 2016 , 15, 326-34	27	1153
483	Musculo-skeletal loading conditions at the hip during walking and stair climbing. <i>Journal of Biomechanics</i> , 2001 , 34, 883-93	2.9	332
482	Matrix elasticity of void-forming hydrogels controls transplanted-stem-cell-mediated bone formation. <i>Nature Materials</i> , 2015 , 14, 1269-77	27	302
481	The challenge of establishing preclinical models for segmental bone defect research. <i>Biomaterials</i> , 2009 , 30, 2149-63	15.6	284
480	Biomaterials based strategies for skeletal muscle tissue engineering: existing technologies and future trends. <i>Biomaterials</i> , 2015 , 53, 502-21	15.6	270
479	A survey of formal methods for determining the centre of rotation of ball joints. <i>Journal of Biomechanics</i> , 2006 , 39, 2798-809	2.9	270
478	Influence of muscle forces on femoral strain distribution. <i>Journal of Biomechanics</i> , 1998 , 31, 841-6	2.9	264
477	Tibio-femoral loading during human gait and stair climbing. <i>Journal of Orthopaedic Research</i> , 2004 , 22, 625-32	3.8	261
476	Macrophages in bone fracture healing: Their essential role in endochondral ossification. <i>Bone</i> , 2018 , 106, 78-89	4.7	250
475	A tissue engineering solution for segmental defect regeneration in load-bearing long bones. <i>Science Translational Medicine</i> , 2012 , 4, 141ra93	17.5	241
474	The early fracture hematoma and its potential role in fracture healing. <i>Tissue Engineering - Part B: Reviews</i> , 2010 , 16, 427-34	7.9	238
473	A review of biomaterials in bone defect healing, remaining shortcomings and future opportunities for bone tissue engineering: The unsolved challenge. <i>Bone and Joint Research</i> , 2018 , 7, 232-243	4.2	219
472	Architecture of the osteocyte network correlates with bone material quality. <i>Journal of Bone and Mineral Research</i> , 2013 , 28, 1837-45	6.3	216
471	Determination of muscle loading at the hip joint for use in pre-clinical testing. <i>Journal of Biomechanics</i> , 2005 , 38, 1155-63	2.9	215
470	Altered cartilage mechanics and histology in knee osteoarthritis: relation to clinical assessment (ICRS Grade). <i>Osteoarthritis and Cartilage</i> , 2005 , 13, 958-63	6.2	203
469	Internal forces and moments in the femur during walking. <i>Journal of Biomechanics</i> , 1997 , 30, 933-41	2.9	202

468	Proximal humeral fractures: how stiff should an implant be? A comparative mechanical study with new implants in human specimens. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2003 , 123, 74-81	3.6	189
467	The initial phase of fracture healing is specifically sensitive to mechanical conditions. <i>Journal of Orthopaedic Research</i> , 2003 , 21, 662-9	3.8	186
466	Biomaterial delivery of morphogens to mimic the natural healing cascade in bone. <i>Advanced Drug Delivery Reviews</i> , 2012 , 64, 1257-76	18.5	184
465	Insights into mesenchymal stem cell aging: involvement of antioxidant defense and actin cytoskeleton. <i>Stem Cells</i> , 2009 , 27, 1288-97	5.8	179
464	Terminally differentiated CD8+ T cells negatively affect bone regeneration in humans. <i>Science Translational Medicine</i> , 2013 , 5, 177ra36	17.5	177
463	Inflammatory phase of bone healing initiates the regenerative healing cascade. <i>Cell and Tissue Research</i> , 2012 , 347, 567-73	4.2	163
462	Mesenchymal stem cells regulate angiogenesis according to their mechanical environment. <i>Stem Cells</i> , 2007 , 25, 903-10	5.8	162
461	The organization of the osteocyte network mirrors the extracellular matrix orientation in bone. <i>Journal of Structural Biology</i> , 2011 , 173, 303-11	3.4	161
460	A survey of formal methods for determining functional joint axes. <i>Journal of Biomechanics</i> , 2007 , 40, 2150-7	2.9	158
459	Fracture healing is accelerated in the absence of the adaptive immune system. <i>Journal of Bone and Mineral Research</i> , 2011 , 26, 113-24	6.3	152
458	The course of bone healing is influenced by the initial shear fixation stability. <i>Journal of Orthopaedic Research</i> , 2005 , 23, 1022-8	3.8	150
457	Standardized Loads Acting in Hip Implants. <i>PLoS ONE</i> , 2016 , 11, e0155612	3.7	149
456	Physiologically based boundary conditions in finite element modelling. <i>Journal of Biomechanics</i> , 2007 , 40, 2318-23	2.9	142
455	Hypoxia promotes osteogenesis but suppresses adipogenesis of human mesenchymal stromal cells in a hypoxia-inducible factor-1 dependent manner. <i>PLoS ONE</i> , 2012 , 7, e46483	3.7	138
454	Biomaterials that promote cell-cell interactions enhance the paracrine function of MSCs. <i>Biomaterials</i> , 2017 , 140, 103-114	15.6	137
453	Initial vascularization and tissue differentiation are influenced by fixation stability. <i>Journal of Orthopaedic Research</i> , 2005 , 23, 639-45	3.8	135
452	Surface Curvature Differentially Regulates Stem Cell Migration and Differentiation via Altered Attachment Morphology and Nuclear Deformation. <i>Advanced Science</i> , 2017 , 4, 1600347	13.6	128
451	Increased calcium content and inhomogeneity of mineralization render bone toughness in osteoporosis: mineralization, morphology and biomechanics of human single trabeculae. <i>Bone</i> , 2009 , 45, 1034-43	4.7	128

450	On the influence of soft tissue coverage in the determination of bone kinematics using skin markers. <i>Journal of Orthopaedic Research</i> , 2005 , 23, 726-34	3.8	126
449	Human early fracture hematoma is characterized by inflammation and hypoxia. <i>Clinical Orthopaedics and Related Research</i> , 2011 , 469, 3118-26	2.2	122
448	Mechanobiologically optimized 3D titanium-mesh scaffolds enhance bone regeneration in critical segmental defects in sheep. <i>Science Translational Medicine</i> , 2018 , 10,	17.5	117
447	Functional comparison of chronological and in vitro aging: differential role of the cytoskeleton and mitochondria in mesenchymal stromal cells. <i>PLoS ONE</i> , 2012 , 7, e52700	3.7	116
446	T and B cells participate in bone repair by infiltrating the fracture callus in a two-wave fashion. <i>Bone</i> , 2014 , 64, 155-65	4.7	113
445	Biologic-free mechanically induced muscle regeneration. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 1534-9	11.5	110
444	Instability prolongs the chondral phase during bone healing in sheep. <i>Bone</i> , 2006 , 38, 864-70	4.7	108
443	Variability of femoral muscle attachments. <i>Journal of Biomechanics</i> , 1996 , 29, 1185-90	2.9	108
442	Diminished response to in vivo mechanical loading in trabecular and not cortical bone in adulthood of female C57Bl/6 mice coincides with a reduction in deformation to load. <i>Bone</i> , 2013 , 55, 335-46	4.7	105
441	Realistic loads for testing hip implants. <i>Bio-Medical Materials and Engineering</i> , 2010 , 20, 65-75	1	102
440	Where should implants be anchored in the humeral head?. <i>Clinical Orthopaedics and Related Research</i> , 2003 , 139-47	2.2	102
439	Influence of femoral anteversion on proximal femoral loading: measurement and simulation in four patients. <i>Clinical Biomechanics</i> , 2001 , 16, 644-9	2.2	100
438	Custom-made composite scaffolds for segmental defect repair in long bones. <i>International Orthopaedics</i> , 2011 , 35, 1229-36	3.8	98
437	Tibio-femoral joint contact forces in sheep. <i>Journal of Biomechanics</i> , 2006 , 39, 791-8	2.9	97
436	Comparison of three different plating techniques for the dorsum of the distal radius: a biomechanical study. <i>Journal of Hand Surgery</i> , 2000 , 25, 29-33	2.6	97
435	Spatial and temporal variations of mechanical properties and mineral content of the external callus during bone healing. <i>Bone</i> , 2009 , 45, 185-92	4.7	96
434	Osteoclastic activity begins early and increases over the course of bone healing. <i>Bone</i> , 2006 , 38, 547-54	4.7	95
433	The effects of external mechanical stimulation on the healing of diaphyseal osteotomies fixed by flexible external fixation. <i>Clinical Biomechanics</i> , 1998 , 13, 359-364	2.2	94

432	Mechanical boundary conditions of fracture healing: borderline indications in the treatment of unreamed tibial nailing. <i>Journal of Biomechanics</i> , 2001 , 34, 639-50	2.9	94
431	Polycaprolactone scaffold and reduced rhBMP-7 dose for the regeneration of critical-sized defects in sheep tibiae. <i>Biomaterials</i> , 2013 , 34, 9960-8	15.6	92
430	Differential regulation of blood vessel formation between standard and delayed bone healing. <i>Journal of Orthopaedic Research</i> , 2009 , 27, 1133-40	3.8	92
429	Analysis of inter-fragmentary movement as a function of musculoskeletal loading conditions in sheep. <i>Journal of Biomechanics</i> , 1998 , 31, 201-10	2.9	92
428	Aging Leads to a Dysregulation in Mechanically Driven Bone Formation and Resorption. <i>Journal of Bone and Mineral Research</i> , 2015 , 30, 1864-73	6.3	90
427	Matrix metalloprotease activity is an essential link between mechanical stimulus and mesenchymal stem cell behavior. <i>Stem Cells</i> , 2007 , 25, 1985-94	5.8	89
426	Biomechanical comparison of cervical spine interbody fusion cages. <i>Spine</i> , 2001 , 26, 1850-7	3.3	89
425	One step creation of multifunctional 3D architected hydrogels inducing bone regeneration. <i>Advanced Materials</i> , 2015 , 27, 1738-44	24	88
424	Zfp521 controls bone mass by HDAC3-dependent attenuation of Runx2 activity. <i>Journal of Cell Biology</i> , 2010 , 191, 1271-83	7.3	87
423	Boon and Bane of Inflammation in Bone Tissue Regeneration and Its Link with Angiogenesis. <i>Tissue Engineering - Part B: Reviews</i> , 2015 , 21, 354-64	7.9	84
422	A biomaterial with a channel-like pore architecture induces endochondral healing of bone defects. <i>Nature Communications</i> , 2018 , 9, 4430	17.4	81
421	The haematoma and its role in bone healing. <i>Journal of Experimental Orthopaedics</i> , 2017 , 4, 5	2.3	80
420	Initial immune reaction and angiogenesis in bone healing. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2014 , 8, 120-30	4.4	80
419	Porous scaffold architecture guides tissue formation. <i>Journal of Bone and Mineral Research</i> , 2012 , 27, 1275-88	6.3	80
418	Timely fracture-healing requires optimization of axial fixation stability. <i>Journal of Bone and Joint Surgery - Series A</i> , 2007 , 89, 1575-85	5.6	80
417	The influence of age on adaptive bone formation and bone resorption. <i>Biomaterials</i> , 2014 , 35, 9290-301	15.6	79
416	Mineralizing surface is the main target of mechanical stimulation independent of age: 3D dynamic in vivo morphometry. <i>Bone</i> , 2014 , 66, 15-25	4.7	77
415	BMP2 and mechanical loading cooperatively regulate immediate early signalling events in the BMP pathway. <i>BMC Biology</i> , 2012 , 10, 37	7.3	77

