



BEIJING, P. R. CHINA

2014

OUTCOMES

阜外医院外科年度报告

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



连续5年位居
“中国医院最佳专科声誉排行榜”
心外科第一！

Ranked #1 in **Heart Surgery**
on China Best Hospital

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Brief on 'The Best Heart Surgery of China'

OUTCOMES 2014

Since 2007, the surgery department of Fu Wai Hospital has started to publish Outcomes report every year. Outcomes need to be viewed as important, not only for our patients to be better informed, but also as a way of self-monitoring and self-improving.

‘Quality and Creativity’ are the eternal philosophy of our surgical team. In 2014, as in every year, Fu Wai Surgical Team has worked hard and heartedly on the health of hearts, by providing more patients with better service and medical solutions. As the national leader in the cardiovascular field, we have attached great importance to cutting-edge technology application and quality improvement so as to maximize the efficacy of our treatment.

‘Outcomes 2014’ includes some highlights of the last productive year, rather than a comprehensive recording of what we have done. The outcomes reflected in this report are not our destination, but an illustration of the continuous journey we are on to improve the health of our patients.

Our annual outcomes reports have also received favorable notice from colleagues and healthcare observers. We appreciate their interest and hope they find it informative and helpful too.

自2007年起，阜外医院外科每年都对大众公布年度业绩报告。年度报告的回顾总结，不仅能使患者获得了我们团队医疗服务的信息，也成为医院督促提升高效和优质医疗服务的途径。

“品质与创新”是阜外外科团队永恒的目标。2014年，秉承着对这一目标的不懈追求，我们的团队一如既往的通过努力和奉献，实践着用心守护健康的理念。救治了更多的患者，提供了更好的服务。作为我国心血管疾病治疗的领导团队，在过去的一年里，我们注重将心血管领域内的尖端技术与提升医疗质量相结合，使我们的患者得到了更有效的治疗。

《阜外医院外科年度报告2014》对阜外外科团队过去一年里卓有成效的工作进行了总结，但受限于篇幅，并不能全面记录我们的成就。我们深知报告中所展示的优良业绩，并非是我们团队努力的终点；相反，那只是我们在为患者提供更好服务的长远征程中作为参照的新起点。

我们每年公布的业绩报告也受到了同行和卫生工作者们的关注。我们非常感谢你们的支持，希望这份报告也能提供有益的信息和帮助。



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概述

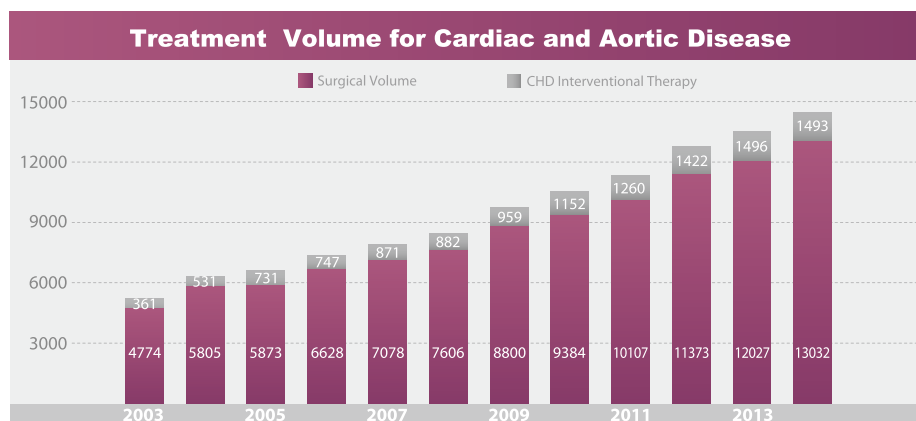
OVERVIEW

心脏及主动脉疾病治疗量

In 2014 the surgical volume in Cardiovascular Surgery Department reached 13,032 in Beijing headquarters. This is a new milestone for Fu Wai Hospital, which positioned us one of the top cardiovascular surgical centers world-wide. In contrast to the rising surgical volume, the operative mortality has remained stable, lower than 1% for 6 years in succession.

Meanwhile another 1,493 patients got successful interventional therapy for congenital heart disease correction in our hospital. (This part is not included in surgical volume. Either, this part of data is not included in posterior analysis and evaluation.)

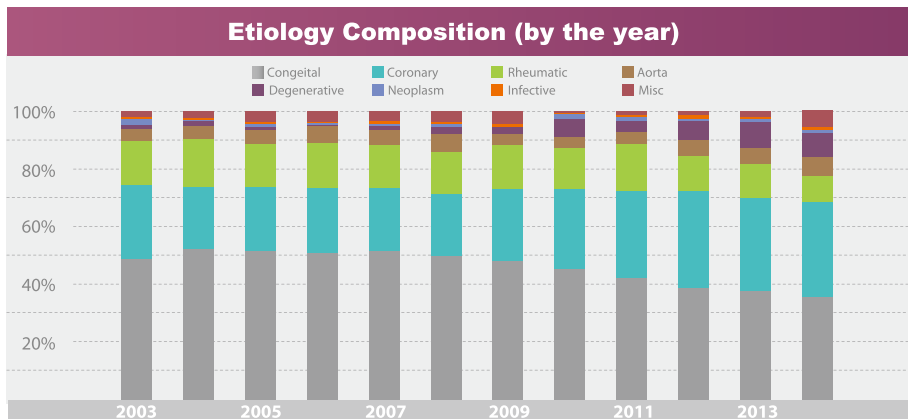
阜外医院心血管外科2014年的外科手术治疗量达到13032例（不含分院及协作点的手术量），居世界前茅。在手术量逐年增长的同时，外科手术死亡率已连续6年低于1%。此外，2014年还有1493例先心病患者在阜外医院成功接受了介入治疗（每年的先心病介入治疗病例均未计入外科手术治疗总量，也未纳入年度报告后面展示的病因、病种、死亡率、术后住院时间及用血指标等分项统计中）。



病种分类

Fu Wai Hospital accumulated the biggest number of experiences in treating a vast variety of cardiac diseases surgically in China. The figure demonstrated the etiological distribution of cardiac surgery from 2003 to 2014 in our department. While Congenital Heart Disease always ranked the first, Coronary Heart Disease increased obviously.

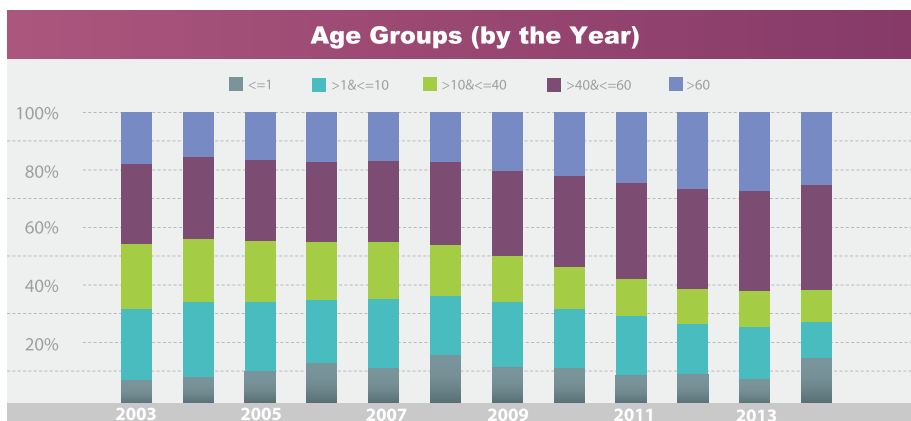
阜外医院心血管外科是全国收治心血管疾病种类最齐全的中心。这张手术患者病因学分类逐年变化图基本反映出中国大陆的心脏病外科治疗谱。尽管先天性心脏病仍占据最大份额，但近年来冠心病比率上升明显。



收治病人的年龄分布

Our department treated an increasing number of elderly patients in recent years. Advanced or junior age is known as one of the risk factors that can seriously affect cardiac surgical outcome.

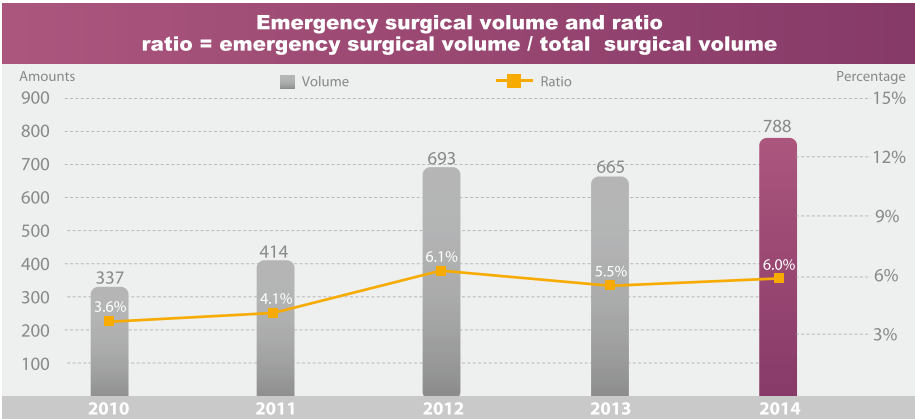
阜外医院心血管外科近年来收治的高龄患者持续增长，这是导致手术风险增高的危险因素。



急诊手术

In recent 5 years, the amounts and ratio of emergency cardiovascular operation increased obviously in our department, which means our team has to cope with an ever expanding workload.

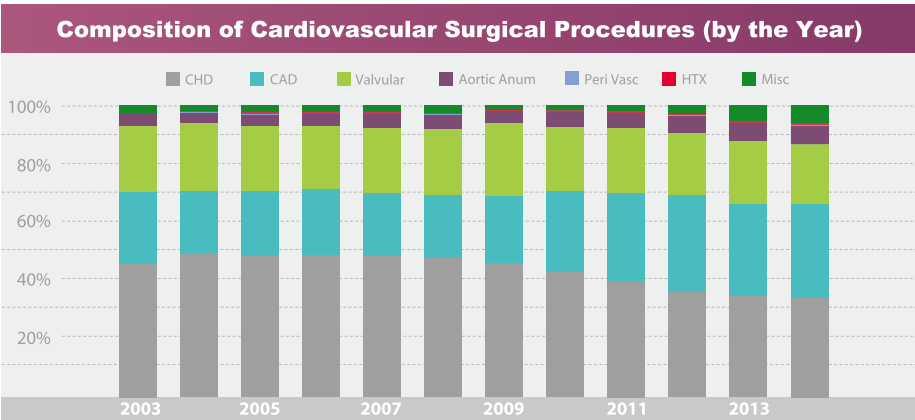
近5年来，急诊手术绝对数量和所占比率均呈上升趋势；这导致工作量的明显增加。



术种分类

Congenital heart correction, valve operation and CABG accounted for more than 85% of total cardiac surgical volume. However, the ratio of surgical correction for congenital heart disease was decreasing rapidly in recent 6 years.

先心矫治、冠状动脉旁路移植术及瓣膜处理这三类手术占据总手术量的85%以上。但先心病外科手术所占比率近6年明显下降。



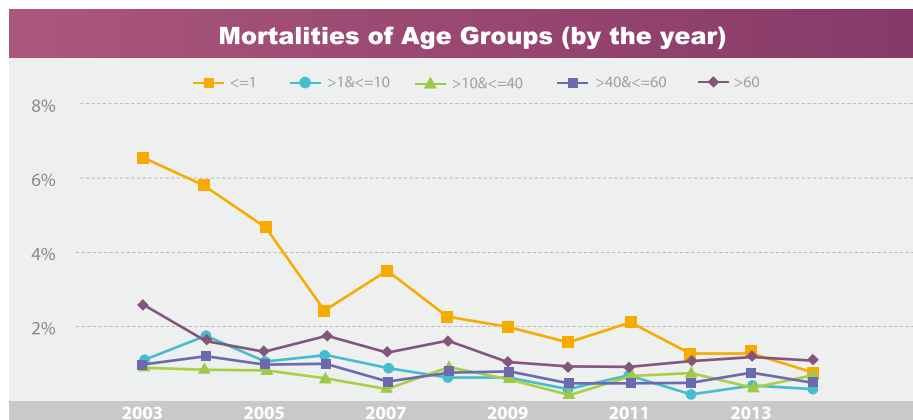
质量控制

QUALITY CONTROL

年龄分组手术死亡率

In recent years, operative mortality in every age group keeps dropping, despite the rising surgical volume.

