

论文、奖励等支撑材料明细

支撑材料链接 <http://www.sph.com.cn/>

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1、教学成果奖励

序号	获 奖 时 间	奖项名称	获 奖 等 级	授 奖 部 门
1	2018	以培养临床与基础转化医学人才为核心，构建内分泌代谢专业特色优质教学平台	山东省教学成果奖特等奖	山东省教育厅
2	2018	在团队中激发研究生创造力为导向的教学改革与实践	山东省教学成果奖一等奖	山东省教育厅
3	2019	山东省优秀研究生指导教师	省级	山东省教育厅
4	2019	整合医学模式下骨科研究生培养模式探索	校级	山东第一医科大学
5	2009	优秀研究生指导教师博士生外语教学改革与实践	山东中医药大学教学成果奖二等奖	山东中医药大学
6	2019	优秀研究生指导教师	校级	山东省立医院
7	2021	优秀研究生指导教师	校级	山东中医药大学

山东省省级教学成果奖获奖证书

获奖成果：在团队中激发研究生创造力为导向的教学改革与实践

获奖者：朱强、肖伟、王贞、周小明、付振美、冯跃民、高聆

获奖等级：一等奖

主要完成单位：齐鲁医科大学(筹) (山东省立医院)

证书号：GJ20180135

山东省省级教学成果奖评审委员会

二〇一八年一月十七日

山东省省级教学成果奖获奖证书

获奖成果：以培养临床与基础转化医学人才为核心，构建内分泌代谢专业特色优质教学平台

获奖者：徐进、高聆、于春晓、管庆波、景斐、冯丽、张海清、郑冬梅、邵珊珊、方丽、赵丽芳、赵家军

获奖等级：特等奖

主要完成单位：齐鲁医科大学(筹) (山东省立医院)

证书号：GJ20180023

山东省省级教学成果奖评审委员会

二〇一八年一月十七日

山东省教育厅

鲁教研字〔2019〕2号

山东省教育厅
关于表扬山东省优秀研究生指导教师的通知

各研究生培养单位：
为深入贯彻落实教育部《关于全面落实研究生导师立德树人职责的意见》、省委省政府《关于全面深化新时代全省教师队伍建设的实施意见》，激励广大研究生指导教师爱岗敬业、甘于奉献，做研究生成长成才的指导者和引路人，经研究决定，对山东大学王新春等296名优秀研究生指导教师予以表扬。
各单位要以此为契机，总结、宣传和学习优秀研究生指导教师先进事迹，全面落实研究生导师立德树人职责，努力造就一支

— 1 —

序号	导师姓名	推荐单位	序号	导师姓名	推荐单位
201	韩泰超	山东中医药大学	226	唐金宝	潍坊医学院
202	谷蓉	山东中医药大学	227	刘雨清	潍坊医学院
203	杨继国	山东中医药大学	228	阎芳	潍坊医学院
204	曹慧	山东中医药大学	229	韩锋产	滨州医学院
205	刘桂荣	山东中医药大学	230	吕长俊	滨州医学院
206	刘伟	山东中医药大学	231	郑秋生	滨州医学院
207	李伟	山东中医药大学	232	王晓芝	滨州医学院
208	薛一涛	山东中医药大学	233	王萍玉	滨州医学院
209	李佳	山东中医药大学	234	徐维存	山东师范大学
210	张学兰	山东中医药大学	235	崔永杰	山东师范大学
211	赵启福	山东中医药大学	236	张宗斌	山东师范大学
212	唐华	山东第一医科大学	237	李宗刚	山东师范大学
213	李湘奇	山东第一医科大学	238	张岭冬	山东师范大学
214	李栋	山东第一医科大学	239	李光贵	山东师范大学
215	曹晓群	山东第一医科大学	240	孙君彦	山东师范大学
216	刘化侠	山东第一医科大学	241	陈德贞	山东师范大学
217	郝吉福	山东第一医科大学	242	李锐迪	山东师范大学
218	高野	山东第一医科大学	243	张春阳	山东师范大学
219	王晓静	山东第一医科大学	244	徐克花	山东师范大学
220	伊正君	潍坊医学院	245	李国荣	山东师范大学
221	尹文强	潍坊医学院	246	王成新	山东师范大学
222	侯宁宁	潍坊医学院	247	刘方晏	山东师范大学
223	苑兆东	潍坊医学院	248	张化祥	山东师范大学
224	潘智芳	潍坊医学院	249	马莱红	山东师范大学
225	张蕊	潍坊医学院	250	曹莉	曲阜师范大学



