

OUTCOMES

国家心血管病中心 阜外心血管病医院
内科年度报告2011

BEIJING, P.R. CHINA

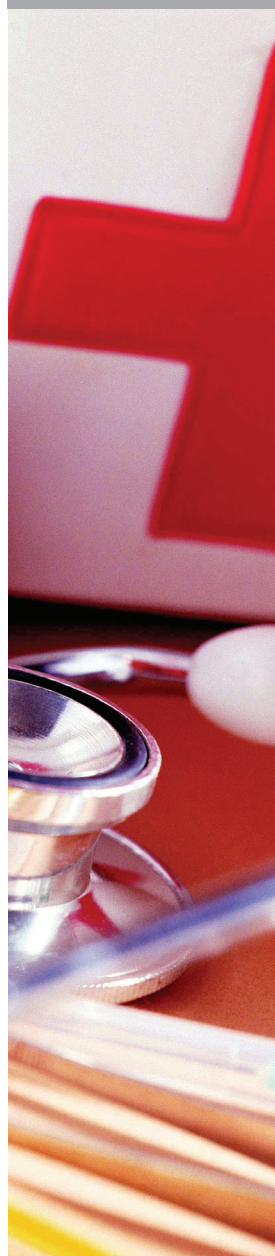


Department of Cardiovascular Medicine
Cardiovascular Institute & Fu Wai Hospital
Chinese Academy of Medical Sciences &
Peking Union Medical College
National Center for
Cardiovascular Diseases

2011



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2011
OUTCOMES

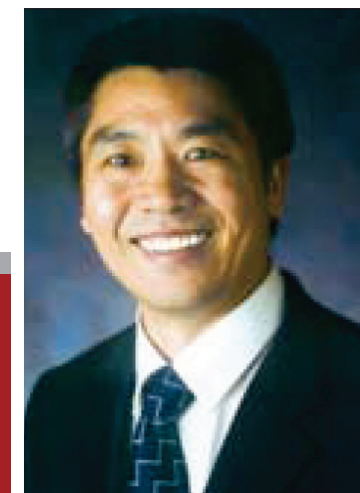
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院长寄语：

2011 年，注定是阜外医院内科团队难忘的一年。这一年，内科团队诊治患者超过了 30 万例。这意味着通过我们整个团队的努力和奉献，我们提供了更好的服务，救治了更多的患者。《阜外医院内科年度报告 2011》作为连续第四年公开发布的年度业绩报告，系统回顾了过去一年的工作，展示了阜外医院内科团队这一里程碑式的成绩。

心血管疾病目前已经成为中国人的“第一杀手”，而心血管病治疗领域内新技术和新治疗手段层出不穷。希望我们在报告中提供的信息，能供同行和病友们作一些有益的参考。同时，这份年报也反映了阜外医院心血管内科在开展新技术，传播新知识方面所做的努力。

“创新与品质”，是我们阜外团队永恒的追求！



胡盛寿 教授

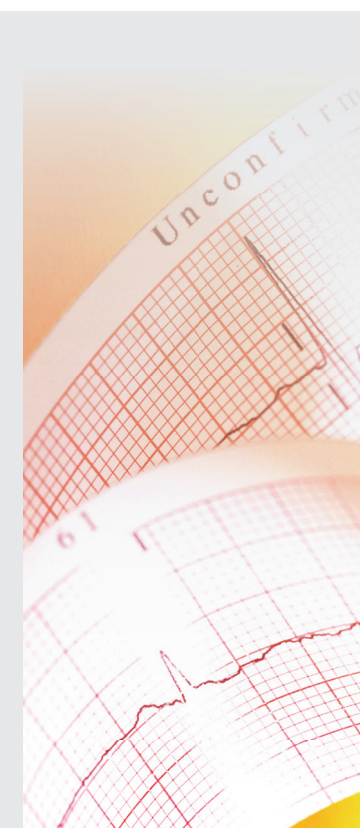
阜外心血管病医院院长
心血管病研究所所长

Shengshou Hu,
MD, FACC
President of Fu Wai
Hospital
Director of Cardiovascular
Institute

阜外

心血管病医院始建于 1956 年，见证了中国心血管疾病防治事业的发展同时取得了辉煌的成就。2010 年国家心血管病中心成立以来，阜外人秉承“敬业 仁爱 求实 攀登”的阜外精神，精诚团结，锐意进取，不断面对新的机遇及挑战。适逢建院 55 年，谨以 2011 年心内科年度报告与各位同仁分享本年度心内科取得的成就及最新进展。

心内科目前拥有 230 余位在职医生，包括 8 个临床诊治中心，其中血脂异常与心血管病诊治中心、内分泌与心血管病诊治中心为新建立并发展迅速。心血管内科于本年度获批国家临床重点专科。各临床诊治中心及多个国家级 / 部级重点实验室通过与国内外学界深入交流与合作，汲取最新的学术成果，不断创新和发展，始终走在心血管病学的前沿，在临床、科研及教学等领域继续进步，致力于以先进的知识及技术为患者提供更好的诊疗与服务。



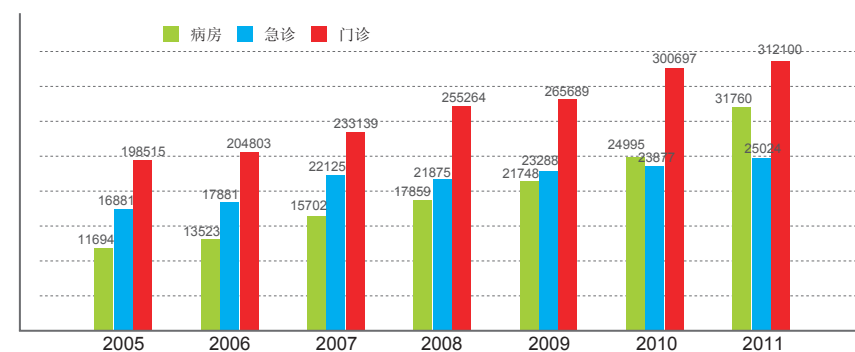
概述

Overview of Department of Medicine



心血管内科目前共有8个临床诊治中心、1个药物试验基地和3个相关实验中心，拥有正教授51名及副教授44名，主治医师72名，住院医师40名。2011年度心血管内科年住院量达31760人次，门诊量达312100人次，介入手术总量达27561例，其中冠脉介入手术突破万例，达到10649例，起搏器及ICD植入1376例，导管射频消融3254例，成为国际最大的冠心病介入治疗中心及心律失常介入诊疗中心，并在难治性心力衰竭、继发性高血压基因诊断以及其他复杂性、难治性心血管疾病的诊疗方面处于世界先进和国内领先水平。

2005至2011年心内科住院病例数及门诊病例数

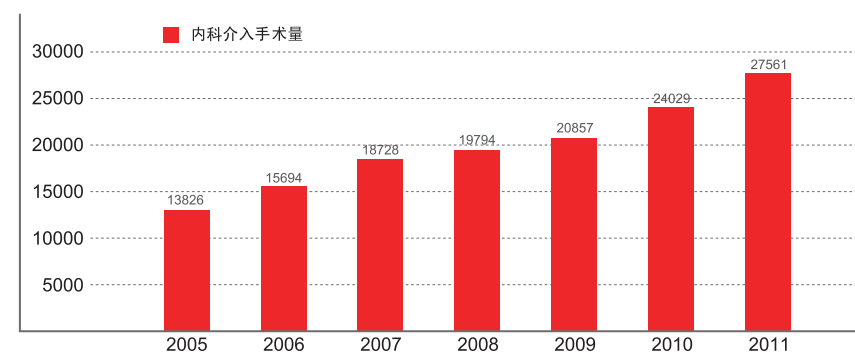


2011年，心内科住院患者平均住院时间为6.1天，各病区平均周转次数为：57.1次/床/年。

2011年，心内科住院病人的死亡率为0.3%，达世界先进水平。

2011年，心内科介入手术量达27,561例，标志着我院已步入世界大型介入医疗中心行列。

2005至2011年内科介入手术量

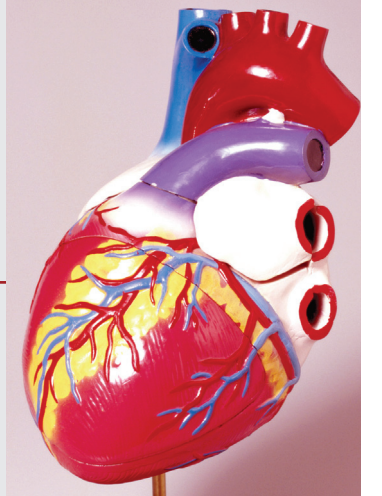


冠心病中心

Coronary Heart Disease Center

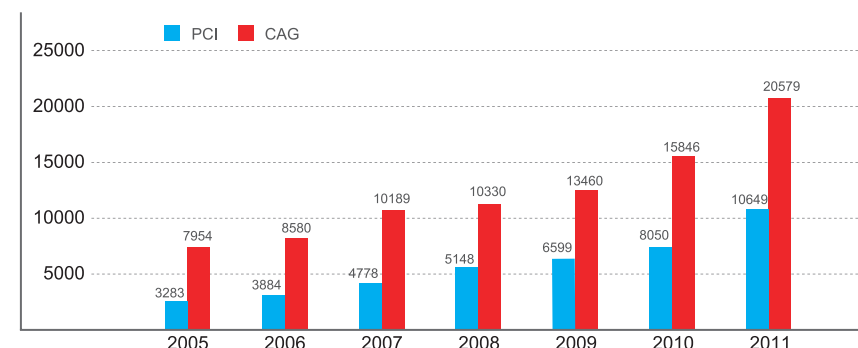
冠心病中心

阜外医院冠心病研究室创立于1978年，我国著名心脏病学专家陶寿淇、陈在嘉、徐义枢和陈纪林教授分别担任前四任研究室主任，现任主任为杨跃进教授。冠心病研究室是集科研、临床和教学为一体的临床研究室，2003年更名为冠心病诊断治疗中心，目前有教授（主任医师）14名，其中1名工程院院士，副主任医师16名，本中心培养的主治医师20名，在院就读博士研究生25名，硕士生11名。伴随着阜外心血管病医院北楼医疗区的投入使用，冠心病诊治中心目前共下辖6个专业病房，监护病房CCU、ICU各1个，共开放200张床位。PCI量首破万例，达到10649例，其中多支、复杂病变以及高龄、高危病例占3/4以上，包括多支病变8404例，≥75岁690例，左主干病变498例，闭塞性病变2245例；经桡动脉微创模式完成率达90.8%（9673/10649）；PCI质量继续维持高水平，择期PCI住院病死率<0.05%（实际0.02% 2/10135），低于卫生部要求<0.5%的10倍，AMI急诊PCI死亡率低至0.97%（5/514）。上述三项指标均为国际第一或唯一。中心本年度继续圆满完成向中国CIT和欧洲PCR大型国际介入会议转播经桡动脉介入治疗左主干分叉病变双支架植入手术演示，获得国际介入界的高度关注和认可。标志着中心已建设成为名副其实国际最大、质量最优的冠心病介入治疗和TRI微创中心。2011年冠心病中心获批科研成果4项，其中国家科技进步二等奖1项，省部级科技进步奖3项，新申请到纵向科研基金13项，其中十二五国家科技支撑计划1项（牵头），“863”计划子课题2项，国家自然科学基金4项，院校级基金6项，正在进行的纵向课题14项，横向课题28项。2011年发表论文共30篇，其中SCI文章12篇，最高影响因子6.8分。



