Clinton T Rubin

List of Publications by Year
in descending order

130 papers	13,916 citations	19657 61 h-index	20961 115 g-index
133 all docs	133 docs citations	133 times ranked	8175 citing authors

#	Article	IF	Citations
1	Exercise to Mend Aged-tissue Crosstalk in Bone Targeting Osteoporosis & Osteoarthritis. Seminars in Cell and Developmental Biology, 2022, 123, 22-35.	5.0	14
2	The effect of low-intensity whole-body vibration with or without high-intensity resistance and impact training on risk factors for proximal femur fragility fracture in postmenopausal women with low bone mass: study protocol for the VIBMOR randomized controlled trial. Trials, 2022, 23, 15.	1.6	1
3	Mechanisms of exercise effects on bone quantity and quality. , 2020, , 1759-1784.		2
4	Postural Stability in Obese Preoperative Bariatric Patients Using Static and Dynamic Evaluation. Obesity Facts, 2020, 13, 499-513.	3.4	12
5	Mechanical suppression of breast cancer cell invasion and paracrine signaling to osteoclasts requires nucleo-cytoskeletal connectivity. Bone Research, 2020, 8, 40.	11.4	16
6	Quantitative ultrasound imaging monitoring progressive disuse osteopenia and mechanical stimulation mitigation in calcaneus region through a 90-day bed rest human study. Journal of Orthopaedic Translation, 2019, 18, 48-58.	3.9	13
7	Combating osteoporosis and obesity with exercise: leveraging cell mechanosensitivity. Nature Reviews Endocrinology, 2019, 15, 339-355.	9.6	140
8	Lowâ€intensity vibration increases cartilage thickness in obese mice. Journal of Orthopaedic Research, 2018, 36, 751-759.	2.3	7
9	Marrow Adiposity and Hematopoiesis in Aging and Obesity: Exercise as an Intervention. Current Osteoporosis Reports, 2018, 16, 105-115.	3.6	23
10	Exercise Decreases Marrow Adipose Tissue Through ÃŸ-Oxidation in Obese Running Mice. Journal of Bone and Mineral Research, 2017, 32, 1692-1702.	2.8	78
11	Incorporating Refractory Period in Mechanical Stimulation Mitigates Obesityâ€Induced Adipose Tissue Dysfunction in Adult Mice. Obesity, 2017, 25, 1745-1753.	3.0	18
12	Mechanical signals protect stem cell lineage selection, preserving the bone and muscle phenotypes in obesity. Annals of the New York Academy of Sciences, 2017, 1409, 33-50.	3.8	9
13	The Efficacy of Low-intensity Vibration to Improve Bone Health in Patients with End-stage Renal Disease Is Highly Dependent on Compliance and Muscle Response. Academic Radiology, 2017, 24, 1332-1342.	2.5	16
14	Effect of Low-Magnitude Mechanical Stimuli on Bone Density and Structure in Pediatric Crohn's Disease: A Randomized Placebo-Controlled Trial. Journal of Bone and Mineral Research, 2016, 31, 1177-1188.	2.8	32
15	Cell Mechanosensitivity Is Enabled by the LINC Nuclear Complex. Current Molecular Biology Reports, 2016, 2, 36-47.	1.6	41
16	Low intensity vibration mitigates tumor progression and protects bone quantity and quality in a murine model of myeloma. Bone, 2016, 90, 69-79.	2.9	38
17	Associations of Computed Tomography-Based Trunk Muscle Size and Density With Balance and Falls in Older Adults. Journals of Gerontology - Series A Biological Sciences and Medical Sciences, 2016, 71, 811-816.	3.6	50
18	Low-Magnitude Mechanical Stimulation to Improve Bone Density in Persons of Advanced Age: A Randomized, Placebo-Controlled Trial. Journal of Bone and Mineral Research, 2015, 30, 1319-1328.	2.8	48

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19	Osteoporosis. Evolution, Medicine and Public Health, 2015, 2015, 343-343.	2.5	10
20	Cell Mechanosensitivity to Extremely Low-Magnitude Signals Is Enabled by a LINCed Nucleus. Stem Cells, 2015, 33, 2063-2076.	3.2	122