荣誉证书

CERTIFICATE OF HONOUR

穆卫东 同志：

在 2019 年度研究生培养工作中成绩突出，授予“优秀研究生指导教师”荣誉称号，特发此证，以资鼓励。

山东省立医院
二〇一九年九月

荣誉证书

HONORARY CREDENTIAL

穆卫东老师：

被评为山东中医药大学“优秀研究生指导教师”。

特发此证，以兹鼓励！

山东中医药大学
2021 年 5 月

2、学生荣誉奖励

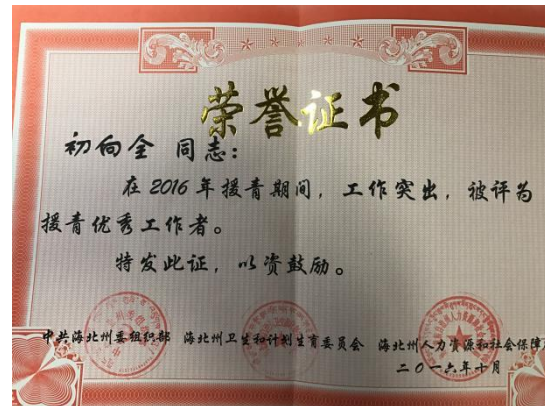
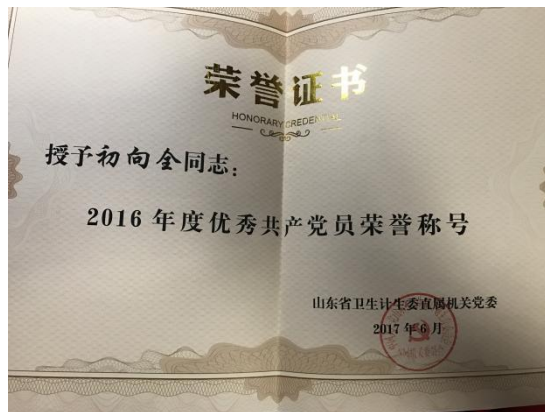
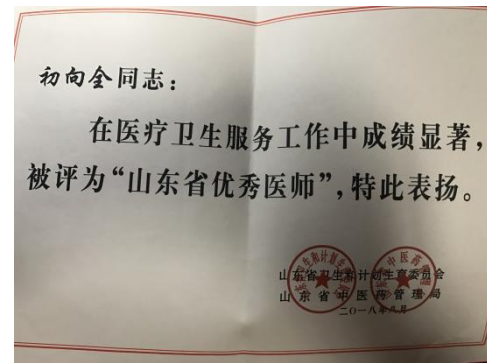
1) 学业奖励

序号	获 奖 时 间	奖项名称	获奖人	等级
1	2017	全省卫生应急技能竞赛	初向全	一等奖
2	2018	山东省优秀医师	初向全	优秀
3	2018	山东省优秀学位论文	李玉杰	优秀
4	2018	山东省研究生优秀科技 创新成果奖	王晓雷	二等奖
5	2018	“阳普杯”青年优秀论文 大赛	贾宁	三等奖
6	2020	山东大学优秀博士论文	杨重博	优秀
7	2020	山东大学优秀博士论文	郭艳静	优秀
8	2018	山东大学优秀博士论文	李玉杰	优秀
9	2020	研究生国家奖学金	陈效伟等	国家奖学金
10	2019	研究生国家奖学金	熊捷等	国家奖学金
11	2018	研究生国家奖学金	李萍等	国家奖学金
12	2016	研究生国家奖学金	郭溟浩	国家奖学金
13	2019	山东大学校长奖	张娅等	校长奖
14	2019	光华奖学金	王宇等	光华奖学金
15	2018	光华奖学金	李晓等	光华奖学金
16	2020	玲珑奖学金	李扬等	玲珑奖学金
17	2019	玲珑奖学金	李冉冉等	玲珑奖学金