414	Mechanical conditions in the initial phase of bone healing. <i>Clinical Biomechanics</i> , 2006 , 21, 646-55	2.2	76
413	Stair climbing is more critical than walking in pre-clinical assessment of primary stability in cementless THA in vitro. <i>Journal of Biomechanics</i> , 2005 , 38, 1143-54	2.9	75
412	Presentation of BMP-2 mimicking peptides in 3D hydrogels directs cell fate commitment in osteoblasts and mesenchymal stem cells. <i>Biomacromolecules</i> , 2014 , 15, 445-55	6.9	74
411	Chondrocyte death precedes structural damage in blunt impact trauma. <i>Clinical Orthopaedics and Related Research</i> , 2001 , 302-9	2.2	74
410	Optimization of cell-laden bioinks for 3D bioprinting and efficient infection with influenza A virus. <i>Scientific Reports</i> , 2018 , 8, 13877	4.9	74
409	Timely Fracture-Healing Requires Optimization of Axial Fixation Stability. <i>Journal of Bone and Joint Surgery - Series A</i> , 2007 , 89, 1575-1585	5.6	73
408	Designing biomimetic scaffolds for bone regeneration: why aim for a copy of mature tissue properties if nature uses a different approach?. <i>Soft Matter</i> , 2010 , 6, 4976	3.6	72
407	Interfragmentary motion in tibial osteotomies stabilized with ring fixators. <i>Clinical Orthopaedics and Related Research</i> , 2002 , 163-72	2.2	71
406	Substrate Stress-Relaxation Regulates Scaffold Remodeling and Bone Formation In Vivo. <i>Advanced Healthcare Materials</i> , 2017 , 6, 1601185	10.1	68
405	CD73 and CD29 concurrently mediate the mechanically induced decrease of migratory capacity of mesenchymal stromal cells. <i>European Cells and Materials</i> , 2011 , 22, 26-42	4.3	68
404	Synthetic niche to modulate regenerative potential of MSCs and enhance skeletal muscle regeneration. <i>Biomaterials</i> , 2016 , 99, 95-108	15.6	68
403	Influence of scaffold stiffness on subchondral bone and subsequent cartilage regeneration in an ovine model of osteochondral defect healing. <i>American Journal of Sports Medicine</i> , 2008 , 36, 2379-91	6.8	67
402	BMPs in bone regeneration: Less is more effective, a paradigm-shift. <i>Cytokine and Growth Factor Reviews</i> , 2016 , 27, 141-8	17.9	65
401	Immune modulation as a therapeutic strategy in bone regeneration. <i>Journal of Experimental Orthopaedics</i> , 2015 , 2, 1	2.3	64
400	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	2.7	62
399	Joint line elevation in revision TKA leads to increased patellofemoral contact forces. <i>Journal of Orthopaedic Research</i> , 2010 , 28, 1-5	3.8	62
398	Cartilage viability after trochleoplasty. <i>Knee Surgery, Sports Traumatology, Arthroscopy</i> , 2007 , 15, 161-7	5.5	62
397	Patellofemoral joint contact forces during activities with high knee flexion. <i>Journal of Orthopaedic Research</i> , 2012 , 30, 408-15	3.8	61

396	Skeletal maturity leads to a reduction in the strain magnitudes induced within the bone: a murine tibia study. <i>Acta Biomaterialia</i> , 2015 , 13, 301-10	10.8	61
395	THA loading arising from increased femoral anteversion and offset may lead to critical cement stresses. <i>Journal of Orthopaedic Research</i> , 2003 , 21, 767-74	3.8	61
394	Cellular composition of the initial fracture hematoma compared to a muscle hematoma: a study in sheep. <i>Journal of Orthopaedic Research</i> , 2009 , 27, 1147-51	3.8	60
393	Angle stable locking reduces interfragmentary movements and promotes healing after unreamed nailing. Study of a displaced osteotomy model in sheep tibiae. <i>Journal of Bone and Joint Surgery - Series A</i> , 2005 , 87, 2028-37	5.6	60
392	CD73/5'-ecto-nucleotidase acts as a regulatory factor in osteo-/chondrogenic differentiation of mechanically stimulated mesenchymal stromal cells. <i>European Cells and Materials</i> , 2013 , 25, 37-47	4.3	60
391	Establishment of a preclinical ovine model for tibial segmental bone defect repair by applying bone tissue engineering strategies. <i>Tissue Engineering - Part B: Reviews</i> , 2010 , 16, 93-104	7.9	59
390	Dose-response relationship of mesenchymal stem cell transplantation and functional regeneration after severe skeletal muscle injury in rats. <i>Tissue Engineering - Part A</i> , 2009 , 15, 487-92	3.9	58
389	Influence of age and mechanical stability on bone defect healing: age reverses mechanical effects. <i>Bone</i> , 2008 , 42, 758-64	4.7	58
388	Digital image correlation: a technique for determining local mechanical conditions within early bone callus. <i>Medical Engineering and Physics</i> , 2007 , 29, 820-3	2.4	58
387	Repeatability and reproducibility of OSSCA, a functional approach for assessing the kinematics of the lower limb. <i>Gait and Posture</i> , 2010 , 32, 231-6	2.6	57
386	Mechanical quality of tissue engineered cartilage: results after 6 and 12 weeks in vivo. <i>Journal of Biomedical Materials Research Part B</i> , 2000 , 53, 673-7		57
385	Size and habit of mineral particles in bone and mineralized callus during bone healing in sheep. <i>Journal of Bone and Mineral Research</i> , 2010 , 25, 2029-38	6.3	56
384	Geometry-driven cell organization determines tissue growths in scaffold pores: consequences for fibronectin organization. <i>PLoS ONE</i> , 2013 , 8, e73545	3.7	56
383	The Periosteal Bone Surface is Less Mechano-Responsive than the Endocortical. <i>Scientific Reports</i> , 2016 , 6, 23480	4.9	56
382	Comparison of unreamed nailing and external fixation of tibial diastases--mechanical conditions during healing and biological outcome. <i>Journal of Orthopaedic Research</i> , 2004 , 22, 1072-8	3.8	55
381	Influences of age and mechanical stability on volume, microstructure, and mineralization of the fracture callus during bone healing: is osteoclast activity the key to age-related impaired healing?. <i>Bone</i> , 2010 , 47, 219-28	4.7	54
380	Toward biomimetic materials in bone regeneration: functional behavior of mesenchymal stem cells on a broad spectrum of extracellular matrix components. <i>Journal of Biomedical Materials Research - Part A</i> , 2010 , 95, 1114-24	5.4	54
379	Enzymatically-degradable alginate hydrogels promote cell spreading and in vivo tissue infiltration. <i>Biomaterials</i> , 2019 , 217, 119294	15.6	53

378	Cell therapy to improve regeneration of skeletal muscle injuries. <i>Journal of Cachexia, Sarcopenia and Muscle</i> , 2019 , 10, 501-516	10.3	53
377	Working length of locking plates determines interfragmentary movement in distal femur fractures under physiological loading. <i>Clinical Biomechanics</i> , 2015 , 30, 391-6	2.2	53
376	Mechanical load modulates the stimulatory effect of BMP2 in a rat nonunion model. <i>Tissue Engineering - Part A</i> , 2013 , 19, 247-54	3.9	53
375	Composite transcriptome assembly of RNA-seq data in a sheep model for delayed bone healing. <i>BMC Genomics</i> , 2011 , 12, 158	4.5	53
374	Inter-species investigation of the mechano-regulation of bone healing: comparison of secondary bone healing in sheep and rat. <i>Journal of Biomechanics</i> , 2011 , 44, 1237-45	2.9	52
373	Autologous bone marrow-derived cells enhance muscle strength following skeletal muscle crush injury in rats. <i>Tissue Engineering</i> , 2006 , 12, 361-7		52
372	Comparative evaluation of a novel measurement tool to assess lumbar spine posture and range of motion. <i>European Spine Journal</i> , 2012 , 21, 2170-80	2.7	51
371	Polarized Raman anisotropic response of collagen in tendon: towards 3D orientation mapping of collagen in tissues. <i>PLoS ONE</i> , 2013 , 8, e63518	3.7	51
370	Mechanical induction of critically delayed bone healing in sheep: radiological and biomechanical results. <i>Journal of Biomechanics</i> , 2008 , 41, 3066-72	2.9	51
369	Initiation and early control of tissue regeneration - bone healing as a model system for tissue regeneration. <i>Expert Opinion on Biological Therapy</i> , 2014 , 14, 247-59	5.4	50
368	Absolute and functional iron deficiency in professional athletes during training and recovery. <i>International Journal of Cardiology</i> , 2012 , 156, 186-91	3.2	50
367	A method to determine the 3-D stiffness of fracture fixation devices and its application to predict inter-fragmentary movement. <i>Journal of Biomechanics</i> , 1998 , 31, 247-52	2.9	50
366	Influence of changes in stem positioning on femoral loading after THR using a short-stemmed hip implant. <i>Clinical Biomechanics</i> , 2007 , 22, 431-9	2.2	50
365	On the influence of mechanical conditions in osteochondral defect healing. <i>Journal of Biomechanics</i> , 2005 , 38, 843-51	2.9	50
364	Monitoring in vivo (re)modeling: a computational approach using 4D microCT data to quantify bone surface movements. <i>Bone</i> , 2015 , 75, 210-21	4.7	49
363	Pressure, oxygen tension and temperature in the periosteal callus during bone healing--an in vivo study in sheep. <i>Bone</i> , 2008 , 43, 734-9	4.7	49
362	The impact of substrate stiffness and mechanical loading on fibroblast-induced scaffold remodeling. <i>Tissue Engineering - Part A</i> , 2012 , 18, 1804-17	3.9	48
361	In-situ tissue regeneration through SDF-1 α -driven cell recruitment and stiffness-mediated bone regeneration in a critical-sized segmental femoral defect. <i>Acta Biomaterialia</i> , 2017 , 60, 50-63	10.8	47