21	Diminished satellite cells and elevated adipogenic gene expression in muscle as caused by ovariectomy are averted by low-magnitude mechanical signals. Journal of Applied Physiology, 2015, 119, 27-36.	2.5	19
22	Exercise Regulation of Marrow Fat in the Setting of PPARÎ³ Agonist Treatment in Female C57BL/6 Mice. Endocrinology, 2015, 156, 2753-2761.	2.8	52
23	Focal enhancement of the skeleton to exercise correlates to mesenchymal stem cell responsivity rather than peak external forces. Journal of Experimental Biology, 2015, 218, 3002-9.	1.7	34
24	High Fat Diet Rapidly Suppresses B Lymphopoiesis by Disrupting the Supportive Capacity of the Bone Marrow Niche. PLoS ONE, 2014, 9, e90639.	2.5	65
25	Obesity-driven disruption of haematopoiesis and the bone marrow niche. Nature Reviews Endocrinology, 2014, 10, 737-748.	9.6	104
26	Consequences of irradiation on bone and marrow phenotypes, and its relation to disruption of hematopoietic precursors. Bone, 2014, 63, 87-94.	2.9	100
27	Bone marrow fat accumulation accelerated by high fat diet is suppressed by exercise. Bone, 2014, 64, 39-46.	2.9	124
28	Enhancement of neuromuscular dynamics and strength behavior using extremely low magnitude mechanical signals in mice. Journal of Biomechanics, 2014, 47, 162-167.	2.1	18
29	The Potential Benefits and Inherent Risks of Vibration as a Non-Drug Therapy for the Prevention and Treatment of Osteoporosis. Current Osteoporosis Reports, 2013, 11, 36-44.	3.6	56
30	Safety and severity of accelerations delivered from whole body vibration exercise devices to standing adults. Journal of Science and Medicine in Sport, 2013, 16, 526-531.	1.3	69
31	The mechanical consequences of load bearing in the equine third metacarpal across speed and gait: the nonuniform distributions of normal strain, shear strain, and strain energy density. FASEB Journal, 2013, 27, 1887-1894.	0.5	21
32	Altered Composition of Bone as Triggered by Irradiation Facilitates the Rapid Erosion of the Matrix by Both Cellular and Physicochemical Processes. PLoS ONE, 2013, 8, e64952.	2.5	39
33	Dynamic Parameters of Balance Which Correlate to Elderly Persons with a History of Falls. PLoS ONE, 2013, 8, e70566.	2.5	60
34	Low magnitude mechanical signals mitigate osteopenia without compromising longevity in an aged murine model of spontaneous granulosa cell ovarian cancer. Bone, 2012, 51, 570-577.	2.9	38
35	Mechanical regulation of signaling pathways in bone. Gene, 2012, 503, 179-193.	2.2	334
36	Bone structure and Bâ€cell populations, crippled by obesity, are partially rescued by brief daily exposure to lowâ€magnitude mechanical signals. FASEB Journal, 2012, 26, 4855-4863.	0.5	56

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37	Separating Fluid Shear Stress from Acceleration during Vibrations In Vitro: Identification of Mechanical Signals Modulating the Cellular Response. Cellular and Molecular Bioengineering, 2012, 5, 266-276.	2.1	45
38	Devastation of adult stem cell pools by irradiation precedes collapse of trabecular bone quality and quantity. Journal of Bone and Mineral Research, 2012, 27, 749-759.	2.8	84
39	Postural instability caused by extended bed rest is alleviated by brief daily exposure to low magnitude mechanical signals. Gait and Posture, 2011, 33, 429-435.	1.4	49
40	Brief daily exposure to low-intensity vibration mitigates the degradation of the intervertebral disc in a frequency-specific manner. Journal of Applied Physiology, 2011, 111, 1846-1853.	2.5	37
41	Mechanically Induced Focal Adhesion Assembly Amplifies Anti-Adipogenic Pathways in Mesenchymal Stem Cells. Stem Cells, 2011, 29, 1829-1836.	3.2	71