18	2018	玲珑奖学金	庞兆飞	玲珑奖学金
19	2020	正大天晴奖	闫涛等	正大天晴奖
20	2019	正大天晴奖	徐迎坤等	正大天晴奖
21	2018	正大天晴奖	曹亚磊	正大天晴奖
22	2020	山东大学优秀学生干部	王亚东等	优秀
23	2019	山东大学优秀学生干部	冯跃民等	优秀
24	2018	山东大学优秀学生干部	张娅等	优秀
25	2019	山东大学优秀研究生	蒋熠飞	优秀
26	2019	山东大学硕士奖学金	蒋熠飞	优秀
27	2018	山东大学硕士奖学金	蒋熠飞	优秀
28	2018	山东大学优秀研究生	蒋熠飞	优秀
29	2020	优秀共产党员	宋钰峰等	优秀
30	2016	山东省优秀共产党员	初向全	优秀
31	2016	援青优秀工作者	初向全	优秀
32	2021	《中华骨科杂志》论坛创 伤骨科组优胜奖	李琳	优胜奖

2) 研究生大会发言

序号	时间	会议名称	发言人
1	2019	中华医学会第二十一届骨科学术会议	蒋熠飞
2	2019	中华医学会第二十一届骨科学术会议	王朝阳
3	2019	中华医学会第十八次全国内分泌学术会议	李梦竹
4	2018	第十四届全国脂质与脂蛋白学术会议	贾宁
5	2016	中华医学会第十八次全国内分泌学术会议	杨重博
6	2014	中华医学会第十六届骨科学术会议	刘志勇





3、教师荣誉奖励

序号	获奖时间	奖项名称	获奖等级	获奖人
1	2019	山东省科学技术奖	一等奖	穆卫东
2	2010	山东省科技进步奖	一等奖	高聆
3	2020	山东省科技进步奖	二等奖	高聆
4	2016	泰山学者特聘专家	省级	高聆
5	2018	泰山学者青年专家	省级	姜士超
6	2020	山东医学科技创新成果奖	三等奖	穆卫东
7	2020	山东医学科技创新成果奖	三等奖	徐鹏
8	2020	山东中医药科技成果奖	三等奖	王华
9	2020	山东中医药科学技术奖	三等奖	王华
10	2017	山东中医药科学技术奖	三等奖	王华

11	2016	山东省立医院 青年英才	院级	姜士超
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为了表彰在促进我省医学
科学技术进步方面做出重要贡
献的科技工作者，特颁发此
证书，以资鼓励。

项目名称：慢性创伤性骨髓炎的基础与临床研究

奖励类别：科技创新成果奖

项目编号：2020-01-03-50-01

颁发给 穆卫东 ，
获 叁 等山东医学科技
奖项目的第 壹 位主要
研究人员。

山东医学科技奖
奖励委员会
二〇二〇年十一月

为了表彰在促进我省医学
科学技术进步方面做出重要贡
献的科技工作者，特颁发此
证书，以资鼓励。

项目名称：慢性创伤性骨髓炎的基础与临床研究

奖励类别：科技创新成果奖

项目编号：2020-01-03-50-04

颁发给 徐鹏 ，
获 叁 等山东医学科技
奖项目的第 肆 位主要
研究人员。

山东医学科技奖
奖励委员会
二〇二〇年十一月

4、团队课题

1) 导师科研课题

序号	起止时间	课题名称	等级	负责人
1	2012. 01- 2015. 12	不稳定性骨盆骨折致腰骶干神经牵拉损伤的生物力学和神经电生理研究及有限元分析	国家自然科学基金面上项目	穆卫东
2	2017. 01- 2019. 12	负载 p65siRNA 的 HA-PLLA 电纺纤维膜防止肌腱粘连的相关机制研究	国家自然科学基金青年科学基金项目	姜士超
3	2017. 09- 2019. 12	糖尿病肾病生物标志物与个体化诊疗研究	国家重点研发计划课题	高聆
4	2016. 07- 2020. 12	糖尿病肾病大型队列及数据资源库体系的建立与共享	国家重点研发计划	高聆
5	2015. 1- 2018. 12	TSH 通过 SREBP-1c 增加肝脏甘油三酯合成的机制	国家自然科学基金面上项目	高聆
6	2015. 01- 2017. 12	骶骨骨折致骶神经压迫损伤机制和神经电生理研究及有限元分析	国家自然科学基金青年科学基金项目	徐鹏