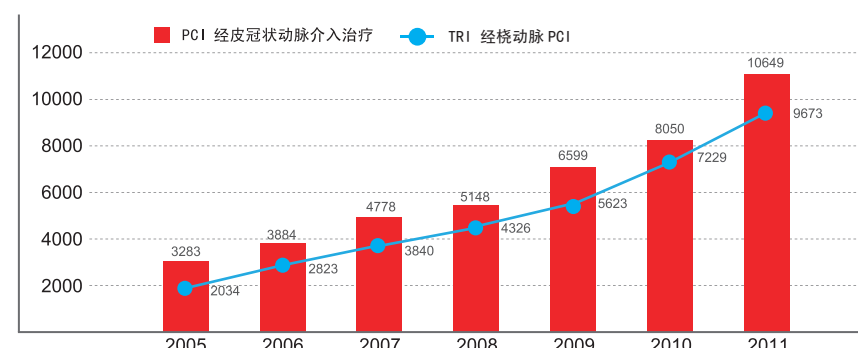


2005 至 2011 年冠状动脉造影及 PCI 例数

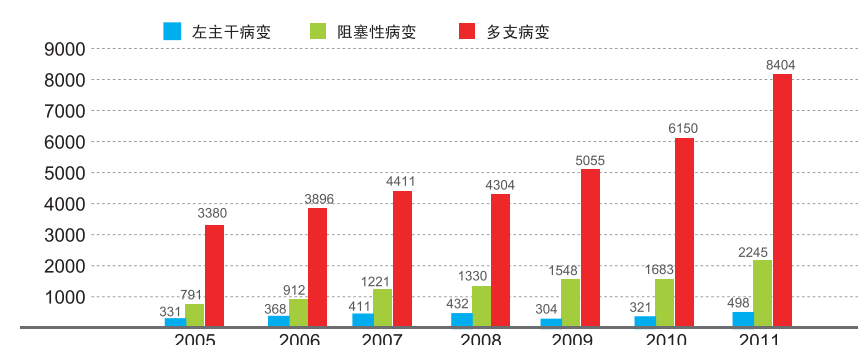


CAG: 冠状动脉造影 PCI: 经皮冠状动脉介入治疗

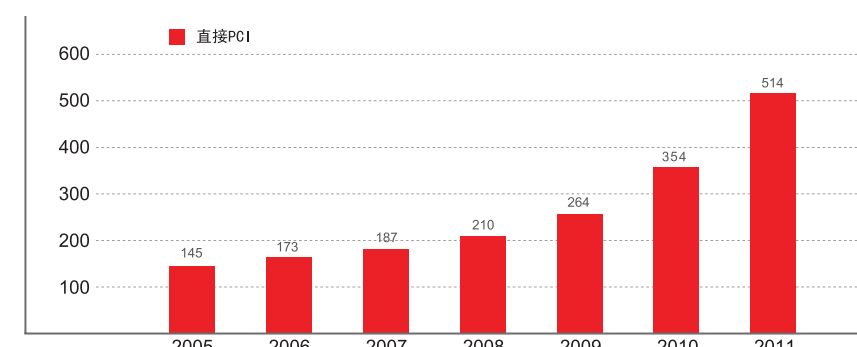
2005 至 2011 年经桡动脉 PCI 例数



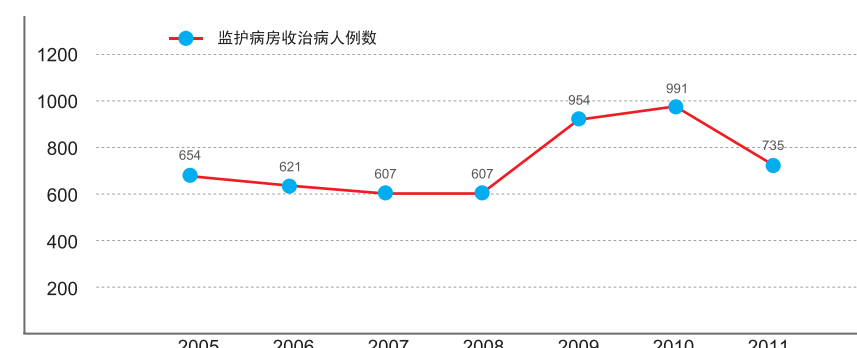
2005 至 2011 年复杂冠脉介入治疗例数



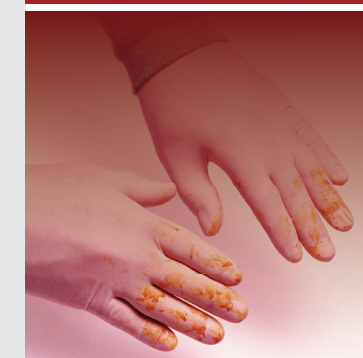
2005 至 2011 年急诊 PCI 例数



2005 至 2011 年冠心病监护病房收治病人例数



冠心病监护病房 (CCU) 隶属冠心病中心, 从事冠心病急重症抢救与监测, 目前共开放床位 16 张, 2011 年共收治急性心肌梗死病人 735 例。



用心守护健康
海右仁美林

心律失常中心

Cardiac Arrhythmia Center

心律失常中心

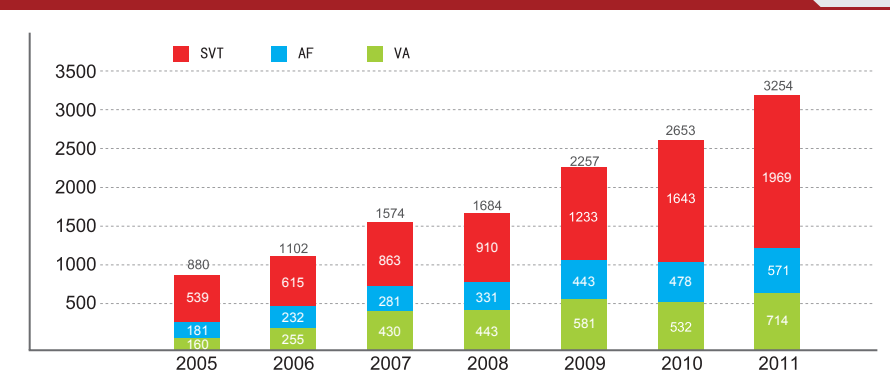
前身为阜外医院临床电生理研究室，始建于1981年，是当时国内唯一一家从事心律失常研究与治疗的专业机构，2003年更名为心律失常中心，是国内最大规模的心律失常研究和诊治中心。目前共拥有4个病房单元，开放床位数100张。2001年以来，已累计完成经导管射频消融逾18,000例，起搏器及ICD植入9000余例。近年来手术量保持每年15%~20%的速度递增。2011年，全年共植入起搏器及ICD 1,376例，导管射频消融治疗3,254例，其中房颤消融571例，室性心律失常400余例，不论在规模上还是质量上都位居亚太地区同行业之首，规模上已成为国际上最大的心律失常介入治疗中心之一。心律失常中心人才梯队优势明显，目前已拥有多组富有经验与熟练配合的手术团队，对于各种疑难心律失常具有“全天候作战能力”，治疗范围涵盖了全部类型的心律失常，不仅针对房颤及复杂房性心律失常开展深入的临床诊治研究，同时坚持对复杂、疑难室性心律失常积极探索，手术疗效及随访结果达国际先进水平。

阜外医院心律失常中心通过中华医学会心电生理与起搏学会为国内、国际心律失常学界同仁搭建了学术交流的良好平台，为我国心律失常新观念、新技术的推广及普及做出了不遗余力的贡献。作为亚太地区心律失常领域的重要成员，本中心活跃在大型国际性及区域性心律失常学术活动，承担了亚太地区心律失常学会APHRS第二届年会的组织工作，并作为重要参加者参与2011年中国心脏大会全方位展示了阜外医院心律失常中心取得的成就。

心律失常中心作为牵头单位，连续圆满完成国家“十五”“十一五”科技攻关课题及支撑计划，在房颤、心脏性猝死方面取得了广泛与深入的研究成果，其中“十五”课题“中国心脏性猝死的流行病学及综合防治研究”获中华医学科技二等奖。

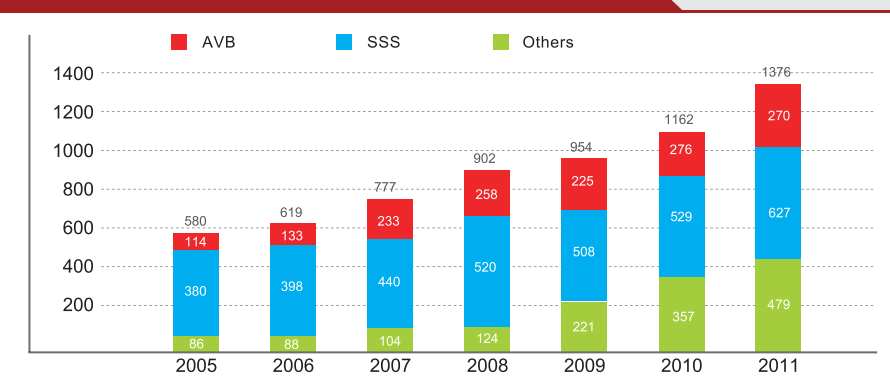
2011年，作为共同牵头单位，又获得二项国家“十二五”支撑课题。此外，本中心植入了国内首例可兼容磁共振检查的心脏起搏器。

2005年至2011年导管射频消融病例数（心律失常类型分类）



VA：室性心律失常 AF：心房颤动 SVT：室上性心动过速

2005年至2011年器械植入治疗各种心律失常例数



AVB：房室传导阻滞 SSS：病态窦房结综合征 Others：其他（含ICD+CRT）

高血压中心

Hypertension Center

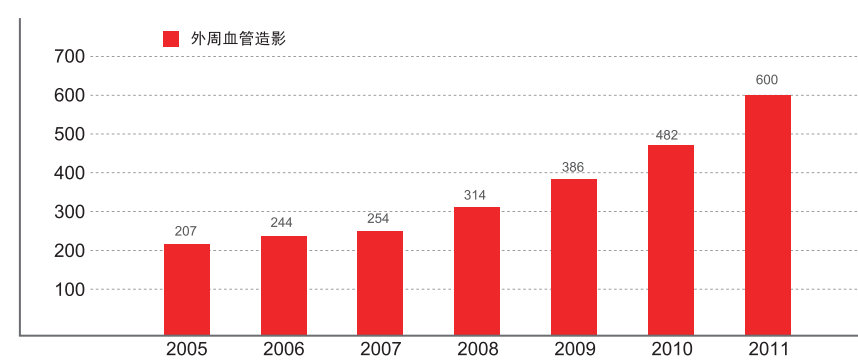
肺血管病中心

Pulmonary Vascular Disease Center

高血压中心

前身为高血压研究室，2003 年更名为高血压中心。目前有 1 个病房，38 张床位。中心从事高血压和外周血管病研究和诊治，在继发性高血压、顽固性高血压和外周血管病的规范化诊断和治疗方面有丰富的经验，目前已成为亚太地区该领域最大的诊治中心之一，在国内外同行中享有盛誉。周围血管介入诊治范围遍及全身，每年新增病例 20%–30%，2011 年中心完成周围血管介入治疗 600 余例，围手术期并发症发生率降至 2.5%，明显低于国际文献报道，中远期疗效已达到国际公认的优秀水平。新近开展了经皮选择性肾上腺动脉栓塞治疗原发性醛固酮增多症和去肾交感神经射频消融术的临床研究，与国际先进水平接轨。

2005 至 2011 年外周血管造影病例数



肺血管病中心

前身为肺心病研究室，成立于 1972 年，2003 年更名为肺血管病中心。目前有 1 个病房单元，床位 36 张。是全国最早成立的、直接隶属于院所领导的、专门从事肺血管病医疗、教学、科研和预防于一体的临床诊治中心。肺动脉高压和右心衰竭的诊治水平在全国位居第一；肺栓塞的诊断及治疗在全国处于领先水平，已跨入国际先进行列。2011 年肺血管病住院患者达到 1115 例，其中肺动脉高压 336 例，肺栓塞 255 例。2011 年右心导管检查及肺血管介入患者数量达 121 例（不含本院放射科工作量），无一例死亡。已成为全球最大规模的肺血管病医疗中心。

2011 年中心科研工作再上新台阶。承担国家“十二五”科技支撑计划重大项目三项，其中牵头一项，参加二项，同时承担国家自然科学基金项目和其他在研课题 8 项，国际多中心临床试验 10 项。2011 年中心共发表论文 17 篇，其中 SCI 论文 5 篇。经中华医学会心血管病学分会授权，组织全国相关领域专家撰写《中国右心衰竭诊断和治疗专家共识》。



临床药理中心

卫生部心血管药物临床研究重点实验室

Clinical Pharmacology Center & Key laboratory of Clinical Trial Research in Cardiovascular Drugs, Ministry of Health

临床药理中心 & 卫生部心血管药物临床研究重点实验室

临床药理中心 / 阜外医院药物临床试验机构 / 不良反应监测办公室 (ADR) / 卫生部心血管药物临床研究重点实验室, 下属 4 个子实验室, 包括药物代谢实验室、治疗药物监测 (TDM) 实验室、临床检验检测实验室和基因与蛋白质研究实验室; 并拥有 1 个病房和 1 个 I 期病房。

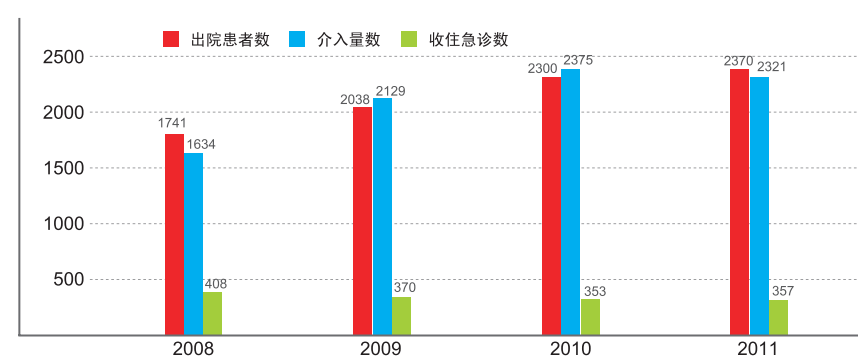
2011 年在完成临床工作的同时, 利用已经建立的人体临床心血管药物评价关键技术平台新开展了药物临床试验 9 项。正在进行的国家级课题有 7 项。2011 年新获得资助的科研项目有 4 项。

2011 年机构办公室完成了我院药物临床试验资格复核准备工作, 已通过北京市卫生局、北京市药监局资格认定复核, 已通过国家药监局形式审查并受理。

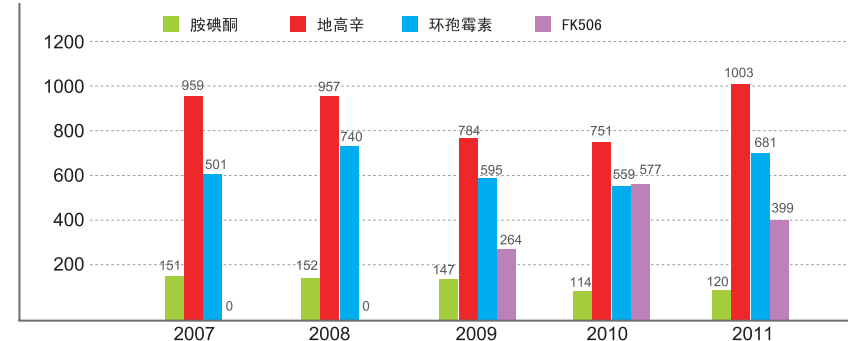
2011 年完成我院治疗药物监测 (TDM) 工作, 地高辛 1003 个; 环孢霉素 681 个; 胺碘酮 120 个; FK506 399 个, 总计 2203 个。

2011 年共上报不良反应 103 例, 比去年同期增加 150%。对医护人员进行现场培训 12 次, 课堂培训 5 次, 提高了大家对不良反应的上报意识。2011 年 4 月我院 ADR 办公室受到了北京市药监局和北京市卫生局的表彰, 授予“北京市药品不良反应监测工作先进单位”。