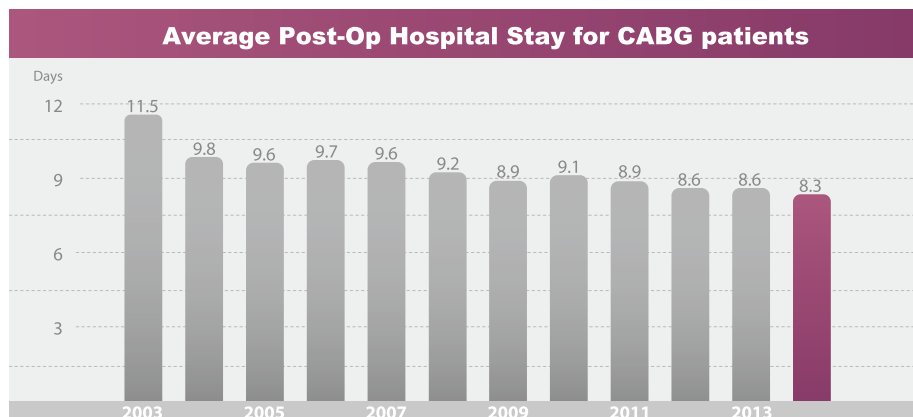
在手术量逐年增长的同时，阜外医院心血管外科收治的各年龄组病人的手术死亡率却在进行性下降，达到世界先进水平。



术后住院时间

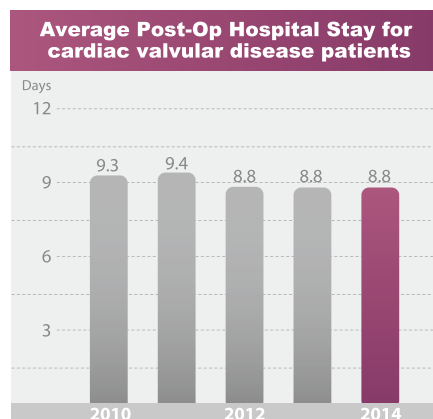
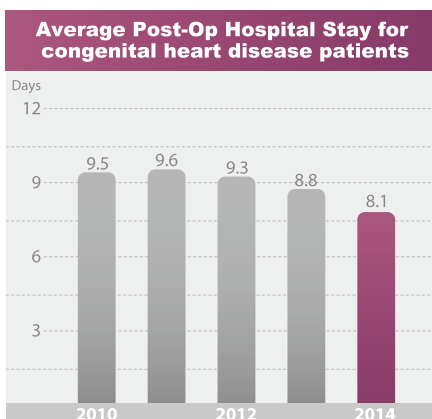
The department of cardiovascular surgery achieved a reduction in post-operative stay, based on the accumulation of surgical experiences and nursing quality improvement.

术后住院时间的缩短反映出医疗与护理质量的进步。



By applying the electronic medical record (EMR) system of Fu Wai Hospital, the quality evaluation indicator system is established for every ward and every surgeon in our surgical team. The indicators include patients' risk score, operative mortality, the incidence of serious complications, length of hospital stay after operation, hospitalization expense and average consumption of blood products per case. By this way, we hope that the best service can be offered to our every patient.

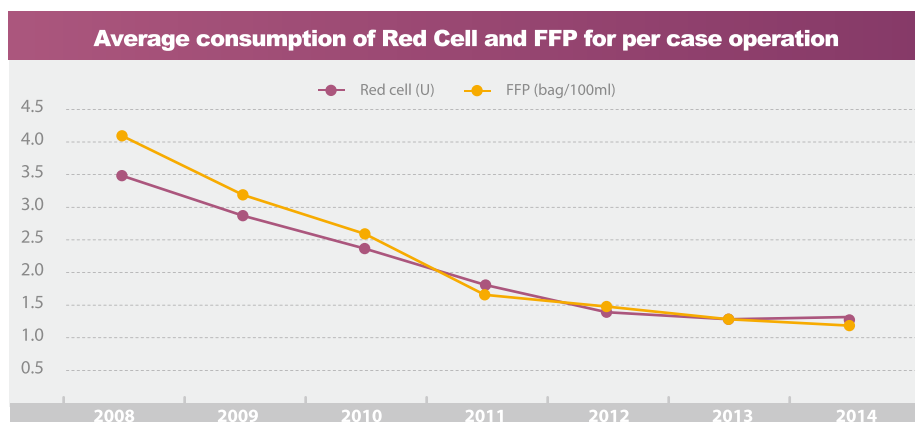
利用阜外医院的电子病历系统，对每个病区和每位医生进行医疗质量考核。这包括：手术患者的风险评分；手术死亡及重要并发症的发生率；患者住院时间、费用及用量等多项指标。以确保我们的外科团队为患者提供的是最优质的服务。



红细胞及血浆用量

Compared to the surgical volume growth, the average consumption of Red Cell and FFP per case noticeably decreased in the recent years, which reflected our improvement on quality of health care and service.

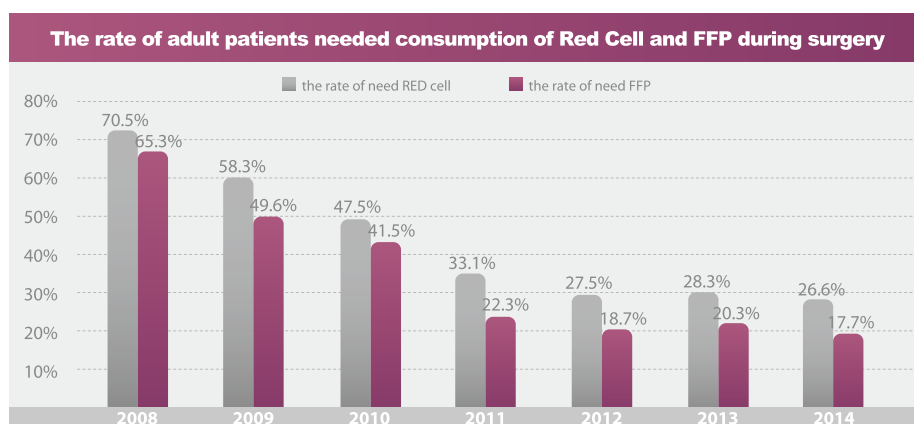
在手术量持续增长的同时，每例手术平均消耗的红细胞和血浆量却在明显减少，这明确反映了医疗质量的提高。



成人患者心血管手术用血比率

The concept of ‘Bloodless Surgery’ has been more and more accepted by the Fu Wai Surgical team. ‘Patient Blood Management’ program has been carried out by every member of the team. The rate of cardiac surgery with no consumption of Red Cell and FFP in adult patients increased obviously.

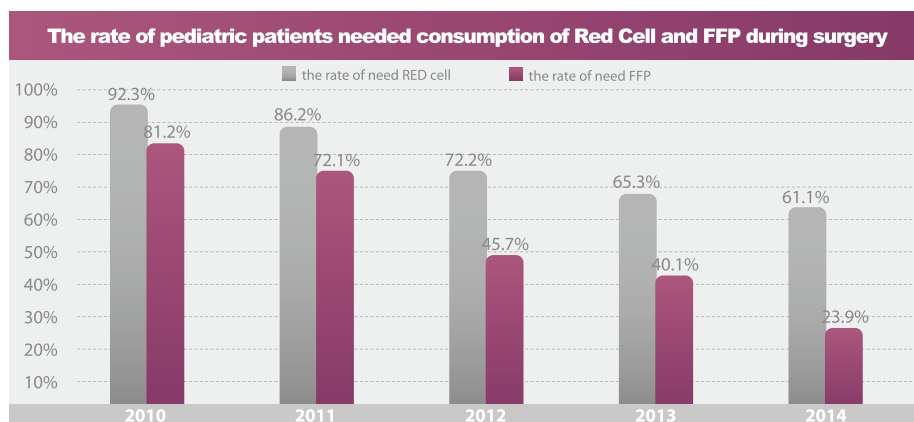
“无血外科”的理念已经深入阜外外科团队的每一个成员，治疗过程中自觉开展“病人血液管理”。在成人心脏手术中，无血手术（手术过程中不使用红细胞和血浆）的比率明显上升。



小儿患者心血管手术用血比率

It is more difficult to achieve ‘Bloodless Surgery’ in pediatric patients receiving cardiac operation. However, the Fu Wai Surgical team is making progresses steadily in this field in recent years.

在小儿心脏患者中实现“无血外科”手术，难度更大。但近几年来阜外医院仍取得了较明显的进步。



先天性心脏病

CONGENITAL DISEASE

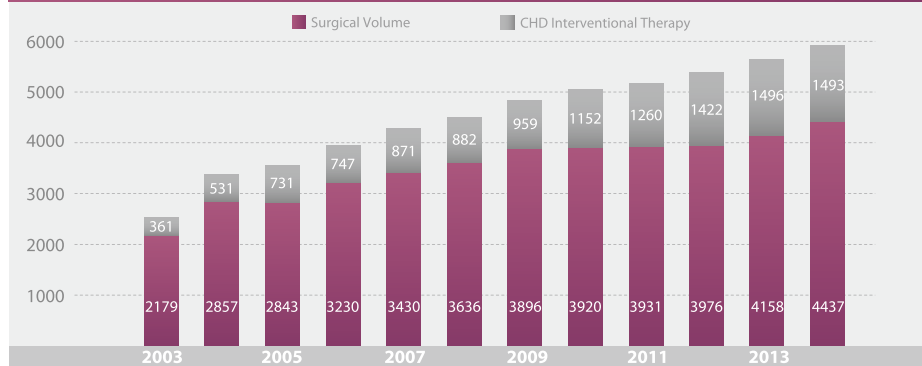
先天性心脏病治疗量

Congenital heart defect is the most common anomaly of the neonates in main-land China. There are 150,000 to 180,000 newborns with congenital heart defects every year in the nation. The number of congenital heart defect correction has long been the largest in all cardiac procedures at Fu Wai Hospital.

先天性心脏病是中国大陆新生儿最常见的先天性缺陷，全国每年约出生15-18万先天性心脏病患儿。先天性心脏病矫治术的数量一直居阜外医院心血管外科各类手术的首位。



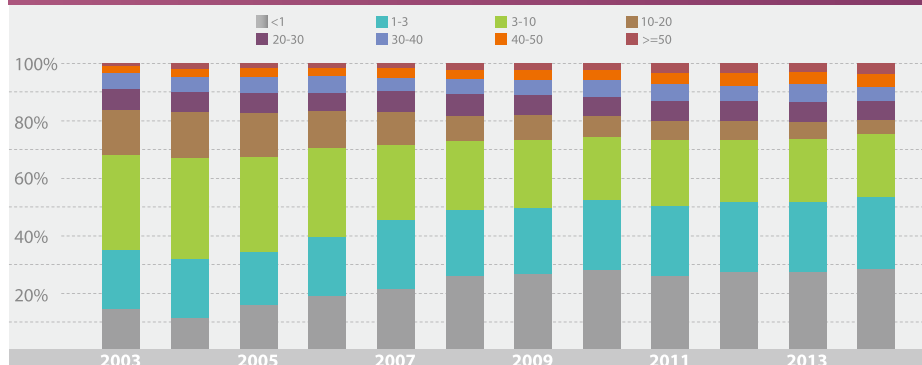
Treatment Volume for Congenital Heart Disease



先天性心脏病外科手术治疗患者的年龄分布

Adult congenital heart defect correction still accounted for a big proportion of the total congenital heart procedures, which was Chinese-specific compared with western countries. 成人先天性心脏病矫治仍占据着治疗中较大的比率，这是颇具中国特色的。

Congenital Patients Age Groups (by the Year)

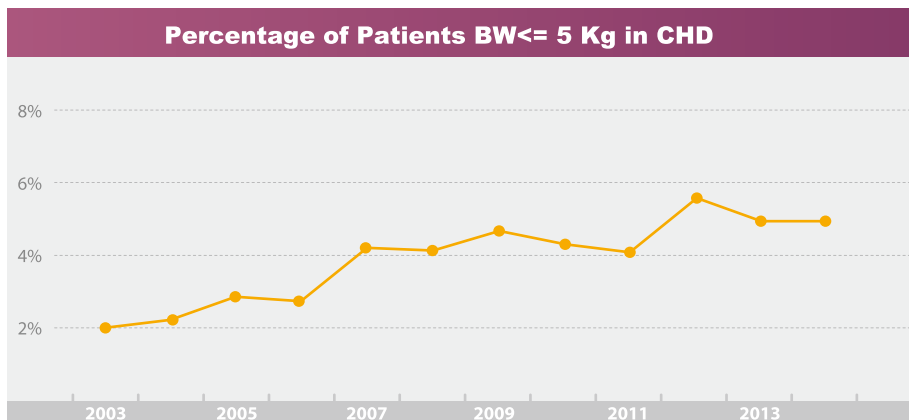




体重小于5公斤的先心外科手术患者比率

Light body-weight is a risk factor that can seriously affect surgical outcome; and the number of pediatric patients with light body-weight tends to increase obviously in the future.

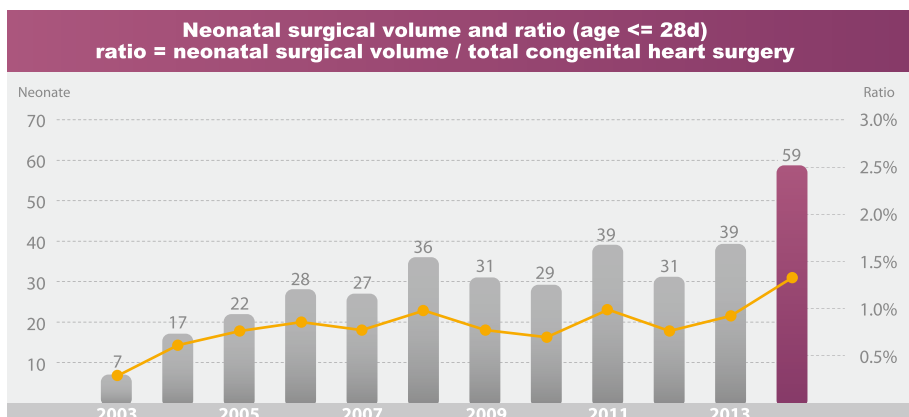
低体重是影响手术的一个危险因素，但这部分患儿的明显增加是将来的趋势。



新生儿先心外科手术量

It is a big challenge to perform correction surgery for neonatal patients ($\leq 28d$) with complicated congenital heart disease. Fu Wai Surgical team continues to make progresses in this area in recent years.

