A Universal Model of the Lumbar Back Muscles in the U

Spine

17, 897-913

DOI: 10.1097/00007632-199208000-00007

Citation Report

#	Article	IF	Citations
1	Clinical Biomechanics of the Spine. , 1992, , 31-45.		2
2	THE AXIAL TORQUE OF THE LUMBAR BACK MUSCLES: TORSION STRENGTH OF THE BACK MUSCLES. ANZ Journal of Surgery, 1993, 63, 205-212.	0.3	28
3	Passive tissues help the back muscles to generate extensor moments during lifting. Journal of Biomechanics, 1994, 27, 1077-1085.	0.9	127
4	EMG study of erector spinae and multifidus in two isometric back extension exercises. Australian Journal of Physiotherapy, 1994, 40, 115-121.	0.9	31
5	On the validity of mathematical modelling of the spine. Clinical Biomechanics, 1994, 9, 325-326.	0.5	0
6	Role of muscles in lumbar spine stability in maximum extension efforts. Journal of Orthopaedic Research, 1995, 13, 802-808.	1.2	174
7	Lumbar spine maximum efforts and muscle recruitment patterns predicted by a model with multijoint muscles and joints with stiffness. Journal of Biomechanics, 1995, 28, 173-186.	0.9	141
8	Prediction of thoracic and lumbar vertebral body compressive strength: correlations with bone mineral density and vertebral region. Bone, 1995, 17, 167-174.	1.4	164
9	The effects of muscle length and force output on the EMG power spectrum of the erector spinae. Journal of Electromyography and Kinesiology, 1996, 6, 159-168.	0.7	65
10	Mechanical stability of the in vivo lumbar spine: implications for injury and chronic low back pain. Clinical Biomechanics, 1996, 11, 1-15.	0.5	899
11	Effects of Muscle Dysfunction on Lumbar Spine Mechanics. Spine, 1996, 21, 2197-2206.	1.0	50
12	Influence of varying muscle forces on lumbar intradiscal pressure: An in vitro study. Journal of Biomechanics, 1996, 29, 549-555.	0.9	69
13	Modelling the muscles of the scapula morphometric and coordinate data and functional implications. Journal of Biomechanics, 1996, 29, 1039-1051.	0.9	84
14	Study of the course of the incidence angle during growth. European Spine Journal, 1997, 6, 163-167.	1.0	151
15	Muscle fibre size and type distribution in thoracic and lumbar regions of erector spinae in healthy subjects without low back pain: normal values and sex differences. Journal of Anatomy, 1997, 190, 505-513.	0.9	200
16	Differences in low back load between kneeling and seated working at ground level. Applied Ergonomics, 1997, 28, 355-363.	1.7	21
17	Are recruitment patterns of the trunk musculature compatible with a synergy based on the maximization of endurance?. Journal of Biomechanics, 1997, 30, 1095-1100.	0.9	72
18	Low back pain (LBP) and lifting technique â€" A review. International Journal of Industrial Ergonomics, 1997, 19, 59-74.	1.5	69

#	Article	IF	Citations
19	Focal atrophy of the multifidus muscle in lumbosacral radiculopathy. , 1998, 21, 1350-1353.		59
20	The morphology and biomechanics of latissimus dorsi. Clinical Biomechanics, 1998, 13, 377-385.	0.5	111
21	Prediction of Biomechanical Parameters in the Lumbar Spine During Static Sagittal Plane Lifting. Journal of Biomechanical Engineering, 1998, 120, 273-280.	0.6	25
22	Segmental Instability of the Lumbar Spine. Physical Therapy, 1998, 78, 889-896.	1.1	89
23	Lumbar Lordosis Measurement. Spine, 1998, 23, 74-79.	1.0	86
24	The Effects of Abdominal Muscle Coactivation on Lumbar Spine Stability. Spine, 1998, 23, 86-91.	1.0	279
25	Sensitivity of single-equivalent trunk extensor muscle models to anatomical and functional assumptions. Journal of Biomechanics, 1999, 32, 195-198.	0.9	45
26	Quantitative anatomy of the lumbar musculature. Journal of Biomechanics, 1999, 32, 311-316.	0.9	142
27	Is there a role for transversus abdominis in lumbo-pelvic stability?. Manual Therapy, 1999, 4, 74-86.	1.6	329
28	Fibre type characteristics and function of the human paraspinal muscles: normal values and changes in association with low back pain. Journal of Electromyography and Kinesiology, 1999, 9, 363-377.	0.7	140
29	Difficulties in Estimating Muscle Forces From Muscle Cross-Sectional Area. Spine, 1999, 24, 1487.	1.0	16
30	The Visible Human Anatomy of the Lumbar Erector Spinae. Spine, 2000, 25, 2719-2725.	1.0	31
31	Estimation of muscle forces in the lumbar spine during upper-body inclination. Clinical Biomechanics, 2001, 16, S73-S80.	0.5	119
32	Architecture of the rectus abdominis, quadratus lumborum, and erector spinae. Journal of Biomechanics, 2001, 34, 371-375.	0.9	92
33	A FINITE ELEMENT MODEL STUDY ON THE ROLE OF TRUNK MUSCLES IN GENERATING INTRA-ABDOMINAL PRESSURE. Biomedical Engineering - Applications, Basis and Communications, 2001, 13, 181-189.	0.3	18
34	Deep and Superficial Fibers of the Lumbar Multifidus Muscle Are Differentially Active During Voluntary Arm Movements. Spine, 2002, 27, E29-E36.	1.0	320
35	Distributed Body Weight Over the Whole Spine for Improved Inference in Spine Modelling. Computer Methods in Biomechanics and Biomedical Engineering, 2002, 5, 81-89.	0.9	4
36	Paraspinal denervation and the spinal degenerative cascade. Spine Journal, 2002, 2, 372-380.	0.6	43