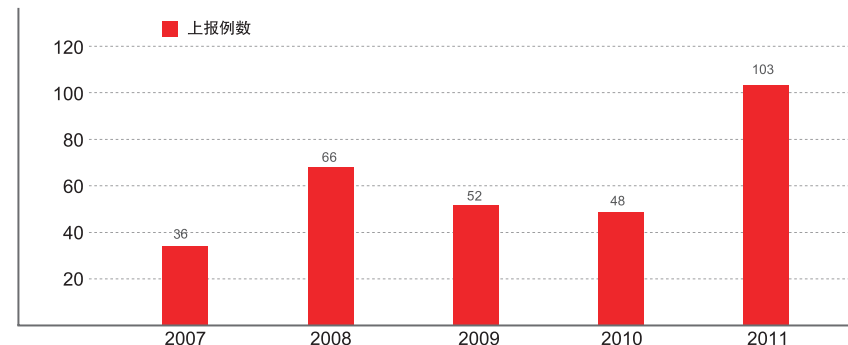
2008 至 2011 年住院诊治情况



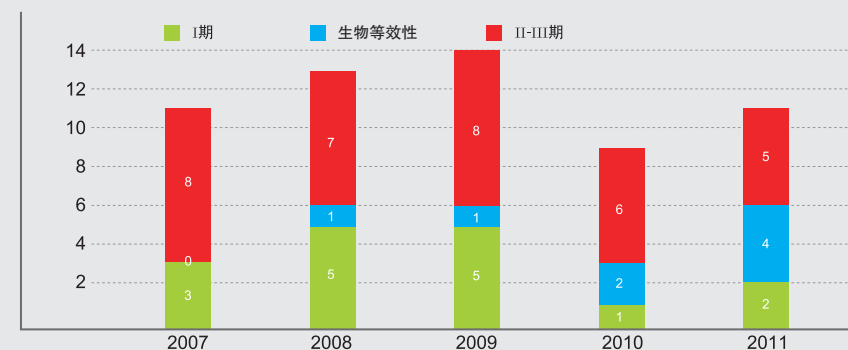
2007 至 2011 治疗药物监测例数



2007 至 2011 不良反应上报例数



2007 至 2011 在机构备案管理的药物临床试验例数



急重症中心

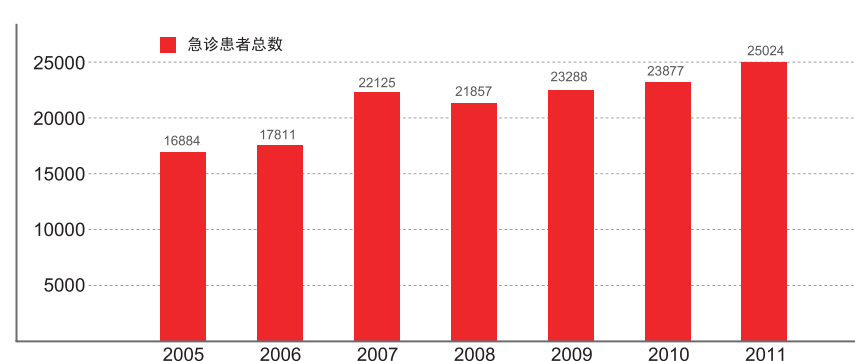
Emergency and Intensive Care Center

急重症中心

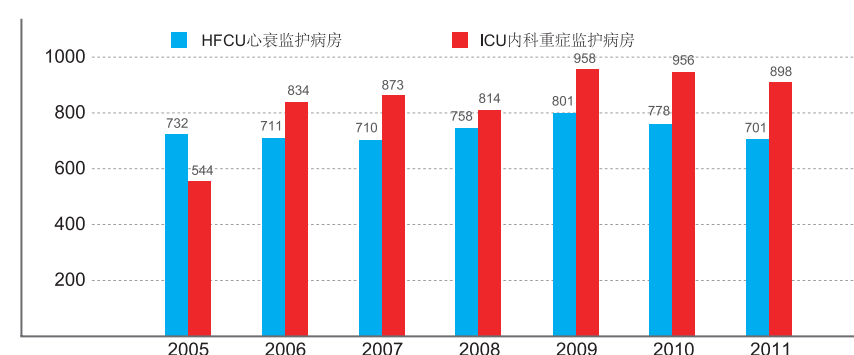
急重症中心由急诊室、重症监护病房（ICU）、心力衰竭监护病房（HFCU）、重症后恢复病房及心脏移植病房组成。各病房分别有床位 48 张、22 张、17 张、20 张和 8 张，是国内大型的专门的心血管病急重症诊疗和研究机构。急重症中心有一批经验丰富、学术造诣较高的临床专家，配备有各种先进的抢救设备。2011 年全年急诊接诊危重患者 25024 人次，抢救成功率大于 99%。ICU、HFCU 和重症后恢复病房主要接收危重 / 终末期缺血性心脏病、各种心肌炎、重症心肌病、瓣膜病、主动脉夹层、心包病等，全年住院病人 2800 多例。ICU 和 HFCU 的平均住院日分别为 13.7 天和 12.4 天。在完成临床工作的同时，急重症中心致力于科研工作，包括：国家、部委项目和课题，I-IV 期、PK/PD 药物临床试验，国际多中心协作课题，如 CREATE、OASIS-6、RE-LY、Ascend HF、麦哲伦研究等。

近年来急重症中心成功申请获得了两项首都医学发展基金联合攻关项目。获得四项国家“十二五”科技支撑计划重大项目。并获得国家心血管病重点实验室资助项目。近五年来中心在 JACC、Eur J Nucl Med Mol imaging、中华医学等期刊发表论文数十篇。2011 年共发表论文 9 篇，其中 SCI 论文 2 篇。

2005 至 2011 年急诊室就诊病例数

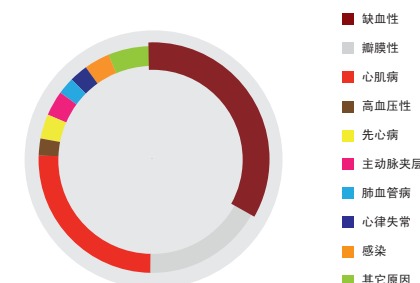


2005 至 2011 年急重症抢救中心（ICU 及 HFCU）住院病例数



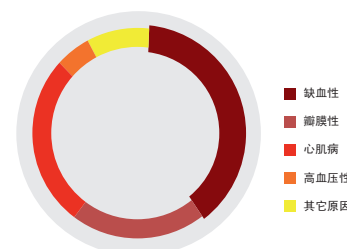
ICU: 内科重症监护病房 HFCU: 心衰监护病房

重症监护病房患者病因分析



2011 年，心肌病、瓣膜性心脏病及缺血性心脏病占重症监护病房住院患者病因构成的 75% 以上。

心衰重症监护病房患者病因分析



2011 年，心肌病、瓣膜性心脏病及缺血性心脏病占心衰监护病房住院患者病因构成的 80% 以上。

内分泌与心血管病诊治中心

Endocrinology and Cardiovascular Disease Center

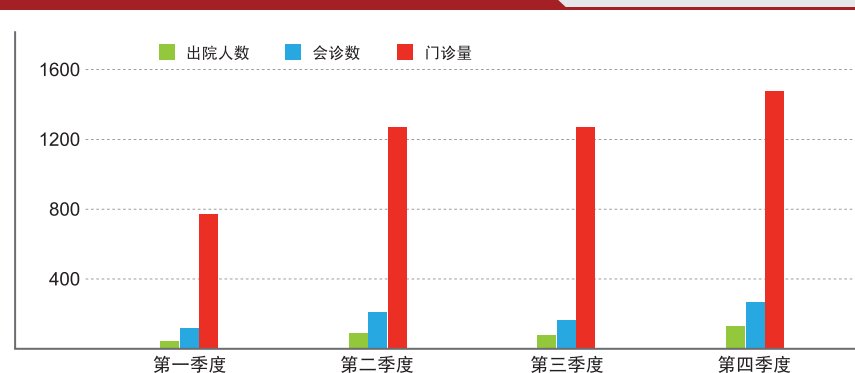
血脂异常与心血管病诊治中心

Dyslipidemia and Cardiovascular Disease Center

内分泌与心血管病诊治中心

内分泌与心血管病诊治中心始建于2011年，目前有一个病房和一个中心实验室，病床30张。建科一年门诊量达到4000余人次，收治患者492人，会诊量近1000人次。内分泌中心由多位具有多年临床、教学和科研工作经验的内分泌专家组成，由我国著名的内分泌学专家、中华医学会内分泌学分会副主任委员李光伟教授担任中心首席专家和中心主任。中心承担糖尿病、甲状腺疾病、甲状旁腺疾病、肾上腺及脑垂体疾病、内分泌性高血压病、低血糖症和骨质疏松等各种内分泌及代谢性疾病的诊断和治疗。本中心特色治疗为对初发2型糖尿病患者进行短期胰岛素泵强化治疗，能使近50%的患者在多年内不用任何降糖药物而血糖维持接近正常，这对已发生心血管疾病的糖尿病患者将十分有利。另外本中心还应用连续动态血糖监测技术，加强心血管疾病围手术期的血糖管理，使血糖能尽快平稳达标。2011年度在科研方面，由中心主任李光伟教授参与和主持的“生活方式干预预防糖尿病及其大小血管并发症的20年随访研究”，获得2011年度中华医学科技奖二等奖，中心三名成员作为该研究重要参与者也同时获得个人中华医学科技奖二等奖。2011年在研课题5项，其中4项为2011年度新获资助课题。发表论文8篇，其中SCI文章3篇。

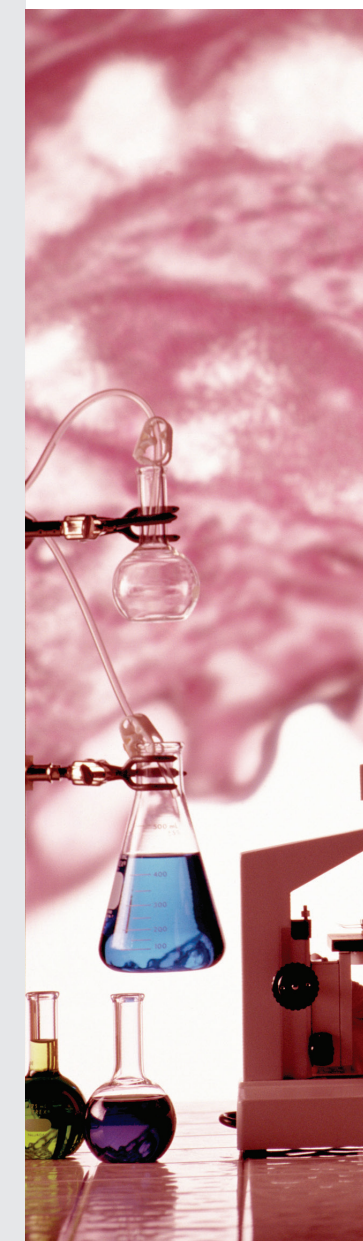
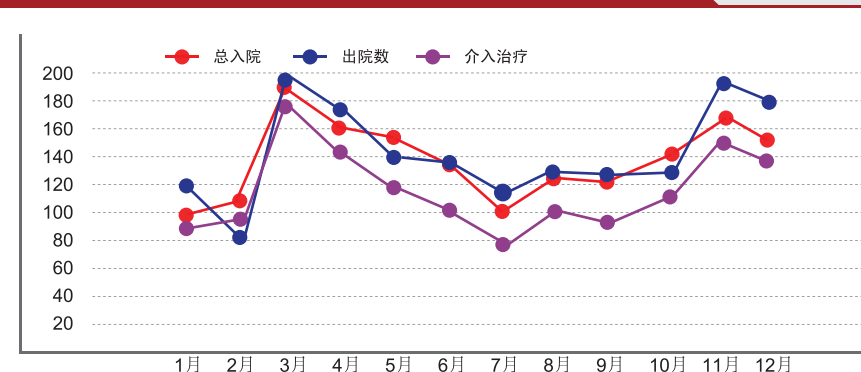
内分泌中心2011年收治患者情况



血脂异常与心血管病诊治中心

中心成立于2010年9月，其附设25B病区位于医院北楼，额定床位数25张，以血脂异常合并冠心病患者为主要收治对象，并配有脂代谢实验室，以人群血脂异常防治、原发与继发性血脂异常与炎症及动脉粥样硬化性疾病为主要研究内容。本中心为国内最先建立的、专门从事脂代谢异常与冠心病诊治的集医疗、教学、科研于一体的临床诊治与研究机构。2011年中心共收治血脂异常合并冠心病为主的心血管疾病患者1618例，总收入4819万元，净利润共计620万元，人均约30万元；医疗质量实现无事故、无投诉、无死亡、无医疗差错。2011年5月和11月成功开展2次血脂健康教育讲座，参会人数近800人；2011年8月举办“牛津-阜外心血管病研究热点论坛”；参加院外特邀血脂相关学术讲座80余次；编译专著1部，发表论文18篇，其中SCI收录论文10篇；现承担国家自然科学基金、国家科技重大专项课题、国际多中心大规模临床试验、中央级公益性科研院所基金等多项课题，已初步形成新学科的基本雏形。

2011年血脂异常与心血管病诊治中心临床工作量情况



合作、交流与培训

Collaboration, Exchange and Training



庆祝“卫生部心血管药物临床研究重点实验室”成立十周年，重点实验室联合中华医学会和国家心血管病中心共同举办了《常见心血管药物临床评价》研讨会。李一石主任做了“成长与奋进——卫生部心血管药物临床研究重点实验室成立十周年”的主题报告，同时就重点实验室的研究成果和国内外同行进行交流。



历经10年的发展，中国介入心脏病学会（CIT）已成为介入心脏病学领域的国际平台，是全球第三大介入心脏病学会议。



张澍主任代表中华医学会心电生理和起搏分会和国际心律学考试委员会签署合作协议



血脂中心举行“血脂异常与心血管疾病”健康宣教系列活动



高血压中心于2011年12月2-4日在江苏省徐州市主办了“中国难治性高血压高峰论坛”，主要针对高血压的最新进展和最新诊疗进展、危险因素识别等热点问题进行了交流讨论，论坛邀请到专业领域内的40多位知名专家在会上做了精彩报告，参会代表达到400余人。