42	Mechanical signal influence on mesenchymal stem cell fate is enhanced by incorporation of refractory periods into the loading regimen. Journal of Biomechanics, 2011, 44, 593-599.	2.1	140
43	Transmission of low-intensity vibration through the axial skeleton of persons with spinal cord injury as a potential intervention for preservation of bone quantity and quality. Journal of Spinal Cord Medicine, 2011, 34, 52-59.	1.4	28
44	Insights from the conduct of a device trial in older persons: low magnitude mechanical stimulation for musculoskeletal health. Clinical Trials, 2010, 7, 354-367.	1.6	19
45	Mechanical signals as anabolic agents in bone. Nature Reviews Rheumatology, 2010, 6, 50-59.	8.0	368
46	Low-Level Vibrations Retain Bone Marrow's Osteogenic Potential and Augment Recovery of Trabecular Bone during Reambulation. PLoS ONE, 2010, 5, e11178.	2.5	100
47	Mechanical Loading Regulates NFATc1 and Î²-Catenin Signaling through a GSK3Î² Control Node. Journal of Biological Chemistry, 2009, 284, 34607-34617.	3.4	125
48	Mechanical signals as a non-invasive means to influence mesenchymal stem cell fate, promoting bone and suppressing the fat phenotype. IBMS BoneKEy, 2009, 6, 132-149.	0.0	28
49	Low magnitude and high frequency mechanical loading prevents decreased bone formation responses of 2T3 preosteoblasts. Journal of Cellular Biochemistry, 2009, 106, 306-316.	2.6	44
50	Lowâ€magnitude highâ€frequency mechanical signals accelerate and augment endochondral bone repair: Preliminary evidence of efficacy. Journal of Orthopaedic Research, 2009, 27, 922-930.	2.3	82
51	Automated Separation of Visceral and Subcutaneous Adiposity in In Vivo Microcomputed Tomographies of Mice. Journal of Digital Imaging, 2009, 22, 222-231.	2.9	24
52	Mechanical Stimulation of Mesenchymal Stem Cell Proliferation and Differentiation Promotes Osteogenesis While Preventing Dietary-Induced Obesity. Journal of Bone and Mineral Research, 2009, 24, 50-61.	2.8	232
53	Short applications of very low-magnitude vibrations attenuate expansion of the intervertebral disc during extended bed rest. Spine Journal, 2009, 9, 470-477.	1.3	63
54	The Lipogenic Gene Spot 14 is Activated in Bone by Disuse yet Remains Unaffected by a Mechanical Signal Anabolic to the Skeleton. Calcified Tissue International, 2008, 82, 148-154.	3.1	4

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55	Evaluation of trabecular mechanical and microstructural properties in human calcaneal bone of advanced age using mechanical testing, Î¼CT, and DXA. Journal of Biomechanics, 2008, 41, 368-375.	2.1	52
56	Functional Adaptation to Loading of a Single Bone Is Neuronally Regulated and Involves Multiple Bones. Journal of Bone and Mineral Research, 2008, 23, 1369-1371.	2.8	36
57	Enhancement of the adolescent murine musculoskeletal system using low-level mechanical vibrations. Journal of Applied Physiology, 2008, 104, 1056-1062.	2.5	135
58	Mechanical Strain Inhibits Adipogenesis in Mesenchymal Stem Cells by Stimulating a Durable Î²-Catenin Signal. Endocrinology, 2008, 149, 6065-6075.	2.8	257
59	High-Resolution Imaging of Organs and Tissues by in vivo Micro-Computed Tomography. , 2008, , 313-330.		0
60	Mechanical vibrations reduce the Intervertebral Disc swelling and muscle atrophy from Bed Rest. , 2007, , .		2
61	Small Oscillatory Accelerations, Independent of Matrix Deformations, Increase Osteoblast Activity and Enhance Bone Morphology. PLoS ONE, 2007, 2, e653.	2.5	65
62	Low-level accelerations applied in the absence of weight bearing can enhance trabecular bone formation. Journal of Orthopaedic Research, 2007, 25, 732-740.	2.3	136
63	Low-magnitude mechanical signals that stimulate bone formation in the ovariectomized rat are dependent on the applied frequency but not on the strain magnitude. Journal of Biomechanics, 2007, 40, 1333-1339.	2.1	251