360	Mechanobiology of bone healing and regeneration: in vivo models. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , 2010 , 224, 1543-53	1.7	46
359	Interfragmentary movements in the early phase of healing in distraction and correction osteotomies stabilized with ring fixators. <i>Langenbeck's Archives of Surgery</i> , 2003 , 387, 433-40	3.4	46
358	Straining of the intact and fractured proximal humerus under physiological-like loading. <i>Journal of Biomechanics</i> , 2003 , 36, 1865-73	2.9	46
357	Immunological characterization of the early human fracture hematoma. <i>Immunologic Research</i> , 2016 , 64, 1195-1206	4.3	45
356	The expression of proinflammatory cytokines and matrix metalloproteinases in the synovial membranes of patients with osteoarthritis compared with traumatic knee disorders. <i>Arthroscopy - Journal of Arthroscopic and Related Surgery</i> , 2010 , 26, 1096-104	5.4	45
355	Immunology Guides Skeletal Muscle Regeneration. <i>International Journal of Molecular Sciences</i> , 2018 , 19,	6.3	44
354	The SCoRE residual: a quality index to assess the accuracy of joint estimations. <i>Journal of Biomechanics</i> , 2011 , 44, 1400-4	2.9	44
353	A comprehensive assessment of the musculoskeletal system: The CAMS-Knee data set. <i>Journal of Biomechanics</i> , 2017 , 65, 32-39	2.9	43
352	Hydrolytically-degradable click-crosslinked alginate hydrogels. <i>Biomaterials</i> , 2018 , 181, 189-198	15.6	43
351	Compressive Residual Strains in Mineral Nanoparticles as a Possible Origin of Enhanced Crack Resistance in Human Tooth Dentin. <i>Nano Letters</i> , 2015 , 15, 3729-34	11.5	43
350	Effect of mechanical stimulation on osteoblast- and osteoclast-like cells in vitro. <i>Cells Tissues Organs</i> , 2009 , 190, 61-8	2.1	43
349	Age-related loss of lumbar spinal lordosis and mobility--a study of 323 asymptomatic volunteers. <i>PLoS ONE</i> , 2014 , 9, e116186	3.7	42
348	Sex-specific compromised bone healing in female rats might be associated with a decrease in mesenchymal stem cell quantity. <i>Bone</i> , 2009 , 45, 1065-72	4.7	42
347	The influence of alignment on the musculo-skeletal loading conditions at the knee. <i>Langenbeck's Archives of Surgery</i> , 2003 , 388, 291-7	3.4	42
346	Multiscale characterization of the mineral phase at skeletal sites of breast cancer metastasis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 10542-10547	11.5	41
345	Longitudinal intravital imaging of the femoral bone marrow reveals plasticity within marrow vasculature. <i>Nature Communications</i> , 2017 , 8, 2153	17.4	41
344	Insight into the molecular pathophysiology of delayed bone healing in a sheep model. <i>Tissue Engineering - Part A</i> , 2010 , 16, 191-9	3.9	41
343	Spatial-temporal mapping of bone structural and elastic properties in a sheep model following osteotomy. <i>Ultrasound in Medicine and Biology</i> , 2011 , 37, 474-83	3.5	41

342	Muscle and tendon adaptation in adolescent athletes: A longitudinal study. <i>Scandinavian Journal of Medicine and Science in Sports</i> , 2017 , 27, 75-82	4.6	40
341	Bone regeneration via novel macroporous CPC scaffolds in critical-sized cranial defects in rats. <i>Dental Materials</i> , 2014 , 30, e199-207	5.7	40
340	Intra-operatively customized implant coating strategies for local and controlled drug delivery to bone. <i>Advanced Drug Delivery Reviews</i> , 2012 , 64, 1142-51	18.5	40
339	The weighted optimal common shape technique improves identification of the hip joint center of rotation in vivo. <i>Journal of Orthopaedic Research</i> , 2011 , 29, 1470-5	3.8	40
338	CYR61 (CCN1) protein expression during fracture healing in an ovine tibial model and its relation to the mechanical fixation stability. <i>Journal of Orthopaedic Research</i> , 2006 , 24, 254-62	3.8	40
337	T Lymphocytes Influence the Mineralization Process of Bone. <i>Frontiers in Immunology</i> , 2017 , 8, 562	8.4	39
336	Anterior cruciate ligament-deficient patients with passive knee joint laxity have a decreased range of anterior-posterior motion during active movements. <i>American Journal of Sports Medicine</i> , 2013 , 41, 1051-7	6.8	39
335	Locally applied osteogenic predifferentiated progenitor cells are more effective than undifferentiated mesenchymal stem cells in the treatment of delayed bone healing. <i>Tissue Engineering - Part A</i> , 2009 , 15, 2947-54	3.9	39
334	Mechanical behavior of articular cartilage after osteochondral autograft transfer in an ovine model. <i>American Journal of Sports Medicine</i> , 2007 , 35, 555-63	6.8	39
333	Influence of particulate and dissociated metal-on-metal hip endoprosthesis wear on mesenchymal stromal cells in vivo and in vitro. <i>Biomaterials</i> , 2016 , 98, 31-40	15.6	39
332	BMP delivery complements the guiding effect of scaffold architecture without altering bone microstructure in critical-sized long bone defects: A multiscale analysis. <i>Acta Biomaterialia</i> , 2015 , 23, 282-294	10.8	38
331	Increased unilateral tendon stiffness and its effect on gait 2-6 years after Achilles tendon rupture. <i>Scandinavian Journal of Medicine and Science in Sports</i> , 2015 , 25, 860-7	4.6	38
330	A 5-mm femoral defect in female but not in male rats leads to a reproducible atrophic non-union. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2011 , 131, 121-9	3.6	38
329	FGF23 is a putative marker for bone healing and regeneration. <i>Journal of Orthopaedic Research</i> , 2009 , 27, 1141-6	3.8	38
328	Mechanical conditions in the internal stabilization of proximal tibial defects. <i>Clinical Biomechanics</i> , 2002 , 17, 64-72	2.2	38
327	MALDI imaging mass spectrometry: discrimination of pathophysiological regions in traumatized skeletal muscle by characteristic peptide signatures. <i>Proteomics</i> , 2014 , 14, 2249-60	4.8	37
326	In vivo visualization of locally transplanted mesenchymal stem cells in the severely injured muscle in rats. <i>Tissue Engineering - Part A</i> , 2008 , 14, 1149-60	3.9	37
325	The influence of walking speed on kinetic and kinematic parameters in patients with osteoarthritis of the hip using a force-instrumented treadmill and standardised gait speeds. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2003 , 123, 278-82	3.6	37

324	The spatio-temporal arrangement of different tissues during bone healing as a result of simple mechanobiological rules. <i>Biomechanics and Modeling in Mechanobiology</i> , 2012 , 11, 147-60	3.8	36
323	Gait evaluation: a tool to monitor bone healing?. <i>Clinical Biomechanics</i> , 2005 , 20, 883-91	2.2	36
322	Immunomodulatory placental-expanded, mesenchymal stromal cells improve muscle function following hip arthroplasty. <i>Journal of Cachexia, Sarcopenia and Muscle</i> , 2018 , 9, 880-897	10.3	36
321	Clinical and Research Approaches to Treat Non-union Fracture. <i>Current Osteoporosis Reports</i> , 2018 , 16, 155-168	5.4	35
320	Scaffold curvature-mediated novel biomineralization process originates a continuous soft tissue-to-bone interface. <i>Acta Biomaterialia</i> , 2017 , 60, 64-80	10.8	35
319	Notch pathway inhibition controls myeloma bone disease in the murine MOPC315.BM model. <i>Blood Cancer Journal</i> , 2014 , 4, e217	7	35
318	Simulation of cell differentiation in fracture healing: mechanically loaded composite scaffolds in a novel bioreactor system. <i>Tissue Engineering</i> , 2006 , 12, 201-8		35
317	The emergence of extracellular matrix mechanics and cell traction forces as important regulators of cellular self-organization. <i>Biomechanics and Modeling in Mechanobiology</i> , 2015 , 14, 1-13	3.8	34
316	Human immune cells' behavior and survival under bioenergetically restricted conditions in an in vitro fracture hematoma model. <i>Cellular and Molecular Immunology</i> , 2013 , 10, 151-8	15.4	34
315	In serum veritas-in serum sanitas? Cell non-autonomous aging compromises differentiation and survival of mesenchymal stromal cells via the oxidative stress pathway. <i>Cell Death and Disease</i> , 2013 , 4, e970	9.8	34
314	Time course of skeletal muscle regeneration after severe trauma. <i>Monthly Notices of the Royal Astronomical Society: Letters</i> , 2011 , 82, 102-11	4.3	34
313	Ovine bone- and marrow-derived progenitor cells and their potential for scaffold-based bone tissue engineering applications in vitro and in vivo. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2010 , 4, 565-76	4.4	34
312	High-tech hip implant for wireless temperature measurements in vivo. <i>PLoS ONE</i> , 2012 , 7, e43489	3.7	34
311	Mechanical stimulation of the pro-angiogenic capacity of human fracture haematoma: involvement of VEGF mechano-regulation. <i>Bone</i> , 2010 , 47, 438-44	4.7	33
310	Biaxial cell stimulation: A mechanical validation. <i>Journal of Biomechanics</i> , 2009 , 42, 1692-6	2.9	33
309	Stromelysin-3 over-expression enhances tumorigenesis in MCF-7 and MDA-MB-231 breast cancer cell lines: involvement of the IGF-1 signalling pathway. <i>BMC Cancer</i> , 2007 , 7, 12	4.8	33
308	Does aquatic exercise reduce hip and knee joint loading? In vivo load measurements with instrumented implants. <i>PLoS ONE</i> , 2017 , 12, e0171972	3.7	33
307	Multi-Parameter Analysis of Biobanked Human Bone Marrow Stromal Cells Shows Little Influence for Donor Age and Mild Comorbidities on Phenotypic and Functional Properties. <i>Frontiers in Immunology</i> , 2019 , 10, 2474	8.4	33

306	Stair climbing results in more challenging patellofemoral contact mechanics and kinematics than walking at early knee flexion under physiological-like quadriceps loading. <i>Journal of Biomechanics</i> , 2009 , 42, 2590-6	2.9	32
305	Evidence of imbalanced adaptation between muscle and tendon in adolescent athletes. <i>Scandinavian Journal of Medicine and Science in Sports</i> , 2014 , 24, e283-9	4.6	31
304	Mechanical and structural properties of bone in non-critical and critical healing in rat. <i>Acta Biomaterialia</i> , 2014 , 10, 4009-19	10.8	31
303	Changing the mindset in life sciences toward translation: a consensus. <i>Science Translational Medicine</i> , 2014 , 6, 264cm12	17.5	31
302	The morphology and biomechanical characteristics of subcutaneously implanted tissue-engineered human septal cartilage. <i>European Archives of Oto-Rhino-Laryngology</i> , 2005 , 262, 993-7	3.5	31
301	Initial stability of fully and partially cemented femoral stems. <i>Clinical Biomechanics</i> , 2000 , 15, 750-5	2.2	31
300	Time kinetics of bone defect healing in response to BMP-2 and GDF-5 characterised by in vivo biomechanics. <i>European Cells and Materials</i> , 2011 , 21, 177-92	4.3	31
299	Experience in the Adaptive Immunity Impacts Bone Homeostasis, Remodeling, and Healing. <i>Frontiers in Immunology</i> , 2019 , 10, 797	8.4	30
298	The collagen I mimetic peptide DGEA enhances an osteogenic phenotype in mesenchymal stem cells when presented from cell-encapsulating hydrogels. <i>Journal of Biomedical Materials Research - Part A</i> , 2015 , 103, 3516-25	5.4	30
297	Temporal tissue patterns in bone healing of sheep. <i>Journal of Orthopaedic Research</i> , 2010 , 28, 1440-7	3.8	30
296	A Pronounced Inflammatory Activity Characterizes the Early Fracture Healing Phase in Immunologically Restricted Patients. <i>International Journal of Molecular Sciences</i> , 2017 , 18,	6.3	29
295	The influence of recovery and training phases on body composition, peripheral vascular function and immune system of professional soccer players. <i>PLoS ONE</i> , 2009 , 4, e4910	3.7	29
294	A new animal model for bone atrophic nonunion: fixation by external fixator. <i>Journal of Orthopaedic Research</i> , 2008 , 26, 1649-55	3.8	29
293	Do serological tissue turnover markers represent callus formation during fracture healing?. <i>Bone</i> , 2005 , 37, 669-77	4.7	29
292	A new device to detect early cartilage degeneration. <i>American Journal of Sports Medicine</i> , 2004 , 32, 693-8.8	8.8	29
291	Stress and micromotion in the taper lock joint of a modular segmental bone replacement prosthesis. <i>Journal of Biomechanics</i> , 2000 , 33, 1175-9	2.9	29
290	Comparison of the effects of 45S5 and 1393 bioactive glass microparticles on hMSC behavior. <i>Journal of Biomedical Materials Research - Part A</i> , 2017 , 105, 2772-2782	5.4	28
289	Collagen Fibrils Mechanically Contribute to Tissue Contraction in an In Vitro Wound Healing Scenario. <i>Advanced Science</i> , 2019 , 6, 1801780	13.6	28