肺血管中心主持召开“中国右心衰竭诊断和治疗专家共识”定稿会。



美国心脏学会2011年度杰出科学家奖获得者，心肌病研究领域著名专家Jeffrey Robbins教授来我院参观，并与心衰病房达成合作项目。



2011 年内科发表 SCI 论文

New Papers published in 2011

2011 年内科发表 SCI 论文

- 1. Zhang Y, Zhang X, Liu L et al. Is a systolic blood pressure target <140mmHg indicated in all hypertensives? Subgroup analyses of findings from the randomized FEVER trial. *Eur Heart J*. 2011 Jun;32(12):1500-8.
- 2. Dong Q, Yang Y, Song L et al. Atorvastatin prevents mesenchymal stem cells from hypoxia and serum-free injury through activating amp-activated protein kinase. *Int J Cardiol*. 2011 Dec 15;153(3):311-6.
- 3. Zheng XX, Xu YL, Li SH et al. Green tea intake lowers fasting serum total and LDL cholesterol in adults: a meta-analysis of 14 randomized controlled trials. *Am J Clin Nutr*. 2011 Aug;94(2):601-10.
- 4. Meng L, Park J, Cai Q et al. Diabetic conditions promote binding of monocytes to vascular smooth muscle cells and their subsequent differentiation. *Am J Physiol Heart Circ Physiol*. 2010 Mar;298(3):H736-45.
- 5. Xu H, Yang YJ, Qian HY et al. Rosuvastatin treatment activates JAK-STAT pathway and increases efficacy of allogeneic mesenchymal stem cell transplantation in infarcted hearts. *Circ J*. 2011;75(6):1476-85.
- 6. Yang JG, Li J, Lu C et al. Chronic kidney disease, all-cause mortality and cardiovascular mortality among Chinese patients with established cardiovascular disease. *J Atheroscler Thromb*. 2010 Apr 30;17(4):395-401.
- 7. Guan HS, Shangguan HJ, Shang Z et al. Endoplasmic reticulum stress caused by left ventricular hypertrophy in rats: effects of telmisartan. *Am J Med Sci*. 2011 Oct;342(4):318-23.
- 8. Chen YY, Lee YS, Wang JP et al. Longitudinal study of childhood adiposity and the risk of developing components of metabolic syndrome-the Da Qing children cohort study. *Pediatr Res*. 2011 Sep;70(3):307-12.
- 9. Gao L, Mao Q, Wen D et al. The effect of beta-blocker therapy on progressive aortic dilatation in children and adolescents with Marfan's syndrome: a meta-analysis. *Acta Paediatr*. 2011 Sep;100(9):e101-5.
- 10. Gao L, Zhou X, Zhang L et al. Factors influencing prognosis in patients with marfan syndrome after aortic surgery. *J Cardiothorac Vasc Anesth*. 2011 Aug;25(4):625-31.
- 11. Gong Q, Gregg EW, Wang J et al. Long-term effects of a randomised trial of a 6-year lifestyle intervention in impaired glucose tolerance on diabetes-

related microvascular complications: the China Da Qing Diabetes Prevention Outcome Study. *Diabetologia*. 2011 Feb;54(2):300-7.

- 12. Guo YL, Liu J, Li JJ et al. A multi-center survey of achieving recommended lipid goals in Chinese patients with coronary artery disease in real world cardiovascular practice. *Int J Cardiol*. 2011 Dec 1;153(2):211-2.

- 13. Han Y, Fan X, Sun K et al. Hypertension associated polymorphisms in WNK1/WNK4 are not associated with hydrochlorothiazide response. *Clin Biochem*. 2011 Sep;44(13):1045-9.

- 14. Han YF, Fan XH, Wang XJ et al. Association of intergenic polymorphism of organic anion transporter 1 and 3 genes with hypertension and blood pressure response to hydrochlorothiazide. *Am J Hypertens*. 2011 Mar;24(3):340-6.

- 15. Qiao Q, Hua W, Zhang S. Preimplant left ventricular end-diastolic dimension and body weight independently associate with paced QRS duration in patients receiving right ventricular apical pacing for complete atrioventricular block. *Clin Cardiol*. 2010 Nov;33(11):715-9.

- 16. Chen W, Yao Y, Zhang S et al. Comparison of operator radiation exposure during coronary sinus catheter placement via the femoral or jugular vein approach. *Europace*. 2011 Apr;13(4):539-42.

- 17. Liu J, Fang PH, Dibs S et al. High-

sensitivity C-reactive protein as a predictor of atrial fibrillation recurrence after primary circumferential pulmonary vein isolation. *Pacing Clin Electrophysiol*. 2011 Apr;34(4):398-406.

- 18. Jiang J, Tian L, Huang Y et al. Pharmacokinetic profiles of hydrochlorothiazide alone and in combination with benazepril or valsartan in healthy Chinese volunteers: evaluation of the potential interaction. *Int J Clin Pharmacol Ther*. 2011 Dec;49(12):756-64.

- 19. Zhao JL, Fan CM, Yang YJ et al. Chronic Pretreatment of Metformin is Associated with the Reduction of the No-Reflow Phenomenon in Patients with Diabetes Mellitus After Primary Angioplasty for Acute Myocardial Infarction. *Cardiovasc Ther*. 2011 Jul 1. doi: 10.1111/j.1755-5922.2011.00294.x.

- 20. Tian L, Liu H, Xie S et al. Effect of organic anion-transporting polypeptide 1B1 (OATP1B1) polymorphism on the single-and multiple-dose pharmacokinetics of enalapril in healthy Chinese adult men. *Clin Ther*. 2011 May;33(5):655-63.

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CardioDetect rapid test for the diagnosis of early acute myocardial infarction. *J Immunoassay Immunochem.* 2011;32(4):342-52.

■ 23. Linggen G, Lin Z, Xiaohan F et al. Comparison of aortic dissection in Chinese patients with and without Marfan syndrome. *Postgrad Med J.* 2011 May;87(1027):325-30.

■ 24. Shen XX, Li HL, Pan L et al. Glucotoxicity and α cell dysfunction: involvement of the PI3K/Akt pathway in glucose-induced insulin resistance in rat islets and clonal α TC1-6 cells. *Endocr Res.* 2012;37(1):12-24.

■ 25. Wang X, Li S, Bai Y et al. Inverse association of plasma level of high-density lipoprotein cholesterol with intracerebral hemorrhage. *J Lipid Res.* 2011 Sep;52(9):1747-54.

■ 26. Wang Y, Liu ZH, Zhang HL et al. Predictive value of D-dimer test for recurrent venous thromboembolism at hospital discharge inpatients with acute pulmonary embolism. *J Thromb Thrombolysis.* 2011 Nov;32(4):410-6.

■ 27. Wen D, Wu HY, Jiang XJ et al. Role of plasma C-reactive protein and white blood cell count in predicting in-hospital clinical events of acute type A aortic dissection. *Chin Med J (Engl).* 2011 Sep;124(17):2678-82.

■ 28. Wen D, Zhou XL, Li JJ et al. Biomarkers in aortic dissection. *Clin Chim Acta.* 2011 Apr 11;412(9-10):688-95.

■ 29. Xiong CM, Lu XL, Shan GL et al. Oral sildenafil therapy for Chinese patients with pulmonary arterial hypertension: a multicenter study. *J Clin Pharmacol.* 2012 Mar;52(3):425-31.

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■ 31. Zeng WJ, Sun YJ, Gu Q et al. Impact of Sildenafil on Survival of Patients With Idiopathic Pulmonary Arterial Hypertension. *J Clin Pharmacol.* 2011 Sep 28.

■ 32. Zhao Q, Liu ZH, Zhao ZH et al. Effects of obstructive sleep apnea and its treatment on cardiovascular risk in CAD patients. *Respir Med.* 2011 Oct;105(10):1557-64.

■ 33. Xu B, Dou KF, Han YL et al. A prospective multicenter parallel-controlled trial of TIVOLI biodegradable-polymer-based sirolimus-eluting stent compared to ENDEAVOR zotarolimus-eluting stent for the treatment of coronary artery disease: 8-month angiographic and 2-year clinical follow-up results. *Chin Med J (Engl).* 2011 Mar;124(6):811-6.

■ 34. Gao XJ, Kang LM, Zhang J et al. Mid-ventricular obstructive hypertrophic cardiomyopathy with apical aneurysm and sustained ventricular tachycardia: a case report and literature review. *Chin Med J (Engl).* 2011 Jun;124(11):1754-7.

■ 35. Dou KF, Xu B, Yang YJ et al. Comparison of long-term clinical outcome after successful implantation of Firebird sirolimus- and Taxus paclitaxel-eluting stents in Chinese population: analysis of a large single center registry. *Chin Med J (Engl).* 2010 Apr 5;123(7):810-5.

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coronary stenting. *Chin Med J (Engl).* 2011 Mar;124(6):845-50.

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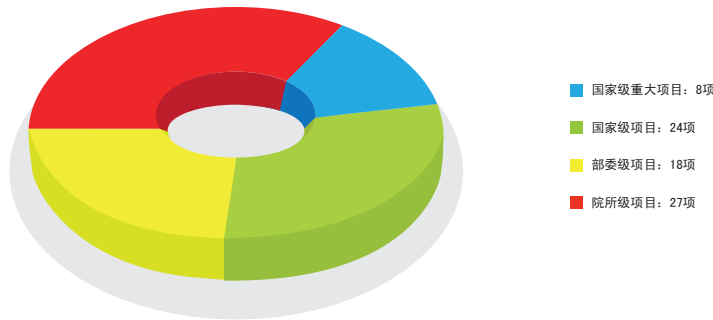
■ 45. Qiao Q, Ding LG, Hua W et al. Potential predictors of non-response and super-response to cardiac resynchronization therapy. *Chin Med J (Engl).* 2011 May;124(9):1338-44.

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科研基金

在研课题

2011 年间在研的科研项目 77 项，总经费达 4500 余万元



2011 年新获资助

- 中国重要心血管病患病率调查及关键技术研究。“十二五”科技支撑计划 高润霖
- 心血管病关键治疗技术临床多中心研究信息平台一心肌梗死。“十二五”科技支撑计划 杨跃进
- 心血管病关键治疗技术临床多中心研究信息平台一心律失常介入治疗数据库：建设。“十二五”科技支撑计划 张澍
- 心血管病关键治疗技术临床多中心研究信息平台一心力衰竭。“十二五”科技支撑计划 张健
- 难治性高血压诊断和治疗研究。“十二五”科技支撑计划 惠汝太
- 肺循环疾病及其心功能的研究。“十二五”科技支撑计划 何建国
- 慢性心力衰竭患者心脏性猝死的一级预防。“十二五”科技支撑计划 华伟
- 特发性流出道室性心律失常研究。“十二五”科技支撑计划 姚焰
- 骨髓极小胚胎样干细胞药物动员并定向归巢提高梗死心肌再生疗效及机制研究 国家自然科学基金 杨跃进
- 先天性心脏病相关性肺动脉高压肺血管病变性质及可逆性的病理机制研究 国家自然科学基金 何建国
- microRNAs 与主动脉夹层的诊断、预后和易感基因单核苷酸多态性的研究 国家自然科学基金 樊晓寒
- 促红素促进糖尿病小鼠心肌梗死血管新生的机制研究 国家自然科学基金 唐熠达
- 炎症相关基因表达调控与大动脉炎发病的分子机制研究 国家自然科学基金 党爱民
- Neuregul in-I/ErbB 和利钠肽系统与心力衰竭遗传易感性和临床评估及其在芪苈强心胶囊作用机制和评价的研究 国家自然科学基金 张宇辉

2011 年启动项目

- 全降解血管支架材料关键技术及产品研发 “863”计划 邱洪
- 干细胞治疗技术临床转化及应用研究一心肌梗等心脏疾病的干细胞临床试验及其治疗研究 “863”计划 乔树宾
- 动脉粥样硬化心血管事件无创性预警方法的推广应用 卫生行业科研专项项目 杨跃进
- RhoA/ROCK 信号通路在他汀改良急性心肌梗死微环境并提高骨髓干细胞移植存活率中的核心机制研究 国家自然科学基金 杨跃进
- 辛伐他汀调节小 G 蛋白干预肺动脉高压的实验研究 国家自然科学基金 柳志红
- 肾上腺内源性 RGS 信号转导通路对醛固酮合成的调控机制 国家自然科学基金 蒋雄京
- 冠状动脉瘤的炎症相关分子机制研究 国家自然科学基金 李建军
- 甲状腺激素 P13K/Akt 通路在心肌细胞凋亡中的作用 国家自然科学基金 唐熠达
- NF- κ B 的过度激活对无复流的影响和机制研究 国家自然科学基金 颜红兵
- “人工胰脏”的容错控制研究 国家自然科学基金 陈燕燕
- 低氧诱导因子 -1 α 对骨髓极小胚胎样干细胞向梗死心肌迁移和移植效果的影响及其机制 国家自然科学基金 钱海燕
- Akt/GSK-3 β 信号通路在 calpain 导致脓毒症小鼠心功能障碍的作用 国家自然科学基金 李小平
- 促红素对糖尿病心肌梗死血管新生的影响及信号通路的机制研究 北京市自然科学基金 唐熠达
- 辛伐他汀调节小 G 蛋白干预肺动脉高压的实验研究 高校博士点科研基金 柳志红
- 甲状腺激素通过 PI3K/Akt 通路对急性心肌梗死时细胞凋亡的作用和机制 高校博士点科研基金 唐熠达
- 细胞因子基因间相互作用与大动脉炎关系的研究