7	2016. 11- 2019. 06	缓释 p65siRNA 的可吸收 电纺纤维膜抑制肌腱粘 连的体外机制研究	山东省自然 基金青年科 学基金项目	姜士超
8	2016. 11- 2018. 12	3D 打印镁/羟基磷灰石/ 聚乳酸复合材料支架成 骨活性和修复骨缺损的 研究	山东省重点 研发项目	徐鹏
9	2017. 08- 2010. 12	当归补血汤调控线粒体 自噬促进再生障碍性贫 血造血重建机制的研究	山东省自然 科学基金项 目	王华
10	2014. 01- 2016. 12	高甘油三酯血症对甲状 腺疾病影响的前瞻性流 行	山东省科技 发展计划项 目	高聆
11	2011. 09- 2013. 12	驱邪通络方在老年脑梗 死中对 cagA-HP 的干预 及机理研究	山东省医药 卫生科技发 展计划	王华
12	2011. 12- 2013. 12	探索以中医气滞血瘀理 论指导速效救心丸对老 年高血压伴抑郁患者干 预的研究	山东省中医 药科技发展 计划	王华

2) 在研教学及科研课题立项

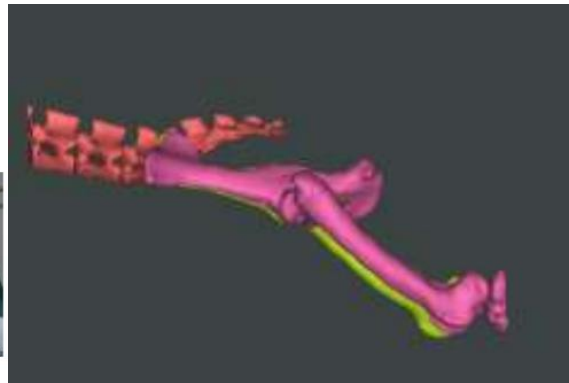
序号	项目名称	来源	经费	负责人
1	山东第一医科大学学术提升计划	山东第一医科大学	100 万	姜士超
2	山东省立医院第二批创新团队推进计划	山东第一医科大学 附属省立医院	50 万	穆卫东
3	PBL 模式与师生互动相结合在骨科研究生教学上的应用	山东省研究生教育 教学改革研究项目	5 万	穆卫东
4	骨盆及髌臼骨折的微创手术治疗的器械研发	横向课题	52.95	穆卫东