288	The Metabolic Microenvironment Steers Bone Tissue Regeneration. <i>Trends in Endocrinology and Metabolism</i> , 2018 , 29, 99-110	8.8	28
287	Measurement of the number of lumbar spinal movements in the sagittal plane in a 24-hour period. <i>European Spine Journal</i> , 2014 , 23, 2375-84	2.7	28
286	Characterization of a rat osteotomy model with impaired healing. <i>BMC Musculoskeletal Disorders</i> , 2008 , 9, 135	2.8	28
285	Stress shielding in box and cylinder cervical interbody fusion cage designs. <i>Spine</i> , 2005 , 30, 908-14	3.3	28
284	ANGLE STABLE LOCKING REDUCES INTERFRAGMENTARY MOVEMENTS AND PROMOTES HEALING AFTER UNREAMED NAILING. <i>Journal of Bone and Joint Surgery - Series A</i> , 2005 , 87, 2028-2037	5.6	28
283	Engineered pH-Responsive Mesoporous Carbon Nanoparticles for Drug Delivery. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 14946-14957	9.5	27
282	Immunologically restricted patients exhibit a pronounced inflammation and inadequate response to hypoxia in fracture hematomas. <i>Immunologic Research</i> , 2011 , 51, 116-22	4.3	27
281	Temporal profile of microvascular disturbances in rat tibial periosteum following closed soft tissue trauma. <i>Langenbeck's Archives of Surgery</i> , 2003 , 388, 323-30	3.4	27
280	Osteogenic predifferentiation of human bone marrow-derived stem cells by short-term mechanical stimulation. <i>The Open Orthopaedics Journal</i> , 2011 , 5, 1-6	0.3	27
279	Vascular bioprinting with enzymatically degradable bioinks via multi-material projection-based stereolithography. <i>Acta Biomaterialia</i> , 2020 , 117, 121-132	10.8	27
278	Tomography-Based Quantification of Regional Differences in Cortical Bone Surface Remodeling and Mechano-Response. <i>Calcified Tissue International</i> , 2017 , 100, 255-270	3.9	26
277	Muscle shape consistency and muscle volume prediction of thigh muscles. <i>Scandinavian Journal of Medicine and Science in Sports</i> , 2015 , 25, e208-13	4.6	26
276	Modifications of femoral component design in multi-radius total knee arthroplasty lead to higher lateral posterior femoro-tibial translation. <i>Knee Surgery, Sports Traumatology, Arthroscopy</i> , 2018 , 26, 1645-1655	5.5	26
275	Generic rules of mechano-regulation combined with subject specific loading conditions can explain bone adaptation after THA. <i>PLoS ONE</i> , 2012 , 7, e36231	3.7	26
274	Immediate and delayed transplantation of mesenchymal stem cells improve muscle force after skeletal muscle injury in rats. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2012 , 6 Suppl 3, s60-7	4.4	26
273	Comparison of BMP-2 and combined IGF-I/TGF-ss1 application in a sheep cervical spine fusion model. <i>European Spine Journal</i> , 2002 , 11, 482-93	2.7	26
272	Individual Effector/Regulator T Cell Ratios Impact Bone Regeneration. <i>Frontiers in Immunology</i> , 2019 , 10, 1954	8.4	25
271	Load-induced osteogenic differentiation of mesenchymal stromal cells is caused by mechano-regulated autocrine signaling. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2019 , 13, 1992-2008	4.4	25

270	Poorly ordered bone as an endogenous scaffold for the deposition of highly oriented lamellar tissue in rapidly growing ovine bone. <i>Cells Tissues Organs</i> , 2011 , 194, 119-23	2.1	25
269	A new device to control mechanical environment in bone defect healing in rats. <i>Journal of Biomechanics</i> , 2008 , 41, 2696-702	2.9	25
268	In vivo tracking of segmental bone defect healing reveals that callus patterning is related to early mechanical stimuli. <i>European Cells and Materials</i> , 2012 , 24, 358-71; discussion 371	4.3	25
267	Sost deficiency led to a greater cortical bone formation response to mechanical loading and altered gene expression. <i>Scientific Reports</i> , 2017 , 7, 9435	4.9	24
266	Evaluation of 3D Printed Gelatin-Based Scaffolds with Varying Pore Size for MSC-Based Adipose Tissue Engineering. <i>Macromolecular Bioscience</i> , 2020 , 20, e1900364	5.5	24
265	Compromised Bone Healing in Aged Rats Is Associated With Impaired M2 Macrophage Function. <i>Frontiers in Immunology</i> , 2019 , 10, 2443	8.4	24
264	Promiscuous and depolarization-induced immediate-early response genes are induced by mechanical strain of osteoblasts. <i>Journal of Bone and Mineral Research</i> , 2009 , 24, 1247-62	6.3	24
263	The mechanical heterogeneity of the hard callus influences local tissue strains during bone healing: a finite element study based on sheep experiments. <i>Journal of Biomechanics</i> , 2011 , 44, 517-23	2.9	24
262	Influence of cage design on interbody fusion in a sheep cervical spine model. <i>Journal of Neurosurgery: Spine</i> , 2002 , 96, 321-32	2.8	24
261	Strain shielding inspired re-design of proximal femoral stems for total hip arthroplasty. <i>Journal of Orthopaedic Research</i> , 2017 , 35, 2534-2544	3.8	23
260	Demineralized Bone Matrix as a Carrier for Bone Morphogenetic Protein-2: Burst Release Combined with Long-Term Binding and Osteoinductive Activity Evaluated In Vitro and In Vivo. <i>Tissue Engineering - Part A</i> , 2017 , 23, 1321-1330	3.9	23
259	Machine learning techniques for the optimization of joint replacements: Application to a short-stem hip implant. <i>PLoS ONE</i> , 2017 , 12, e0183755	3.7	23
258	Strategies for Derisking Translational Processes for Biomedical Technologies. <i>Trends in Biotechnology</i> , 2017 , 35, 100-108	15.1	23
257	Collateral ligament length change patterns after joint line elevation may not explain midflexion instability following TKA. <i>Medical Engineering and Physics</i> , 2011 , 33, 1303-8	2.4	23
256	Modulation of matrix metalloprotease-2 levels by mechanical loading of three-dimensional mesenchymal stem cell constructs: impact on in vitro tube formation. <i>Tissue Engineering - Part A</i> , 2010 , 16, 3139-48	3.9	23
255	Distribution of bone mineral density with age and gender in the proximal tibia. <i>Clinical Biomechanics</i> , 2004 , 19, 370-6	2.2	23
254	Surgical approach influences periprosthetic femoral bone density. <i>Clinical Orthopaedics and Related Research</i> , 2005 , 153-9	2.2	23
253	Rapid detection of periprosthetic joint infection using a combination of 16s rDNA polymerase chain reaction and lateral flow immunoassay: A Pilot Study. <i>Bone and Joint Research</i> , 2018 , 7, 12-19	4.2	22

252	Computational biomechanics of a lumbar motion segment in pure and combined shear loads. <i>Journal of Biomechanics</i> , 2013 , 46, 2513-21	2.9	22
251	The medial-lateral force distribution in the ovine stifle joint during walking. <i>Journal of Orthopaedic Research</i> , 2011 , 29, 567-71	3.8	22
250	Gene identification and analysis of transcripts differentially regulated in fracture healing by EST sequencing in the domestic sheep. <i>BMC Genomics</i> , 2006 , 7, 172	4.5	22
249	Key elements for nourishing the translational research environment. <i>Science Translational Medicine</i> , 2015 , 7, 282cm2	17.5	21
248	Amino-polyvinyl alcohol coated superparamagnetic iron oxide nanoparticles are suitable for monitoring of human mesenchymal stromal cells in vivo. <i>Small</i> , 2014 , 10, 4340-51	11	21
247	Computational analyses of different intervertebral cages for lumbar spinal fusion. <i>Journal of Biomechanics</i> , 2015 , 48, 3274-82	2.9	21
246	Deterioration of fracture healing in the mouse model of NF1 long bone dysplasia. <i>Bone</i> , 2012 , 51, 651-60	4.7	21
245	Velocity of lordosis angle during spinal flexion and extension. <i>PLoS ONE</i> , 2012 , 7, e50135	3.7	21
244	The direct lateral approach: impact on gait patterns, foot progression angle and pain in comparison with a minimally invasive anterolateral approach. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2012 , 132, 725-31	3.6	21
243	Mesenchymal stem cell therapy following muscle trauma leads to improved muscular regeneration in both male and female rats. <i>Gender Medicine</i> , 2012 , 9, 129-36		21
242	Biomechanical, microvascular, and cellular factors promote muscle and bone regeneration. <i>Exercise and Sport Sciences Reviews</i> , 2008 , 36, 64-70	6.7	21
241	Are bone turnover markers capable of predicting callus consolidation during bone healing?. <i>Calcified Tissue International</i> , 2004 , 75, 40-9	3.9	21
240	Does partial weight bearing unload a healing bone in external ring fixation?. <i>Langenbeck's Archives of Surgery</i> , 2003 , 388, 298-304	3.4	21
239	Biomechanical analysis of biodegradable interbody fusion cages augmented With poly(propylene glycol-co-fumaric acid). <i>Spine</i> , 2002 , 27, 1644-51	3.3	21
238	Multiscale, converging defects of macro-porosity, microstructure and matrix mineralization impact long bone fragility in NF1. <i>PLoS ONE</i> , 2014 , 9, e86115	3.7	21
237	Niche-mimicking interactions in peptide-functionalized 3D hydrogels amplify mesenchymal stromal cell paracrine effects. <i>Biomaterials</i> , 2020 , 230, 119639	15.6	21
236	Immune Modulation to Enhance Bone Healing-A New Concept to Induce Bone Using Prostacyclin to Locally Modulate Immunity. <i>Frontiers in Immunology</i> , 2019 , 10, 713	8.4	20
235	Bioactive coating of zirconia toughened alumina ceramic implants improves cancellous osseointegration. <i>Scientific Reports</i> , 2019 , 9, 16692	4.9	20