#	Article	IF	Citations
37	Sensorimotor control of the spine. Journal of Electromyography and Kinesiology, 2002, 12, 219-234.	0.7	115
38	Influence of graded facetectomy and laminectomy on spinal biomechanics. European Spine Journal, 2003, 12, 427-434.	1.0	135
39	The mechanics of back-extensor torque production about the lumbar spine. Journal of Biomechanics, 2003, 36, 815-825.	0.9	75
41	The Effect of Comprehensive Group Training on Cross-sectional Area, Density, and Strength of Paraspinal Muscles in Patients Sick-Listed for Subacute Low Back Pain. Journal of Spinal Disorders and Techniques, 2003, 16, 271-279.	1.8	66
42	ISSLS Prize Winner: A Novel Approach to Determine Trunk Muscle Forces During Flexion and Extension. Spine, 2003, 28, 2585-2593.	1.0	97
43	Muscle Activity, Internal Loads, and Stability of the Human Spine in Standing Postures: Combined Model and In Vivo Studies. Spine, 2004, 29, 2633-2642.	1.0	125
44	Biomechanics of Changes in Lumbar Posture in Static Lifting. Spine, 2005, 30, 2637-2648.	1.0	129
45	Effect of Total Disc Replacement with ProDisc on Intersegmental Rotation of the Lumbar Spine. Spine, 2005, 30, 738-743.	1.0	102
46	The influence of non-specific low back pain on pressure pain thresholds and disability. European Journal of Pain, 2005, 9, 375-375.	1.4	89
47	Size and shape of the posterior neck muscles measured by ultrasound imaging: normal values in males and females of different ages. Manual Therapy, 2005, 10, 108-115.	1.6	97
48	Ultrasound imaging of lumbar multifidus muscle: normal reference ranges for measurements and practical guidance on the technique. Manual Therapy, 2005, 10, 116-126.	1.6	179
49	Anterior thoracic posture increases thoracolumbar disc loading. European Spine Journal, 2005, 14, 234-242.	1.0	49
50	Spinal muscle forces, internal loads and stability in standing under various postures and loadsâ€"application of kinematics-based algorithm. European Spine Journal, 2005, 14, 381-392.	1.0	71
51	Comparison of the biomechanical effects of posterior and anterior spine-stabilizing implants. European Spine Journal, 2005, 14, 445-453.	1.0	43
52	Viscoelastic Responses of the Lumbar Spine during Prolonged Stooping. Proceedings of the Human Factors and Ergonomics Society, 2005, 49, 1269-1273.	0.2	7
53	Effect of load position on muscle forces, internal loads and stability of the human spine in upright postures. Computer Methods in Biomechanics and Biomedical Engineering, 2005, 8, 359-368.	0.9	25
54	Muscle reflex classification of low-back pain. Journal of Electromyography and Kinesiology, 2005, 15, 53-60.	0.7	91
55	Wrapping of trunk thoracic extensor muscles influences muscle forces and spinal loads in lifting tasks. Clinical Biomechanics, 2006, 21, 668-675.	0.5	69

#	Article	IF	Citations
56	Muscle activation imbalance and low-back injury in varsity athletes. Journal of Electromyography and Kinesiology, 2006, 16, 264-272.	0.7	52
57	Anatomy and Biomechanics of the Back Muscles in the Lumbar Spine With Reference to Biomechanical Modeling. Spine, 2006, 31, 1888-1899.	1.0	166
58	Evaluation of the Flexion Relaxation Phenomenon of the Trunk Muscles in Sitting. Spine, 2006, 31, 2009-2016.	1.0	80
59	Relationship Between Low Back Pain and Lumbar Multifidus Size at Different Postures. Spine, 2006, 31, 2258-2262.	1.0	54
60	Rapid Atrophy of the Lumbar Multifidus Follows Experimental Disc or Nerve Root Injury. Spine, 2006, 31, 2926-2933.	1.0	315
61	Model and in vivo studies on human trunk load partitioning and stability in isometric forward flexions. Journal of Biomechanics, 2006, 39, 510-521.	0.9	155
62	Determination of trunk muscle forces for flexion and extension by using a validated finite element model of the lumbar spine and measured in vivo data. Journal of Biomechanics, 2006, 39, 981-989.	0.9	140
63	Sensitivity of kinematics-based model predictions to optimization criteria in static lifting tasks. Medical Engineering and Physics, 2006, 28, 504-514.	0.8	79
64	Role of intra-abdominal pressure in the unloading and stabilization of the human spine during static lifting tasks. European Spine Journal, 2006, 15, 1265-1275.	1.0	71
65	The lumbar multifidus: Does the evidence support clinical beliefs?. Manual Therapy, 2006, 11, 254-263.	1.6	238
66	Rehabilitative Ultrasound Imaging of the Posterior Paraspinal Muscles. Journal of Orthopaedic and Sports Physical Therapy, 2007, 37, 581-595.	1.7	140
67	Increase of load-carrying capacity under follower load generated by trunk muscles in lumbar spine. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2007, 221, 229-235.	1.0	17
68	Effects of EMG processing on biomechanical models of muscle joint systems: Sensitivity of trunk muscle moments, spinal forces, and stability. Journal of Biomechanics, 2007, 40, 900-909.	0.9	60
69	A generic detailed rigid-body lumbar spine model. Journal of Biomechanics, 2007, 40, 1219-1227.	0.9	240
70	Computational modeling of spine and trunk muscles subjected to follower force. Journal of Mechanical Science and Technology, 2007, 21, 568-574.	0.7	4
71	Postural sway at ground and bevel levels in subjects with spina bifida occulta. European Spine Journal, 2007, 16, 759-769.	1.0	5
72	Analysis of squat and stoop dynamic liftings: muscle forces and internal spinal loads. European Spine Journal, 2007, 16, 687-699.	1.0	148
73	Trunk biomechanical models based on equilibrium at a single-level violate equilibrium at other levels. European Spine Journal, 2007, 16, 701-709.	1.0	42