图 7 自制大型动物骨盆牵拉实验架



图 8 半侧骨盆的牵拉方式



国家自然科学基金委员会面上项目

不稳定骨盆骨折致腰骶干神经牵拉伤的生物力学和神经电生理研究
及有限元分析

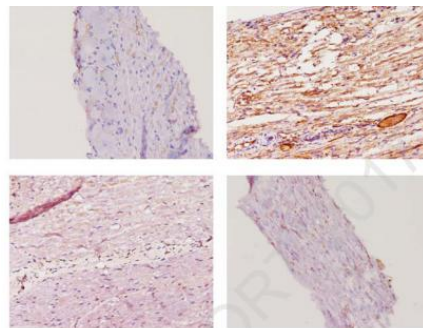


图 10 C. 30g 组各时间点染色, 24 后发现阳性变化

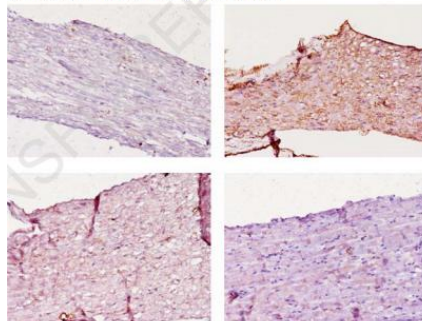


图 10 D. 60g 组各时间点染色, 24 后发现阳性变化

国家自然科学基金委员会青年科学基金项目

骶骨骨折致骶神经压迫损伤机制和神经电生理研究及有限元分析

5、研究生部分代表性论文

序号	时间	名称	第一作者	网址
1	2021	The largest secure corridor of the infra-acetabular screw-a 3-D axial perspective analysis	Bei Zhao	https://pubmed.ncbi.nlm.nih.gov/34134690/
2	2021	Effect of fibroblast growth factor 2 on degenerative endplate chondrocyte: From anabolism to catabolism	Hua Song	https://pubmed.ncbi.nlm.nih.gov/33285208/
3	2020	Rodent Models of Nonalcoholic Fatty Liver Disease	Fang Zhong	https://pubmed.ncbi.nlm.nih.gov/31600750/
4	2020	Comparison of Erythrocyte Membrane Lipid Profiles between NAFLD Patients with or without Hyperlipidemia	Wenbin Chen	https://pubmed.ncbi.nlm.nih.gov/33014047/
5	2020	Comparison of locking plates and intramedullary nails in treatment of three-part or four-part proximal humeral neck fractures in elderly population	Hua Song	https://pubmed.ncbi.nlm.nih.gov/33181658/
6	2020	Digital anatomical study and	Bei Zhao	https://pubmed

		clinical application of screw placement for quadrilateral plate fractures in the danger zone.		.ncbi.nlm.nih.gov/32278348/
7	2020	Quantitative Analysis of the Proteome and the Succinylome in the Thyroid Tissue of High-Fat Diet-Induced Hypothyroxinemia in Rats	Baoxiang Hu	https://pubmed.ncbi.nlm.nih.gov/32774361/
8	2020	A preliminary study: proteomic analysis of exosomes derived from thyroid- stimulating hormone- stimulated HepG2 cells	Shizhan Ma	https://pubmed.ncbi.nlm.nih.gov/32166700/
9	2020	FSHR ablation induces depression-like behaviors.	Wenkai Bi	https://pubmed.ncbi.nlm.nih.gov/32203083/
10	2020	Thyroid Stimulating Hormone Triggers Hepatic Mitochondrial Stress through Cyclophilin D Acetylation	Xiaolei Wang	https://pubmed.ncbi.nlm.nih.gov/31998431/
11	2020	Thrombospondin1 As A Potential Therapeutic Target For Human Nonalcoholic Fatty Liver	Yongfeng Song	https://pubmed.ncbi.nlm.nih.gov/32697967/

		Disease.		
12	2019	Presence of serum autoantibodies to vacuolar H ⁺ -ATPase in patients with renal tubular acidosis.	Chao Xu	https://pubmed.ncbi.nlm.nih.gov/30821427/
13	2019	Therapeutic targets of hypercholesterolemia: HMGCR and LDLR. Diabetes	Shizhan Ma	https://pubmed.ncbi.nlm.nih.gov/31686875/
14	2019	ER stress contributes to high-fat diet-induced decrease of thyroglobulin and hypothyroidism	Xiaohan Zhang	https://pubmed.ncbi.nlm.nih.gov/30620634/
15	2018	Expression of FSHR in chondrocytes and the effect of FSH on chondrocytes	Dehuan Kong	https://pubmed.ncbi.nlm.nih.gov/29133260/
16	2018	Follicle-stimulating hormone enhances hepatic gluconeogenesis by GRK2-mediated AMPK hyperphosphorylation at Ser485 in mice. Diabetologia.	Xiaoyi Qi	https://pubmed.ncbi.nlm.nih.gov/29442133/
17	2018	Blocking mitochondrial cyclophilin D ameliorates TSH-impaired defensive barrier	Xiaojing Liu	https://pubmed.ncbi.nlm.nih.gov/2935321

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36	2016	Minimally Invasive Sinus Tarsi Approach With Cannulated Screw Fixation Combined With	Taiyuan Zhang	https://pubme d.ncbi.nlm.ni h.gov/2637255