234	Shaping scaffold structures in rapid manufacturing implants: a modeling approach toward mechano-biologically optimized configurations for large bone defect. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2012 , 100, 1736-45	3.5	19
233	Effect of fatigue on force fluctuations in knee extensors in young adults. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2010 , 368, 2783-98	3	19
232	Dose-dependent effects of combined IGF-I and TGF-beta1 application in a sheep cervical spine fusion model. <i>European Spine Journal</i> , 2003 , 12, 464-73	2.7	19
231	Interaction of age and mechanical stability on bone defect healing: an early transcriptional analysis of fracture hematoma in rat. <i>PLoS ONE</i> , 2014 , 9, e106462	3.7	19
230	Towards multi-dynamic mechano-biological optimization of 3D-printed scaffolds to foster bone regeneration. <i>Acta Biomaterialia</i> , 2020 , 101, 117-127	10.8	19
229	From Improved Diagnostics to Presurgical Planning: High-Resolution Functionally Graded Multimaterial 3D Printing of Biomedical Tomographic Data Sets. <i>3D Printing and Additive Manufacturing</i> , 2018 , 5, 103-113	4	19
228	Multi-elemental nanoparticle exposure after tantalum component failure in hip arthroplasty: In-depth analysis of a single case. <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , 2017 , 13, 2415-2423	6	18
227	Semi-rigid screws provide an auxiliary option to plate working length to control interfragmentary movement in locking plate fixation at the distal femur. <i>Injury</i> , 2015 , 46 Suppl 4, S24-32	2.5	18
226	Effect of in vivo loading on bone composition varies with animal age. <i>Experimental Gerontology</i> , 2015 , 63, 48-58	4.5	18
225	Intra-Arterial MSC Transplantation Restores Functional Capacity After Skeletal Muscle Trauma. <i>The Open Orthopaedics Journal</i> , 2012 , 6, 352-6	0.3	18
224	Collagen I-based scaffolds negatively impact fracture healing in a mouse-osteotomy-model although used routinely in research and clinical application. <i>Acta Biomaterialia</i> , 2019 , 86, 171-184	10.8	18
223	Impact of antagonistic muscle co-contraction on in vivo knee contact forces. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2018 , 15, 101	5.3	18
222	Preoperative irradiation for the prevention of heterotopic ossification induces local inflammation in humans. <i>Bone</i> , 2013 , 55, 93-101	4.7	17
221	Multiscale Modeling of Bone Healing: Toward a Systems Biology Approach. <i>Frontiers in Physiology</i> , 2017 , 8, 287	4.6	17
220	Reorganization of the femoral cortex due to age-, sex-, and endoprosthetic-related effects emphasized by osteonal dimensions and remodeling. <i>Journal of Biomedical Materials Research - Part A</i> , 2010 , 92, 1440-51	5.4	17
219	Does low-intensity pulsed ultrasound stimulate maturation of tissue-engineered cartilage?. <i>Journal of Biomedical Materials Research Part B</i> , 2004 , 68, 21-8		17
218	Qualifying stem cell sources: how to overcome potential pitfalls in regenerative medicine?. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2016 , 10, 3-10	4.4	17
217	Evaluation of the accuracy of musculoskeletal simulation during squats by means of instrumented knee prostheses. <i>Medical Engineering and Physics</i> , 2018 , 61, 95-99	2.4	17

216	Establishment of a preclinical ovine screening model for the investigation of bone tissue engineering strategies in cancellous and cortical bone defects. <i>BMC Musculoskeletal Disorders</i> , 2016 , 17, 111	2.8	16
215	Considerations when loading spinal finite element models with predicted muscle forces from inverse static analyses. <i>Journal of Biomechanics</i> , 2013 , 46, 1376-8	2.9	16
214	Do post-operative changes of neck-shaft angle and femoral component anteversion have an effect on clinical outcome following uncemented total hip arthroplasty?. <i>Bone and Joint Journal</i> , 2015 , 97-B, 1615-22	5.6	16
213	Metal-Specific Biomaterial Accumulation in Human Peri-Implant Bone and Bone Marrow. <i>Advanced Science</i> , 2020 , 7, 2000412	13.6	16
212	Spatial Distribution of Macrophages During Callus Formation and Maturation Reveals Close Crosstalk Between Macrophages and Newly Forming Vessels. <i>Frontiers in Immunology</i> , 2019 , 10, 2588	8.4	16
211	Standard bone healing stages occur during delayed bone healing, albeit with a different temporal onset and spatial distribution of callus tissues. <i>Histology and Histopathology</i> , 2010 , 25, 1149-62	1.4	16
210	Long bone maturation is driven by pore closing: A quantitative tomography investigation of structural formation in young C57BL/6 mice. <i>Acta Biomaterialia</i> , 2015 , 22, 92-102	10.8	15
209	In vivo measured joint friction in hip implants during walking after a short rest. <i>PLoS ONE</i> , 2017 , 12, e0174788	3.7	15
208	Tubular open-porous tricalcium phosphate polycaprolactone scaffolds as guiding structure for segmental bone defect regeneration in a novel sheep model. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2018 , 12, 897-911	4.4	15
207	Correlations between nanostructure and micromechanical properties of healing bone. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2018 , 77, 258-266	4.1	15
206	Longitudinal analysis of MR spin-spin relaxation times (T2) in medial femorotibial cartilage of adolescent vs mature athletes: dependence of deep and superficial zone properties on sex and age. <i>Osteoarthritis and Cartilage</i> , 2014 , 22, 1554-8	6.2	15
205	Increased BMP expression in arthrofibrosis after TKA. <i>Knee Surgery, Sports Traumatology, Arthroscopy</i> , 2012 , 20, 1803-8	5.5	15
204	Cyclic strain disrupts endothelial network formation on Matrigel. <i>Microvascular Research</i> , 2009 , 78, 358-63	3.7	15
203	A new model to predict in vivo human knee kinematics under physiological-like muscle activation. <i>Journal of Biomechanics</i> , 2007 , 40 Suppl 1, S45-53	2.9	15
202	Biomechanical in vitro testing of human osteoporotic lumbar vertebrae following prophylactic kyphoplasty with different candidate materials. <i>Spine</i> , 2007 , 32, 1400-5	3.3	15
201	The multifaceted roles of macrophages in bone regeneration: A story of polarization, activation and time. <i>Acta Biomaterialia</i> , 2021 , 133, 46-57	10.8	15
200	Physical Activities That Cause High Friction Moments at the Cup in Hip Implants. <i>Journal of Bone and Joint Surgery - Series A</i> , 2018 , 100, 1637-1644	5.6	15
199	Sclerostin Neutralizing Antibody Treatment Enhances Bone Formation but Does Not Rescue Mechanically Induced Delayed Healing. <i>Journal of Bone and Mineral Research</i> , 2018 , 33, 1686-1697	6.3	15

198	CD31+ Cells From Peripheral Blood Facilitate Bone Regeneration in Biologically Impaired Conditions Through Combined Effects on Immunomodulation and Angiogenesis. <i>Journal of Bone and Mineral Research</i> , 2017 , 32, 902-912	6.3	14
197	Age-Related Changes in the Mechanical Regulation of Bone Healing Are Explained by Altered Cellular Mechanoreponse. <i>Journal of Bone and Mineral Research</i> , 2019 , 34, 1923-1937	6.3	14
196	The connection between cellular mechanoregulation and tissue patterns during bone healing. <i>Medical and Biological Engineering and Computing</i> , 2015 , 53, 829-42	3.1	14
195	Interfragmentary lag screw fixation in locking plate constructs increases stiffness in simple fracture patterns. <i>Clinical Biomechanics</i> , 2015 , 30, 814-9	2.2	14
194	Alginate Hydrogels for Bone Regeneration: The Immune Competence of the Animal Model Matters. <i>Tissue Engineering - Part A</i> , 2020 , 26, 852-862	3.9	14
193	Investigation of different cage designs and mechano-regulation algorithms in the lumbar interbody fusion process - a finite element analysis. <i>Journal of Biomechanics</i> , 2014 , 47, 1514-9	2.9	14
192	In vivo hip joint loads and pedal forces during ergometer cycling. <i>Journal of Biomechanics</i> , 2017 , 60, 197-202	2.0	14
191	Longitudinal change in femorotibial cartilage thickness and subchondral bone plate area in male and female adolescent vs. mature athletes. <i>Annals of Anatomy</i> , 2014 , 196, 150-7	2.9	14
190	Mesenchymal stromal cell and bone marrow concentrate therapies for musculoskeletal indications: a concise review of current literature. <i>Molecular Biology Reports</i> , 2020 , 47, 4789-4814	2.8	13
189	Influence of gender and fixation stability on bone defect healing in middle-aged rats: a pilot study. <i>Clinical Orthopaedics and Related Research</i> , 2011 , 469, 3102-10	2.2	13
188	Osteochondral defect repair after implantation of biodegradable scaffolds: indirect magnetic resonance arthrography and histopathologic correlation. <i>Acta Radiologica</i> , 2009 , 50, 765-74	2	13
187	Mechanical evaluation of a new minimally invasive device for stabilization of proximal humeral fractures in elderly patients: a cadaver study. <i>Monthly Notices of the Royal Astronomical Society: Letters</i> , 2007 , 78, 430-5	4.3	13
186	The Restoration of Passive Rotational Tibio-Femoral Laxity after Anterior Cruciate Ligament Reconstruction. <i>PLoS ONE</i> , 2016 , 11, e0159600	3.7	13
185	Unraveling local tissue changes within severely injured skeletal muscles in response to MSC-based intervention using MALDI Imaging mass spectrometry. <i>Scientific Reports</i> , 2018 , 8, 12677	4.9	13
184	Mechano-Biological Computer Model of Scaffold-Supported Bone Regeneration: Effect of Bone Graft and Scaffold Structure on Large Bone Defect Tissue Patterning. <i>Frontiers in Bioengineering and Biotechnology</i> , 2020 , 8, 585799	5.8	12
183	Hybrid Injectable Sol-Gel Systems Based on Thermo-Sensitive Polyurethane Hydrogels Carrying pH-Sensitive Mesoporous Silica Nanoparticles for the Controlled and Triggered Release of Therapeutic Agents. <i>Frontiers in Bioengineering and Biotechnology</i> , 2020 , 8, 384	5.8	12
182	Integrated additive design and manufacturing approach for the bioengineering of bone scaffolds for favorable mechanical and biological properties. <i>Biomedical Materials (Bristol)</i> , 2019 , 14, 065002	3.5	12
181	Weightbearing ovine osteochondral defects heal with inadequate subchondral bone plate restoration: implications regarding osteochondral autograft harvesting. <i>Knee Surgery, Sports Traumatology, Arthroscopy</i> , 2012 , 20, 1923-30	5.5	12