新生儿复杂先天性心脏病矫治术无疑是极富挑战性的工作，阜外医院外科团队在这方面取得了很大的进步。

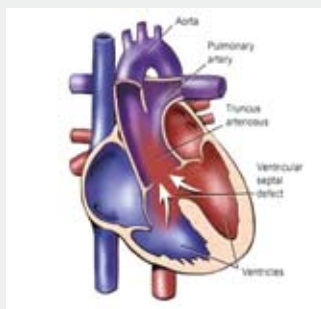




阜外外科团队复杂先天性心脏病治疗亮点

Double root translocation, DRT

双根部调转术

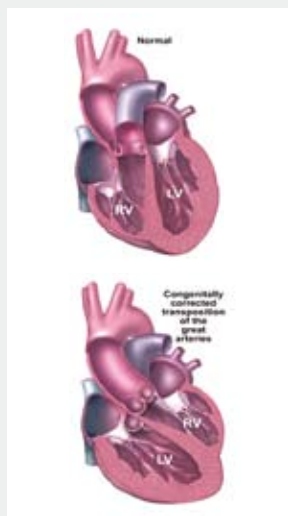


Double root translocation (DRT) procedure is routinely used for anatomical correction of complex complete transposition of great arteries (TGA) (combined with left ventricular outflow tract obstruction (LVOTO)) and double outlet of right ventricle (DORV) (TGA type, combined with right ventricular outflow tract obstruction) in Fuwai. There are 17 DRT procedures completed in 2014. There is no in-hospital death. 125 patients underwent DRT procedure in the past 11 years (2004-2014). The overall mortality is 5.6%.

阜外外科团队运用目前常规采用DRT手术，解剖矫治合并左室流出道狭窄的大动脉转位以及大动脉转位类右室双出口（合并右室流出道狭窄）。2014年完成17例，死亡率为0。2004年至今共完成125例，总体死亡率5.6%。

Complex corrected transposition of great arteries with cardiac malposition

心脏位置异常的复杂矫正型大动脉转位



We use hemi-Mustard + Rastelli + Glenn procedure to correct complex corrected transposition of great arteries with cardiac malposition, and achieved good result. 30 patients got such kind of treatment in recent years, among which 9 were done in 2014. Till now, there is no in-hospital death.

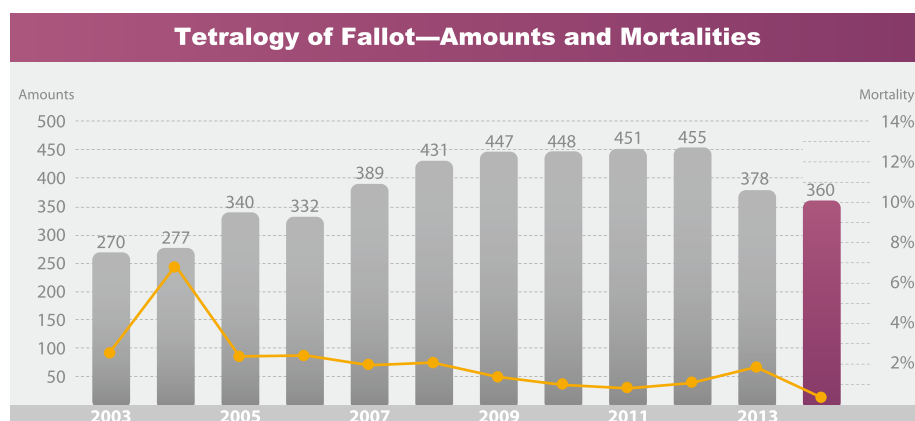
阜外外科团队运用半Mustard+Rastelli+ Glenn手术治疗心脏位置异常的复杂矫正型大动脉转位，取得了良好的效果。2014年共完成9例，死亡率为0。目前共完成30例，无手术死亡。



法洛四联症

In main-land China, Tetralogy of Fallot lies on the front of cyanotic congenital heart diseases. The department of cardiovascular surgery of Fu Wai Hospital has accumulated broad experiences on surgical correction of Tetralogy of Fallot, with excellent outcome in the world.

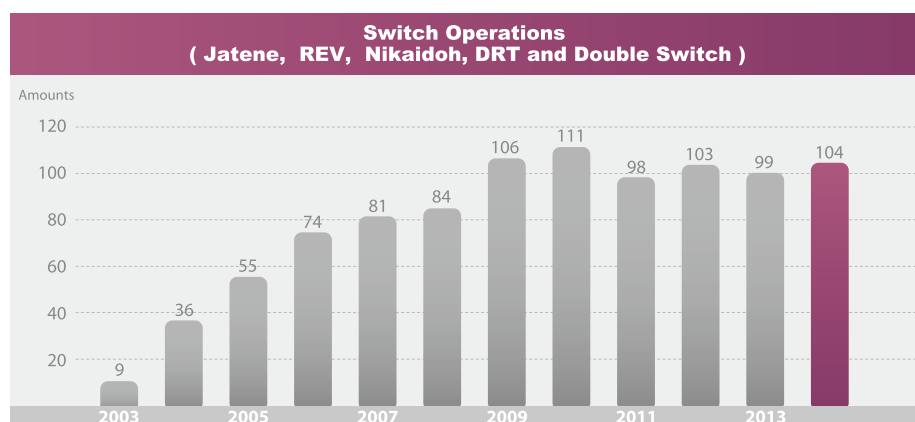
法洛四联症是中国大陆居紫绀类先天性心脏病首位的疾病。阜外医院心血管外科在根治法洛四联症方面积累了丰富的经验，并取得了居国际先进水平的治疗结果。



动脉调转类手术

Jatene procedure has been regularly performed for patients with Transposition of the Great Arteries in Fu Wai hospital. In addition, modified Nikaidoh procedure, modified REV procedure with the preservation of native pulmonary valve and ‘Double Root Translocation’ (DRT) procedure were perfectly performed for treatment of complete TGA with ventricular septal defect and pulmonary stenosis. For corrected TGA, Double Switch procedure was successfully applied in patients’ anatomical correction.

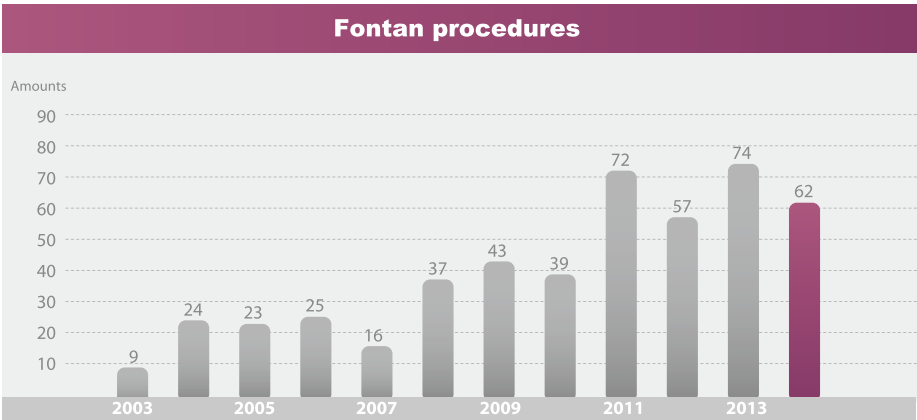
阜外医院已将高难度的Jatene手术常规运用于完全性大动脉转位的治疗；并成功采用改良Nikaidoh手术、改良REV术式及“根部双调转”（DRT）术式治疗完全大动脉转位合并肺动脉狭窄、室间隔缺损的复杂病例。双调转术也被成熟运用于矫正型大动脉转位患者的解剖矫治。



Fontan类手术

In Fu Wai Hospital, the palliative operation has been regularly used for some kinds of congenital heart disease. Fontan procedures increased obviously with satisfactory outcomes.

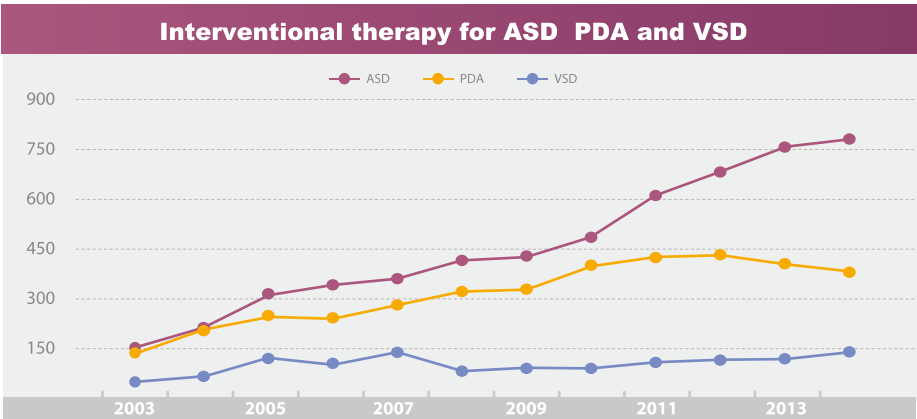
先心病姑息手术治疗在阜外医院常规开展，其中Fontan类手术近年来增加明显。



先天性心脏病的介入治疗

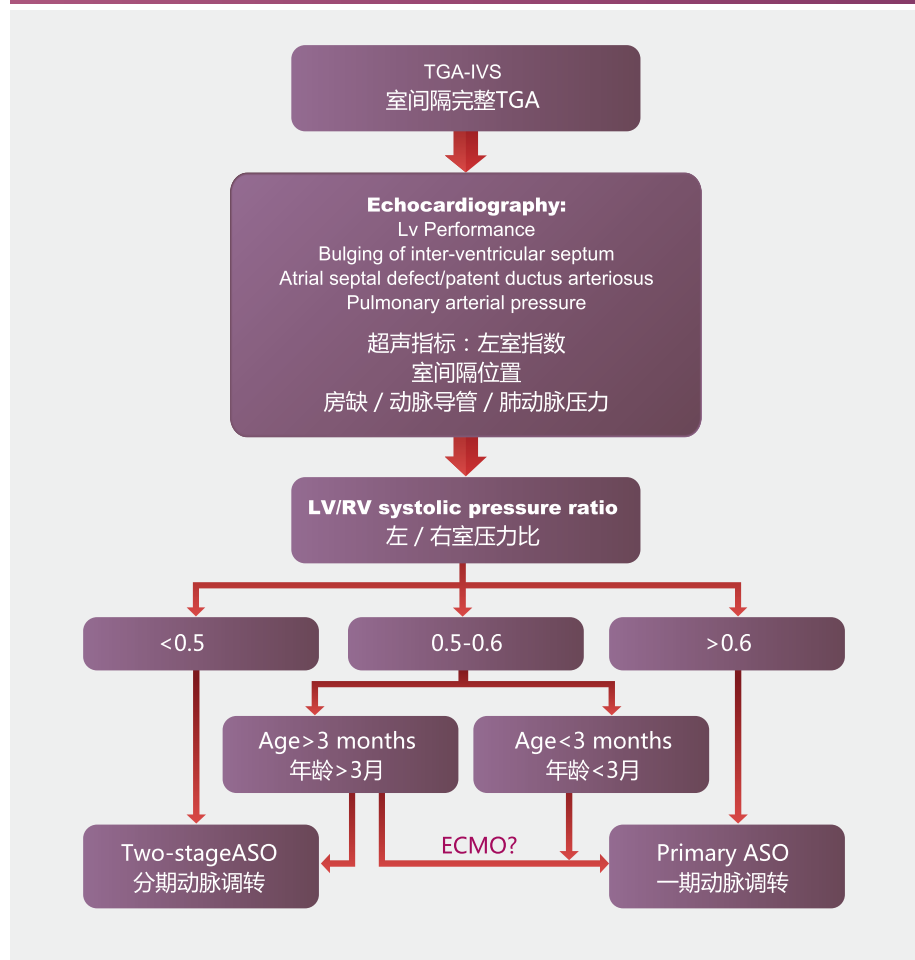
Atrial septal defect, patent ductus arteriosus and ventricular septal defect occupied the major share of the interventional therapy for congenital heart disease. And the amounts increased obviously in recent years. (This part is not included in surgical volume of Surgical Department of Fu Wai Hospital)

在介入治疗的先心病种类中，房间隔缺损、动脉导管未闭和室间隔缺损占主要地位。简单先心病的介入治疗量明显上升。（每年的先心病介入治疗量均不计入外科手术治疗总量）。



Protocols for complex congenital heart disease in Fu Wai Hospital 阜外医院复杂先天性心脏病诊疗规范

Fu Wai's protocol for later presenter patients with TGA/IVS (restrictive VSD), age >3 weeks 超龄 (>3周) 室间隔完整型完全性大动脉转位阜外医院诊疗流程

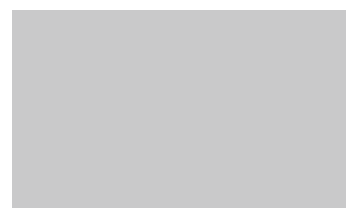
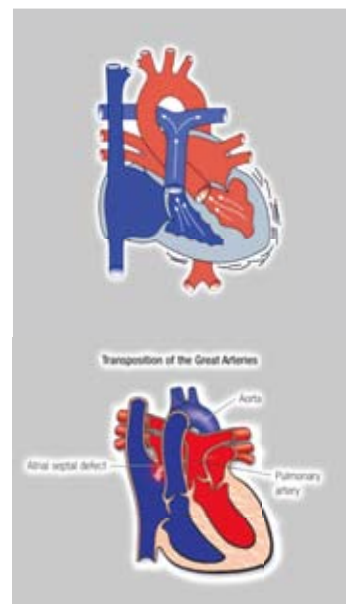


TGA/IVS: Transposition of the great arteries with intact ventricular septum

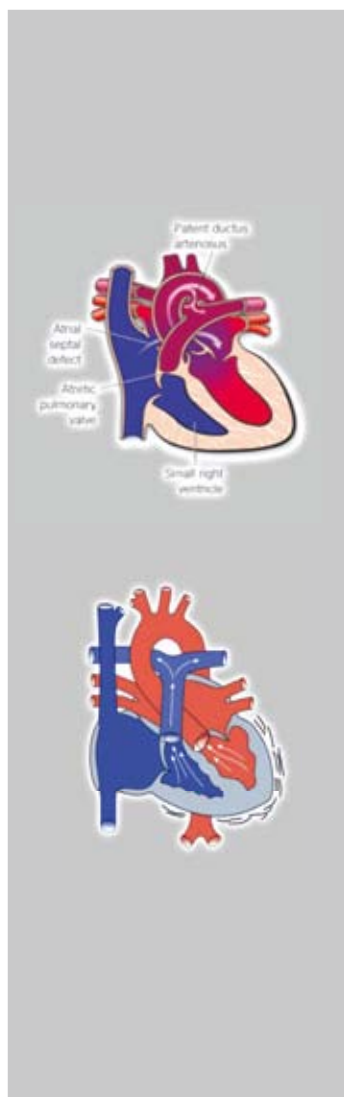
注：TGA指 Transposition of the great arteries 完全性大动脉转位

It is a constant challenge to cardiac surgeons to perform anatomic correction for later presenter patients with TGA/IVS. However, it is a frequent situation in mainland China that many patients visit doctors too late. Morphologic left ventricle training procedure is regularly performed on these patients in Fu Wai Hospital. Then, anatomic correction can be achieved for them. Fu Wai Surgical Team has broad experiences on treatment for these patients.