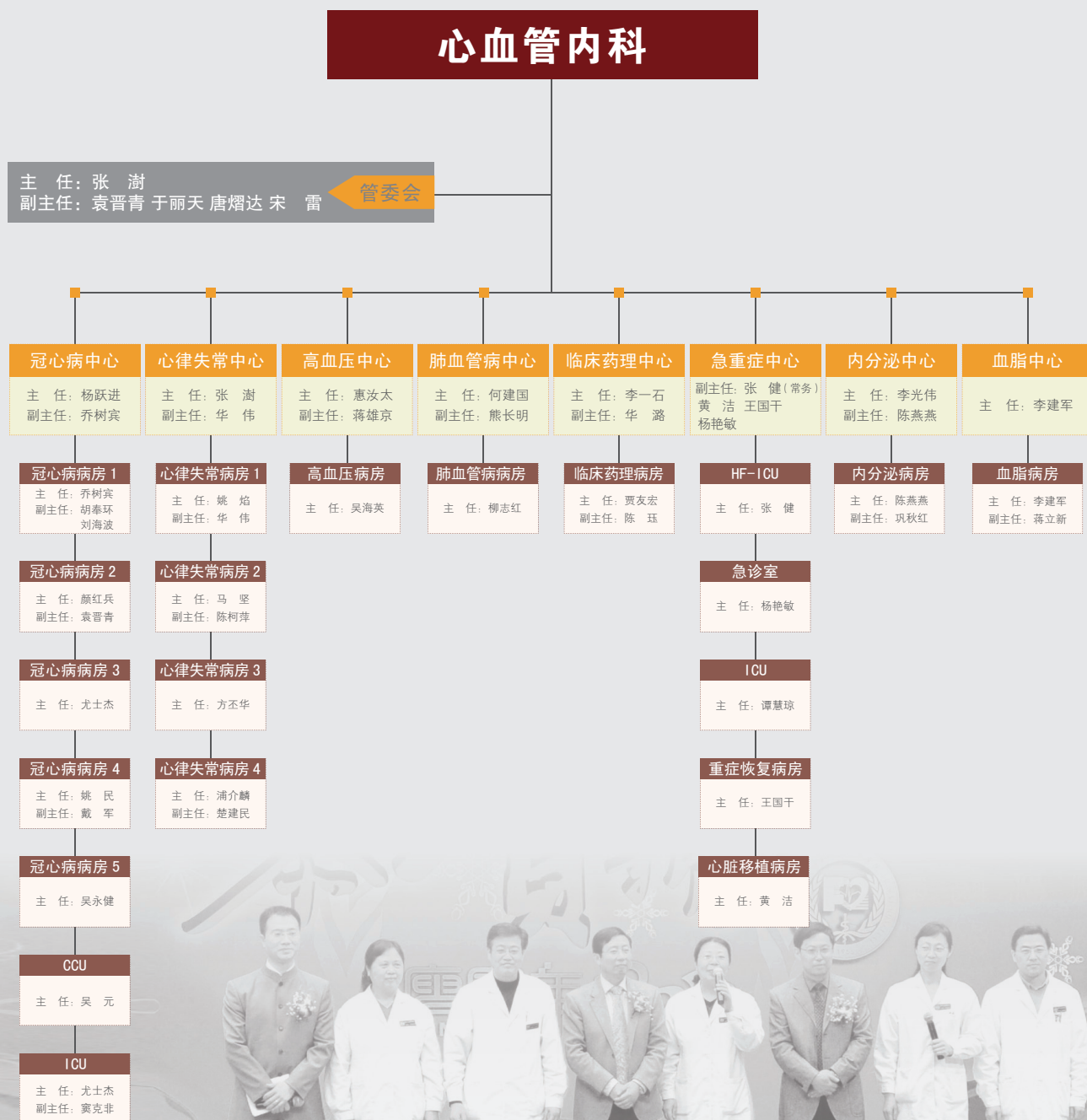
获奖情况

- 肥厚型心肌病基因与临床诊治系列研究 中华医学科技奖二等奖 乔树宾 惠汝太等
- 急性心肌梗死再灌注治疗优化策略 上海市科技进步一等奖 沈卫峰 杨跃进等
- 急性心肌梗死直接冠状动脉介入治疗的基础与临床 教育部科技进步奖二等奖 沈卫峰 杨跃进等

- 高校博士点科研基金 党爱民
- 应用自制球囊注射腺苷检测犬肺静脉电隔离术后残余电传导的实验研究 高校博士点科研基金 张澍
- 旋转成像技术在心房颤动导管消融中的应用 教育部留学回国人员科研启动基金 唐闻
- 阜外医院万例冠脉搭桥术患者血糖管理与临床结局及预后的关系研究 院所科研开发启动基金 李光伟
- 肥厚型心肌病循环 microRNA 谱及其在危险分层与早期预警中的作用 中央级公益性科研院所基本科研业务费 刘亚欣
- 多排 CT(MDCT)联合髓过氧化物酶(MPO)等炎症介质评价急性冠脉综合征(ACS)斑块特点 中央级公益性科研院所基本科研业务费 崔锦钢
- 冠脉内压力导丝技术评价糖尿病患者介入治疗后微循环功能的改善及药物干预作用 中央级公益性科研院所基本科研业务费 宋光远
- 血清标记物组合对急性心肌梗死后心脏破裂的预测价值研究 中央级公益性科研院所基本科研业务费 宋雷
- 实时动态血糖监测系统对冠心病重症患者血糖管理的指导作用 中央级公益性科研院所基本科研业务费 赵振燕
- 中国 ACS 患者 ABCB1、PON-1 基因多态性分布与其临床意义的初步探讨 中央级公益性科研院所基本科研业务费 冯广迅
- 晚钠电流在抗心律失常药物治疗及安全性评价中的作用 中央级公益性科研院所基本科研业务费 王曼
- 氯吡格雷临床用药个体差异的体内转运机制研究 中央级公益性科研院所基本科研业务费 蒋娟娟

- 肥厚型心肌病基础与临床研究 北京市科技奖 乔树宾 惠汝太等
- 我国心脏性猝死的流行病调查及综合防治研究 北京市科学技术奖三等奖 张澍 华伟等
- 建立创新药物临床试验平台的质量管理体系 北京市科学技术三等奖 李一石 田蕾等

内科机构图



The President's Statement

2011 was a truly remarkable year for the cardiovascular medicine team at Fu Wai Hospital. As a result of our dedication and hard work, we were able to provide better outcomes to more patients than ever before, delivering specialized care to more than 300,000 patients with cardiovascular disease. This 4th annual public report, 'Outcomes 2011', summarizes our key achievements over the past year.

Cardiovascular disease is still the leading cause of death and a major cause of disability in China. New strategies and technologies to help with disease management continue to emerge. We hope that publication of this report will help to share useful information with our colleagues and patients, and encourage the use of new technologies and knowledge.

Innovation and Quality—long-term goals of Fu Wai Hospital.

Shengshou Hu,
MD, FACC
President of Fu Wai
Hospital
Director of Cardiovascular
Institute

Introduction

Since Fu Wai Hospital was founded 55 years ago, ongoing development of the cardiovascular disease prevention and treatment service has resulted in our prestigious position as leaders in this field in China. In this 2011 report, we are proud to provide accurate and timely information about patient care, clinical outcomes, and research achievements to share with our colleagues throughout the country.

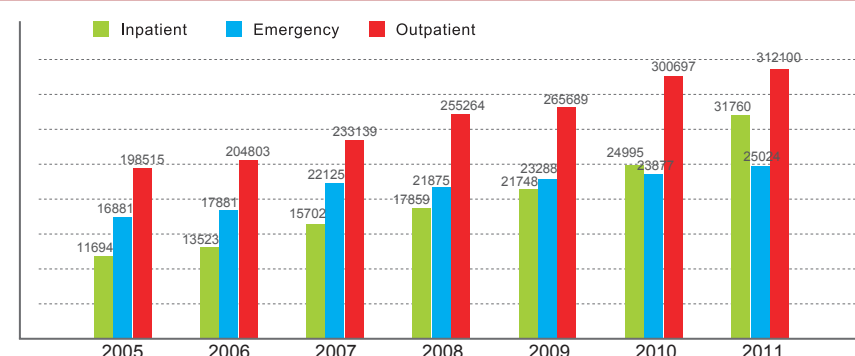
The Department of Cardiovascular Medicine (DCM) now includes eight clinical treatment centers with more than 230 highly trained and dedicated staff physicians. Our programs provide specialized care for patients with a wide spectrum of cardiovascular diseases, and treat more than 300,000 outpatients from around the world each year. The staff are all dedicated to the mission of Fu Wai Hospital to consistently provide medical services of excellent quality, and continue to upgrade our knowledge, clinical skills, and levels of service. Our multidisciplinary research teams rapidly take advantage of new technologies to improve the prevention and treatment of diseases. Our educational programs continue our excellent legacy in training physicians and a variety of other healthcare professionals. In these ways, the DCM emphasizes excellence in patient care, teaching, and basic and clinical research. New developments in the treatment and prevention of cardiovascular diseases may progress rapidly. We therefore collaborate with our colleagues at other cardiovascular treatment centers in China to stay informed about the latest research results, innovative new drugs, and diagnostic and intervention techniques. Our department keeps pace with the rapid changes in techniques and technologies used in the treatment of cardiovascular diseases internationally, so that we can maintain our leading position in the field of cardiovascular research and treatment in China. Multidisciplinary teams from different divisions collaborate with each other to provide comprehensive care and cutting-edge research. We envision that our professional knowledge and expertise will help both patients and colleagues.

Overview of the Department of Cardiovascular Medicine



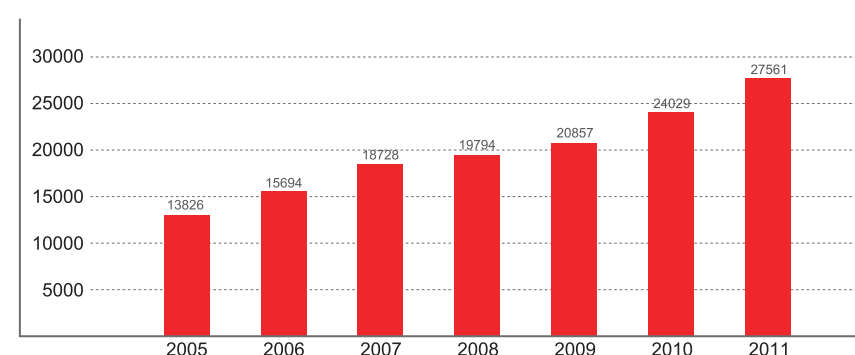
The DCM includes 8 treatment centers, 23 wards, 1 drug monitoring unit, and 3 core laboratories. During 2011, the DCM managed 31,760 inpatient admissions and 312,100 outpatient visits. The DCM is recognized as the leading department in China for the diagnosis and treatment of coronary artery disease, arrhythmia, heart failure, secondary hypertension, and other complications of heart disease.

Numbers of outpatients and inpatients managed per year from 2005 to 2011



The inpatient mortality rate has been reduced to 0.3%, which meets the international standard. A total of 27,561 interventional therapeutic procedures were performed at the DCM during 2011, indicating that our hospital has become one of the world's largest treatment centers.

Numbers of interventional therapeutic procedures performed per year from 2005 to 2011



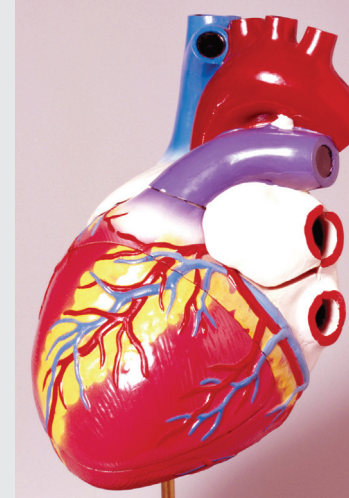
Coronary Heart Disease Center

The Coronary Heart Disease Center of Fu Wai Hospital was founded in 1978. Some of China's leading cardiologists, including professor Shou-Qi Tao, Zai-Jia Chen, Yi-Shu Xu, and Ji-Lin Chen, were former directors of the center. The center was originally named the Center for Diagnosis and Treatment of Coronary Heart Disease, and was renamed in 2003. Professor Yue-Jin Yang is the current director. Under his leadership, the center is committed to achieving excellence in clinical care, research, and education. The staff working at the center now include 14 professors (physicians in chief) including an academican of engineering, 16 deputy directors (physicians), 20 physicians trained at our center, 25 in-hospital doctoral students, and 11 graduate students.

Since the opening of the Northern medical area, the center has included 6 units, 1 Coronary Care Unit, 1 Intensive Care Unit (ICU), and 200 inpatient beds. The number of percutaneous coronary intervention (PCI) procedures performed reached a record high of 10,649 during 2011. High-risk patients with disease of more than one coronary artery, complex lesions, or advanced age accounted for at least 75% of cases, including 8,404 patients with multi-vessel disease, 690 patients aged over 75 years, 498 patients with left main coronary artery disease, and 2,245 patients with chronic occlusive disease. More than 90.8% (9,673/10,649) of PCI procedures were performed via the radial artery. The center has developed rigorous quality control systems to ensure patient safety, and the staff regularly discuss challenging cases with a view to quality improvement. The quality of the PCI service is continually improving, as evidenced by the significantly decreased mortality rate for elective procedures (0.02%, 2/10,135) and the low mortality rate for acute procedures (0.97%, 5/514). The number of PCI procedures performed via the radial artery was higher than in any other center worldwide.

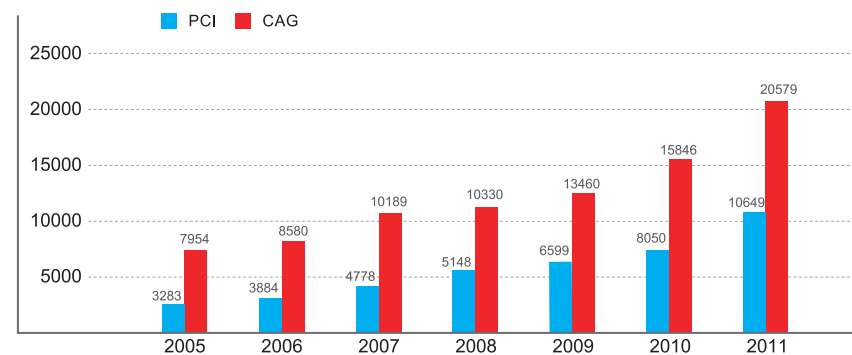
During 2011, the center showed live broadcasts of transradial intervention procedures which used double stenting to treat left main coronary artery bifurcation disease at international conferences including CIT and PCR. The center has therefore gained global recognition and has become the largest PCI and transradial intervention center worldwide.

Several important national research projects have been conducted at the center over almost 20 years, including projects for the national Seventh, Eighth, Ninth and Tenth Five-Year Plans. The center has also received funding support from the National 973 Program, the National Natural Science Foundation of China, and the Ministry of Health. In 2011, the center won a National Science and Technology Progress Award (second prize) and three Science and Technology Progress Awards at provincial and ministerial levels. It also received funding from 13 national research grants, including a grant from the National Key Technology Research and Development Program of the Twelfth Five-Year Plan, two grants from sub-programs of the National High Technology Research and Development Program of China (863 Program), and four grants from the National Natural Science Foundation of China. Our research resulted in the publication of 30 articles during 2011, including 12 that were indexed by the Science Citation Index (SCI), among which the highest had an impact factor of 6.8.