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59	2020	卵泡刺激素诱发肝脏胆固醇代谢紊乱机制研究	郭艳静	卵泡刺激素诱发肝脏胆固醇代谢紊乱机制研究 (wanfangdata.com.cn)
60	2019	骶骨侧块螺钉治疗骶骨骨折的数字解剖学研究	许中豹	http://rs.yiggle.com/CN501098201910/1170452.htm
61	2018	CRTC2 通过 FoxO1/SREBP-2/HMGCR 调节肝脏胆固醇的合成研究; TSH 通过上调肝脏中 CRTC2 的表达促进肝	李玉杰	1、CRTC2 通过 FoxO1/SREBP-2/HMGCR 调节肝脏

		脏糖异生的研究		胆固醇的合成的研究；2、TSH 通过上调肝脏中CRTC2 的表达促进肝脏糖异生的研究 (wanfangdata.com.cn)
62	2018	重建钢板+空心螺钉 I 期治疗髋臼合并同侧股骨颈骨折	余也	http://rs.yiigle.com/CN501098201807/1059343.htm
63	2018	国人骶髂贯穿螺钉置钉通道的数字解剖学研究	初向全	http://rs.yiigle.com/CN501098201801/1059245.htm
64	2018	早期腹膜外骨盆填塞联合暂时性腹主动脉阻断治疗血流动力学不稳定骨盆骨折	李庆虎	http://rs.yiigle.com/CN501098201801/1059248.htm
65	2016	大鼠创伤性骨髓炎后骨骼肌过度纤维化及其与转化生长因子- β 的相关性	鲁嘉良	http://rs.yiigle.com/CN501098201607/908702

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66	2017	丝裂霉素 C 抑制大鼠创伤性骨感染 软组织瘢痕形成的效果	王鹏	http://rs.yiigle.com/CN501098201707/1059138.htm
67	2017	髋臼后柱平行双螺钉数字化解剖学 分析	余也	髋臼后柱平行双螺钉数字化解剖学 分 析 (wanfangdata.com.cn)
68	2015	山羊不稳定骨盆骨折致骶丛神经牵 拉损伤模型的建立及神经电生理研 究	范文闯	http://rs.yiigle.com/CN501098201604/893518.htm
69	2016	单边外固定架骨搬运联合自体植骨 治疗下肢创伤性慢性骨髓炎	刘军	http://rs.yiigle.com/CN501098201603/893499.htm
70	2016	核心蛋白多糖对大鼠创伤性骨髓炎 中骨骼肌瘢痕增生的抑制作用	张永兴	http://rs.yiigle.com/CN501098201608/1075552.htm
71	2016	Decorin 抑制骨髓炎所致骨骼肌过 度纤维化机制研究进展	王润泽	Decorin 抑制骨 髓炎所致骨骼肌 过度纤维化机制

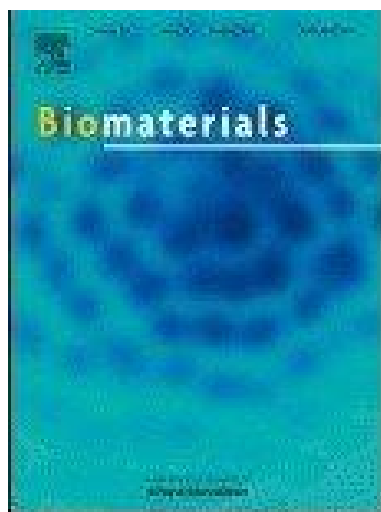
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72	2015	骶骨椎弓根螺钉治疗骶骨骨折的数字解剖学研究	邓亦奇	http://rs.yiggle.com/CN501098201509/798368.htm
73	2015	等中心 C 形臂三维导航辅助下经皮双螺钉治疗耻骨联合分离的解剖学研究	刘志勇	http://rs.yiggle.com/CN501098201504/653353.htm
74	2014	骨髓炎动物模型的研究进展	鲁嘉良	http://rs.yiggle.com/CN50109820102611/420615.htm
75	2014	经皮空心拉力螺钉技术治疗耻骨联合分离的定量解剖研究	尹成国	http://rs.yiggle.com/CN50109820143006/423512.htm
76	2013	神经根牵拉损伤机制的研究进展	徐鹏	神经根牵拉损伤机制的研究进展 (wanfangdata.com.cn)