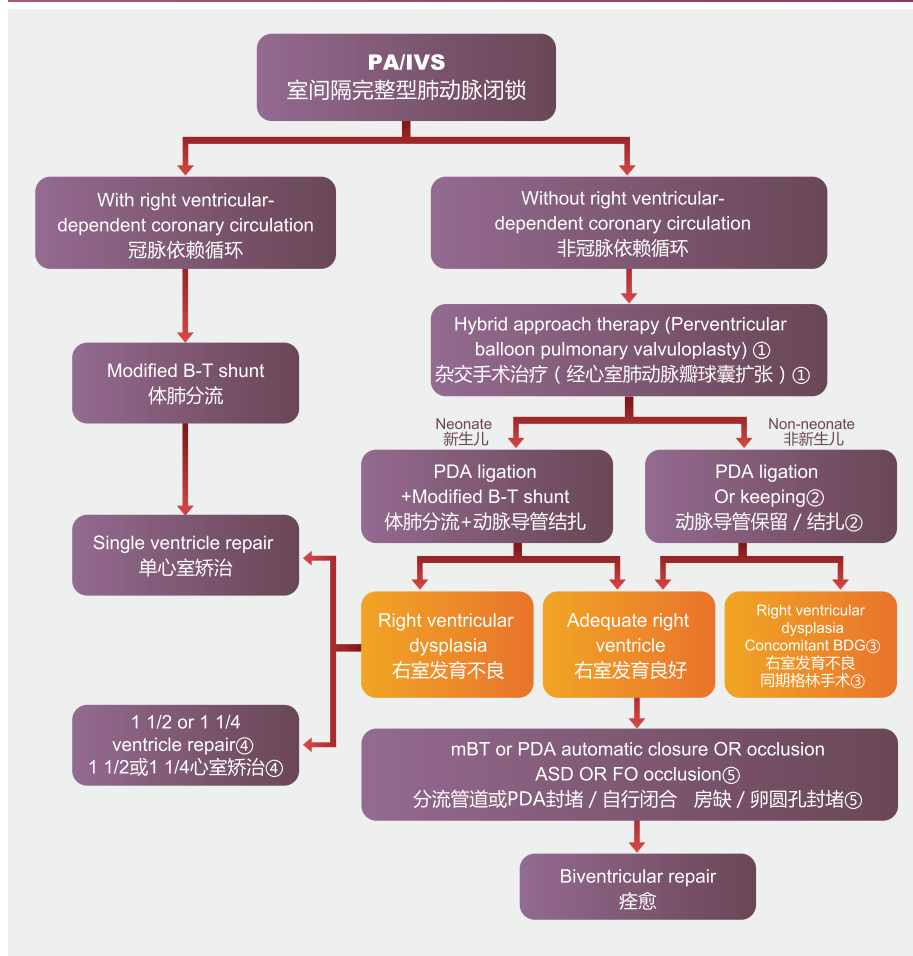
延迟就诊的室间隔完整大动脉转位患者的治疗一直是挑战心脏病医师的难题。中国大陆由于就医条件的限制，心脏病医师更常遇到此类患者。阜外医院在这类患者的左室训练治疗方面积累了丰富的经验，最终为许多患者实施了解剖根治术。



Protocols for complex congenital heart disease in Fu Wai Hospital 阜外医院复杂先天性心脏病诊疗规范



Fu Wai's protocol for patients with Pulmonary Atresia with Intact Ventricular Septum 室间隔完整型肺动脉闭锁阜外医院诊疗流程



Note:

1. Patients with muscular atresia need RVOT enlargement during CPB and concomitant modified B-T shunt.
2. The PDA ligation is dependent on patients' age and oxygen saturation (In 30% concentration of inspired oxygen). The PDA could be ligated when oxygen saturation is more than 85% after the hybrid operation in patients older than 3 months.
3. The patients older than 4 months can undergo concomitant BDG when inadequate RV present, which was confirmed by the preoperative Echo.
4. 1 1/2 or 1 1/4 ventricle repair are indicated on RV development during the follow up. The patients can undergo ASD repair after BDG when the tricuspid Z value is more than -3.
5. ASD occlusion can be performed in patients with left-to-right shunt at 2-3 years old.

注释:

1. 少部分患儿呈现右室流出道的肌性闭锁，则需选择体外循环下右室流出道疏通，并同期添加体肺分流管道。
2. 在球囊扩张后，视患儿年龄和30%吸入氧浓度下血氧饱和度决定。若患儿大于3月，且动脉血氧饱和度85%以上则可以同期结扎动脉导管。
3. 若患儿年龄在4-5月以上，且术前超声评估明确存在右室发育欠佳，则同期实施格林手术。
4. 根据随访过程中右心室发育的程度决定，若患者三尖瓣Z值>-3,则可以在格林手术后考虑同期房缺手术，以期最大程度利用右室。
5. 若患儿在2-3岁随访提示房水平左向右分流，且房缺/卵圆孔较大，则可实施封堵。

冠状动脉粥样硬化性心脏病

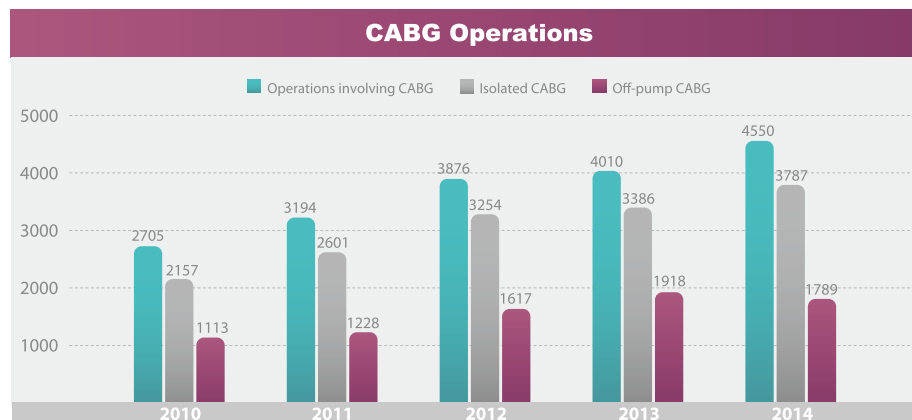
CORONARY DISEASE

冠状动脉旁路移植术手术量

In main-land China, Fu Wai Hospital is the pioneer in the field of CABG operation. In 1974, we performed the first case of CABG in main-land. Beating heart bypass surgery (Off-pump CABG) through sternotomy was also first performed at Fu Wai Hospital in 1996. In 1999, the first case of Hybrid CABG in China was successfully completed in our hospital as well.

The surgical volume of CABG increased rapidly with the climbing morbidity of coronary heart disease. In 2014, 4,550 patients received CABG operation in Fu Wai Hospital. In contrast to the rising surgical volume, the mortality of isolated CABG has remained stable, lower than 1% for 10 years in succession.

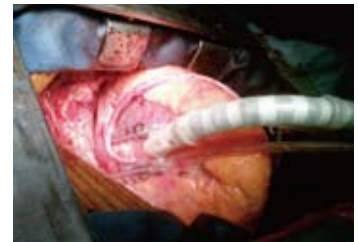
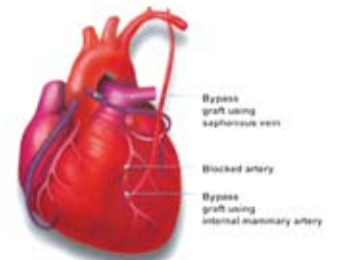
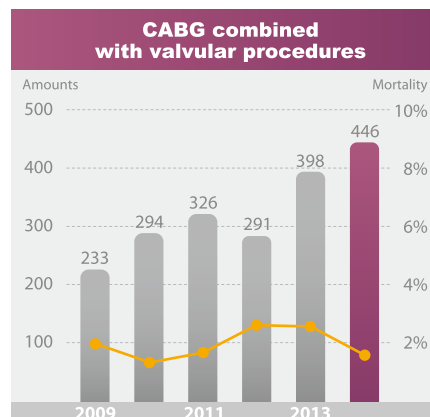
1974年阜外医院心血管外科实施了中国大陆首例冠状动脉旁路移植术（冠脉搭桥术）。1996年又在中国大陆最早开展胸骨正中切口心脏跳动下的非体外循环辅助的冠状动脉旁路移植术，1999年成功完成中国大陆首例杂交技术冠状动脉旁路移植术。伴随着冠心病在中国大陆发病率的节节攀升，阜外医院冠状动脉移植术的数量也在迅猛增长，治疗效果也已达国际先进水平。2014年为4550例患者实施了冠状动脉旁路移植术，其中单纯冠状动脉旁路移植术3787例。单纯冠状动脉旁路移植术的死亡率已连续10年低于1%。



冠状动脉旁路移植同期实施心脏瓣膜手术

The combination of valve replacement or repair with coronary revascularization generally increases operative mortality. However, every year, many patients in such severe condition got successful treatment in Fu Wai Hospital.

冠状动脉旁路移植同期实施心脏瓣膜手术无疑加大手术难度，增加死亡风险。但阜外外科团队每年要治疗许多这样的重症患者，并取得了良好的治疗效果。

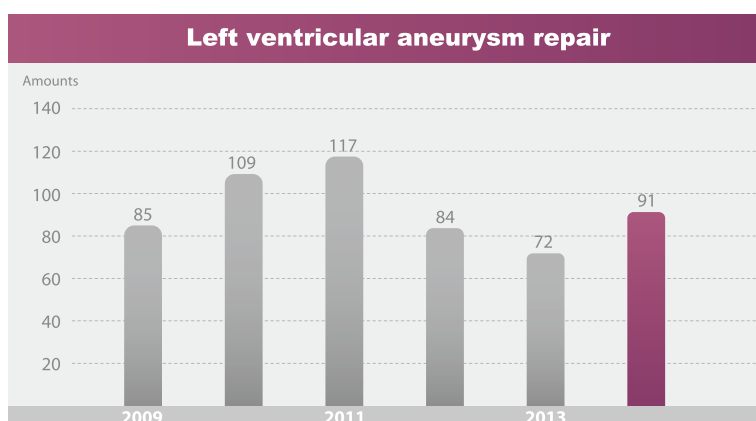




室壁瘤切除

Left ventricular aneurysm is a serious complication of acute myocardial infarction that can lead to congestive heart failure (CHF), ventricular arrhythmia and, rarely, thromboembolic events. Surgical treatment is indicated in established cases of CHF, angina pectoris, malignant ventricular arrhythmia, or recurrent embolization from Left ventricle in Fu Wai Hospital.

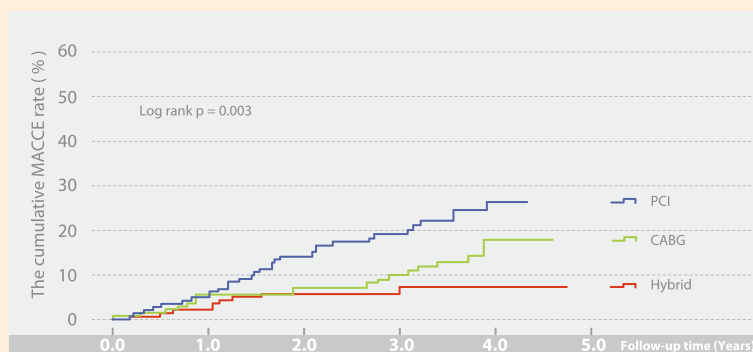
左室室壁瘤形成是急性心梗后的严重并发症，可导致患者发作心衰、顽固室性心律失常、甚至栓塞。针对这些高危患者，阜外医院的医生们会为他们进行积极有效的外科治疗。



The study of Fu Wai Hospital indicates that one-stop hybrid coronary revascularization provides favorable midterm outcomes for selected patients with multivessel coronary artery disease in each risk tertile. For patients with high EuroSCORE or SYNTAX score, it might provide a promising alternative to CABG and PCI.

— J Am Coll Cardiol. 2013 Jun 25; 61(25):2525-33.