64	Molecular pathways mediating mechanical signaling in bone. Gene, 2006, 367, 1-16.	2.2	406
65	Low-level mechanical vibrations can influence bone resorption and bone formation in the growing skeleton. Bone, 2006, 39, 1059-1066.	2.9	218
66	Low-Level, High-Frequency Mechanical Signals Enhance Musculoskeletal Development of Young Women With Low BMD. Journal of Bone and Mineral Research, 2006, 21, 1464-1474.	2.8	299
67	Low-level mechanical signals and their potential as a non-pharmacological intervention for osteoporosis. Age and Ageing, 2006, 35, ii32-ii36.	1.6	91
68	High-frequency, low-magnitude vibrations suppress the number of blood vessels per muscle fiber in mouse soleus muscle. Journal of Applied Physiology, 2005, 98, 2376-2380.	2.5	44
69	Interrelationship of trabecular mechanical and microstructural properties in sheep trabecular bone. Journal of Biomechanics, 2005, 38, 1229-1237.	2.1	158
70	Mechanical modulation of molecular signals which regulate anabolic and catabolic activity in bone tissue. Journal of Cellular Biochemistry, 2005, 94, 982-994.	2.6	54
71	MECHANOTRANSDUCTION AND ITS ROLE IN BONE ADAPTATION. , 2005, , 365-411.		2
72	Gene expression patterns in bone after 4 days of hind-limb unloading in two inbred strains of mice. Aviation, Space, and Environmental Medicine, 2005, 76, 530-5.	0.5	9

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73	Genetically Based Influences on the Site-Specific Regulation of Trabecular and Cortical Bone Morphology. Journal of Bone and Mineral Research, 2004, 19, 600-606.	2.8	127
74	Genetically Linked Site-Specificity of Disuse Osteoporosis. Journal of Bone and Mineral Research, 2004, 19, 607-613.	2.8	110
75	Low Magnitude Mechanical Loading Is Osteogenic in Children With Disabling Conditions. Journal of Bone and Mineral Research, 2004, 19, 360-369.	2.8	353
76	Establishing the compliance in elderly women for use of a low level mechanical stress device in a clinical osteoporosis study. Osteoporosis International, 2004, 15, 918-926.	3.1	28
77	Genetic variations that regulate bone morphology in the male mouse skeleton do not define its susceptibility to mechanical unloading. Bone, 2004, 35, 1353-1360.	2.9	47
78	Prevention of Postmenopausal Bone Loss by a Low-Magnitude, High-Frequency Mechanical Stimuli: A Clinical Trial Assessing Compliance, Efficacy, and Safety. Journal of Bone and Mineral Research, 2003, 19, 343-351.	2.8	457
79	Combining high-resolution micro-computed tomography with material composition to define the quality of bone tissue. Current Osteoporosis Reports, 2003, 1, 11-19.	3.6	76
80	Fluid pressure gradients, arising from oscillations in intramedullary pressure, is correlated with the formation of bone and inhibition of intracortical porosity. Journal of Biomechanics, 2003, 36, 1427-1437.	2.1	191
81	Adaptations of Trabecular Bone to Low Magnitude Vibrations Result in More Uniform Stress and Strain Under Load. Annals of Biomedical Engineering, 2003, 31, 12-20.	2.5	84
82	Transmissibility of 15-Hertz to 35-Hertz Vibrations to the Human Hip and Lumbar Spine: Determining the Physiologic Feasibility of Delivering Low-Level Anabolic Mechanical Stimuli to Skeletal Regions at Greatest Risk of Fracture Because of Osteoporosis. Spine, 2003, 28, 2621-2627.	2.0	178
83	Genetic predisposition to low bone mass is paralleled by an enhanced sensitivity to signals anabolic to the skeleton. FASEB Journal, 2002, 16, 1280-1282.	0.5	138
84	Transcriptional Profiling of Bone Regeneration. Journal of Biological Chemistry, 2002, 277, 30177-30182.	3.4	230