77	2013	外固定架加钢板治疗伴有胫骨骨缺损的开放性胫腓骨骨折	韩立仁	http://rs.yiigle.com/CN50109820132903/419093.htm
78	2012	滋肾通络方对局灶性脑缺血大鼠脑组织脑源性神经营养因子蛋白含量的影响	王华	http://www.hqzyy.com/Journal/Journaldetail?id=122949&year=2012&issue=8&pernav=7&yearnav=9&currentend=1
79	2011	Ilizarov 骨搬运技术治疗胫骨大段骨缺损合并软组织缺损	韩立仁	http://rs.yiigle.com/CN50109820112710/420223.htm
80	2010	滋肾通络方对 MCAO 大鼠代谢性谷氨酸受体 1a 基因表达的影响	王华	https://sczy.cbpt.cnki.net/WKD/WebPublication/paperDigest.aspx?paperID=04f35a41-43b4-4658-be49-3ad

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81	2009	滋肾通络方对 MCAO 大鼠脑组织氨基酸递质含量的影响	王华	<a href="https://sczy.c
 bpt.cnki.net/W KD/WebPublicat ion/paperDiges t.aspx?paperID =88efd1e5-d68b -4b7c-a5a6-28d 49dcbcca6



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RESEARCH ARTICLE

Open Access



Digital anatomical study and clinical application of screw placement for quadrilateral plate fractures in the danger zone

Bei Zhao^{1,2}, Zhongye Sun², Wei Zhang², Zhongbao Xu², Xiaofei Yang² and Weidong Mu^{1*}

Abstract

Background: Direct screw placement for quadrilateral plate fractures in the danger zone of the acetabulum is very difficult. This study was performed to simulate the surgical procedure and try to obtain effective and safe screw angles through the middle window of the ilioinguinal approach in Chinese patients.

Methods: We randomly collected the pelvic computed tomography (CT) scans of 100 adults. DICOM-formatted CT-scan images were imported into Mimics software. The three-dimensional reconstruction (3D) digital model of the semi-pelvis was established. A 3.5 mm cylinder was used to simulate the pathway of the screw from the designated insertion point. The angles of insertion and intersex differences were explored by statistical analyses.

Results: The screws could be inserted via three angles: medial inclination, anterior inclination and posterior inclination. The mean minimum medial inclination angle (MIMA) of insertion point A was $4.96^\circ \pm 1.11^\circ$ in males and $8.66^\circ \pm 3.40^\circ$ in females, and the intersex difference was significant. The mean minimum medial inclination angle (MIMA) of insertion point B was $-5.31^\circ \pm 3.69^\circ$ in males and $1.75^\circ \pm 8.95^\circ$ in females, and the intersex difference was significant. There were no differences between any of the angles for males and females at insertion point O.

Conclusions: Preoperative measurement and calculation by digital tools before screw placement for quadrilateral plate fractures of the acetabulum are feasible. Double cortical screws could be placed safely in the danger zone through the middle window of the ilioinguinal approach to increase the stability of the acetabulum.

Keywords: Acetabular fracture, Quadrilateral plate, Screw placement, Digital measurement

Background

The ilioinguinal approach is a standard anatomical approach that gives an excellent visual and exposure of the quadrilateral plate through the middle window [1]. Unfortunately, screw placement for acetabular fracture is difficult due to its complicated geometry, especially

when conducted in the danger zone of the acetabulum for the treatment of displaced quadrilateral plate fractures. Traumatic hip arthritis can be developed in patients with non-anatomically reduced fractures even with well-placed screws [2].

Many experts have studied the danger zone and have analysed screw implants in cadavers [3–5]. It is very difficult to place a double cortical screw directly in the danger zone to fix the quadrilateral plate [6, 7]. Several techniques have been reported to prevent complications with screw placement in the danger region of the

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Research Article

Digital Anatomy to Improve Screw Insertion Techniques for Plate-Screw Fixation of the Pubic Body