阜外医院外科一项3年随访的研究显示：一站式Hybrid手术治疗冠状动脉多支血管病变在降低术后主要不良心脑血管事件发生率方面具有优势。尤其是在治疗SYNTAX高危评分（ ≥ 30 分）和EuroSCORE高危评分（ ≥ 6 分）患者时，要优于不停跳CABG和PCI治疗组。



The cumulative MACCE rate in the hybrid group (6.4%) was significantly lower than that in the PCI group (22.7%; $p < 0.001$), but similar to that in the CABG group (13.5%; $p = 0.140$)

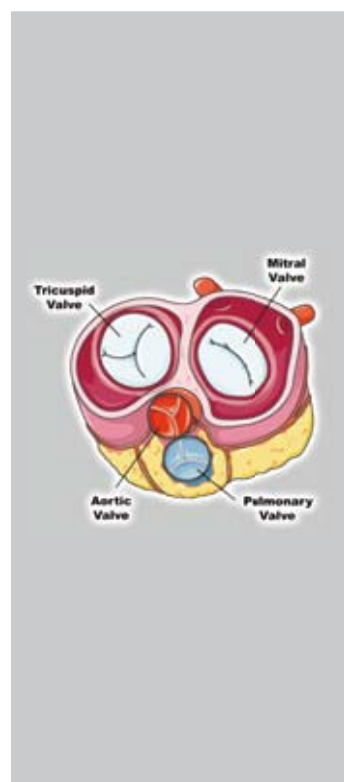
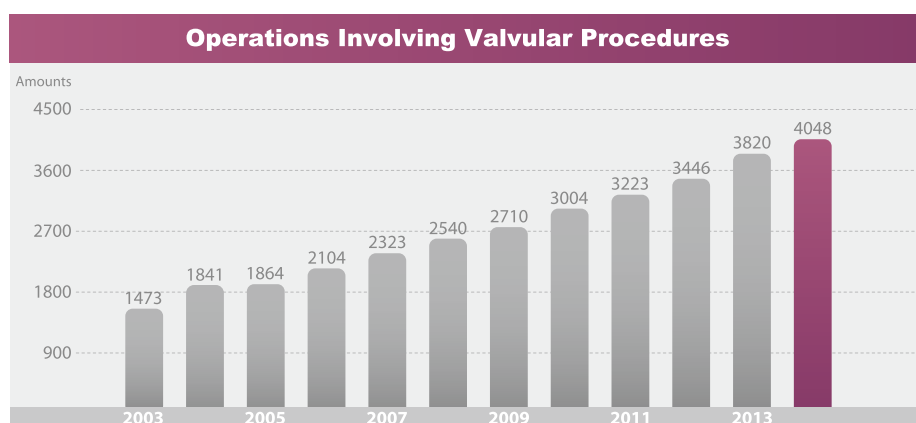
瓣膜性心脏病

VALVE DISEASE

心脏瓣膜手术量

Fu Wai Hospital performed the largest number of valve procedures in China. In 2014, 4,048 patients received valvular operation in Fu Wai Hospital.

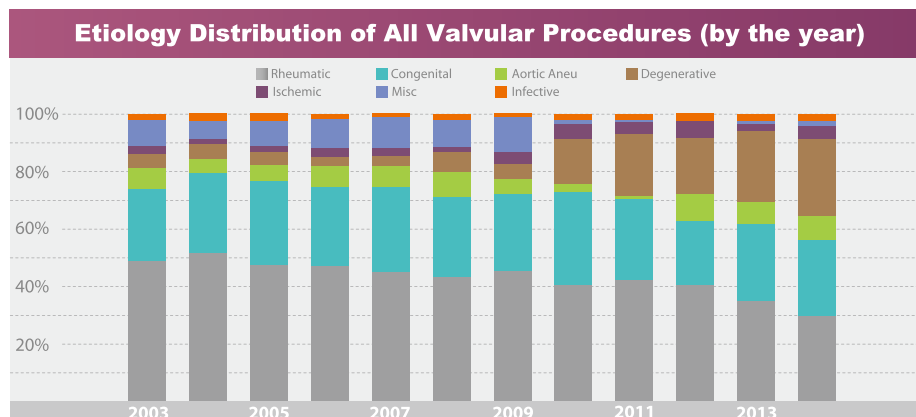
阜外医院心血管外科是中国最大的瓣膜手术中心，2014年完成心脏瓣膜手术4048例。



心脏瓣膜手术患者病因构成的逐年变化图

From 2003 to 2014, rheumatic valve disease occupied a major share of valve diseases at Fu Wai Hospital, while the ratio of such disease declined year by year.

从2003年至2014年，阜外医院心血管外科收治的心脏瓣膜患者均以风湿性心脏瓣膜病变居首，但所占比重却在逐渐下降。

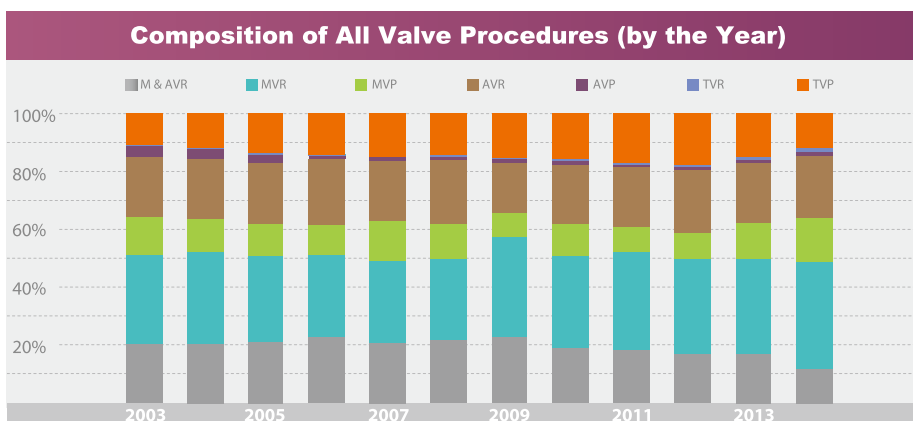




心脏瓣膜手术种类构成的逐年变化图

From 2003 to 2014, the proportion of mitral valve replacement always occupied a major share of the total valve procedures.

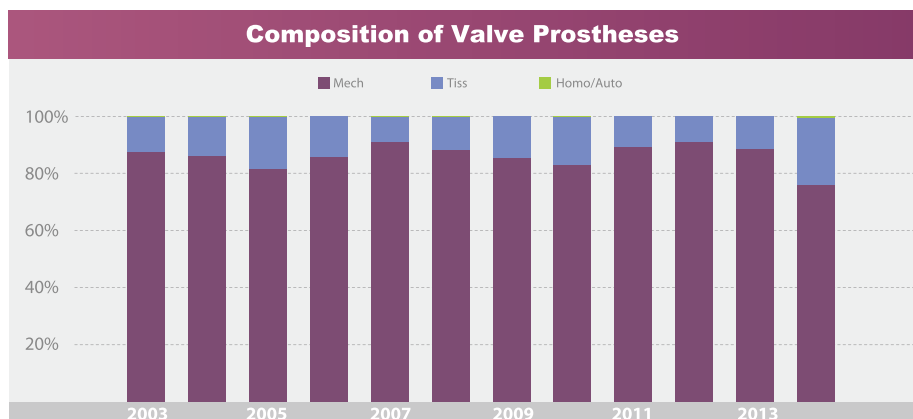
从2003年至2014年，二尖瓣置换术一直占据首位。



人工瓣膜的种类

Mechanical valve replacement always accounted for the major place in valve replacement. However, the share of tissue valve increased obviously in 2014.

瓣膜置换手术中，人工机械瓣的使用占据着主要地位。但2014年异种生物瓣使用比率明显增加。



生物瓣膜置换

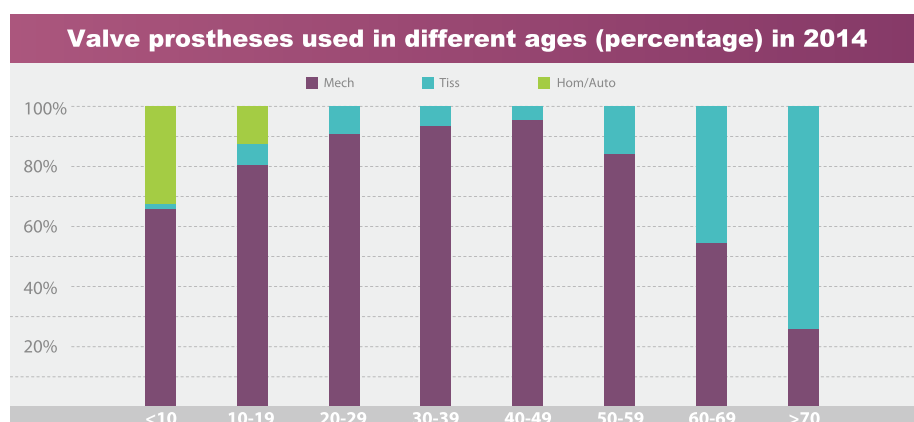


机械瓣膜置换

不同年龄患者所用人工瓣膜种类

In spite of the major role mechanical valve played, younger patients tended to select Auto/Homo valves, while elder patients preferred tissue valves more.

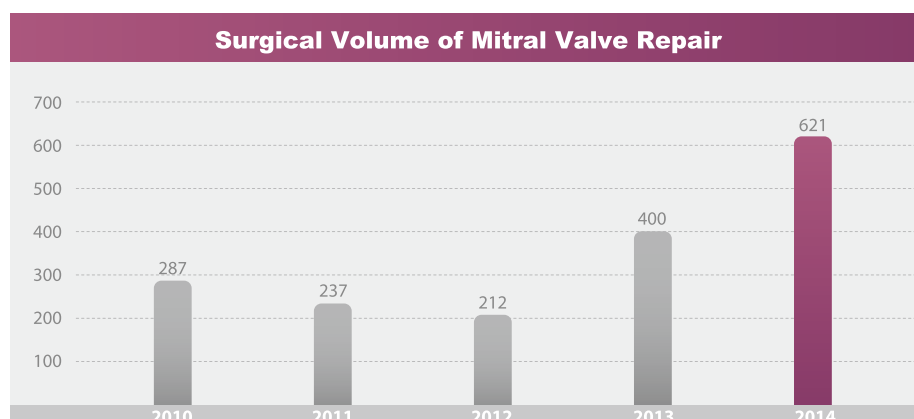
低龄患者采用ROSS手术或同种瓣比率较大，高龄患者使用生物瓣比率明显升高。



二尖瓣瓣膜成型修复术

In Fu Wai surgical team, mitral valve repair technique has become the main means of treatment for patients with mitral valve insufficiency.

在阜外医院，二尖瓣瓣膜成型修复术已成为治疗二尖瓣瓣膜关闭不全的主要术式。



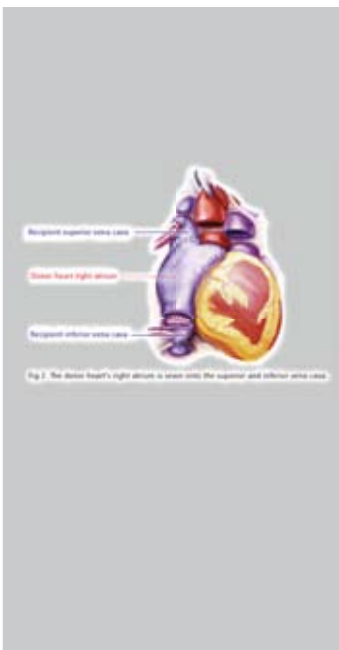
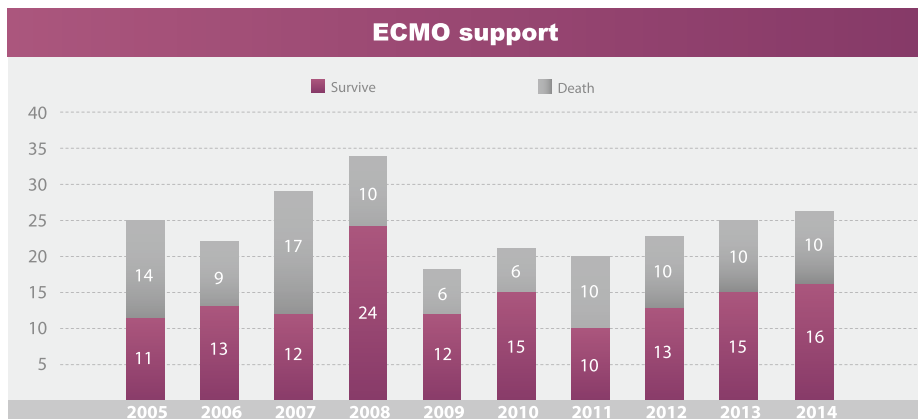
晚期心脏病

ADVANCED STATE OF HEART DISEASE

ECMO辅助治疗量

At Fu Wai Hospital, ECMO has been regularly used for patients with acute cardiogenic shock, and got excellent results.

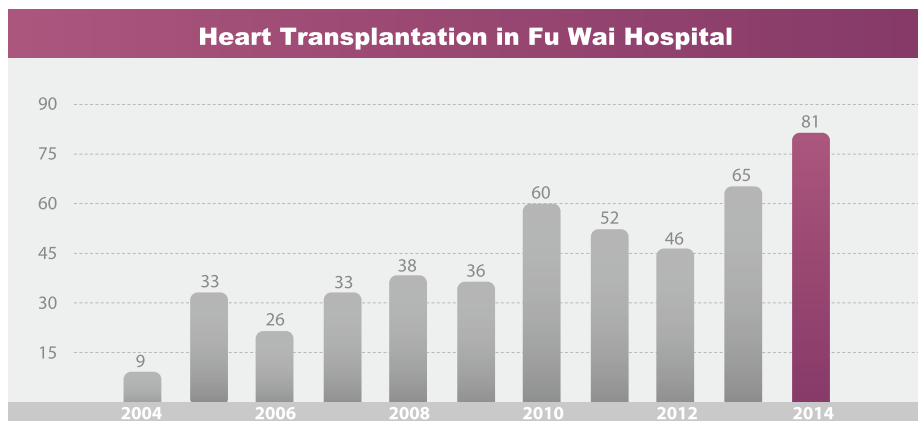
在阜外医院，ECMO辅助治疗已经成为救治急性心源性休克患者的常规手段，并取得良好疗效。



心脏移植量 (Heart Transplantation)

Since June 2004, 478 cases of Heart Transplantation have been performed at Fu Wai Hospital, among which 81 were done in 2014.