85	Proline-rich transcript of the brain (prtb) is a serum-responsive gene in osteoblasts and upregulated during adhesion. Journal of Cellular Biochemistry, 2002, 84, 301-308.	2.6	15
86	Quantity and Quality of Trabecular Bone in the Femur Are Enhanced by a Strongly Anabolic, Noninvasive Mechanical Intervention. Journal of Bone and Mineral Research, 2002, 17, 349-357.	2.8	266
87	The Pathway of Bone Fluid Flow as Defined by In Vivo Intramedullary Pressure and Streaming Potential Measurements. Annals of Biomedical Engineering, 2002, 30, 693-702.	2.5	89
88	Differential Phosphorylation of Paxillin in Response to Surface-Bound Serum Proteins during Early Osteoblast Adhesion. Biochemical and Biophysical Research Communications, 2001, 285, 355-363.	2.1	19
89	Patterns of strain in the macaque tibia during functional activity. American Journal of Physical Anthropology, 2001, 116, 257-265.	2.1	135
90	Differential Expression of Neuroleukin in Osseous Tissues and Its Involvement in Mineralization During Osteoblast Differentiation. Journal of Bone and Mineral Research, 2001, 16, 1994-2004.	2.8	29

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91	Ultrasonic Wave Propagation in Trabecular Bone Predicted by the Stratified Model. Annals of Biomedical Engineering, 2001, 29, 781-790.	2.5	30
92	Low mechanical signals strengthen long bones. Nature, 2001, 412, 603-604.	27.8	647
93	Inhibition of osteopenia by low magnitude, high-frequency mechanical stimuli. Drug Discovery Today, 2001, 6, 848-858.	6.4	129
94	The anabolic activity of bone tissue, suppressed by disuse, is normalized by brief exposure to extremely lowâ€magnitude mechanical stimuli. FASEB Journal, 2001, 15, 2225-2229.	0.5	251
95	Quantifying the strain history of bone: spatial uniformity and self-similarity of low-magnitude strains. Journal of Biomechanics, 2000, 33, 317-325.	2.1	334
96	Temporal Expression of the Chondrogenic and Angiogenic Growth Factor CYR61 During Fracture Repair. Journal of Bone and Mineral Research, 2000, 15, 1014-1023.	2.8	100
97	Increased expression of matrix metalloproteinase-1 in osteocytes precedes bone resorption as stimulated by disuse: Evidence for autoregulation of the cell's mechanical environment?. Journal of Orthopaedic Research, 1999, 17, 354-361.	2.3	25
98	Mechanically induced calcium waves in articular chondrocytes are inhibited by gadolinium and amiloride. Journal of Orthopaedic Research, 1999, 17, 421-429.	2.3	139
99	Patterns of strain in the macaque ulna during functional activity. American Journal of Physical Anthropology, 1998, 106, 87-100.	2.1	117
100	Nonlinear dependence of loading intensity and cycle number in the maintenance of bone mass and morphology. Journal of Orthopaedic Research, 1998, 16, 482-489.	2.3	198
101	Cloning of a Novel cDNA Expressed during the Early Stages of Fracture Healing. Biochemical and Biophysical Research Communications, 1998, 249, 879-884.	2.1	21
102	Skeletal Cell Stresses and Bone Adaptation. American Journal of the Medical Sciences, 1998, 316, 176-183.	1.1	36
103	Strain Gradients Correlate with Sites of Periosteal Bone Formation. Journal of Bone and Mineral Research, 1997, 12, 982-988.	2.8	203
104	Whole-body vibration in the skeleton: Development of a resonance-based testing device. Annals of Biomedical Engineering, 1997, 25, 831-839.	2.5	55
105	Pressure regulates osteoclast formation and MCSF expression in marrow culture. Journal of Cellular Physiology, 1997, 170, 81-87.	4.1	93
106	Testing the daily stress stimulus theory of bone adaptation with natural and experimentally controlled strain histories. Journal of Biomechanics, 1997, 30, 671-678.	2.1	62