180	Improvement of contraction force in injured skeletal muscle after autologous mesenchymal stroma cell transplantation is accompanied by slow to fast fiber type shift. <i>Transfusion Medicine and Hemotherapy</i> , 2013 , 40, 425-30	4.2	12
179	In vitro models for bone mechanobiology: applications in bone regeneration and tissue engineering. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , 2010 , 224, 1533-41	1.7	12
178	Frontal plane alignment: an imageless method to predict the mechanical femoral-tibial angle (mFTA) based on functional determination of joint centres and axes. <i>Gait and Posture</i> , 2010 , 31, 204-8	2.6	12
177	Endochondral ossification in vitro is influenced by mechanical bending. <i>Bone</i> , 2007 , 40, 597-603	4.7	12
176	The neuropeptide calcitonin gene-related peptide alpha is essential for bone healing. <i>EBioMedicine</i> , 2020 , 59, 102970	8.8	12
175	Cartilage loss in radiographically normal knees depends on radiographic status of the contralateral knee - data from the Osteoarthritis Initiative. <i>Osteoarthritis and Cartilage</i> , 2019 , 27, 273-277	6.2	12
174	MRI findings of knee abnormalities in adolescent and adult volleyball players. <i>Journal of Experimental Orthopaedics</i> , 2017 , 4, 6	2.3	11
173	Extrusion Printed Scaffolds with Varying Pore Size As Modulators of MSC Angiogenic Paracrine Effects. <i>ACS Biomaterials Science and Engineering</i> , 2019 , 5, 5348-5358	5.5	11
172	Crosstalk between immune cells and mesenchymal stromal cells in a 3D bioreactor system. <i>International Journal of Artificial Organs</i> , 2012 , 35, 986-95	1.9	11
171	Quantification and significance of fluid shear stress field in biaxial cell stretching device. <i>Biomechanics and Modeling in Mechanobiology</i> , 2011 , 10, 559-64	3.8	11
170	Influence of prosthesis design and implantation technique on implant stresses after cementless revision THR. <i>Journal of Orthopaedic Surgery and Research</i> , 2011 , 6, 20	2.8	11
169	Cementless stem fixation and primary stability under physiological-like loads in vitro. <i>Biomedizinische Technik</i> , 2005 , 50, 394-9	1.3	11
168	An experimental setup to evaluate innovative therapy options for the enhancement of bone healing using BMP as a benchmark--a pilot study. <i>European Cells and Materials</i> , 2012 , 23, 262-71; discussion 271-2	4.3	11
167	Loading of the hip and knee joints during whole body vibration training. <i>PLoS ONE</i> , 2018 , 13, e0207014	3.7	11
166	Dosage and composition of bioactive glasses differentially regulate angiogenic and osteogenic response of human MSCs. <i>Journal of Biomedical Materials Research - Part A</i> , 2018 , 106, 2827-2837	5.4	11
165	High-dose recombinant human bone morphogenetic protein-2 impacts histological and biomechanical properties of a cervical spine fusion segment: results from a sheep model. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2017 , 11, 1514-1523	4.4	10
164	Short-term functional assessment of gait, plantarflexor strength, and tendon properties after Achilles tendon rupture. <i>Gait and Posture</i> , 2018 , 62, 179-185	2.6	10
163	Radiographically normal knees with contralateral joint space narrowing display greater change in cartilage transverse relaxation time than those with normal contralateral knees: a model of early OA? - data from the Osteoarthritis Initiative (OAI). <i>Osteoarthritis and Cartilage</i> , 2019 , 27, 1663-1668	6.2	10

162	Automatic initial contact detection during overground walking for clinical use. <i>Gait and Posture</i> , 2014 , 40, 730-4	2.6	10
161	Influence of basal support and early loading on bone cartilage healing in press-fitted osteochondral autografts. <i>Knee Surgery, Sports Traumatology, Arthroscopy</i> , 2014 , 22, 1445-51	5.5	10
160	Improved bone defect healing by a superagonistic GDF5 variant derived from a patient with multiple synostoses syndrome. <i>Bone</i> , 2015 , 73, 111-9	4.7	10
159	European musculoskeletal health and mobility in Horizon 2020: Setting priorities for musculoskeletal research and innovation. <i>Bone and Joint Research</i> , 2014 , 3, 48-50	4.2	10
158	Cyclic mechanical loading enables solute transport and oxygen supply in bone healing: an in vitro investigation. <i>Tissue Engineering - Part A</i> , 2014 , 20, 486-93	3.9	10
157	Relationship between nanoscale mineral properties and calcein labeling in mineralizing bone surfaces. <i>Connective Tissue Research</i> , 2014 , 55 Suppl 1, 15-7	3.3	10
156	The difference between stretching and splitting muscle trauma during THA seems not to play a dominant role in influencing periprosthetic BMD changes. <i>Clinical Biomechanics</i> , 2012 , 27, 813-8	2.2	10
155	Combined in vivo/in silico study of mechanobiological mechanisms during endochondral ossification in bone healing. <i>Annals of Biomedical Engineering</i> , 2011 , 39, 2531-41	4.7	10
154	Regulation of the patellofemoral contact area: an essential mechanism in patellofemoral joint mechanics?. <i>Journal of Biomechanics</i> , 2010 , 43, 3237-9	2.9	10
153	Biomechanical comparison of four anterior atlantoaxial plate systems. <i>Journal of Neurosurgery: Spine</i> , 2002 , 96, 313-20	2.8	10
152	In Vivo Bioluminescence Imaging - A Suitable Method to Track Mesenchymal Stromal Cells in a Skeletal Muscle Trauma. <i>The Open Orthopaedics Journal</i> , 2015 , 9, 262-9	0.3	10
151	Validation of a Novel Device for the Knee Monitoring of Orthopaedic Patients. <i>Sensors</i> , 2019 , 19,	3.8	10
150	Treatment of osteochondral defects: chondrointegration of metal implants improves after hydroxyapatite coating. <i>Knee Surgery, Sports Traumatology, Arthroscopy</i> , 2019 , 27, 3575-3582	5.5	9
149	Femoral head necrosis: A finite element analysis of common and novel surgical techniques. <i>Clinical Biomechanics</i> , 2017 , 48, 49-56	2.2	9
148	Ultrasound-based computer navigation of the acetabular component: a feasibility study. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2012 , 132, 517-25	3.6	9
147	Slight changes in the mechanical stimulation affects osteoblast- and osteoclast-like cells in co-culture. <i>Transfusion Medicine and Hemotherapy</i> , 2013 , 40, 441-7	4.2	9
146	Leptin-deficiency eradicates the positive effect of traumatic brain injury on bone healing: histological analyses in a combined trauma mouse model. <i>Journal of Musculoskeletal Neuronal Interactions</i> , 2018 , 18, 32-41	1.3	9
145	Differences in biomarkers of cartilage matrix turnover and their changes over 2 years in adolescent and adult volleyball athletes. <i>Journal of Experimental Orthopaedics</i> , 2017 , 4, 7	2.3	8

144	Association between changes in molecular biomarkers of cartilage matrix turnover and changes in knee articular cartilage: a longitudinal pilot study. <i>Journal of Experimental Orthopaedics</i> , 2019 , 6, 19	2.3	8
143	Anatomic grooved stem mitigates strain shielding compared to established total hip arthroplasty stem designs in finite-element models. <i>Scientific Reports</i> , 2019 , 9, 482	4.9	8
142	Impact of Gentamicin-Loaded Bone Graft on Defect Healing in a Sheep Model. <i>Materials</i> , 2019 , 12,	3.5	8
141	Skeletal maturation substantially affects elastic tissue properties in the endosteal and periosteal regions of loaded mice tibiae. <i>Acta Biomaterialia</i> , 2015 , 21, 154-64	10.8	8
140	Temporal profile of inflammatory response to fracture and hemorrhagic shock: Proposal of a novel long-term survival murine multiple trauma model. <i>Journal of Orthopaedic Research</i> , 2015 , 33, 965-70	3.8	8
139	Loss of the Hematopoietic Stem Cell Factor GATA2 in the Osteogenic Lineage Impairs Trabecularization and Mechanical Strength of Bone. <i>Molecular and Cellular Biology</i> , 2018 , 38,	4.8	8
138	The sagittal stem alignment and the stem version clearly influence the impingement-free range of motion in total hip arthroplasty: a computer model-based analysis. <i>International Orthopaedics</i> , 2016 , 40, 473-80	3.8	8
137	CD133: enhancement of bone healing by local transplantation of peripheral blood cells in a biologically delayed rat osteotomy model. <i>PLoS ONE</i> , 2013 , 8, e52650	3.7	8
136	Physiological joint line total knee arthroplasty designs are especially sensitive to rotational placement - A finite element analysis. <i>PLoS ONE</i> , 2018 , 13, e0192225	3.7	8
135	Early pH Changes in Musculoskeletal Tissues upon Injury-Aerobic Catabolic Pathway Activity Linked to Inter-Individual Differences in Local pH. <i>International Journal of Molecular Sciences</i> , 2020 , 21,	6.3	8
134	Selecting boundary conditions in physiological strain analysis of the femur: Balanced loads, inertia relief method and follower load. <i>Medical Engineering and Physics</i> , 2015 , 37, 1180-5	2.4	7
133	deficiency leads to reduced mechanical strains at the tibia midshaft in strain-matched loading experiments in mice. <i>Journal of the Royal Society Interface</i> , 2018 , 15,	4.1	7
132	Automatic distinction of upper body motions in the main anatomical planes. <i>Medical Engineering and Physics</i> , 2014 , 36, 516-21	2.4	7
131	Registering 2D and 3D imaging data of bone during healing. <i>Connective Tissue Research</i> , 2015 , 56, 133-43	3.3	7
130	A comparison of techniques for fixation of the quadriceps muscle-tendon complex for in vitro biomechanical testing of the knee joint in sheep. <i>Medical Engineering and Physics</i> , 2009 , 31, 69-75	2.4	7
129	The Zweymüller threaded cup: a choice in revision? Migration analysis and follow-up after 6 years. <i>Journal of Arthroplasty</i> , 2006 , 21, 497-502	4.4	7
128	Muskuloskeletale Belastungen im Schafshinterlauf: Mechanische Rahmenbedingungen der Heilung. <i>Materialwissenschaft Und Werkstofftechnik</i> , 2005 , 36, 775-780	0.9	7
127	Dual alginate crosslinking for local patterning of biophysical and biochemical properties. <i>Acta Biomaterialia</i> , 2020 , 115, 185-196	10.8	7