自2004年6月开始，在院内完成心脏移植478例。其中2014年实施心脏移植81例。

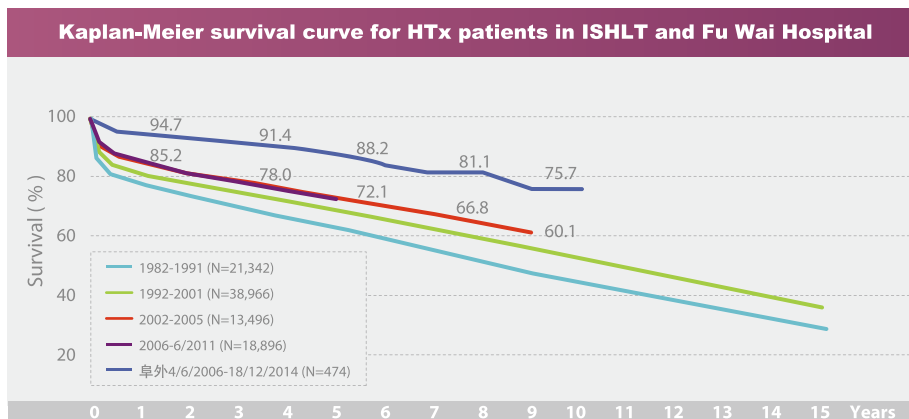




心脏移植生存率图

In Fu Wai Hospital, the one-year survival rate was 94.7%, and the five-year survival rate reached 88.2%, obviously higher than that of ISHLT.

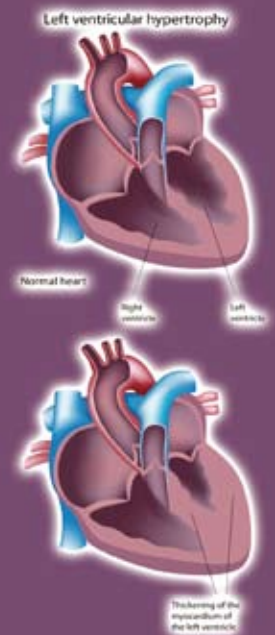
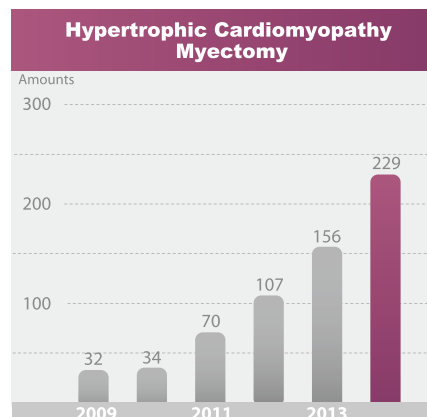
阜外医院移植后患者1年生存率为94.7%，3年生存率91.4%，5年生存率88.2%；明显高于国际心肺移植协会（ISHLT）统计的同期生存率。



肥厚梗阻性心肌病外科治疗

The technique for surgical treatment of Hypertrophic Cardiomyopathy has evolved from the classic Morrow procedure, to a more extensive left ventricular septal myectomy. At Fu Wai Hospital, this kind of modified Morrow procedure has been successfully performed for our patients with satisfactory result.

针对肥厚梗阻性心肌病治疗的外科技术已从经典的Morrow手术演进到左心室室间隔梗阻肌肉的改良扩大切除术。阜外医院成功运用这种改良扩大的梗阻性心肌切除术救治了许多患者。

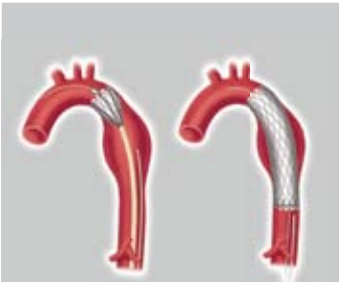
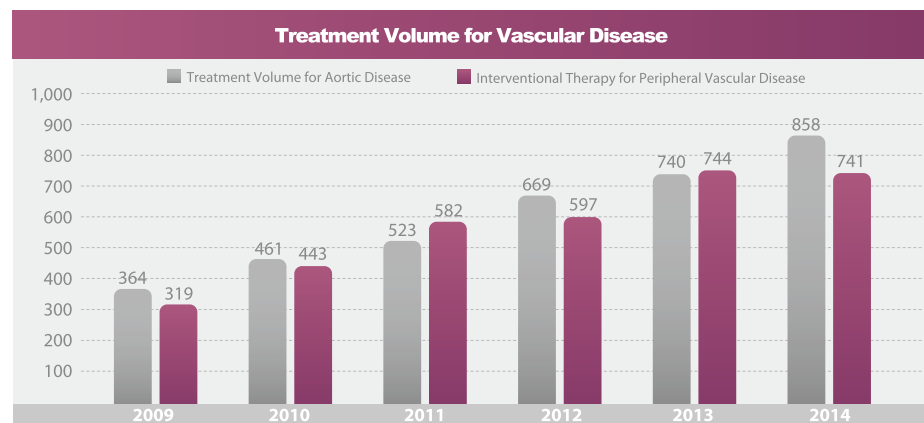


血管外科

VASCULAR SURGERY

Vascular disease is one of the threats to human health in China. In recent years, Fu Wai Hospital has clung on to its lead on aortic surgery as well as made great improve on peripheral vascular disease treatment.

血管疾病是危及中国人民健康的重要疾病。近年来，阜外医院在继续保持着治疗主动脉疾病的领先优势之外，针对外周血管病的治疗也取得长足的进展。

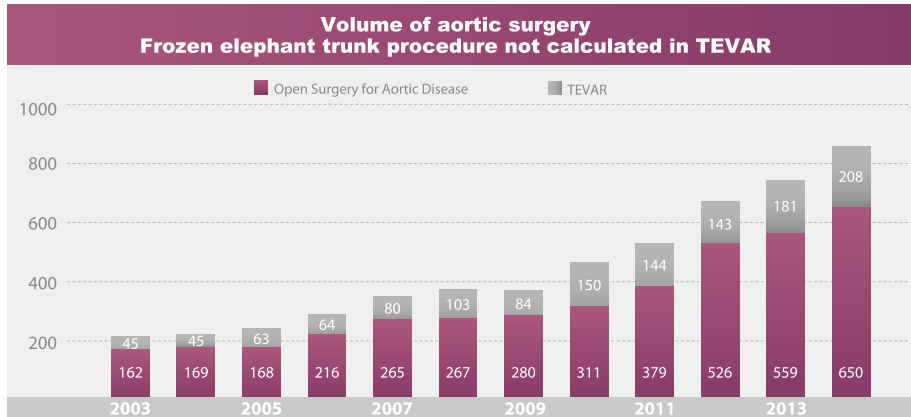


主动脉外科 AORTIC SURGERY

主动脉外科手术量

The department of cardiovascular surgery of Fu Wai Hospital has been taken as the No.1 choice for patients with aortic aneurysms and dissection in China. In 2014, the surgical volume of aortic surgery was 858 cases, and endovascular repairs were successfully performed for 208 patients.

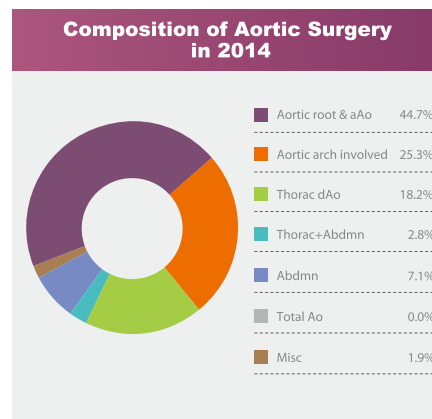
阜外医院心血管外科在主动脉瘤和主动脉夹层这一治疗领域内居国内领先。2014年完成主动脉病变治疗858例，实施腔内覆膜支架血管修复术208例。



主动脉外科手术治疗部位构成图

The figure demonstrated the composition of aortic surgery in 2014 in Fu Wai Hospital. The treatment for aortic root, ascending aorta and aortic arch occupied the major position.

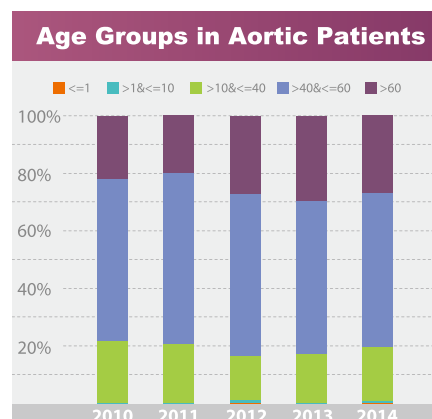
这张图显示了阜外医院2014年主动脉外科手术治疗部位的构成情况。主动脉根部、升主动脉及主动脉弓病变的处理占主要份额。

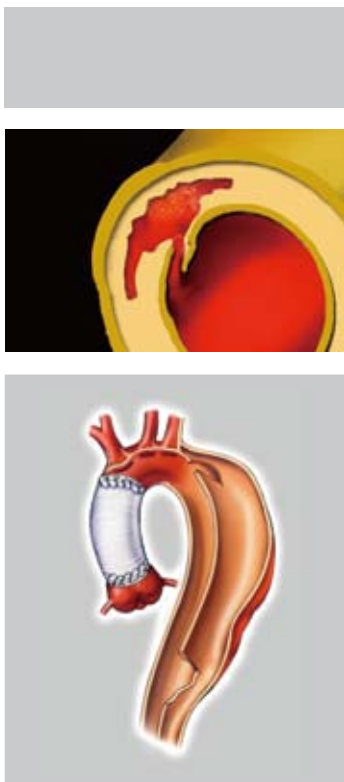


主动脉外科手术患者的年龄分布

In recent years, the aortic surgery patients with age over 60 years old increased obviously.

近年来，主动脉外科手术中60岁以上患者在明显增加。

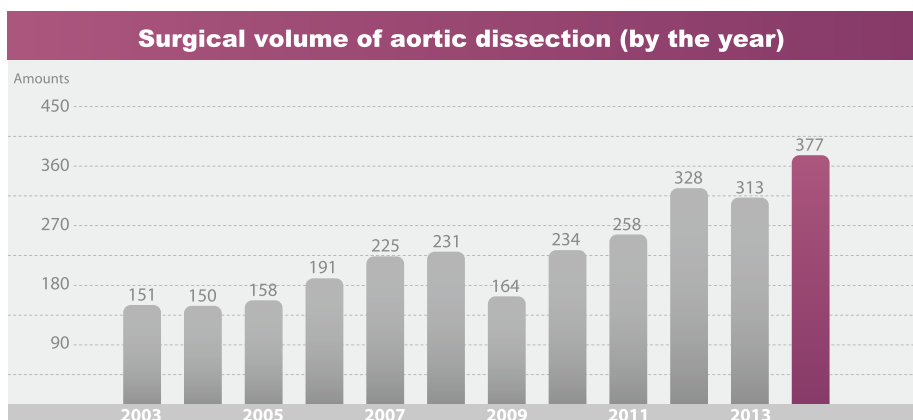




主动脉夹层治疗量

An aortic dissection is a life-threatening, sudden onset catastrophe of the aorta. In mainland China, aortic dissection victims are frequently seen in men of middle and young age with hypertension. Emergency surgery to repair the dissected aorta was frequently performed by Fu Wai Surgical team to save patients' life.

在中国大陆，常见中青年主动脉夹层患者。主动脉夹层往往起病急骤，病情凶险。阜外医院外科团队每年都要为许多这样的患者实施紧急手术治疗，以挽救他们的生命。

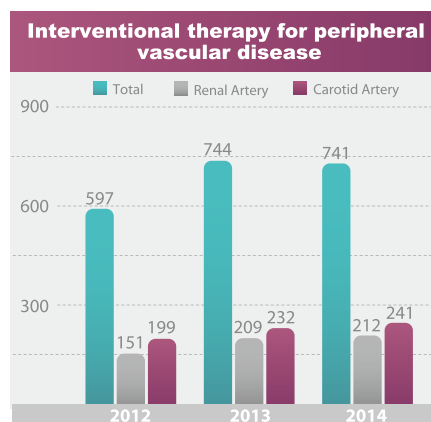


外周血管病 PERIPHERAL VASCULAR DISEASE

外周血管病介入治疗

Every year, the prominent interventionalists of Fu Wai Hospital performed successful interventional treatment for patients with peripheral vascular disease, such as internal carotid artery stenosis or renal artery stenosis. (This part is not included in surgical volume. Either, this part of data is not included in posterior analysis and evaluation.)