#	Article	IF	Citations
74	The role of quadratus lumborum asymmetry in the occurrence of lesions in the lumbar vertebrae of cricket fast bowlers. Medical Engineering and Physics, 2007, 29, 877-885.	0.8	25
75	Threeâ€dimensional study of the musculotendinous architecture of lumbar multifidus and its functional implications. Clinical Anatomy, 2008, 21, 539-546.	1.5	72
76	The integrated continence system: A manual therapy approach to the treatment of stress urinary incontinence. Manual Therapy, 2008, 13, 375-386.	1.6	27
77	Trunk biomechanics during maximum isometric axial torque exertions in upright standing. Clinical Biomechanics, 2008, 23, 969-978.	0.5	20
78	When exposed to challenged ventilation, those with a history of LBP increase spine stability relatively more than healthy individuals. Clinical Biomechanics, 2008, 23, 1105-1111.	0.5	7
79	Anatomy and biomechanics of quadratus lumborum. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2008, 222, 151-159.	1.0	64
80	Role of Trunk Muscles in Generating Follower Load in the Lumbar Spine of Neutral Standing Posture. Journal of Biomechanical Engineering, 2008, 130, 041005.	0.6	33
81	Model simulation of novel spine for the motion stress analysis with muscle stimulation. , 2008, , .		1
82	Changes in Lumbar Muscle Activity Because of Induced Muscle Pain Evaluated by Muscle Functional Magnetic Resonance Imaging. Spine, 2008, 33, E983-E989.	1.0	49
83	Multi-segment trunk kinematics during a loaded lifting task for elderly and young subjects. Ergonomics, 2009, 52, 222-231.	1.1	15
84	Determining physiological cross-sectional area of extensor carpi radialis longus and brevis as a whole and by regions using 3D computer muscle models created from digitized fiber bundle data. Computer Methods and Programs in Biomedicine, 2009, 95, 203-212.	2.6	29
85	Dynamic responsiveness of lumbar paraspinal muscle spindles during vertebral movement in the cat. Experimental Brain Research, 2009, 197, 369-377.	0.7	13
86	Passive mechanical properties of the lumbar multifidus muscle support its role as a stabilizer. Journal of Biomechanics, 2009, 42, 1384-1389.	0.9	97
87	A novel approach to evaluate abdominal coactivities for optimal spinal stability and compression force in lifting. Computer Methods in Biomechanics and Biomedical Engineering, 2009, 12, 735-745.	0.9	17
88	Comparison of trunk muscle forces and spinal loads estimated by two biomechanical models. Clinical Biomechanics, 2009, 24, 533-541.	0.5	112
89	Why do some patients keep hurting their back? Evidence of ongoing back muscle dysfunction during remission from recurrent back pain. Pain, 2009, 142, 183-188.	2.0	298
90	Different parts of erector spinae muscle fatigability in subjects with and without low back pain. Spine Journal, 2009, 9, 115-120.	0.6	57
91	The Utility of Lumbar Paraspinal Mapping in the Diagnosis of Lumbar Spinal Stenosis. American Journal of Physical Medicine and Rehabilitation, 2009, 88, 843-851.	0.7	36

#	Article	IF	Citations
92	Different Ways to Balance the Spine. Spine, 2009, 34, E208-E214.	1.0	147
93	Position Sensitivity of Feline Paraspinal Muscle Spindles to Vertebral Movement in the Lumbar Spine. Journal of Neurophysiology, 2009, 101, 1722-1729.	0.9	20
94	Architectural Analysis and Intraoperative Measurements Demonstrate the Unique Design of the Multifidus Muscle for Lumbar Spine Stability. Journal of Bone and Joint Surgery - Series A, 2009, 91, 176-185.	1.4	221
95	People With Recurrent Low Back Pain Respond Differently to Trunk Loading Despite Remission From Symptoms. Spine, 2010, 35, 818-824.	1.0	113
96	Scientific Basis of Minimally Invasive Spine Surgery. Spine, 2010, 35, S281-S286.	1.0	147
97	Electromyographic Examination of Selected Muscle Activation During Isometric Core Exercises. Clinical Journal of Sport Medicine, 2010, 20, 452-457.	0.9	33
98	Differentiation between deep and superficial fibers of the lumbar multifidus by magnetic resonance imaging. European Spine Journal, 2010, 19, 122-128.	1.0	32
99	Degenerative lumbar spinal stenosis and lumbar spine configuration. European Spine Journal, 2010, 19, 1865-1873.	1.0	39
100	Morphology and function of the lumbar spine of the Kebara 2 Neandertal. American Journal of Physical Anthropology, 2010, 142, 549-557.	2.1	41
101	A comparative study of two trunk biomechanical models under symmetric and asymmetric loadings. Journal of Biomechanics, 2010, 43, 485-491.	0.9	81
102	Biodynamic Response and Spinal Load Estimation of Seated Body in Vibration Using Finite Element Modeling. Industrial Health, 2010, 48, 557-564.	0.4	22
103	Clinical, Biomechanical, and Physiological Translational Interpretations of Human Resting Myofascial Tone or Tension. International Journal of Therapeutic Massage & Bodywork, 2010, 3, 16-28.	0.1	37
104	Characterisation of trunk muscle activation amplitude patterns during a simulated checkstand operation with continuously changing flexor and lateral moment demands. Ergonomics, 2010, 53, 685-695.	1.1	10
105	Salient aspects of normal function of the torso. , 2010, , 73-151.		0
106	The use of instability to train the core musculature. Applied Physiology, Nutrition and Metabolism, 2010, 35, 91-108.	0.9	217
108	Computational model of the lumbar spine musculature: Implications of spinal surgery. Clinical Biomechanics, 2011, 26, 116-122.	0.5	9
109	Individual fascicles of the paraspinal muscles are activated by discrete cortical networks in humans. Clinical Neurophysiology, 2011, 122, 1580-1587.	0.7	47
110	Minimally Invasive Scoliosis Treatment. , 2011, , 396-407.		1