126	In Vivo Validation of Spray-Dried Mesoporous Bioactive Glass Microspheres Acting as Prolonged Local Release Systems for BMP-2 to Support Bone Regeneration. <i>Pharmaceutics</i> , 2020 , 12,	6.4	7
125	Mechanical loading prevents bone destruction and exerts anti-tumor effects in the MOPC315.BM.Luc model of myeloma bone disease. <i>Acta Biomaterialia</i> , 2021 , 119, 247-258	10.8	7
124	Longitudinal change in patellofemoral cartilage thickness, cartilage T2 relaxation times, and subchondral bone plate area in adolescent vs mature athletes. <i>European Journal of Radiology</i> , 2017 , 92, 24-29	4.7	6
123	ESB Clinical Biomechanics Award 2018: Muscle atrophy-related increased joint loading after total hip arthroplasty and their postoperative change from 3 to 50 months. <i>Clinical Biomechanics</i> , 2019 , 65, 105-109	2.2	6
122	Future Treatment Strategies for Delayed Bone Healing: An Osteoimmunologic Approach. <i>Journal of the American Academy of Orthopaedic Surgeons, The</i> , 2016 , 24, e134-5	4.5	6
121	Alterations in structure of the muscle-tendon unit and gait pattern after percutaneous repair of Achilles tendon rupture with the Dresden instrument. <i>Foot and Ankle Surgery</i> , 2019 , 25, 529-533	3.1	6
120	The challenges of modern interdisciplinary medical research. <i>Nature Biotechnology</i> , 2011 , 29, 1145-8	44.5	6
119	Mineral crystal alignment in mineralized fracture callus determined by 3D small-angle X-ray scattering. <i>Journal of Physics: Conference Series</i> , 2010 , 247, 012031	0.3	6
118	Crushed bone grafts and a collagen membrane are not suitable for enhancing cartilage quality in the regeneration of osteochondral defects--an in vivo study in sheep. <i>Journal of Biomechanics</i> , 2007 , 40 Suppl 1, S64-72	2.9	6
117	Poly(D,L-lactide) coating is capable of enhancing osseous integration of Schanz screws in the absence of infection. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2005 , 74, 608-16	3.5	6
116	Microstructure and homogeneity of distribution of mineralised struts determine callus strength. <i>European Cells and Materials</i> , 2013 , 25, 366-79; discussion 378-9	4.3	6
115	Effects of Long-Term Sclerostin Deficiency on Trabecular Bone Mass and Adaption to Limb Loading Differ in Male and Female Mice. <i>Calcified Tissue International</i> , 2020 , 106, 415-430	3.9	6
114	Quantifying Asymmetry in Gait: The Weighted Universal Symmetry Index to Evaluate 3D Ground Reaction Forces. <i>Frontiers in Bioengineering and Biotechnology</i> , 2020 , 8, 579511	5.8	6
113	Association of Machine Learning-Based Predictions of Medial Knee Contact Force With Cartilage Loss Over 2.5 Years in Knee Osteoarthritis. <i>Arthritis and Rheumatology</i> , 2021 , 73, 1638-1645	9.5	6
112	Tibio-Femoral Contact Force Distribution is Not the Only Factor Governing Pivot Location after Total Knee Arthroplasty. <i>Scientific Reports</i> , 2019 , 9, 182	4.9	5
111	Oxidized alginate beads for tunable release of osteogenically potent mesenchymal stromal cells. <i>Materials Science and Engineering C</i> , 2019 , 104, 109911	8.3	5
110	From macroscopic mechanics to cell-effective stiffness within highly aligned macroporous collagen scaffolds. <i>Materials Science and Engineering C</i> , 2019 , 103, 109760	8.3	5
109	The Interaction of BMP2-Induced Defect Healing in Rat and Fixator Stiffness Modulates Matrix Alignment and Contraction. <i>JBMR Plus</i> , 2018 , 2, 174-186	3.9	5

108	Weight Bearing Activities change the Pivot Position after Total Knee Arthroplasty. <i>Scientific Reports</i> , 2019 , 9, 9148	4.9	5
107	T and T mapping of the human quadriceps and patellar tendons using ultra-short echo-time (UTE) imaging and bivariate relaxation parameter-based volumetric visualization. <i>Magnetic Resonance Imaging</i> , 2019 , 63, 29-36	3.3	5
106	Combining Coherent Hard X-Ray Tomographies with Phase Retrieval to Generate Three-Dimensional Models of Forming Bone. <i>Frontiers in Materials</i> , 2017 , 4,	4	5
105	Generation of an iPS cell line from bone marrow derived mesenchymal stromal cells from an elderly patient. <i>Stem Cell Research</i> , 2015 , 15, 565-8	1.6	5
104	Treatment with recombinant human bone morphogenetic protein 7 leads to a transient induction of neutralizing autoantibodies in a subset of patients. <i>BBA Clinical</i> , 2016 , 6, 100-7		5
103	Improved in vivo osseointegration and degradation behavior of PEO surface-modified WE43 magnesium plates and screws after 6 and 12 months. <i>Materials Science and Engineering C</i> , 2021 , 129, 112380	8.3	5
102	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	2.2	4
101	Accumulation of amino-polyvinyl alcohol-coated superparamagnetic iron oxide nanoparticles in bone marrow: implications for local stromal cells. <i>Nanomedicine</i> , 2015 , 10, 2139-51	5.6	4
100	Validation of beta-actin used as endogenous control for gene expression analysis in mechanobiology studies: amendments. <i>Stem Cells</i> , 2010 , 28, 633-4	5.8	4
99	Reproducibility, Relevance and Reliability as Barriers to Efficient and Credible Biomedical Technology Translation.. <i>Advanced Drug Delivery Reviews</i> , 2022 , 182, 114118	18.5	4
98	Longitudinal changes in location-specific cartilage thickness and T2 relaxation-times after posterior cruciate ligament reconstruction for isolated and multiligament injury. <i>Clinical Biomechanics</i> , 2020 , 79, 104935	2.2	4
97	Frequencies of MRI-detected structural pathology in knees without radiographic OA and worsening over three years: How relevant is contralateral radiographic osteoarthritis?. <i>Osteoarthritis and Cartilage Open</i> , 2020 , 1, 100014	1.5	4
96	Initial mechanical conditions within an optimized bone scaffold do not ensure bone regeneration - an in silico analysis. <i>Biomechanics and Modeling in Mechanobiology</i> , 2021 , 20, 1723-1731	3.8	4
95	Mechanobiological Principles Influence the Immune Response in Regeneration: Implications for Bone Healing. <i>Frontiers in Bioengineering and Biotechnology</i> , 2021 , 9, 614508	5.8	4
94	High resolution 3D laboratory x-ray tomography data of femora from young, 1-14 day old C57BL/6 mice. <i>Data in Brief</i> , 2015 , 4, 32-3	1.2	3
93	Mechanosensation across borders: fibroblasts inside a macroporous scaffold sense and respond to the mechanical environment beyond the scaffold walls. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2018 , 12, 265-275	4.4	3
92	Baseline structural tissue pathology is not strongly associated with longitudinal change in transverse relaxation time (T2) in knees without osteoarthritis. <i>European Journal of Radiology</i> , 2019 , 118, 161-168	4.7	3
91	CHAPTER 2:Bone Structural Adaptation and Wolff's Law. <i>RSC Smart Materials</i> , 2013 , 17-45	0.6	3

90	Musculoskeletal loading database: loading conditions of the proximal femur. <i>Theoretical Issues in Ergonomics Science</i> , 2005 , 6, 287-292	2.2	3
89	Testing method for mechanical properties of fibrin glue. <i>Journal of Applied Biomaterials: an Official Journal of the Society for Biomaterials</i> , 1993 , 4, 341-346		3
88	Retention of Posterior Cruciate Ligament Alone May Not Achieve Physiological Knee Joint Kinematics After Total Knee Arthroplasty: A Retrospective Study. <i>Journal of Bone and Joint Surgery - Series A</i> , 2021 , 103, 146-154	5.6	3
87	Placental-expanded, mesenchymal cells improve muscle function following hip arthroplasty		3
86	Validation of reference genes for expression analysis in a murine trauma model combining traumatic brain injury and femoral fracture. <i>Scientific Reports</i> , 2020 , 10, 15057	4.9	3
85	The Role of Immune Reactivity in Bone Regeneration 2016 ,		3
84	Biomechanical competence of six different bone screws for reconstructive surgery in three different transplants: Fibular, iliac crest, scapular and artificial bone. <i>Journal of Cranio-Maxillo-Facial Surgery</i> , 2016 , 44, 689-96	3.6	3
83	Normal trabecular vertebral bone is formed via rapid transformation of mineralized spicules: A high-resolution 3D ex-vivo murine study. <i>Acta Biomaterialia</i> , 2019 , 86, 429-440	10.8	3
82	Dynamics of postural control in individuals with ankle instability: Effect of visual input and orthotic use. <i>Computers in Biology and Medicine</i> , 2019 , 110, 120-126	7	2
81	Cortical bone adaptation to a moderate level of mechanical loading in male Sost deficient mice. <i>Scientific Reports</i> , 2020 , 10, 22299	4.9	2
80	Limbostomy: Longitudinal Intravital Microendoscopy in Murine Osteotomies. <i>Cytometry Part A: the Journal of the International Society for Analytical Cytology</i> , 2020 , 97, 483-495	4.6	2
79	Biophysical induction of cell release for minimally manipulative cell enrichment strategies. <i>PLoS ONE</i> , 2017 , 12, e0180568	3.7	2
78	Healing of a mechano-responsive material. <i>Europhysics Letters</i> , 2013 , 104, 68005	1.6	2
77	The pin-bone interface in external fixator: a standardized analysis in a sheep osteotomy model. <i>Journal of Orthopaedic Trauma</i> , 2011 , 25, 438-45	3.1	2
76	Influence of gender and mechanical stability on bone defect healing: Males show a stronger biological response than females. <i>Bone</i> , 2009 , 44, S264	4.7	2
75	The evolution of size and distribution of apatite mineral crystals during bone fracture healing in sheep. <i>Bone</i> , 2009 , 44, S271-S272	4.7	2
74	Lymphocytes control bone fracture healing by programming the mineralisation capacity of migratory osteogenic precursors. <i>Annals of the Rheumatic Diseases</i> , 2012 , 71, A63.1-A63	2.4	2
73	Founding of the julius wolff institut charit� universit�smedizin berlin: editorial comment. <i>Clinical Orthopaedics and Related Research</i> , 2010 , 468, 1050-1	2.2	2

72	Response to: Stair climbing is more critical than walking in pre-clinical assessment of primary stability in cementless THA in vitro <i>Journal of Biomechanics</i> , 2006 , 39, 3087-3090	2.9	2
71	Significance of musculo-skeletal soft tissue trauma on pre-operative planning, surgery and healing. <i>Langenbeck's Archives of Surgery</i> , 2003 , 388, 279-80	3.4	2
70	Longitudinal Change in Knee Cartilage Thickness and Function in Subjects with and without MRI-Diagnosed Cartilage Damage. <i>Cartilage</i> , 2020 , 1947603520980157	3	2
69	In Vivo Visualization of Locally Transplanted Mesenchymal Stem Cells in the Severely Injured Muscle in Rats. <i>Tissue Engineering - Part A</i> , 2008 , 080423075413219	3.9	2
68	Biomechanik des Kniegelenks 2011 , 19-31		2
67	Muscle Fascicles Exhibit Limited Passive Elongation Throughout the Rehabilitation of Achilles Tendon Rupture After Percutaneous Repair. <i>Frontiers in Physiology</i> , 2020 , 11, 746	4.6	2
66	Public Interest in Knee Pain and Knee Replacement during the SARS-CoV-2 Pandemic in Western Europe. <i>Journal of Clinical Medicine</i> , 2021 , 10,	5.1	2
65	Biomechanical Assessment of the Validity of Sheep as a Preclinical Model for Testing Mandibular Fracture Fixation Devices. <i>Frontiers in Bioengineering and Biotechnology</i> , 2021 , 9, 672176	5.8	2
64	Bone morphogenetic protein 2-induced cellular chemotaxis drives tissue patterning during critical-sized bone defect healing: an in silico study. <i>Biomechanics and Modeling in Mechanobiology</i> , 2021 , 20, 1627-1644	3.8	2
63	Proinflammatory and bone protective role of calcitonin gene-related peptide alpha in collagen antibody-induced arthritis. <i>Rheumatology</i> , 2021 , 60, 1996-2009	3.9	2
62	Surgical cup placement affects the heating up of total joint hip replacements. <i>Scientific Reports</i> , 2021 , 11, 15851	4.9	2
61	Role of extracellular matrix structural components and tissue mechanics in the development of postoperative pancreatic fistula. <i>Journal of Biomechanics</i> , 2021 , 128, 110714	2.9	2
60	Treatment options for critical size defects - Comparison of different materials in a calvaria split model in sheep 2022 , 212788		2
59	OVERLOAD of joints and its role in osteoarthritis : Towards understanding and preventing progression of primary osteoarthritis. English version. <i>Zeitschrift Fur Rheumatologie</i> , 2017 , 76, 1-4	1.9	1
58	Knochenbruchheilung und klinische Belastungsstabilität <i>OP-Journal</i> , 2019 , 35, 12-19	0	1
57	Biologie und Biomechanik der Frakturheilung und Osteosynthese. <i>Orthopädie Und Unfallchirurgie Update</i> , 2019 , 14, 163-183	0.1	1
56	Significant Loss of ACL Graft Force With Tibial-Sided Soft Tissue Interference Screw Fixation Over 24 Hours: A Biomechanical Study. <i>Orthopaedic Journal of Sports Medicine</i> , 2020 , 8, 2325967120916437	3.5	1
55	Is Lamellar Cartilage Composition as Determined by T2 Relaxometry Associated with Incident and Worsening of Cartilage or Bone Marrow Abnormalities?. <i>Cartilage</i> , 2020 , 1947603520932197	3	1