阜外医院的介入专家们每年都会采用介入技术治疗许多外周血管病患者，如颈动脉狭窄或肾动脉狭窄。（每年的外周血管病介入治疗量均不计入外科手术治疗的总量，这部分病例也未纳入年度报告的分项统计分析中）。



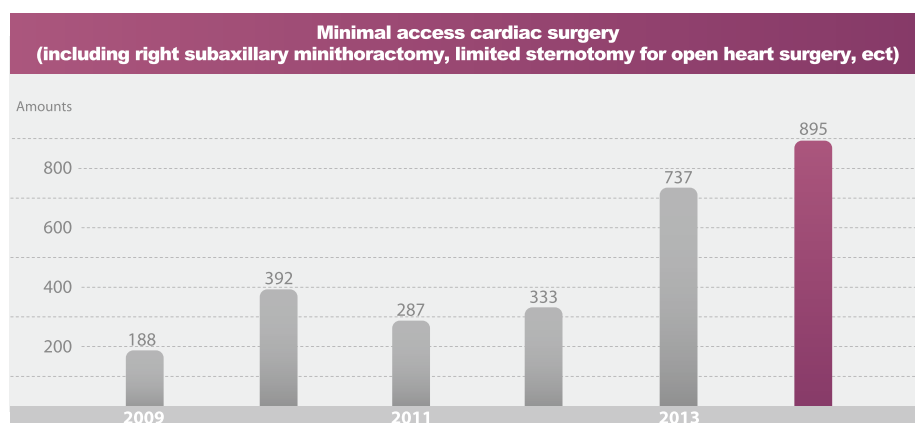
微创心脏外科

MINIMALLY INVASIVE CARDIAC SURGERY

小切口心脏手术量

Fu Wai Surgical Team is always working hard in the field of minimal access cardiac surgery. Minimal invasive techniques, such as limited sternotomy, right subaxillary minithoractomy or parasternal approach for cardiac surgery, are all used for our patients in Fu Wai Hospital.

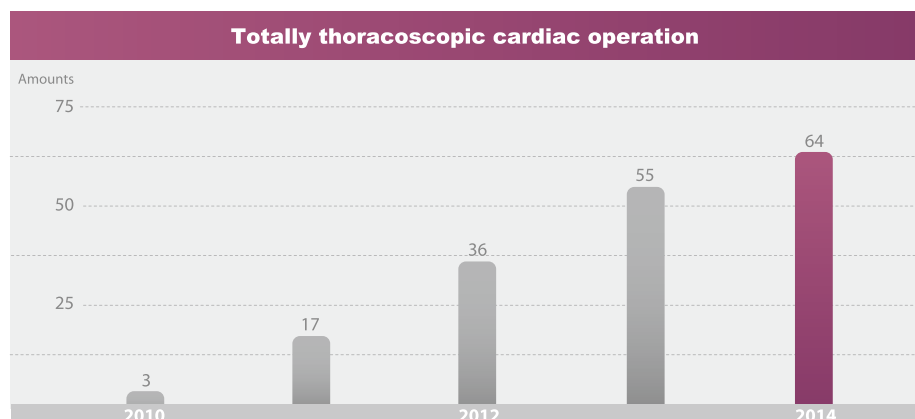
阜外外科团队一直在运用部分胸骨切口、右侧腋下小切口、胸骨旁切口等微创技术手段为患者实施心脏手术，为患者减少手术创伤。



全胸腔镜心脏手术量

For proper patients, totally thoracoscopic cardiac operation will be performed by Fu Wai Surgical Team. The operation trauma is being further reduced.

选择合适的病例实施全胸腔镜下的心脏手术，对减轻患者的手术创伤也是有利的帮助。阜外外科团队在这一领域也在不断取得进展。





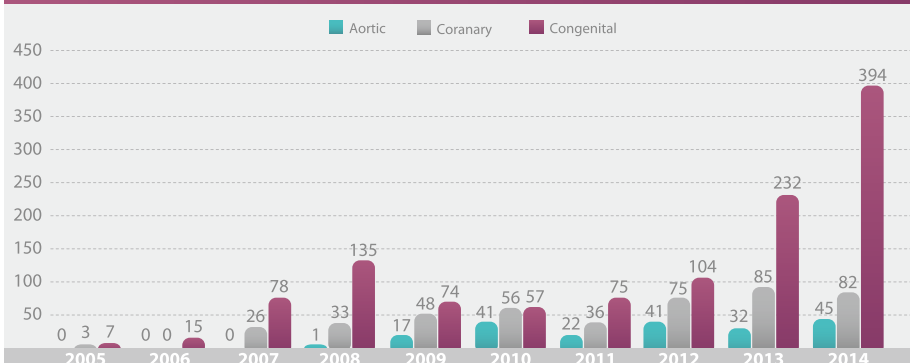
杂交手术量

Hybrid Procedure - Combining Catheter Intervention and Surgical Operation- is a new concept in treatment of cardiovascular diseases. Fu Wai Hospital has made pioneer achievement in this area.

运用杂交技术治疗心血管疾病，是近年来新出现的治疗概念。杂交技术同时结合了介入和外科治疗的优势，为患者提供简便有效的治疗。阜外医院外科在这一新兴领域内进行了开拓性的工作。



Hybrid Procedures—Combined Catheter Intervention and Surgical Operation



外科手术治疗房颤

In recent years, Fu Wai Surgical team used radio frequency ablation to treat atrial fibrillation through surgical approach and achieved satisfactory result.

运用外科手段，对房颤病人实施射频消融治疗。阜外外科团队取得良好疗效。

Maze procedure through radiofrequency ablation for atrial fibrillation



In 2014, many new minimally invasive technique were successfully applied in Fu Wai Hospital

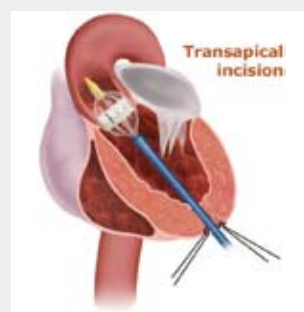
2014年，阜外外科团队还新开展了一些微创治疗技术

Transcatheter aortic valve implantation through the apex of the heart

经心尖主动脉瓣植入术

In July, 2014, Fu Wai Surgical Team has pioneered the use of domestically-made J-Valve™ to perform transcatheter aortic valve implantation through the apex of the heart. Most of foreign counterparts only use TAVI technique for patients with aortic stenosis. Because of the unique design of J-Valve™, our team applied TAVI technique on patient with aortic insufficiency alone for the first time in the world. Till the end of 2014, 12 patients at high risk of severe aortic valve disease got successful treatment with this new minimally invasive technique.

2014年7月，阜外外科团队运用我国自主研发的J-Valve™瓣膜，在国内率先开展了经心尖入路的TAVI手术，治疗高龄、危重的主动脉瓣疾病患者。不同于国际上TAVI技术仅用于主动脉瓣狭窄患者，阜外外科团队还在国际上首次为单纯主动脉瓣关闭不全患者成功实施了介入瓣膜的植入。在半年的时间里，阜外外科团队已完成了12例高风险主动脉瓣疾病患者的治疗。

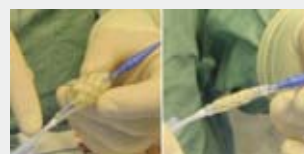


Self expandable pulmonary valve stent implantation

自膨式肺动脉瓣支架植入术

In May, 2014, the prominent surgeon and interventionalist of Fu Wai Hospital successfully implanted domestically-made self expandable pulmonary valve stent (Venus P system) for 2 patients. Both of them suffered severe pulmonary insufficiency long-term after surgical correction of TOF. After the valve stent implantation, the right heart function of the patients improved obviously. Till the end of 2014, 6 patients successfully got self expandable pulmonary valve stent implantation in Fu Wai Hospital.

2014年5月，阜外外科和放射介入治疗团队一起，运用根据我国患者的特点自行研制出的新型自膨胀型肺动脉瓣支架（Venus P支架瓣膜系统），对2例法洛四联术后肺动脉大量返流的患者成功实施了自膨胀型肺动脉瓣支架的植入，明显改善了患者的右心功能。这是我国首次由国内医师运用国产器材完成的经导管肺动脉瓣支架植入术。2014年，共有6例患者在阜外医院接受了这种新型的微创手术治疗。



技术协作

TECHNICAL COLLABORATION PROGRAM

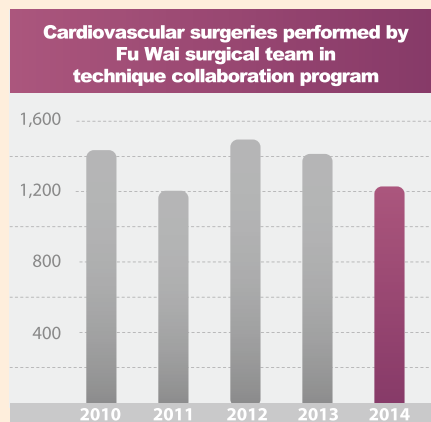
Fu Wai Hospital has carried out technique collaboration with many hospitals all over the country. With the technique support of Fu Wai Surgical Team, their surgical treatment results for cardiovascular diseases improved rapidly. Because of the technique collaboration program, many patients can get outstanding surgical care close to their home. In 2014, 30 hospitals took part in this program. 1,231 cases of cardiovascular surgery were successfully performed in these hospitals with the support of Fu Wai Surgical Team. And totally 4,292 cases cardiovascular operation were performed in these hospital in the past year.

阜外医院与全国多家医院开展了技术协作。阜外外科团队在协作医院开展技术支持，大力推进全国心血管外科技术进步。同时使大量患者在当地就能方便接受到阜外医院的优质医疗服务。2014年，阜外医院与全国各地的30家医院建立了技术协作；阜外外科团队在各协作医院成功完成各类心血管外科手术1231例。而这些医院在2014年总共完成了4292例心脏手术。

技术协作手术量



新增技术协作中心分布图



交 流

COMMUNICATION

China Heart Congress 2014

中国心脏大会2014

The China Heart Congress 2014 (CHC2014) was held successfully at the China National Convention Center (CNCC), Beijing, August 7-10, 2013. It was organized by National Center for Cardiovascular Diseases, China (NCCD) and Chinese Circulation Journal, and co-sponsored by all Chinese societies in the field of cardiovascular medicine. The theme of CHC 2014 is **'Healthy Heart · Better life – Innovation, Translation, and Cooperation'**.

With strong supports from the Chinese government and many renowned national and international experts and colleagues, as well as the industrial partners, the CHC has become the most comprehensive academic events and the most educational teaching course in the field of cardiovascular medicine in Asia Pacific region. The CHC 2014 offered one plenary session, 10 cardiovascular hot topic summits, 42 forums, which had covered the progress in fundamental research and innovations, epidemiology and prevention, general and interventional cardiology, cardiovascular surgery, anesthesia and intensive care. About 7,000 people attended this conference.

In order to better communicate and introduce the latest developments on cardiovascular surgery, distinguished surgeons were invited to present their groundbreaking works, and clinician debated the hottest topics for daily practice on branch forums of Cardiac Surgery, especially for hybrid approach to cardiovascular disease, advancement in minimally invasive surgery, diagnosis and treatment of hypertrophic obstructive cardiomyopathy, and the new understanding about surgical treatment for Tetralogy of Fallot. Plenary discussions were also performed for aortic aneurysm and aortic dissection. Some live demonstration was elaborately prepared for the meeting.

2014年8月7-10日，“中国心脏病大会2014”（CHC 2014）在北京国家会议中心成功召开，本届大会由国家心血管病中心和《中国循环杂志》联合主办。大会的主题是“**健康的心脏、更好的生活——创新·转化·合作**”。

在众多专家和医界同仁的大力支持和积极参与，以及政府和企业的资助下，“中国心脏病大会”已发展成为我国乃至亚太心血管病学界的学术盛会。内容涵盖心血管病预防、基础研究和临床等各个领域。本次大会内容丰富，包括1场全体大会、10场心血管热点峰会、42个分论坛。7000余名专家学者参加了会议。

心血管外科专家们在外科分论坛上全面展示了他们在外科治疗心脏疾病方面的开创性工作，并共同讨论了目前心血管外科所面临的挑战。尤其是在心血管复合技术的应用、微创外科进展、肥厚梗阻性心肌病诊治，法洛四联症外科治疗的新认识以及主动脉瘤及主动脉夹层治疗的新技术、新理念等热点问题上进行了深入的探讨。论坛还精心准备了一些操作演示。





The Seventh Complex Congenital Heart Disease Forum & Surgical Training Program on Treatment for Single Ventricle

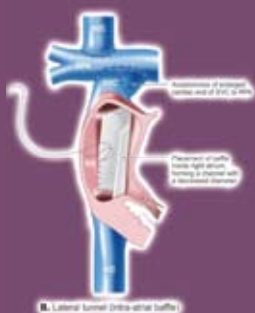
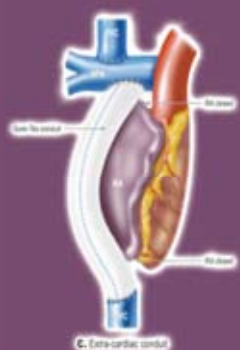
第七届复杂先心病研讨班 及单心室手术技术和策略选择研讨会

‘The Seventh Complex Congenital Heart Disease Forum and Surgical Training Program on Treatment for Single Ventricle’ were successfully held in Fu Wai Hospital on March 26-29, 2014. More than 300 surgeons and anesthetists from all over the country took part in the conference. In accordance with past practice, several live shows of surgical treatment for challenging cases were presented during the conference.

The thesis of the meeting focused on surgical strategy for patients who prepared to get single ventricle correction. Sometimes, cardiac surgeon will encounter great challenge in their practices to decide ‘when’ and ‘how’ to perform single ventricle correction for their patients with complex congenital heart disease. During the meeting, several specialists from direct clinical service shared their privileged and precious experience with participants. They mainly probed into the surgical indication and strategy choice for these patients, including how to deal with combined valvular disease during Fontan’s procedure. Anesthesia management and comprehensive treatment during the peri-operative period also got well-informed discussion.