#	Article	IF	Citations
111	Association between Cross-sectional Areas of Lumbar Muscles on Magnetic Resonance Imaging and Chronicity of Low Back Pain. Annals of Rehabilitation Medicine, 2011, 35, 852.	0.6	44
112	Functional Morphology of the Thoracolumbar Transversospinal Muscles. Spine, 2011, 36, E1053-E1061.	1.0	27
113	Lengthening But Not Shortening History of Paraspinal Muscle Spindles in the Low Back Alters Their Dynamic Sensitivity. Journal of Neurophysiology, 2011, 105, 434-441.	0.9	12
114	An EMG-based model to estimate lumbar muscle forces and spinal loads during complex, high-effort tasks: Development and application to residential construction using prefabricated walls. International Journal of Industrial Ergonomics, 2011, 41, 437-446.	1.5	49
115	A complete, non-lumped, and verifiable set of upper body segment parameters for three-dimensional dynamic modeling. Medical Engineering and Physics, 2011, 33, 70-79.	0.8	23
116	Spinal muscles can create compressive follower loads in the lumbar spine in a neutral standing posture. Medical Engineering and Physics, 2011, 33, 472-478.	0.8	45
117	Predictive equations to estimate spinal loads in symmetric lifting tasks. Journal of Biomechanics, 2011, 44, 84-91.	0.9	71
118	Screening the Lumbopelvic Muscles for a Relationship to Injury of the Quadriceps, Hamstrings, and Adductor Muscles Among Elite Australian Football League Players. Journal of Orthopaedic and Sports Physical Therapy, 2011, 41, 767-775.	1.7	40
119	Effect of the Intra-Abdominal Pressure and the Center of Segmental Body Mass on the Lumbar Spine Mechanics â€“ A Computational Parametric Study. Journal of Biomechanical Engineering, 2012, 134, 011009.	0.6	14
120	Effect of Motor Control Training on Muscle Size and Football Games Missed from Injury. Medicine and Science in Sports and Exercise, 2012, 44, 1141-1149.	0.2	68
121	THE EFFECTS OF INTRA-ABDOMINAL PRESSURE ON THE STABILITY AND UNLOADING OF THE SPINE. Journal of Mechanics in Medicine and Biology, 2012, 12, 1250014.	0.3	9
122	MODELING THE EFFECT OF VARIATION IN SAGITTAL CURVATURE ON THE FORCE REQUIRED TO PRODUCE A FOLLOWER LOAD IN THE LUMBAR SPINE. Journal of Mechanics in Medicine and Biology, 2012, 12, 1250013.	0.3	13
123	Finite element modelling of the spine. , 2012, , 144-234e.		4
124	The Occupant Response to Autonomous Braking: A Modeling Approach That Accounts for Active Musculature. Traffic Injury Prevention, 2012, 13, 265-277.	0.6	37
125	Importance of sarcomere length when determining muscle physiological cross-sectional area: A spine example. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2012, 226, 384-388.	1.0	6
126	Kettlebell Swing, Snatch, and Bottoms-Up Carry: Back and Hip Muscle Activation, Motion, and Low Back Loads. Journal of Strength and Conditioning Research, 2012, 26, 16-27.	1.0	66
127	Biomechanical Effects of Disc Degeneration and Hybrid Fixation on the Transition and Adjacent Lumbar Segments. Spine, 2012, 37, E1488-E1497.	1.0	37
128	Core Stability, Part 1: Overview of the Concept. International Journal of Athletic Therapy and Training, 2012, 17, 8-13.	0.1	12

#	Article	IF	Citations
129	Core Stabilization Exercise Improves Pain Intensity, Functional Disability and Trunk Muscle Activity of Patients with Clinical Lumbar Instability:a Pilot Randomized Controlled Study. Journal of Physical Therapy Science, 2012, 24, 1007-1012.	0.2	23
130	EMG analysis of upper and lower rectus abdominis during exercises performed on and off a swiss ball. , 2012, , .		2
131	The thoracolumbar fascia: anatomy, function and clinical considerations. Journal of Anatomy, 2012, 221, 507-536.	0.9	375
132	An enhanced and validated generic thoraco-lumbar spine model for prediction of muscle forces. Medical Engineering and Physics, 2012, 34, 709-716.	0.8	94
133	Activation amplitude and temporal synchrony among back extensor and abdominal muscles during a controlled transfer task: Comparison of men and women. Human Movement Science, 2012, 31, 863-879.	0.6	6
134	Low Back Rehabilitation. , 2012, , 333-356.		1
135	Development of a Detailed Human Spine Model with Haptic Interface. , 2012, , .		0
136	Comparison of Ultrasonography and Magnetic Resonance Imaging in Measurement of Lumbar Spine Anatomic Structures. The Journal of the Korean Orthopaedic Association, 2012, 47, 140.	0.0	3
137	Experimentally induced pain alters the EMG activity of the lumbar multifidus in asymptomatic subjects. Manual Therapy, 2012, 17, 236-240.	1.6	21
138	A comprehensive three-dimensional dynamic model of the human head and trunk for estimating lumbar and cervical joint torques and forces from upper body kinematics. Medical Engineering and Physics, 2012, 34, 640-649.	0.8	16
139	Functional implications of variation in lumbar vertebral count among hominins. Journal of Human Evolution, 2012, 62, 486-497.	1.3	24
140	Effects of age and inactivity due to prolonged bed rest on atrophy of trunk muscles. European Journal of Applied Physiology, 2012, 112, 43-48.	1.2	101
142	A Musculoskeletal model for the lumbar spine. Biomechanics and Modeling in Mechanobiology, 2012, 11, 19-34.	1.4	230
143	The Electromyographic Activity of the Multifidus Muscles During the Execution of Two Pilates Exercisesâ€"Swan Dive and Breast Strokeâ€"for Healthy People. Journal of Manipulative and Physiological Therapeutics, 2013, 36, 319-326.	0.4	9
144	Spine function and low back pain. , 2013, , 41-57.		4
145	Computational Biomechanical Modeling of Scoliotic Spine: Challenges and Opportunities. Spine Deformity, 2013, 1, 401-411.	0.7	25
146	Lumbar instability. , 2013, , 523-530.e2.		0
147	Relationship of moderate and low isometric lumbar extension through architectural and muscular activity variables: a cross sectional study. BMC Medical Imaging, 2013, 13, 38.	1.4	10