107	Experimental Colitis Impairs Linear Bone Growth Independent of Nutritional Factors. Journal of Pediatric Gastroenterology and Nutrition, 1997, 25, 137-141.	1.8	36
108	Formation of osteoclast-like cells is suppressed by low frequency, low intensity electric fields. Journal of Orthopaedic Research, 1996, 14, 7-15.	2.3	48

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109	Correlation of bony ingrowth to the distribution of stress and strain parameters surrounding a porous-coated implant. Journal of Orthopaedic Research, 1996, 14, 862-870.	2.3	39
110	Effects of anisotropy and material axis registration on computed stress and strain distributions in the Turkey ulna. Journal of Biomechanics, 1996, 29, 261-267.	2.1	18
111	Gap Junctional Intercellular Communication Contributes to Hormonal Responsiveness in Osteoblastic Networks. Journal of Biological Chemistry, 1996, 271, 12165-12171.	3.4	107
112	Differentiation of the Bone-Tissue Remodeling Response to Axial and Torsional Loading in the Turkey Ulna*â€. Journal of Bone and Joint Surgery - Series A, 1996, 78, 1523-33.	3.0	111
113	Three-dimensional geometric and structural symmetry of the turkey ulna. Journal of Orthopaedic Research, 1995, 13, 690-699.	2.3	10
114	Uniformity of resorptive bone loss induced by disuse. Journal of Orthopaedic Research, 1995, 13, 708-714.	2.3	77
115	Electromagnetic fields in bone repair and adaptation. Radio Science, 1995, 30, 233-244.	1.6	19
116	Morphologie stages in lamellar bone formation stimulated by a potent mechanical stimulus. Journal of Bone and Mineral Research, 1995, 10, 488-495.	2.8	90
117	Chondrocytes isolated from mature articular cartilage retain the capacity to form functional gap junctions. Journal of Bone and Mineral Research, 1995, 10, 1359-1364.	2.8	66
118	Electric fields modulate bone cell function in a density-dependent manner. Journal of Bone and Mineral Research, 1993, 8, 977-984.	2.8	75
119	Suppression of the osteogenic response in the aging skeleton. Calcified Tissue International, 1992, 50, 306-313.	3.1	232
120	Regulation of cytoplasmic calcium concentration in tetracycline-treated osteoclasts. Journal of Bone and Mineral Research, 1992, 7, 1313-1318.	2.8	27
121	Frequency specific modulation of bone adaptation by induced electric fields. Journal of Theoretical Biology, 1990, 145, 385-396.	1.7	58
122	A reduced-modulus acrylic bone cement: Preliminary results. Journal of Orthopaedic Research, 1990, 8, 623-626.	2.3	27
123	Cement Line Staining in Undecalcified Thin Sections of Cortical Bone. Biotechnic & Histochemistry, 1990, 65, 159-163.	0.4	27
124	Toward an identification of mechanical parameters initiating periosteal remodeling: A combined experimental and analytic approach. Journal of Biomechanics, 1990, 23, 893-905.	2.1	131
125	Metabolic modulation of disuse osteopenia: Endocrine-dependent site specificity of bone remodeling. Journal of Bone and Mineral Research, 1990, 5, 1069-1075.	2.8	34
126	Ultrasonic measurement of immobilization-induced osteopenia: An experimental study in sheep. Calcified Tissue International, 1988, 42, 309-312.	3.1	35

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127	Osteoregulatory nature of mechanical stimuli: Function as a determinant for adaptive remodeling in bone. Journal of Orthopaedic Research, 1987, 5, 300-310.	2.3	466
128	Regulation of bone mass by mechanical strain magnitude. Calcified Tissue International, 1985, 37, 411-417.	3.1	1,138
129	Dynamic strain similarity in vertebrates; an alternative to allometric limb bone scaling. Journal of Theoretical Biology, 1984, 107, 321-327.	1.7	393
130	Chapter 46. Exercise and the Prevention of Osteoporosis. , 0, , 227-231.		1