54	Immersion of Achilles tendon in phosphate-buffered saline influences T and T * relaxation times: An ex vivo study. <i>NMR in Biomedicine</i> , 2020 , 33, e4288	4.4	1
53	Mesenchymal Stromal Cell-Based Therapy-An Alternative to Arthroplasty for the Treatment of Osteoarthritis? A State of the Art Review of Clinical Trials. <i>Journal of Clinical Medicine</i> , 2020 , 9,	5.1	1
52	Articular Cartilage Regeneration 2016 , 305-347		1
51	Hydrogels: One Step Creation of Multifunctional 3D Architected Hydrogels Inducing Bone Regeneration (Adv. Mater. 10/2015). <i>Advanced Materials</i> , 2015 , 27, 1800-1800	24	1
50	Indirect MR-arthrography in osteochondral autograft and crushed bone graft with a collagen membrane--correlation with histology. <i>European Journal of Radiology</i> , 2009 , 70, 155-64	4.7	1
49	Does in vitro low-intensity pulsed ultrasound stimulate endochondral ossification?. <i>Biomedizinische Technik</i> , 2008 , 53, 300-5	1.3	1
48	Physiologically-relevant boundary conditions. <i>Journal of Biomechanics</i> , 2006 , 39, S645	2.9	1
47	Histological Processing of CAD/CAM Titanium Scaffold after Long-Term Failure in Cranioplasty.. <i>Materials</i> , 2022 , 15,	3.5	1
46	Intramuscular and intratendinous placenta-derived mesenchymal stromal-like cell treatment of a chronic quadriceps tendon rupture.. <i>Journal of Cachexia, Sarcopenia and Muscle</i> , 2022 ,	10.3	1
45	MIF does only marginally enhance the pro-regenerative capacities of DFO in a mouse-osteotomy-model of compromised bone healing conditions. <i>Bone</i> , 2022 , 154, 116247	4.7	1
44	A Higher Initial Tensioning Force of an ACL Graft Results in a Higher Graft Force After Screw Fixation Irrespective of the Screw Diameter: A Biomechanical Study. <i>American Journal of Sports Medicine</i> , 2021 , 49, 3825-3832	6.8	1
43	Spatio-Temporal Bone Remodeling after Hematopoietic Stem Cell Transplantation. <i>International Journal of Molecular Sciences</i> , 2020 , 22,	6.3	1
42	HIF-stabilization prevents delayed fracture healing		1
41	Constraints to Articular Cartilage Regeneration 2011 , 883-919		1
40	Biomechanical models: key considerations in study design. <i>OTA International the Open Access Journal of Orthopaedic Trauma</i> , 2021 , 4, e099	0.9	1
39	Prevention of Bone Destruction by Mechanical Loading Is Not Enhanced by the Bruton's Tyrosine Kinase Inhibitor CC-292 in Myeloma Bone Disease. <i>International Journal of Molecular Sciences</i> , 2021 , 22,	6.3	1
38	Bursa-Derived Cells Show a Distinct Mechano-Response to Physiological and Pathological Loading. <i>Frontiers in Cell and Developmental Biology</i> , 2021 , 9, 657166	5.7	1
37	Scaffold-Dependent Mechanical and Architectural Cues Guide Osteochondral Defect Healing. <i>Frontiers in Bioengineering and Biotechnology</i> , 2021 , 9, 642217	5.8	1

36	Atlas-basierte 3D-Rekonstruktion des Beckens aus 2D-Projektionsbildern 2006 , 26-30		1
35	Locking strength of Morse tapers used for modular segmental bone defect replacement prostheses. <i>Bio-Medical Materials and Engineering</i> , 1997 , 7, 277-84	1	1
34	Source and Hub of Inflammation - The Infrapatellar Fat Pad and its Interactions with Articular Tissues during Knee Osteoarthritis.. <i>Journal of Orthopaedic Research</i> , 2022 ,	3.8	1
33	The calcitonin receptor protects against bone loss and excessive inflammation in collagen antibody-induced arthritis.. <i>IScience</i> , 2022 , 25, 103689	6.1	0
32	Biomechanical Evaluation of WE43 Magnesium Plates for Mandibular Fracture Fixation.. <i>Frontiers in Bioengineering and Biotechnology</i> , 2021 , 9, 803103	5.8	0
31	Enabling technologies towards personalization of scaffolds for large bone defect regeneration.. <i>Current Opinion in Biotechnology</i> , 2022 , 74, 263-270	11.4	0
30	Patient-specific resurfacing implant knee surgery in subjects with early osteoarthritis results in medial pivot and lateral femoral rollback during flexion: a retrospective pilot study. <i>Knee Surgery, Sports Traumatology, Arthroscopy</i> , 2021 , 1	5.5	0
29	Quantification of morning stiffness to assess disease activity and treatment effects in rheumatoid arthritis. <i>Rheumatology</i> , 2021 , 60, 5282-5291	3.9	0
28	Gait Adaptations at 8 Years After Reconstruction of Unilateral Isolated and Combined Posterior Cruciate Ligament Injuries. <i>American Journal of Sports Medicine</i> , 2021 , 49, 2416-2425	6.8	0
27	Is initial interfragmentary compression made to last? An ovine bone in vitro study. <i>Injury</i> , 2021 , 52, 1263-1270	3.7	0
26	Ground reaction forces and external hip joint moments predict in vivo hip contact forces during gait.. <i>Journal of Biomechanics</i> , 2022 , 135, 111037	2.9	0
25	In vivo microCT-based time-lapse morphometry reveals anatomical site-specific differences in bone (re)modeling serving as baseline parameters to detect early pathological events.. <i>Bone</i> , 2022 , 116432	4.7	0
24	A4.7 T and B cells participate in bone repair by infiltrating the fracture callus in a two-wave fashion. <i>Annals of the Rheumatic Diseases</i> , 2015 , 74, A39.1-A39	2.4	
23	5.18 Endogenous Strategies in Tissue Engineering 2017 , 329-342		
22	Local drug delivery by personalized, intraoperative custom-made implant coating. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2013 , 101, 950-63	3.5	
21	ACL Deficient Patients With Passive Knee Joint Instability Overcompensate During Active Movements. <i>Arthroscopy - Journal of Arthroscopic and Related Surgery</i> , 2013 , 29, e181-e182	5.4	
20	OP0105 Accumulation of CD34+ hematopoietic stem cells in the initial inflammatory human fracture hematoma is driven by rantes and eotaxin. <i>Annals of the Rheumatic Diseases</i> , 2013 , 71, 88.2-88	2.4	
19	Reproducibility of a functional approach to gait analysis. <i>Gait and Posture</i> , 2009 , 30, S34-S35	2.6	

18	Locking strength of Morse tapers used for modular segmental bone defect replacement prostheses. <i>Bio-Medical Materials and Engineering</i> , 1997 , 7, 277-284	1
17	Can physiological loading of the proximal femur be reproduced with conservative hip implants?. <i>Journal of Biomechanics</i> , 2006 , 39, S126	2.9
16	Verbesserung der knöchernen Integration von Schanz-Schrauben durch eine Poly(D,L-laktid) Beschichtung. <i>Materialwissenschaft Und Werkstofftechnik</i> , 2004 , 35, 192-197	0.9
15	Fracture Gap Movement as a Function of Musculo-Skeletal Loading Conditions During Gait 1999 , 187-198	
14	Simulation of Cell Differentiation in Fracture Healing-Mechanically Loaded Composite Scaffolds in a Novel Bioreactor System. <i>Tissue Engineering</i> , 2006 , 060118075515006	
13	Simulation of Cell Differentiation in Fracture Healing-Mechanically Loaded Composite Scaffolds in a Novel Bioreactor System. <i>Tissue Engineering</i> , 2006 , 060127071904004	
12	Simulation of Cell Differentiation in Fracture Healing-Mechanically Loaded Composite Scaffolds in a Novel Bioreactor System. <i>Tissue Engineering</i> , 2006 , 060207125535001	
11	Dynamic Knee Joint Line Orientation Is Not Predictive of Tibio-Femoral Load Distribution During Walking. <i>Frontiers in Bioengineering and Biotechnology</i> , 2021 , 9, 754715	5.8
10	Knieendoprothetik: Biomechanik des Kniegelenks. <i>Springer Reference Medizin</i> , 2021 , 1-18	0
9	Load, Alignment, and Wear 2020 , 19-26	
8	Zfp521 controls bone mass by HDAC3-dependent attenuation of Runx2 activity. <i>Journal of Experimental Medicine</i> , 2011 , 208, i1-i1	16.6
7	Constraints to Articular Cartilage Regeneration 2013 , 1065-1099	
6	A double-layer patch design for local and controlled drug delivery as an intraoperative custom-made implant-coating technology. <i>Journal of Applied Biomaterials and Functional Materials</i> , 2016 , 14, e143-53	1.8
5	Loading of the Knee Joint After Total Knee Arthroplasty 2022 , 65-76	
4	Overstretching Expectations May Endanger the Success of the "Millennium Surgery".. <i>Frontiers in Bioengineering and Biotechnology</i> , 2022 , 10, 789629	5.8
3	The Recovery of Weight-Bearing Symmetry After Total Hip Arthroplasty Is Activity-Dependent.. <i>Frontiers in Bioengineering and Biotechnology</i> , 2022 , 10, 813345	5.8
2	The Degradation of Synthetic Polymeric Scaffolds With Strut-like Architecture Influences the Mechanics-dependent Repair Process of an Osteochondral Defect .. <i>Frontiers in Bioengineering and Biotechnology</i> , 2022 , 10, 846665	5.8
1	A Comparison of Solvent-Based Extraction Methods to Assess the Central Carbon Metabolites in Mouse Bone and Muscle. <i>Metabolites</i> , 2022 , 12, 453	5.6