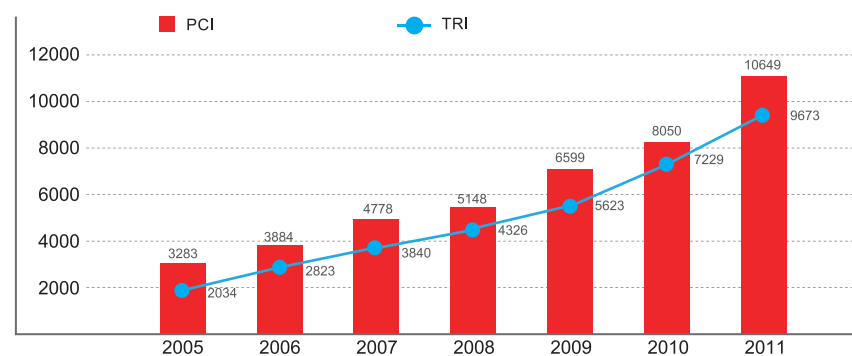


用心守护健康
海右仁美林

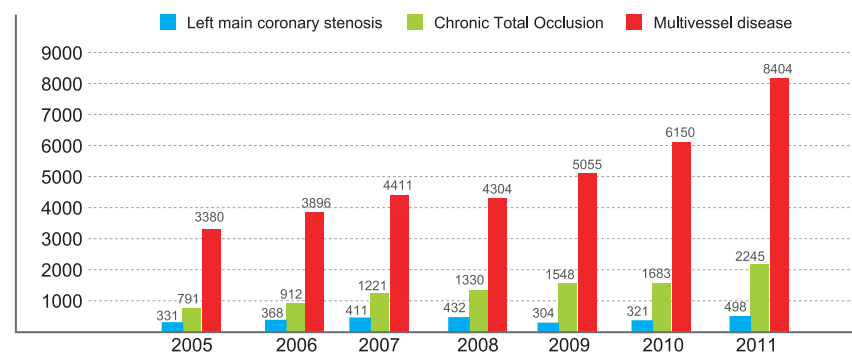
Numbers of coronary angiography (CAG) and percutaneous coronary intervention (PCI) procedures performed per year from 2005 to 2011



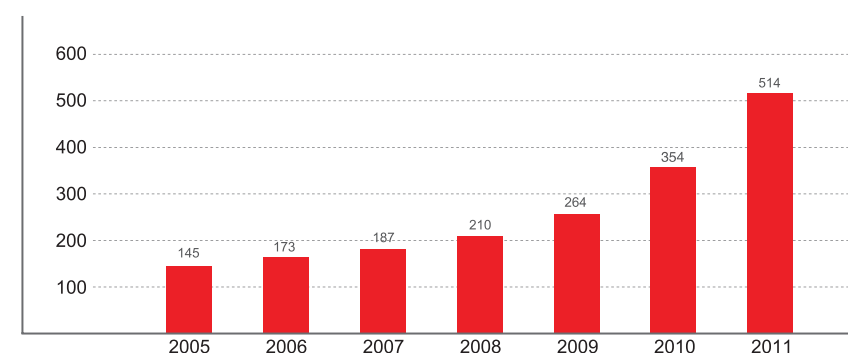
Numbers of PCI and PCI by transradial intervention (TRI) procedures performed per year from 2005 to 2011



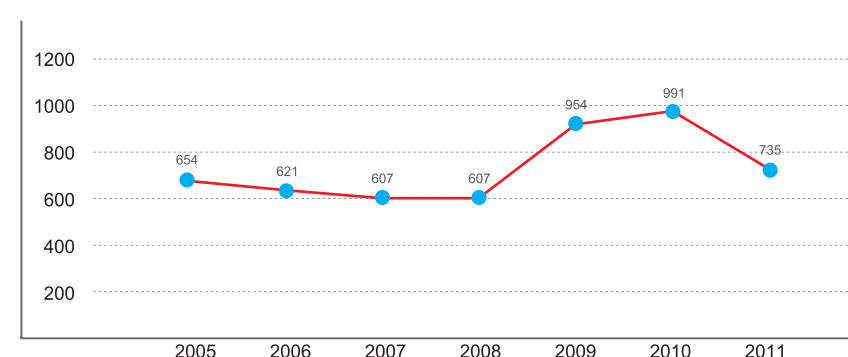
Numbers of patients with complex coronary artery disease who underwent PCI procedures per year from 2005 to 2011



Numbers of patients who underwent primary PCI procedures per year from 2005 to 2011



Numbers of patients admitted to the coronary care unit per year from 2005 to 2011



Cardiac Arrhythmia Center

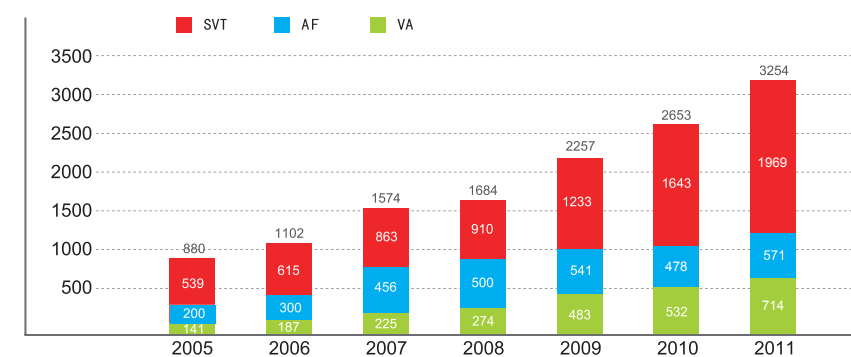
The Cardiac Arrhythmia Center that was formerly a clinical electrophysiological laboratory founded in 1981 at Fu Wai Hospital is a well known research and clinic center for management of cardiac arrhythmias in China. As the largest cardiac arrhythmia management center in China, Fu Wai Cardiac Arrhythmia Center now has 4 wards with over 100 beds. Since 2001, the center has conducted more than 18,000 cases of arrhythmia catheter ablations and implanted over 9000 pacemaker/ICD units. During the last couple of years, the number of these operations grows progressively with annual increase rate at about 15-20%. In 2011, the Cardiac Arrhythmia Center performed 1,376 pacemaker/ICD implantations and 3,254 catheter ablation therapies including 571 atrial fibrillation cases and 400 cases of ventricular arrhythmias. From the point view of quantity and quality, the center has long been recognized as the No.1 arrhythmia management institute in the Asian-Pacific region, and it has stood among the biggest arrhythmia interventional treatment centers internationally.

The Cardiac Arrhythmia Center takes advantages of talented professionals that dedicate to cooperative operation, adaption of high technology, outstanding patient care, and clinical research. The treatment covers various difficult arrhythmic cases, ranging from atrial fibrillation and complicated atrial arrhythmia to intractable ventricular arrhythmias. The curative efficacy and follow-up standards have proceeded to international advanced level. Furthermore, the Cardiac Arrhythmia Center has played an essential role in the academic exchange program and education both in China and abroad. By working with the Chinese Society of Pacing and Electrophysiology (CSPE), the Center has advocated and popularized new concepts and techniques in the field of arrhythmia treatment in China. For example, the Center implanted the first magnetic resonance conditional pacemaker in China last year. As one of leading members in Asian-Pacific region, the Center expands its accelerating influence in international and regional academic activities. It hosted the 2nd annual symposium of Asian-Pacific Heart Rhythm society (APHRS) and China Heart Congress 2011 (CHC2011).

Moreover, the Center has successfully led key scientific programs of the national 10th five-year and 11th five-year projects, which focused on atrial fibrillation and sudden cardiac death. The Center conducted the national 10th five-year project of "the epidemiological and comprehensive control study of sudden cardiac death in China" and won the second prize issued by Chinese Medical Science and Technology. In 2011, working together with other units, the Center took the lead in obtaining two support programs of the national 12th five-year project.

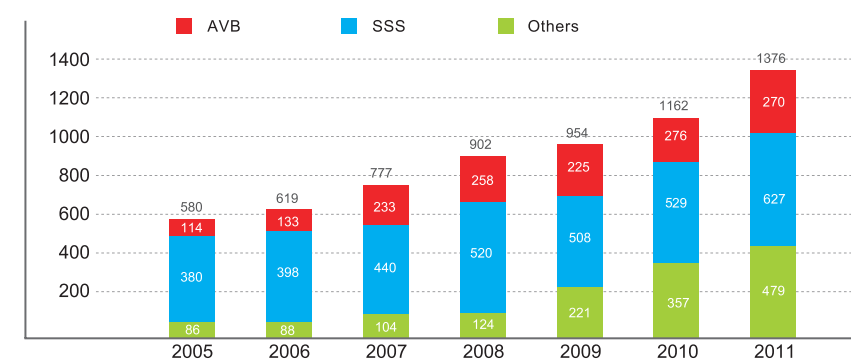
Overall, the Center has recently demonstrated tremendous developments and achievements and will continue to excel its strength in arrhythmia management in international arrhythmia management community clinically and academically.

Numbers of radiofrequency catheter ablation procedures performed according to type of arrhythmia per year from 2005 to 2011



VA: Ventricular arrhythmia AF: Atrial fibrillation SVT: Supraventricular tachycardia

Types of arrhythmias treated with implantable devices per year from 2005 to 2011.



SSS: Sick sinus syndrome AVB: Atrio-ventricular block

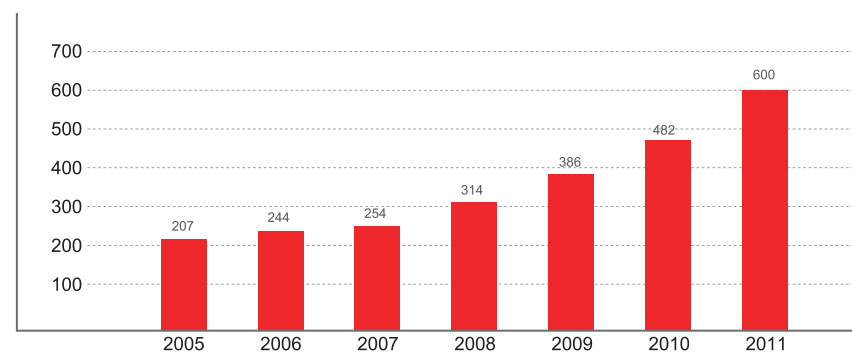
Hypertension Center



The Hypertension Center was established in 2003, and was previously named the Institute of Hypertension. This center specializes in the research and treatment of hypertension, and includes a ward with 38 inpatient beds.

This has become one of the largest centers in the Asia-Pacific region specializing in the management of hypertension and peripheral vascular disease. The staff members have extensive experience in the standard management of secondary hypertension, resistant hypertension, and peripheral vascular disease. The center has a prestigious leading role in the field of hypertension treatment, providing interventional diagnosis and treatment of peripheral vascular disease. The number of cases managed is currently increasing by 20% to 30% per year. More than 600 therapeutic interventions were performed in 2011, with a complication rate of 2.5%, which is lower than that reported by other centers internationally. Long-term treatment outcomes are also good compared with other centers internationally. Recently, we have started to perform percutaneous selective adrenal artery embolization for the treatment of primary hyperaldosteronism, and renal denervation for the treatment of resistant hypertension.

Numbers of patients who underwent peripheral vascular angiography per year from 2005 to 2011



Pulmonary Vascular Diseases Center

The Pulmonary Vascular Disease Center was established in 2003, as a redevelopment of the Research Office of Pulmonary Heart Disease which was founded in 1972. This center has its own 36-bed ward.

This was the first clinical center which specialized in pulmonary vascular disease including related medical treatment, teaching, advancement of technology, and prevention. The center ranks first in China for the diagnosis and treatment of pulmonary hypertension, and is also among the leading centers worldwide for the diagnosis and treatment of pulmonary thromboembolism. In 2001, the center managed 1,115 inpatient admissions (including 336 with pulmonary hypertension and 255 with pulmonary embolism). Right heart catheterization and pulmonary vascular intervention were performed in 121 patients (not including patients from the department of radiology) with no death. This is now the largest center for the treatment of pulmonary vascular disease in the world.

The center exceeded its previous research achievements in 2011. Researchers were involved in three Key Projects of the National Science and Technology Pillar Program of the Twelfth Five-Year Plan, of which they led one project. Researchers also took part in a total of eight other projects including projects of the National Natural Science Foundation of China, and participated in ten international multi-center clinical trials. Research conducted at the center resulted in the publication of 17 articles during 2011, including 5 that were indexed by SCI.

The center coordinated experts to produce the "Expert Consensus On the Diagnosis and Treatment of Right Heart Failure" under the authorization of the Chinese Society of Cardiology of the Chinese Medical Association.



Clinical Pharmacology Center & Key Laboratory of Clinical Trial Research in Cardiovascular Drugs, Ministry of Health

The Clinical Pharmacology Center / Institution for Drug Clinical Trials / Adverse Drug Reaction (ADR) Monitoring Office / Key Laboratory of Clinical Trial Research in Cardiovascular Drugs, Ministry of Health, includes four laboratories (the pharmacokinetic laboratory, therapeutic drug monitoring laboratory, clinical laboratory, and pharmacogenomics and proteomics laboratory), an inpatient ward, and a phase I ward.

During 2011, this center managed 2,370 inpatient admissions and 2,321 therapeutic interventions without any complications. This represented an increase in inpatient numbers of 3% and a decrease in therapeutic intervention numbers of 2.3% compared with 2010. The center achieved a 92% procedure success rate, and had a 99% occupancy rate of ward beds. The average length of hospitalization was 5.7 days per patient. A total of 17,444 outpatient appointments were managed.

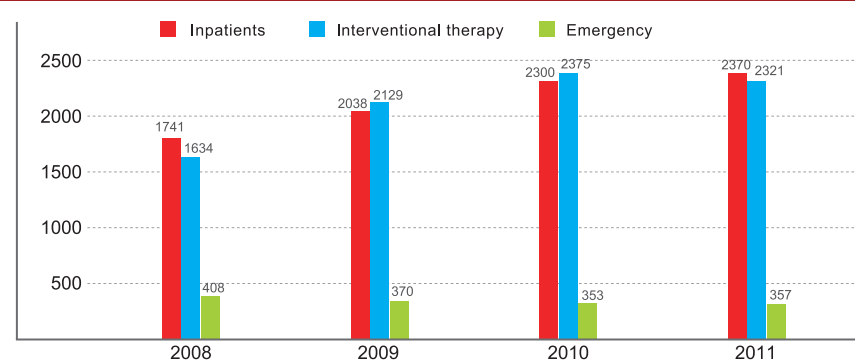
The center started nine new clinical drug trials during 2011 using the established Key Laboratory protocols for human clinical cardiovascular drug evaluation. Seven ongoing national projects and four new scientific research projects also received financial support.