#	Article	IF	Citations
148	Trunk strength, muscle activity and spinal loads in maximum isometric flexion and extension exertions: A combined in vivo-computational study. Journal of Biomechanics, 2013, 46, 2228-2235.	0.9	20
149	Intramuscular architecture of the autochthonous back muscles in humans. Journal of Anatomy, 2013, 222, 214-222.	0.9	25
150	Healing of painful intervertebral discs: implications for physiotherapy Part 2 â€" pressure change therapy: a proposed clinical model to stimulate disc healing. Physical Therapy Reviews, 2013, 18, 34-42.	0.3	3
151	Coupled objective function to study the role of abdominal muscle forces in lifting using the kinematics-driven model. Computer Methods in Biomechanics and Biomedical Engineering, 2013, 16, 54-65.	0.9	16
152	Effect of considering stability requirements on antagonistic muscle activities using a musculoskeletal model of the human lumbar spine. , 2013, , .		0
153	PROLONGED TRUNK FLEXION CAN INCREASE SPINE LOADS DURING A SUBSEQUENT LIFTING TASK: AN INVESTIGATION OF THE EFFECTS OF TRUNK FLEXION DURATION AND ANGLE USING A SAGITTALLY SYMMETRIC, VISCOELASTIC SPINE MODEL. Journal of Musculoskeletal Research, 2013, 16, 1350022.	0.1	1
154	Trunk Muscle Reflex Amplitudes Increased in Patients With Subacute, Recurrent LBP Treated With a 10-Week Stabilization Exercise Program. Motor Control, 2013, 17, 1-17.	0.3	13
155	Comparison Among Load-, ROM-, and Displacement-Controlled Methods Used in the Lumbosacral Nonlinear Finite-Element Analysis. Spine, 2013, 38, E276-E285.	1.0	23
156	AnÃ¡lise comparativa da atividade elÃ©trica do mÃºsculo multÃfido durante exercÃcios do Pilates, sÃ©rie de Williams e Spine Stabilization. Fisioterapia Em Movimento, 2013, 26, 87-94.	0.4	7
157	Age-related changes in trunk neuromuscular activation patterns during a controlled functional transfer task include amplitude and temporal synergies. Human Movement Science, 2014, 38, 262-280.	0.6	12
158	Small Multifidus Muscle Size Predicts Football Injuries. Orthopaedic Journal of Sports Medicine, 2014, 2, 232596711453758.	0.8	41
159	Prediction of Maximal Surface Electromyographically Based Voluntary Contractions of Erector Spinae Muscles From Sonographic Measurements During Isometric Contractions. Journal of Ultrasound in Medicine, 2014, 33, 399-404.	0.8	5
160	Finite Element Analysis of the effects of resting muscle tone on enthesis sites in the lumbar spine. , 2014, , .		0
161	A biomechanical model to simulate the effect of a high vertical loading on trunk flexural stiffness. Computer Methods in Biomechanics and Biomedical Engineering, 2014, 17, 1032-1041.	0.9	4
162	Can Motor Control Training Lower the Risk of Injury for Professional Football Players?. Medicine and Science in Sports and Exercise, 2014, 46, 762-768.	0.2	48
163	Ability to Discriminate Between Healthy and Low Back Pain Sufferers Using Ultrasound During Maximum Lumbar Extension. Archives of Physical Medicine and Rehabilitation, 2014, 95, 1093-1099.	0.5	10
164	Anatomy and biomechanics of gluteus maximus and the thoracolumbar fascia at the sacroiliac joint. Clinical Anatomy, 2014, 27, 234-240.	1.5	74
165	SMALL MULTIFIDUS MUSCLE SIZE PREDICTS FOOTBALL INJURIES. British Journal of Sports Medicine, 2014, 48, 607.2-607.	3.1	0

#	Article	IF	Citations
166	Correlation between architectural variables and torque in the erector spinae muscle during maximal isometric contraction. Journal of Sports Sciences, 2014, 32, 1797-1804.	1.0	11
167	Computational modelling of spinal implants. , 2014, , 447-484.		5
168	Elevation and orientation of external loads influence trunk neuromuscular response and spinal forces despite identical moments at the L5â€“S1 level. Journal of Biomechanics, 2014, 47, 3035-3042.	0.9	6
169	Feasibility of compressive follower load on spine in a simplified dynamic state: A simulation study. Bio-Medical Materials and Engineering, 2014, 24, 2319-2329.	0.4	2
170	Musculoskeletal modelling of muscle activation and applied external forces for the correction of scoliosis. Journal of NeuroEngineering and Rehabilitation, 2014, 11, 52.	2.4	19
171	Multifidus muscle size and percentage thickness changes among patients with unilateral chronic low back pain (CLBP) and healthy controls in prone and standing. Manual Therapy, 2014, 19, 433-439.	1.6	49
172	Comparison of selective electromyographic activity of the superficial lumbar multifidus between prone trunk extension and four-point kneeling arm and leg lift exercises. Journal of Physical Therapy Science, 2015, 27, 1037-1039.	0.2	9
173	Bilateral Decompression via Microscopic TubularCrossing Laminotomy (MTCL) for Lumbar Spinal Stenosis: Technique and Early Surgical Result. Neurologia Medico-Chirurgica, 2015, 55, 570-577.	1.0	9
174	Musculoskeletal Modeling of the Lumbar Spine to Explore Functional Interactions between Back Muscle Loads and Intervertebral Disk Multiphysics. Frontiers in Bioengineering and Biotechnology, 2015, 3, 111.	2.0	14
175	FunciÃ³n fÃsica entre subgrupos de mayores de 55 aÃ±os fÃsicamente activos / Physical Function Among Olders Subgroups Physically Active pp. 543-558. Revista Internacional De Medicina Y Ciencias De La Actividad Fisica Y Del Deporte, 2015, 59, 543-558.	0.1	1
176	A Cervico-Thoraco-Lumbar Multibody Dynamic Model for the Estimation of Joint Loads and Muscle Forces. Journal of Biomechanical Engineering, 2015, 137, 111001.	0.6	18
177	A forward dynamics simulation of human lumbar spine flexion predicting the load sharing of intervertebral discs, ligaments, and muscles. Biomechanics and Modeling in Mechanobiology, 2015, 14, 1081-1105.	1.4	66
178	Development and Validation of a Musculoskeletal Model of the Fully Articulated Thoracolumbar Spine and Rib Cage. Journal of Biomechanical Engineering, 2015, 137, 081003.	0.6	132
179	Multimodal medical imaging (CT and dynamic MRI) data and computer-graphics multi-physical model for the estimation of patient specific lumbar spine muscle forces. Data and Knowledge Engineering, 2015, 96-97, 3-18.	2.1	22
180	Lumbar posture biomechanics and its influence on the functional anatomy of the erector spinae and multifidus. Physical Therapy Reviews, 2015, 20, 178-186.	0.3	9
181	Development and validation of a discretised multi-body spine model in LifeMOD for biodynamic behaviour simulation. Computer Methods in Biomechanics and Biomedical Engineering, 2015, 18, 175-184.	0.9	27
182	Morphological investigation of low back erector spinae muscle: Historical data populations. International Journal of Industrial Ergonomics, 2015, 49, 108-115.	1.5	10
183	The Variation in the Lumbar Facet Joint Orientation in an Adult Asian Population and Its Relationship with the Cross-Sectional Area of the Multifidus and Erector Spinae. Asian Spine Journal, 2016, 10, 886.	0.8	5

