



## 目 次

《医用生物力学》杂志投稿须知	(1)
· 论 著 ·	
轴向载荷对充液生物微管耦合振动的影响	熊静婷,王熙(10)
血管残余应力的两种求解方法及其应用	高全超,尚坤,龚晓波,等(15)
基于神经网络法反求耳结构弹性模量	姚文娟,程向东(20)
肺部肿瘤运动的数值模拟	陈开,姚毅,张东升(25)
基于有限元模型的下肢长骨动态试验的仿真研究	李海岩,翟广凤,赵玮,等(31)
基于汽车碰撞损伤的人体胸部有限元模型构建与验证	蔡志华,兰凤崇,陈吉清,等(36)
不同连接筋结构的支架治疗椎动脉狭窄的力学分析	张站柱,乔爱科,付文宇(44)
运用有限元分析新型半髋假体装配过程中的应力分布	杨予,储小兵,童培建,等(50)
颈内动脉虹吸部血流的数值计算和模型实验	张弛,韩景芸,蒲放,等(56)
改良 B-T 手术与中央分流术的血流动力学比较	丁金立,刘有军,王枫,等(63)
利用 2D-3D 自动注册技术研究 TKA 术后胫股关节运动	朱忠林,杨明雷,丁辉,等(72)
颞下颌关节三维动态磁共振成像研究及生物力学分析	艾松涛,唐为卿,戴魁戎,等(79)
基于医用水刀的肝脏切割及力学性能	侍才洪,张坤亮,柴虎,等(85)
基底硬度对肝细胞和肝癌细胞融合生长的影响	张荣,王红兵,杨本艳姿,等(91)
利用非接触测量技术研究颈椎活动度	侯义荣,李凯,东人,等(97)
改良中空加压螺钉内固定治疗股骨颈骨折的有限元分析	姚琦,倪杰,胡磊,等(103)
髋部骨折的发生与股骨近端三维几何解剖形态的相关性研究	龚伟华,曾一鸣,唐坚,等(109)
· 综 述 ·	
基底微拓扑结构对细胞生物学行为的影响	宫元卫,孙树津,吕东媛,等(115)
微重力效应对骨髓间充质干细胞增殖分化影响的研究进展	毛新建,宋关斌,罗庆,等(121)
· 信 息 ·	
致读者(24,108);消息(30,43);《医用生物力学》增补编委启事(71);《医用生物力学》2010 年度“最高被引论文”结果公示(126);《医用生物力学》第五届编委会名单(封二);广告(封三)	

英文编辑:徐绮 责任编辑:于志锋

## 医用生物力学

(双月刊,1986 年创刊)

第 28 卷 第 1 期

2013 年 2 月

主编:戴魁戎

主 办:上海交通大学  
主 管:中华人民共和国教育部  
出 版:《医用生物力学》编辑部  
编 辑:《医用生物力学》编辑部  
上海市制造局路 639 号 200011  
电 话:(021)23271133 传 真:(021)63137020  
电子邮箱:shengwulixue@gmail.com  
网 站:www.medbiomechanics.com, www.mechanobiology.cn  
国内总发行:上海市报刊发行局  
国外总发行:中国国际图书贸易总公司  
印 刷 装 订:上海市图宇印刷有限公司

# Journal of Medical Biomechanics

Vol. 28 , No. 1      Feb. 2013

## Contents

Instructions for Authors by "Journal of Medical Biomechanics" .....	(1)
<b>Original Articles</b>	
Effects of axial loading on the coupling vibration in bioliquid-filled microtubules .....	XIONG Jing-ting, WANG Xi(10)
Two methods of constructing the residual stress on vessel and its application .....	GAO Quan-chao, SHANG Kun, GONG Xiao-bo, et al(15)
Inverse derivative of elastic modulus for human ear based on neural network .....	YAO Wen-juan, CHENG Xiang-dong(20)
Numerical simulation on lung tumor motion .....	CHEN Kai, YAO Yi, ZHANG Dong-sheng(25)
Simulation of dynamic tests on long bones of lower limbs based on finite element model .....	LI Hai-yan, ZHAI Guang-feng, ZHAO Wei, et al(31)
Development and validation for finite element model of human thorax based on automotive impact injuries .....	CAI Zhi-hua, LAN Feng-chong, CHEN Ji-qing, et al(36)
Mechanical analysis on treatment of vertebral stenosis by stents with different links .....	ZHANG Zhan-zhu, QIAO Ai-ke, FU Wen-yu(44)
Finite element analysis on stress distributions during novel semi-hip prosthesis assembly .....	YANG Yu, CHU Xiao-bing, TONG Pei-jian, et al(50)
Numerical and experimental study on steady flow in the model of internal carotid artery siphon .....	ZHANG Chi, HAN Jing-yun, PU Fang, et al(56)
Hemodynamics-based numerical comparison between modified B-T shunt and central shunt .....	DING Jin-li, LIU You-jun, WANG Feng, et al(63)
Kinematic study on tibiofemoral joint after TKA using 2D-3D automatic registration technique .....	ZHU Zhong-lin, YANG Ming-lei, DING Hui, et al(72)
Dynamic MRI study on temporomandibular joint and biomechanical analysis .....	AI Song-tao, TANG Wei-qing, DAI Ke-rong, et al(79)
Liver tissue separation by medical water-jet scalpel and its mechanical property .....	SHI Cai-hong, ZHANG Kun-liang, CHAI Hu, et al(85)
Effects of substrate stiffness on confluent growth of hepatic and hepatoma carcinoma cells .....	ZHANG Rong, WANG Hong-bing, YANG BEN Yan-zi, et al(91)
Evaluating range of motion in cervical spine by the non-contact measurement technology .....	HOU Yi-rong, LI Kai, DONG Ren, et al(97)
Finite element analysis on a modified cannulated screw for fixation of femoral neck fracture .....	YAO Qi, NI Jie, HU Lei, et al(103)
Correlation between the incidence of hip fractures and the proximal femur by 3D geometric anatomy .....	GONG Wei-hua, ZENG Yi-ming, TANG Jian, et al(109)
<b>Review Articles</b>	
Impacts of surface micro-topography on cellular biological responses .....	GONG Yuan-wei, SUN Shu-jin, LÜ Dong-yuan, et al(115)
Progress of microgravity effects on proliferation and differentiation of bone marrow mesenchymal stem cells .....	MAO Xin-jian, SONG Guan-bin, LUO Qing, et al(121)

**Responsible Institution:** Ministry of Education of People's Republic of China

**Published By:** Shanghai Jiaotong University

**Edited By:** Editorial Office of Journal of Medical Biomechanics

**Editor-In-Chief:** DAI Ke-rong

**Editorial Office:** Editorial Office of Journal of Medical Biomechanics, 639 Zhizaoju Road  
Shanghai 200011, P. R. China

**Tel:** +86 21 23271133 **Fax:** +86 21 63137020

**E-mail:** shengwulixue@gmail.com

**Distributor Abroad:** China International Book Trading Corporation

P. O. Box 399, Beijing 100044, P. R. China. Code No. B4349