Preparation for our hospital to become qualified to review clinical trials was finalized by the institution's office during 2011, and was approved by the Beijing Municipal Health Bureau and Beijing Drug Administration. Formal qualification has also been approved by the State Food and Drug Administration, and acceptance by other organizations is anticipated.

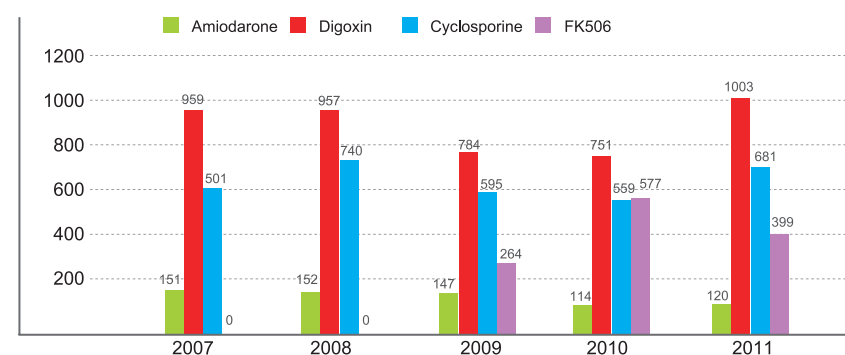
The center undertook therapeutic drug monitoring for 2,203 patients in our hospital during 2011: digoxin for 1,003 patients, cyclosporine for 681 patients, amiodarone for 120 patients, and FK506 for 399 patients.

A total of 103 adverse drug reactions were reported in 2011, which was an increase of 150% compared with 2010. We held 12 on-site training courses and 5 classroom training sessions for our medical staff, to improve their awareness of the importance of reporting adverse drug reactions. The Adverse Drug Reaction Monitoring office received a Beijing Adverse Drug Reaction Monitoring Advanced Unit award from the Beijing Drug Administration and Beijing Municipal Health Bureau in April 2011.

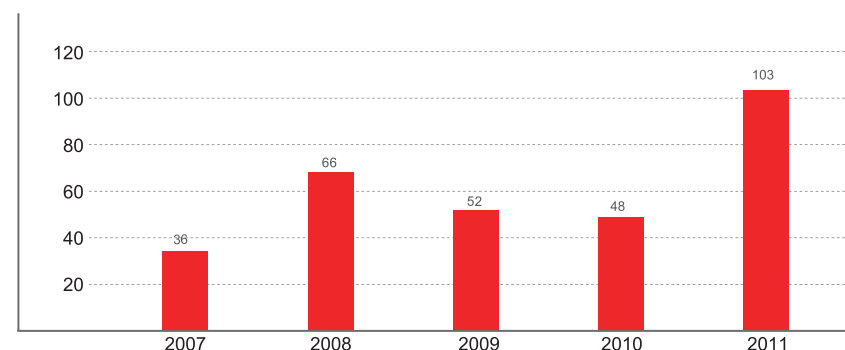
Numbers of inpatients treated per year from 2008 to 2011



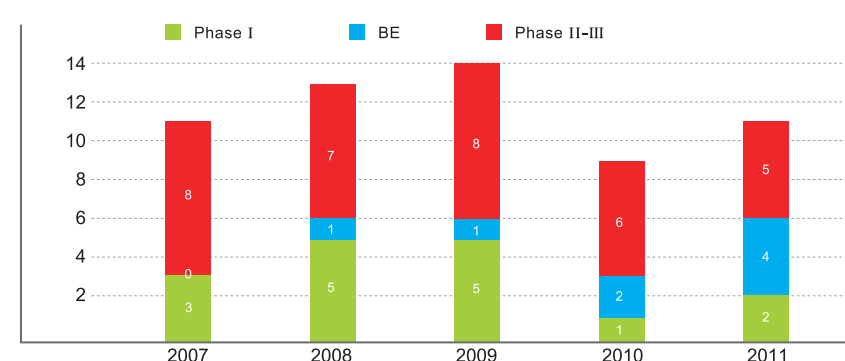
Numbers of patients undergoing therapeutic drug monitoring per year from 2007 to 2011



Numbers of adverse drug reactions reported per year from 2007 to 2011



Numbers of clinical trials administered by the Institution for Drug Clinical Trials per year from 2007 to 2011

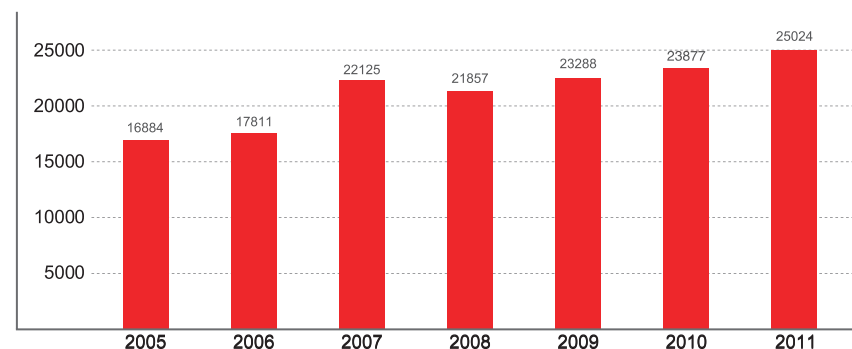


Emergency and Intensive Care Center

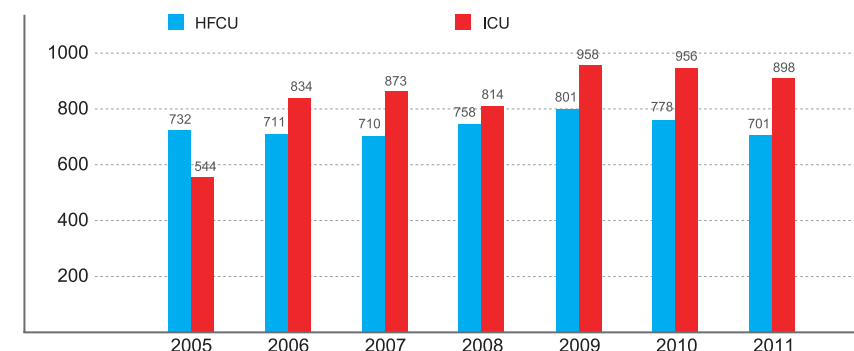
The Emergency and Intensive Care Center of Fu Wai Hospital includes an emergency room, ICU, heart failure care unit (HFCU), step-down ward, and heart transplantation ward, which specialize in the clinical management and research of acute severe cardiovascular disease. The center has a team of experienced clinical experts and is equipped with a variety of advanced resuscitation equipment. A total of 25,024 patients were treated in the emergency room during 2011, with a survival rate of over 99%. Staff members working in the ICU, HFCU, and step-down ward are experienced in the treatment of end-stage ischemic heart disease, cardiomyopathy, valvular heart disease, aortic dissection, and acute coronary syndrome, and managed more than 2,800 inpatient admissions during 2011. The average length of stay was 12.4 days in the HFCU and 13.7 days in the ICU. Clinical research at the center is financially supported by a number of national projects and includes participation in many clinical trials, such as the phase I-IV PK/PD trial and several international multicenter trials such as CREATE, OASIS-6, RE-LY, Ascend HF, and MAGELLAN.

In recent years, the center has received a number of grants from the Twelfth Five-Year National Key Technology Support Program, and two grants from the Capital Foundation of Medical Developments, as well as financial support from the State Key Laboratory of Translational Cardiovascular Medicine. Dozens of reports of studies conducted at the center were published in journals such as the Journal of the American College of Cardiology, European Journal of Nuclear Medicine and Molecular Imaging, and Chinese Medical Journal.

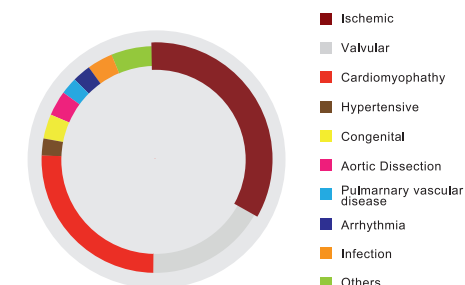
Numbers of patients treated in the emergency room per year from 2005 to 2011



Numbers of admissions to the intensive care unit (ICU) and heart failure care unit (HFCU) per year from 2005 to 2011

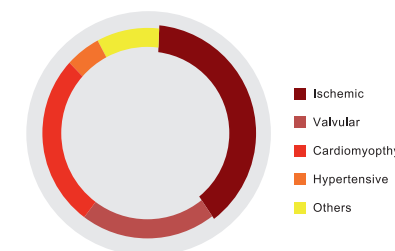


Reasons for ICU admission



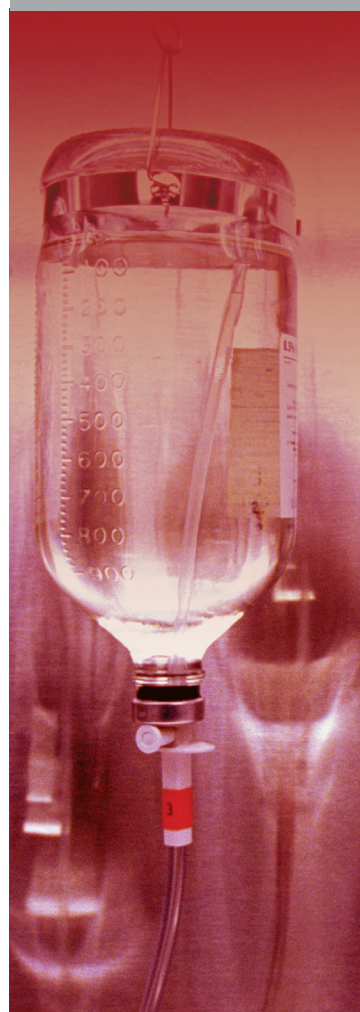
Cardiomyopathy, valvular heart disease, and ischemic heart disease accounted for more than 75% of ICU admissions during 2011.

Reasons for HFCU admission

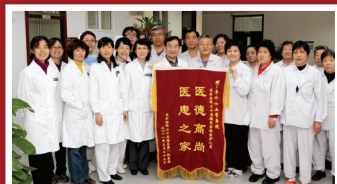


Ischemic heart disease, cardiomyopathy, and valvular heart disease accounted for more than 80% of HFCU admissions during 2011.

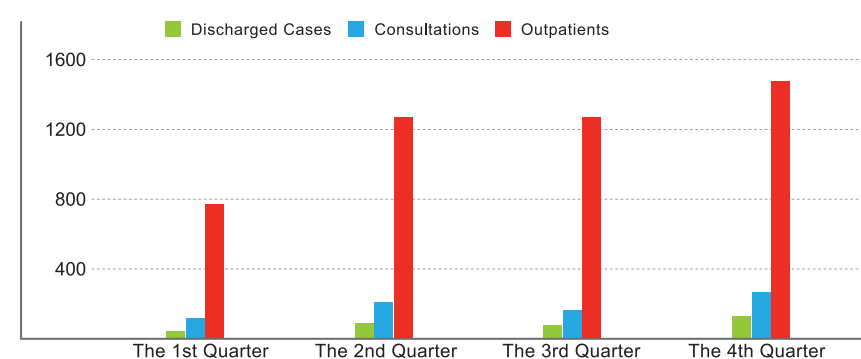
Endocrinology and Cardiovascular Disease Center



The Endocrinology and Cardiovascular Disease Center was established in 2011. The staff members include a number of endocrinologists with several decades of clinical, teaching, and research experience. The director of the center is Professor Li Guangwei, a well-known endocrinologist who is the Vice Chairman of the Chinese Society of Endocrinology. The center specializes in the diagnosis and treatment of diabetes, thyroid disease, parathyroid disease, adrenal and pituitary disease, endocrine hypertension, hypoglycemia, osteoporosis, and other endocrine and metabolic diseases. The center offers intensive short-term insulin pump therapy for patients newly diagnosed with type 2 diabetes, which can achieve near-normal blood glucose levels in nearly 50% of patients without the need for other antihyperglycemic medication, and benefits diabetic patients with cardiovascular disease. The center also uses continuous glucose monitoring systems to manage perioperative blood glucose levels in cardiovascular patients. The publication "Long-term effects of a randomized trial of a 20-year lifestyle intervention on diabetes-related microvascular complications – the China Da Qing Diabetes Prevention Outcome Study", which was coordinated by Professor Li Guangwei, made an outstanding contribution to the prevention and control of diabetes, and is well known as one of the landmark studies regarding the primary prevention of type 2 diabetes worldwide. The center provides advanced level care for the prevention and treatment of diabetes-related cardiovascular complications, obesity, insulin resistance, and hypertension.