#	Article	IF	Citations
184	Altered Multifidus Recruitment During Walking in Young Asymptomatic Individuals With a History of Low Back Pain. Journal of Orthopaedic and Sports Physical Therapy, 2016, 46, 365-374.	1.7	21
185	Influence of lumbar spine rhythms and intra-abdominal pressure on spinal loads and trunk muscle forces during upper body inclination. Medical Engineering and Physics, 2016, 38, 333-338.	0.8	42
186	Effects of variation in external pulling force magnitude, elevation, and orientation on trunk muscle forces, spinal loads and stability. Journal of Biomechanics, 2016, 49, 946-952.	0.9	12
187	Predicting football injuries using size and ratio of the multifidus and quadratus lumborum muscles. Scandinavian Journal of Medicine and Science in Sports, 2017, 27, 440-447.	1.3	27
188	Twente spine model: A complete and coherent dataset for musculo-skeletal modeling of the lumbar region of the human spine. Journal of Biomechanics, 2017, 53, 111-119.	0.9	12
189	Twente spine model: A complete and coherent dataset for musculo-skeletal modeling of the thoracic and cervical regions of the human spine. Journal of Biomechanics, 2017, 58, 52-63.	0.9	19
190	Wearing an Inflatable Vest Alters Muscle Activation and Trunk Angle While Paddling a Surfboard. Journal of Applied Biomechanics, 2017, 33, 282-287.	0.3	3
191	Self-Managed Exercises, Fitness and Strength Training, and Multifidus Muscle Size in Elite Footballers. Journal of Athletic Training, 2017, 52, 649-655.	0.9	5
192	The Decussating Fibers of the Lumbar Thoracolumbar Fascia: A Landmark for Identifying the L5 Spinous Process?. World Neurosurgery, 2017, 103, 631-633.	0.7	3
193	Estimating apparent maximum muscle stress of trunk extensor muscles in older adults using subjectâ€specific musculoskeletal models. Journal of Orthopaedic Research, 2018, 36, 498-505.	1.2	15
194	Subject-specific 2D/3D image registration and kinematics-driven musculoskeletal model of the spine. Journal of Biomechanics, 2017, 57, 18-26.	0.9	28
195	Do longus capitis and colli really stabilise the cervical spine? A study of their fascicular anatomy and peak force capabilities. Musculoskeletal Science and Practice, 2017, 32, 104-113.	0.6	4
196	Association of low back pain with muscle stiffness and muscle mass of the lumbar back muscles, and sagittal spinal alignment in young and middle-aged medical workers. Clinical Biomechanics, 2017, 49, 128-133.	0.5	72
197	Self-reported Concussion History and Sensorimotor Tests Predict Head/Neck Injuries. Medicine and Science in Sports and Exercise, 2017, 49, 2385-2393.	0.2	20
198	Are the size and composition of the paraspinal muscles associated with low back pain? A systematic review. Spine Journal, 2017, 17, 1729-1748.	0.6	155
199	The fascicular anatomy and peak force capabilities of the sternocleidomastoid muscle. Surgical and Radiologic Anatomy, 2017, 39, 629-645.	0.6	14
200	Structural and functional characteristics of the thoracolumbar multifidus muscle in horses. Journal of Anatomy, 2017, 230, 398-406.	0.9	10
201	The Association between Imaging Parameters of the Paraspinal Muscles, Spinal Degeneration, and Low Back Pain. BioMed Research International, 2017, 2017, 1-14.	0.9	143