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Objective: This study aims to investigate screw insertion sites on the pubic body and the safe screw insertion parameters of a plate-screw fixation system based on the premise of avoiding damage to the inguinal canal and disruption of the rectus abdominis at the pubic symphysis and pubic crest. **Research Methods:** Excluding cases with poor image quality, tumors, malformations, and fractures, the data of 140 healthy adults (60 males and 80 females aged from 21 to 83 years old, with an average age of 51.69 years) undergoing a computed tomography (CT) scan of the pelvis between January and June of 2017 were collected from Shandong Provincial Hospital. The CT scans were imported to Mimics® software to reconstruct three-dimensional pelvic models. A 3.5 mm pelvic reconstruction plate was placed starting at the outer edge of the pubic tubercle and along the pubic crest. The two innermost screw insertion sites were marked. The safe range for the screw insertion sites was then determined. The screw insertion plane was selected to measure the safe screw insertion parameters. The length of the screw, the direction of insertion, and intersex differences were then explored via statistical analyses. **Results:** The medial inclination angle (MIA) of the screw insertion plane for males and females were $30.42^\circ \pm 2.97^\circ$ and $32.80^\circ \pm 0.85^\circ$, respectively, with no statistically significant differences. For the medial screw, the maximum anterior inclination angle (MAIA), the maximum screw length, and the maximum posterior inclination angle (MPIA) were $46.51^\circ \pm 4.08^\circ$, $12.40^\circ \pm 9.53^\circ$ mm, and $11.78^\circ \pm 10.22^\circ$ on average, respectively, with no significant differences by gender ($P > 0.05$). For the lateral screw, the MAIA was $10.35^\circ \pm 4.86^\circ$ and showed no gender differences ($P > 0.05$), but the male group had a greater MPIA (male $11.60^\circ \pm 1.00^\circ$ vs. female $5.23^\circ \pm 2.97^\circ$, $P < 0.05$) and maximum screw length (male 55.71 ± 6.36 mm vs. female 49.61 ± 9.65 mm, $P < 0.05$). For the tangential screw, the maximum screw length, MIA, and anterior-posterior inclination angle (APIA) were $52.29^\circ \pm 8.55^\circ$ mm, $31.65^\circ \pm 4.47^\circ$, and $7.53^\circ \pm 10.18^\circ$, respectively, with no significant differences in the angles by gender (both $P > 0.05$), although the screw length in the male group was significantly longer than that in the female group. **Conclusions:** Insertion of two screws into the pubic body through a plate from the lateral side of the pubic tubercle is safe and can maintain the origin of the rectus abdominis and the integrity of the inguinal canal compared to traditional plate-screw fixation. Considering that the pubic body is thinner on the lateral side, we suggest a more medial inclination angle for the lateral screw.

1. Introduction

The pelvis is a complicated structure comprising the posterior sacrum and bilateral hip bones and exhibits considerable variations in geometrical and mechanical features. Tie et al. [1] found that the posterior ring provides approximately 60% of pelvic stability, whereas the anterior ring provides the other 40%. A finite element analysis of lateral pelvic

trauma [2] found that the anterior region of the pelvis is most sensitive to the force of trauma, and the pubic branch was usually fractured first. Although the acetabular anterior column is thinner than the posterior column, the former provides 2.75 times more pelvic stability than the latter [3]. In complicated pelvic and pubic branch fractures, Lei et al. [4] found that fixation of the pubic branch significantly lowers the concentration of stress at the pelvic bone compared with

6、专利

序号	申请时间	专利名称	专利号	发明人
1	2021	一种用镁/羟基磷灰石/ 聚乳酸复合材料制作的 支架	—	徐鹏
2	2010	骨科导航专用空心钻	2010201 33123	穆卫东
3	2007	髌臼骨折微创自动复位 器	ZL20072 0159086 .8	穆卫东

专利申请证明

兹证明山东第一医科大学附属省立医院徐鹏身份证号
码 370882198102110031 在我司进行发明专利申请，发明专
利名称是①一种用镁/羟基磷灰石/聚乳酸复合材料制作的支架

特此证明！



2021 年 4 月 26 日

7、医学专著

序号	时间	名称	出版社	主（副）编
1	2011	《现代创伤骨科急重症学》	吉林出版集团	穆卫东
2	2009	《骨盆创伤学》	山东科学技术出版社	穆卫东
3	2007	《实用骨科导航技术》	人民军医出版社	穆卫东
4	2014	《全国名中医邵念方教授临床学术研究》	山东教育出版社	王华
5	2013	《常见老年病的中西医诊疗与护理》	天津科学技术出版社	王华