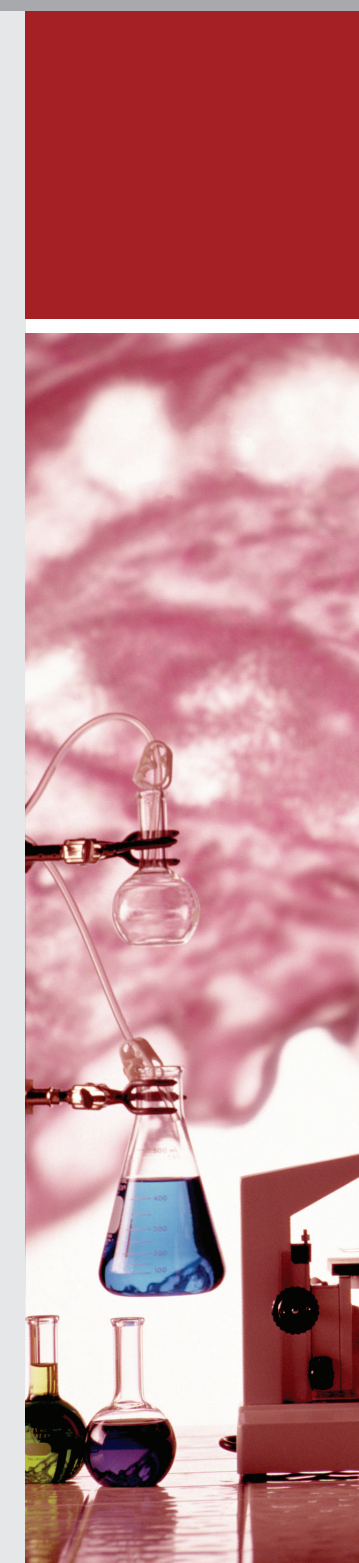
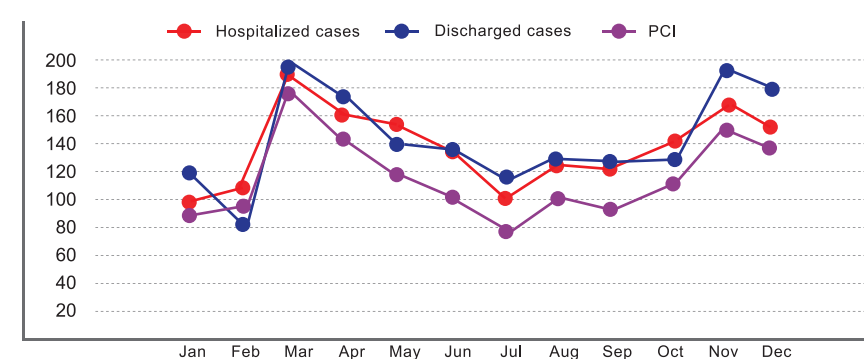
Number of Outpatients and Inpatients in 2011



Dyslipidemia and Cardiovascular Disease Center

The Dyslipidemia and Cardiovascular Disease Center was established in September 2010. It is located in the Northern building of Fu Wai Hospital, and includes 25 inpatient beds and a laboratory. The center focuses on the diagnosis and treatment of dyslipidemia and coronary heart disease, and also conducts clinical research trials. The center managed 1,618 inpatient admissions during 2011, mostly for coronary artery disease. There were no deaths, complications, medical complaints, or medical errors recorded during the year, and the center made an annual profit of 6.2 million RMB. The center hosted health education conferences focusing on lipid metabolic and cardiovascular diseases in May and November 2011. These conferences advocated a healthy lifestyle and promoted primary prevention strategies. They were highly appreciated by patients and elderly community members. The center also supported international academic exchanges, expanded its influence in the field of lipid research, and achieved publication of 18 research papers including 10 papers indexed by SCI, and a book about lipids. Staff members working at the center anticipate a highly academic and successful upcoming year.

Number of Dyslipidemia and coronary heart disease cases in 2011



Collaboration, Exchange and Training



The 10th anniversary celebration of the Key Laboratory of Clinical Trail Research in Cardiovascular Drugs, Ministry of Health. For the 10th anniversary celebration of the Key Laboratory for Clinical Trail Research in Cardiovascular Drugs, the laboratory hosted a workshop named The Clinical Evaluation of Common Cardiovascular Drugs in collaboration with the Chinese Medical Association and the National Center for Cardiovascular Diseases. Director Yishi Li presented the report "Growth and Endeavour -- 10th anniversary of The Key Laboratory of Clinical Trail Research in Cardiovascular Drugs, Ministry of Health", which included presentations explaining the growth of our laboratory, the contributions it has made to our country over the past 10 years, and prospects for the future. This report communicated the research achievements of the Key Laboratory to national and international colleagues.



After 10 years development, China Interventional Therapeutic (CIT) has become an international platform of interventional cardiology, and the third largest interventional cardiology meetings worldwide.



In December 2011, the Hypertension Center hosted the Summit on Resistant Hypertension in Xuzhou, Jiang Su Province, which was attended by more than 400 physicians. More than 40 well-known experts in the field presented interesting reports.



On behalf of the Chinese Society of Pacing and Electrophysiology, the director Zhang Shu signed a cooperative agreement with the International Board of Heart Rhythm Examiners.



Symposium on the expert consensus on the diagnosis and treatment of right heart failure.



Educational lecture hosted by the Dyslipidemia and Cardiovascular Disease Center.



Jeffrey Robbins, the 2011 AHA Distinguished Scientist Awardee, and renowned expert in cardiomyopathy research visited Fu Wai Hospital, and established cooperative programs with the HFCU.



New Papers published in 2011

- 1. Zhang Y, Zhang X, Liu L et al. Is a systolic blood pressure target <140mmHg indicated in all hypertensives? Subgroup analyses of findings from the randomized FEVER trial. *Eur Heart J*. 2011 Jun;32(12):1500-8.
- 2. Dong Q, Yang Y, Song L et al. Atorvastatin prevents mesenchymal stem cells from hypoxia and serum-free injury through activating amp-activated protein kinase. *Int J Cardiol*. 2011 Dec 15;153(3):311-6.
- 3. Zheng XX, Xu YL, Li SH et al. Green tea intake lowers fasting serum total and LDL cholesterol in adults: a meta-analysis of 14 randomized controlled trials. *Am J Clin Nutr*. 2011 Aug;94(2):601-10.
- 4. Meng L, Park J, Cai Q et al. Diabetic conditions promote binding of monocytes to vascular smooth muscle cells and their subsequent differentiation. *Am J Physiol Heart Circ Physiol*. 2010 Mar;298(3):H736-45.
- 5. Xu H, Yang YJ, Qian HY et al. Rosuvastatin treatment activates JAK-STAT pathway and increases efficacy of allogeneic mesenchymal stem cell transplantation in infarcted hearts. *Circ J*. 2011;75(6):1476-85.
- 6. Yang JG, Li J, Lu C et al. Chronic kidney disease, all-cause mortality and cardiovascular mortality among Chinese patients with established cardiovascular disease. *J Atheroscler Thromb*. 2010 Apr 30;17(4):395-401.
- 7. Guan HS, Shangguan HJ, Shang Z et al. Endoplasmic reticulum stress caused by left ventricular hypertrophy in rats: effects of telmisartan. *Am J Med Sci*. 2011 Oct;342(4):318-23.
- 8. Chen YY, Lee YS, Wang JP et al. Longitudinal study of childhood adiposity and the risk of developing components of metabolic syndrome-the Da Qing children cohort study. *Pediatr Res*. 2011 Sep;70(3):307-12.
- 9. Gao L, Mao Q, Wen D et al. The effect of beta-blocker therapy on progressive aortic dilatation in children and adolescents with Marfan's syndrome: a meta-analysis. *Acta Paediatr*. 2011 Sep;100(9):e101-5.
- 10. Gao L, Zhou X, Zhang L et al. Factors influencing prognosis in patients with marfan syndrome after aortic surgery. *J Cardiothorac Vasc Anesth*. 2011 Aug;25(4):625-31.
- 11. Gong Q, Gregg EW, Wang J et al. Long-term effects of a randomised trial of a 6-year lifestyle intervention in impaired glucose

tolerance on diabetes-related microvascular complications: the China Da Qing Diabetes Prevention Outcome Study. *Diabetologia*. 2011 Feb;54(2):300-7.

■ 12. Guo YL, Liu J, Li JJ et al. A multi-center survey of achieving recommended lipid goals in Chinese patients with coronary artery disease in real world cardiovascular practice. *Int J Cardiol*. 2011 Dec 1;153(2):211-2.

■ 13. Han Y, Fan X, Sun K et al. Hypertension associated polymorphisms in WNK1/WNK4 are not associated with hydrochlorothiazide response. *Clin Biochem*. 2011 Sep;44(13):1045-9.

■ 14. Han YF, Fan XH, Wang XJ et al. Association of intergenic polymorphism of organic anion transporter 1 and 3 genes with hypertension and blood pressure response to hydrochlorothiazide. *Am J Hypertens*. 2011 Mar;24(3):340-6.

■ 15. Qiao Q, Hua W, Zhang S. Preimplant left ventricular end-diastolic dimension and body weight independently associate with paced QRS duration in patients receiving right ventricular apical pacing for complete atrioventricular block. *Clin Cardiol*. 2010 Nov;33(11):715-9.

■ 16. Chen W, Yao Y, Zhang S et al. Comparison of operator radiation exposure during coronary sinus catheter placement via the femoral or jugular vein approach.

Europace. 2011 Apr;13(4):539-42.

■ 17. Liu J, Fang PH, Dibs S et al. High-sensitivity C-reactive protein as a predictor of atrial fibrillation recurrence after primary circumferential pulmonary vein isolation. *Pacing Clin Electrophysiol*. 2011 Apr;34(4):398-406.

■ 18. Jiang J, Tian L, Huang Y et al. Pharmacokinetic profiles of hydrochlorothiazide alone and in combination with benazepril or valsartan in healthy Chinese volunteers: evaluation of the potential interaction. *Int J Clin Pharmacol Ther*. 2011 Dec;49(12):756-64.

■ 19. Zhao JL, Fan CM, Yang YJ et al. Chronic Pretreatment of Metformin is Associated with the Reduction of the No-Reflow Phenomenon in Patients with Diabetes Mellitus After Primary Angioplasty for Acute Myocardial Infarction. *Cardiovasc Ther*. 2011 Jul 1. doi: 10.1111/j.1755-5922.2011.00294.x.

■ 20. Tian L, Liu H, Xie S et al. Effect of organic anion-transporting polypeptide 1B1 (OATP1B1) polymorphism on the single- and multiple-dose pharmacokinetics of enalapril in healthy Chinese adult men. *Clin Ther*. 2011 May;33(5):655-63.

■ 21. Li JJ. Inflammatory rebound phenomenon after abrupt withdrawal of statin is a mature point of view but not hypotheses. *Int J Cardiol*. 2011 Aug



18;151(1):120.

■ 22. Liang Y, Chan CP, Cheung KY et al. CardioDetect rapid test for the diagnosis of early acute myocardial infarction. *J Immunoassay Immunochem*. 2011;32(4):342-52.

■ 23. Linggen G, Lin Z, Xiaohan F et al. Comparison of aortic dissection in Chinese patients with and without Marfan syndrome. *Postgrad Med J*. 2011 May;87(1027):325-30.

■ 24. Shen XX, Li HL, Pan L et al. Glucotoxicity and α cell dysfunction: involvement of the PI3K/Akt pathway in glucose-induced insulin resistance in rat islets and clonal α TC1-6 cells. *Endocr Res*. 2012;37(1):12-24.

■ 25. Wang X, Li S, Bai Y et al. Inverse association of plasma level of high-density lipoprotein cholesterol with intracerebral hemorrhage. *J Lipid Res*. 2011 Sep;52(9):1747-54.

■ 26. Wang Y, Liu ZH, Zhang HL et al. Predictive value of D-dimer test for recurrent venous thromboembolism at hospital discharge inpatients with acute pulmonary embolism. *J Thromb Thrombolysis*. 2011 Nov;32(4):410-6.

■ 27. Wen D, Wu HY, Jiang XJ et al. Role of plasma C-reactive protein and white blood cell count in predicting in-hospital clinical events of acute type A aortic dissection. *Chin Med J (Engl)*. 2011 Sep;124(17):2678-82.

■ 28. Wen D, Zhou XL, Li JJ et al.

Biomarkers in aortic dissection. *Clin Chim Acta*. 2011 Apr 11;412(9-10):688-95.

■ 29. Xiong CM, Lu XL, Shan GL et al. Oral sildenafil therapy for Chinese patients with pulmonary arterial hypertension: a multicenter study. *J Clin Pharmacol*. 2012 Mar;52(3):425-31.

■ 30. Zeng WJ, Lu XL, Xiong CM et al. The efficacy and safety of sildenafil in patients with pulmonary arterial hypertension associated with the different types of congenital heart disease. *Clin Cardiol*. 2011 Aug;34(8):513-8.

■ 31. Zeng WJ, Sun YJ, Gu Q et al. Impact of Sildenafil on Survival of Patients With Idiopathic Pulmonary Arterial Hypertension. *J Clin Pharmacol*. 2011 Sep 28.

■ 32. Zhao Q, Liu ZH, Zhao ZH et al. Effects of obstructive sleep apnea and its treatment on cardiovascular risk in CAD patients. *Respir Med*. 2011 Oct;105(10):1557-64.

■ 33. Xu B, Dou KF, Han YL et al. A prospective multicenter parallel-controlled trial of TIVOLI biodegradable-polymer-based sirolimus-eluting stent compared to ENDEAVOR zotarolimus-eluting stent for the treatment of coronary artery disease: 8-month angiographic and 2-year clinical follow-up results. *Chin Med J (Engl)*. 2011 Mar;124(6):811-6.

■ 34. Gao XJ, Kang LM, Zhang J et al. Mid-ventricular obstructive hypertrophic

cardiomyopathy with apical aneurysm and sustained ventricular tachycardia: a case report and literature review. *Chin Med J (Engl)*. 2011 Jun;124(11):1754-7.

■ 35. Dou KF, Xu B, Yang YJ et al. Comparison of long-term clinical outcome after successful implantation of Firebird sirolimus- and Taxus paclitaxel-eluting stents in Chinese population: analysis of a large single center registry. *Chin Med J (Engl)*. 2010 Apr 5;123(7):810-5.

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■ 41. Xu YL, Li JJ, Xu B et al. Increased plasma C-reactive protein level predicts rapid progression of non-target atherosclerotic lesions in patients with stable angina after stenting. *Chin Med J (Engl)*. 2011 Oct;124(19):3022-9.

■ 42. Xu YL, Li JJ, Xu B et al. Role of plasma C-reactive protein in predicting in-stent restenosis in patients with stable angina after coronary stenting. *Chin Med J (Engl)*. 2011 Mar;124(6):845-50.

■ 43. Yu LT, Zhu J, Tan HQ et al. Telmisartan, ramipril, or both in high-risk Chinese patients: analysis of ONTARGET China data. *Chin Med J (Engl)*. 2011 Jun;124(12):1763-8.

■ 44. Gao LG, Yao XP, Zhang L et al. Molecular analysis for diagnosis of Marfan syndrome and Marfan-associated disorders. *Chin Med J (Engl)*. 2011 Mar;124(6):930-4.

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2011 OUTCOMES

ADDRESS: 167 BEILISHI ROAD, XICHENG DISTRICT,
BEIJING, P.R. CHINA

POST CODE: 100037

医院网站: WWW.FUWAI.COM

医院地址: 北京西城区北礼士路167号

邮编: 100037

TEL: 86-10 88398866 68314466

FAX: 86-10 68313012