#	Article	IF	Citations
202	Association between trunk muscles characteristics with lower limb injuries: A systematic review. Physical Therapy in Sport, 2018, 32, 301-307.	0.8	5
203	Trunk response and stability in standing under sagittal-symmetric pullâ€“push forces at different orientations, elevations and magnitudes. Journal of Biomechanics, 2018, 70, 166-174.	0.9	10
204	Obesity and spinal loads; a combined MR imaging and subject-specific modeling investigation. Journal of Biomechanics, 2018, 70, 102-112.	0.9	20
205	Comparison of the effects of stability exercise and balance exercise on muscle activity in female patients with chronic low back pain. Journal of Exercise Rehabilitation, 2018, 14, 1053-1058.	0.4	13
206	Comparison of Four Radiographic Angular Measures of Lumbar Lordosis. Journal of Neurosciences in Rural Practice, 2018, 09, 298-304.	0.3	16
207	Age-related changes in trunk muscle activity and spinal and lower limb kinematics during gait. PLoS ONE, 2018, 13, e0206514.	1.1	19
208	Functional behaviour of spinal muscles after training with an exercise device developed to recruit and train postural muscles. Gait and Posture, 2018, 66, 189-193.	0.6	2
209	Back muscle activity and sagittal spinal alignment during quadruped upper and lower extremity lift in young men with low back pain history. Gait and Posture, 2018, 66, 221-227.	0.6	6
210	Decreased amplitude of surface electromyo- graphic recordings of muscle activation along the posterior myofascial kinematic chain in subjects with chronic nonspecific low back pain compared to healthy subjects. Journal of Back and Musculoskeletal Rehabilitation, 2018, 31, 785-793.	0.4	5
211	Musculoskeletal Modeling. , 2018, , 257-277.		4
212	Influence of thoracolumbar fascia stretching on lumbar back muscle stiffness: A supersonic shear wave elastography approach. Clinical Anatomy, 2019, 32, 73-80.	1.5	14
213	Significance of spine stability criteria on trunk muscle forces following unilateral muscle weakening: A comparison between kinematics-driven and stability-based kinematics-driven musculoskeletal models. Medical Engineering and Physics, 2019, 73, 51-63.	0.8	3
214	Sensitivity of muscle and intervertebral disc force computations to variations in muscle attachment sites. Computer Methods in Biomechanics and Biomedical Engineering, 2019, 22, 1135-1143.	0.9	7
215	Effect of fixed charge density on water content of IVD during bed rest: A numerical analysis. Medical Engineering and Physics, 2019, 70, 72-77.	0.8	4
216	Potential adaptations for bipedalism in the thoracic and lumbar vertebrae of Homo sapiens: A 3D comparative analysis. Journal of Human Evolution, 2019, 137, 102693.	1.3	3
217	Comparison of the effects of different physical activities on laterality and asymmetry values through side bridge test. Motriz Revista De Educacao Fisica, 2019, 25, .	0.3	1
218	Validation of an OpenSim full-body model with detailed lumbar spine for estimating lower lumbar spine loads during symmetric and asymmetric lifting tasks. Computer Methods in Biomechanics and Biomedical Engineering, 2019, 22, 451-464.	0.9	73
219	Changes in Structure and Function of the Back Muscles in Low Back Pain: Different Time Points, Observations, and Mechanisms. Journal of Orthopaedic and Sports Physical Therapy, 2019, 49, 464-476.	1.7	127

#	Article	IF	Citations
220	The paraspinal muscle-tendon system: Its paradoxical anatomy. PLoS ONE, 2019, 14, e0214812.	1.1	11
221	Lumbar Multifidus and Erector Spinae Muscle Synergies in Patients with Nonspecific Low Back Pain During Prone Hip Extension: A Crossâ€sectional Study. PM and R, 2019, 11, 694-702.	0.9	7
222	The nociceptive withdrawal reflex of the trunk is organized with unique muscle receptive fields and motor strategies. European Journal of Neuroscience, 2019, 50, 1932-1947.	1.2	10
223	Validation of the hip contact force for a novel lower extremity muscloskeletal model. , 2019, , .		2
224	Inter-rater reliability and cross-validation of lumbar stability test. European Journal of Physiotherapy, 2019, 21, 91-97.	0.7	0
225	A stability-based model of a growing spine with adolescent idiopathic scoliosis: A combination of musculoskeletal and finite element approaches. Medical Engineering and Physics, 2019, 64, 46-55.	0.8	21
226	Effects of a passive back exoskeleton on the mechanical loading of the low-back during symmetric lifting. Journal of Biomechanics, 2020, 102, 109486.	0.9	60
227	Clinical utility of measuring the size of the lumbar multifidus and quadratus lumborum muscles in the Australian football league setting: A prospective cohort study. Physical Therapy in Sport, 2020, 46, 186-193.	0.8	9
228	Inconsistent descriptions of lumbar multifidus morphology: A scoping review. BMC Musculoskeletal Disorders, 2020, 21, 312.	0.8	9
229	Spondylolysis and spinal adaptations for bipedalism. Evolution, Medicine and Public Health, 2020, 2020, 35-44.	1.1	8
230	Hypogravity reduces trunk admittance and lumbar muscle activation in response to external perturbations. Journal of Applied Physiology, 2020, 128, 1044-1055.	1.2	10
231	Multiparametric MRI characterization of level dependent differences in lumbar muscle size, quality, and microstructure. JOR Spine, 2020, 3, e1079.	1.5	4
232	A Hip Active Assisted Exoskeleton That Assists the Semi-Squat Lifting. Applied Sciences (Switzerland), 2020, 10, 2424.	1.3	38
233	The effect of posture on lumbar muscle morphometry from upright MRI. European Spine Journal, 2020, 29, 2306-2318.	1.0	13
234	Biomechanical evaluation of a new passive back support exoskeleton. Journal of Biomechanics, 2020, 105, 109795.	0.9	71
235	Lumbosacral Angle Variations in Middle Aged Patients with Chronic Low Back Pain - A Retrospective Study. Journal of Evidence Based Medicine and Healthcare, 2021, 8, 208-212.	0.0	2
236	Validation of Lumbar Compressive Force Simulation in Forward Flexion Condition. Applied Sciences (Switzerland), 2021, 11, 726.	1.3	3
237	Musculature adaption in patients with lumbosacral transitional vertebrae: a matched-pair analysis of 46 patients. Skeletal Radiology, 2021, 50, 1697-1704.	1.2	10

#	Article	IF	Citations
238	Significance of Lower Body Postures in Chair Design. Human Factors, 2021, , 001872082110270.	2.1	1
239	Study on the cross-sectional area of the multifidus muscle at the L4-L5 level on ultrasound images of Olympic-style weightlifting and judo athletes. Journal of Back and Musculoskeletal Rehabilitation, 2021, 34, 689-696.	0.4	2
240	Lumbar intervertebral disc degeneration, end-plates and paraspinal muscle changes in children and adolescents with low-back pain. Journal of Pediatric Orthopaedics Part B, 2022, 31, 93-102.	0.3	15
241	Theory and usage of tensiomyography and the analysis method for the patient with low back pain. Journal of Exercise Rehabilitation, 2020, 16, 325-331.	0.4	17
242	Musculoskeletal model of trunk and hips for development of seated-posture-control neuroprosthesis. Journal of Rehabilitation Research and Development, 2009, 46, 515.	1.6	37
244	The effect of dry needling on the radiating pain in subjects with discogenic low-back pain: A randomized control trial. Journal of Research in Medical Sciences, 2016, 21, 86.	0.4	25
245	Measurement of lumbosacral angle in normal radiographs: A retrospective study in Southeast Nigeria. Annals of Medical and Health Sciences Research, 2014, 4, 757.	0.8	14
246	Potential Muscle-Related Biomarkers in Predicting Curve Progression to the Surgical Threshold in Adolescent Idiopathic Scoliosisâ€"A Pilot Proteomic Study Comparing Four Non-Progressive vs. Four Progressive Patients vs. A Control Cohort. Journal of Clinical Medicine, 2021, 10, 4927.	1.0	2
247	Anatomy and Biomechanics. , 2003, , 9-26.		1
248	Biomechanical modeling for understanding of low back injuries: A systematic review. Occupational Ergonomics, 2005, 5, 57-76.	0.3	16
249	Posture. , 2007, , 40-63.		0
250	Instability: Clinical Manifestations and Assessment. , 2008, , 1109-1119.		2
251	Lumbar Anatomy and Physiology. , 2008, , 1-24.		0
252	Les radiculalgies. , 2008, , 175-311.		0
253	Integrated Finite Element and Rigid Link Model of Spine. Journal of the Society of Biomechanisms, 2009, 33, 200-203.	0.0	0
254	PELVIS AND SACROILIAC JOINT. , 2009, , 699-764.		0
255	LUMBAR SPINE. , 2009, , 535-698.		0
257	Rationale of Minimally Invasive Spine Surgery. , 2011, , 998-1006.		0

#	Article	IF	Citations
258	Development of a Human Spine Simulation System. , 2012, , 1-44.		0
260	Philosophy and Biology of Minimally Invasive Spine Surgery. , 2014, , 15-21.		1
261	Comparison of Ultrasonography and Magnetic Resonance Imaging in Measurement of Lumbar Muscles. The Journal of the Korean Orthopaedic Association, 2016, 51, 371.	0.0	1
262	Philosophy and Biology of Minimally Invasive Spine Surgery. , 2019, , 19-28.		0
263	Review of Spinal Pedicle Screws. The Egyptian Journal of Hospital Medicine, 2019, 76, 4307-4311.	0.0	1
264	Vertebral Column: Muscles, Aponeurosis, and Fascia. , 2020, , 279-320.		3
265	Age-Related Change in Muscle Characteristics and Resistance Training for Older Adults. Physical Therapy Research, 2020, 23, 99-105.	0.3	9
266	Investigation of lumbar spine biomechanics using global convergence optimization and constant loading path methods. Mathematical Biosciences and Engineering, 2020, 17, 2970-2983.	1.0	6
270	Intramuscular lipid concentration increased in localized regions of the lumbar muscles following 60 day bedrest. Spine Journal, 2022, 22, 616-628.	0.6	6
271	Investigating the active contractile function of the rat paraspinal muscles reveals unique cross-bridge kinetics in the multifidus. European Spine Journal, 2022, 31, 783-791.	1.0	1
272	Predicting Noncontact Lower Limb Injury Using Lumbar Morphology in Professional Australian Football and Rugby League Players. Medicine and Science in Sports and Exercise, 2022, 54, 814-820.	0.2	4
274	How Does the Lumbopelvic Complex Cope with the Obstetrical Load during Standing? Ergonomic Aspects of Body Posture in Pregnant Women. Applied Sciences (Switzerland), 2022, 12, 4330.	1.3	2
275	Multifidus Muscle Contractility Deficit Was Not Specific to the Painful Side in Patients with Chronic Low Back Pain During Remission: A Cross-Sectional Study. Journal of Pain Research, 0, Volume 15, 1457-1463.	0.8	3
276	Paraspinal muscles. , 2022, , 339-364.		0
277	Effect of novel diagonal stretching combining trunk rotation and trunk flexion on contralateral knee extension. Isokinetics and Exercise Science, 2022, , 1-6.	0.2	0
278	Acquired Spinal Conditions in Evolutionary Perspective: Updating a Classic Hypothesis. Biological Theory, 0, , .	0.8	0
279	Low back muscle action potential conduction velocity estimated using high-density electromyography. Journal of Electromyography and Kinesiology, 2022, 66, 102679.	0.7	4
280	Towards improving the accuracy of musculoskeletal simulation of dynamic three-dimensional spine rotations with optimizing model and algorithm. Medical Engineering and Physics, 2022, , 103916.	0.8	0

#	Article	IF	Citations
281	The Biomechanical Effects of Different Bagâ€Carrying Styles on Lumbar Spine and Paraspinal Muscles: A Combined Musculoskeletal and Finite Element Study. Orthopaedic Surgery, 2023, 15, 315-327.	0.7	3
282	Surface electromyographic activity of the erector spinae and multifidus during arm- and leg-ergometer exercises in young healthy men. Frontiers in Physiology, 0, 13, .	1.3	2
283	Facet Joint Orientation/Tropism Could Be Associated with Fatty Infiltration in the Lumbar Paraspinal Muscles. World Neurosurgery, 2023, 173, e606-e615.	0.7	5
284	The association between size and symmetry of the lumbar multifidus muscle, and injuries in adolescent rugby union players. Physical Therapy in Sport, 2023, 60, 98-103.	0.8	1
285	Multibody Models of the Thoracolumbar Spine: A Review on Applications, Limitations, and Challenges. Bioengineering, 2023, 10, 202.	1.6	5
286	Do MRI-derived muscle moment-arms in patients with chronic low back pain differ from healthy individuals? A comparative study. European Spine Journal, 2023, 32, 1115-1122.	1.0	0
287	Are serum thyroid hormone, parathormone, calcium, and vitamin D levels associated with lumbar spine degeneration? A cross-sectional observational clinical study. European Spine Journal, 2023, 32, 1561-1574.	1.0	3