2014年3月26-29日, “第七届复杂先心病研讨班及单心室手术技术和策略选择研讨会”在阜外医院成功举办。来自全国各地的300多名医师参加了会议。沿袭以往研习班的特色, 会议安排了典型病例手术演示。

这期研讨会的主题是复杂先心病的单心室类手术治疗。如何正确把握单心室手术的时机并进行正确的术式抉择, 有时是小儿心脏外科医师面临的难题。研讨会上, 数位来自临床一线的专家与参会者共同分享了他们的宝贵治疗经验。对单心室类手术的指征、术中决策和术式选择, 以及如何同期处理合并的瓣膜病变, 和该类手术的麻醉及围术期管理等问题进行了深入的探讨。





The Fu Wai Conference on Aortic Surgery 2014

第六届阜外主动脉病变治疗研讨会

On December 5-7, 2014, more than 300 surgeons and anesthetists from more than 100 medical centers took part in 'The Fu Wai Conference on Aortic Surgery 2014' in Beijing.

Distinguished specialists presented their thorough considerations about the strategy selection for treatment of aortic root disease, current status of type B aortic dissection in China, principle for acute type A aortic dissection with coronary involvement or aortic arch involvement, risk factors of rupture and rescue strategy for acute type A aortic dissection, surgical treatment for chronic type A aortic dissection, reasons analysis for type A aortic dissection occurred after TEVAR treatment for type B aortic dissection, the use of multiple bare metal stent in thoracic-abdominal aneurysm, methods and tricks for endovascular reconstruction of aortic visceral branched vessels, and rescue strategy for complication after TEVAR or open surgery.

2014年12月5~7日，“第六届阜外主动脉病变治疗研讨会”在北京顺利举行。来自一百多家医疗中心的300多位外科专家、麻醉医师参加了会议。

与会专家就国人主动脉根部病变外科治疗策略、Stanford B型主动脉夹层在我国的现状、累及主动脉弓部的Stanford A型夹层的治疗策略、急性A型夹层累及冠状动脉的处理、急性破裂性A型夹层的预警与救治策略、慢性A型主动脉夹层的治疗策略、TEVAR术后再发A型夹层、多重裸支架治疗胸腹主动脉瘤、腔内重建内脏动脉分支的方法和技巧、主动脉疾患外科及腔内干预后的并发症处理等重要问题进行了深入而广泛的交流和探讨。还专门安排了疑难病例的讨论，交流治疗经验。





Conference Speeches presented by Fu Wai Surgical Team in 2014

2014年阜外外科团队在国际专业学术会议上的发言

In 2014, more than 10 specialists of Fu Wai Surgical Team were invited to make speeches at high-level international conferences with great academic influence.

2014年阜外医院外科团队中有10名专家受邀在国际高水平的学术会议上进行专题发言。



• 63rd ESCVS Annual Meeting

April 24-27, 2014 in Nice / French

Dr. Luo Xin-jin

"Surgical treatment for un-ruptured aneurysm of the sinus of Valsalva"

• AATS 96th Annual Meeting

April 26-29, 2014 in Toronto / Canada

Dr. Hua Zhong-dong

"When to do a biventricular repair in DORV with non-committed VSD"

Dr. Sun Xiao-gang

"Early and mid-term outcomes following surgical repair for acute type A aortic dissection with coronary involvement: coronary repair vs. coronary artery bypass grafting"

• ESC congress 2014

August 30 - September 3, 2014 in Barcelona/Spain

Dr. Li Dian-yuan

"Risk factors associated with mortality in the surgical treatment of 588 patients with the simple total anomalous pulmonary venous connection"

• Transcatheter Cardiovascular Therapeutics (TCT) 2014

September 13-17, 2014 in Washington D.C. / USA

Dr. Zheng Zhe

"Long-term Results of PCI vs. CABG in 4,046 Patients with Left Main Disease: A Single-Center Experience"

• EACTA-ICCVA 2014

September 17-19, 2014 in Florence / Italy

Dr. Wang Wei-peng

"Current situation of Fast Tracking Cardiac Anesthesia (FTCA) in Asia"

• 28th EACTS Annual Meeting

October 11-15, 2014 in Milano / Italy

Dr. Li Shou-jun

"Biventricular Repair for Double Outlet Right Ventricle with Non-committed Ventricular Septal Defect"

• 9th Annual Cardiovascular Research Symposium of the Chinese American Heart Association (CNAHA)

November 15, 2014 in Chicago / USA

Dr. Zheng Zhe

"Outcome Research and Quality Improvement in Cardiac Surgery"

• American Heart Association (AHA) 2014 Scientific Sessions

November 15-19, 2014 in Chicago / USA

Dr. Zheng Zhe

"Real-world Comparing Outcomes of Revascularization Strategies for Multivessel Disease in Patients with Diabetes"

• Innovation in Cardiovascular Intervention (ICI) meeting 2014

December 14-16, 2014 in Tel Aviv / Israel

Dr. Pan Xiang-bin

"Self expandable pulmonary valve stent - China experiences"



Technology to groom class presented by Fu Wai Surgical Team

阜外外科团队举办的专业学习班

• 主动脉外科继续教育学习班

Technology to groom class for Aortic Surgeon

第一期：2014.3.17-21

1st session: March 17-21, 2014

第二期：2014.11.3-6

2nd session: November 15-19, 2014

• 心脏瓣膜外科培训班

Technology to groom class for Cardiac Valvular Surgery

第一期：2014.4.9-13

1st session: April 9-13, 2014

第二期：2014.6.18-22

2nd session: June 18-22, 2014

• 冠状动脉旁路移植术培训班

Technology to groom class for Coronary Artery Bypass Grafting

第一期：2014.4.14-19

1st session: April 14-19, 2014

第二期：2014.11.13-18

2nd session: November 13-18, 2014

• 心血管外科微创技术高级培训班

Advanced training program for minimally invasive cardiovascular surgery

第一期：2014.5.14-18

1st session: May 14-18, 2014

第二期：2014.12.11-15

2nd session: December 11-15, 2014

• 房颤临床治疗学习班

Technology to groom class for clinical treatment of atrial fibrillation

第一期：2014.8.6-10

1st session: August 6-10, 2014

第二期：2014.10.22-26

2nd session: October 22-26, 2014

• 心室机械辅助装置应用技术高级培训班

Advanced training program for clinic application of Mechanical Circulation Support Device

2014.8.10-14

August 10-14, 2014

• 小儿心血管麻醉及围术期处理专题研讨会

The special workshop on cardiac anesthesia and perioperative period management for pediatric patients

2014.11.7-10

November 7-10, 2014

• ECMO模拟操作学习班

Simulation operation class for ECMO

第一期：2014.4.24-27

1st session: April 24-27, 2014

第二期：2014.7.4-6

2nd session: July 4-6, 2014

第三期：2014.7.18-20

3rd session: July 18-20, 2014

第四期：2014.10.17-19

4th session: October 17-19, 2014

第五期：2014.12.5-7

5th session: December 6-10, 2014

Multiple types of groom class were presented by Fu Wai Surgical Team in 2014. The courses covered coronary artery bypass grafting, valvular repair technique, minimally invasive cardiac surgery, aortic surgery, mechanical circulation support and cardiac anesthesia.

2014年阜外医院外科团队举办了多种类型的面向全国的技术学学习班，内容涵盖了冠状动脉旁路移植、心脏瓣膜手术、微创心脏外科、主动脉外科、机械循环辅助、心血管麻醉等众多领域。

科研创新

NEW RESEARCH

In 2014, Fu Wai Surgical team won 17 new bids for scientific research projects, ranging from the national to provincial and ministerial level. We are now undertaking a total of 89 research projects of various kinds.
目前阜外医院外科团队承担着89个在研科研项目，2014年新增了17项国家和省部级研究项目。

现在主要承担的省部级以上的研究项目 Ongoing Projects

• 十二五国家科技支撑计划项目

Supported by Key Projects in the National Science & Technology Pillar Program during the Twelfth Five-Year Plan Period

冠心病医疗质量改善研究

The study on medical treatment quality improvement of coronary atherosclerotic heart disease

重症缺血性心脏病外科治疗关键技术应用研究

Clinical application research on the Key Technology for the severe ischemic heart disease treatment

• “973”计划

Supported by State 973 programs

雌激素受体及雌激素相关受体与心肌缺血再灌注损伤

The function of estrogen and estrogen-related receptors during myocardial ischemia-reperfusion injury

建立基于疾病细胞模型的药物评价和筛选体系

The construction of drug evaluation and screening system based on cellular model of disease

先天性心脏病肺血管功能异常分子标志物的研究

The research on molecular markers of abnormal pulmonary vascular function in patient with congenital heart disease

先天性心脏病心室重构和逆转的研究

The research on ventricular remodeling and ventricular geometry reversal in patient with congenital heart disease

先天性心脏病形成、发展和干预的基础研究

Basic Research on causes, development and intervention of congenital heart diseases

• “863”项目

Supported by State 863 projects

干细胞移植治疗心力衰竭的临床前评价和临床研究

Preclinical study and clinic evaluation for stem cell treatment in heart failure

心脏移植标准化技术及免疫调控研究

The research on standardized technology and immunoregulation policy for heart transplantation

基于连笔直写的生命体微结构成形技术研究

The research on microstructural vascular scaffold with Micro-Tip Direct Writing Technology

• 卫生行业科研专项

Supported by Healthcare Industry Special Program

现代手术麻醉安全管理体系的建设与推广

The construction and promotion of modern surgical and anesthetic safety management system

• 国家自然科学基金资助项目

Supported by National Nature Science Foundation of China

我国冠心病防治的战略研究

The strategic research on prevention and control of coronary atherosclerotic heart disease in China

新型体外可调节肺动脉环缩装置对需肺血流约束治疗相关疾病血流动力学影响的实验研究

Experimental study of novel in vitro adjustable pulmonary artery banding device affecting the hemodynamics of related diseases requiring pulmonary blood flow constraints tr

miR-200c调控UBC9表达诱导深低温停循环下脑缺血耐受的机制研究

The study on the mechanism of the regulation of miR-200c on expression of UBC9 induction cerebral ischemic tolerance under deep hypothermic circulatory arrest

乙醛脱氢酶3A1对紫绀先天性心脏病矫治术后肺缺血再灌注损伤的影响及作用机制

The research on effect and mechanism of Aldehyde dehydrogenase 3A1 in lung ischemia -reperfusion injury after surgical correction of cyanotic congenital heart disease

iPSC诱导分化及植入脱细胞基质构建生物人工肺脏研究

The research on construction of bio-artificial lung by iPSC induction of differentiation and acellular matrix implantation.

microRNA调控大鼠出生后心肌细胞增殖能力转变过程的研究

The experiment research in rat on microRNA regulation mechanism for transition process of postnatal proliferative ability of cardiomyocytes

胚胎干细胞治疗新生大鼠脑白质损伤的研究

The study on embryonic stem cell treatment for cerebral white-matter injury in neonate rat

脐带间充质干细胞对未成熟肺小血管发育影响及其机制的实验研究

The experiment investigation on the effect and mechanisms of the development of immature

pulmonary small vessel when treated by Umbilical Mesenchymal Stem Cell

mTOR信号传导通路在房颤心房重构中的作用及机制研究

The study on the effect and mechanisms of mTOR signal transduction pathway in Atrial remodeling (AR) during the Atrial fibrillation (Af)

七氟烷后处理与心肌 β 肾上腺素能信号转导通路的交互作用

The study on the interaction effect between the post-conditioning of Sevoflurane and myocardial beta-adrenergic signaling pathways

乙醛脱氢酶2基因多态性对紫绀型先天性心脏病外科心肌保护影响的实验研究

The experiment research on the cardioprotection role of the polymorphism of aldehyde dehydrogenase-2 genotype in patients with cyanosis congenital heart disease

雪旺细胞通过逆转神经重构降低移植后心脏心律失常易感性研究

The research on Schwann cell about degrading the arrhythmia-susceptibility of post-transplanted heart by reversing neurologic remodeling

miR-194调控SUMO蛋白表达：深低温停循环诱导内源性脑保护作用的新机制

The expression of SUMO regulated by miR-194: a new endogenous brain protective mechanism during the deep hypothermia circulatory arrest

血管平滑肌细胞表型异常对主动脉瘤形成的作用

The study on the effect of phenotypic abnormality of vascular smooth muscle cell during the aortic aneurysm formation

升主动脉瘤壁细胞外基质（ECM）生成减少及其病理机制的研究

The study on the pathomechanism of reduction of extracellular matrix (ECM) production in the wall of ascending aortic aneurysm.

一种新选择性脑灌注策略对深低温停循环术中未成熟脑的保护作用及机制研究

The research on the protective role and mechanism in immature brain of a new selective cerebral perfusion strategy during deep hypothermia circulatory arrest

婴幼儿体外循环中脑血流压力/流量自我调节学说理论的构建

The construction of the self-regulating theory on cerebral blood pressure/flow in infants and young children in open heart surgery with cardiopulmonary bypass (CPB)

致心律失常型右室心肌病发病的分子机制研究

The Study on molecular bases of the pathogenesis of arrhythmogenic right ventricular cardiomyopathy (ARVC)

心室辅助中血流脉动量对主动脉影响的研究

The research on the effect of blood flow pulsation on aorta during ventricular assist device support

● 北京市自然科学基金

Supported by Beijing Natural Science Foundation Program

心房利尿钠肽对大鼠体外循环术后肺损伤肺血管内皮通透性调节的保护作用及机制研究

The protective effect and mechanism research for the regulation of pulmonary vascular endothelial permeability in lung injury after extracorporeal circulation of rats.

脱细胞支架复合骨髓间充质干细胞体外构建组织工程带瓣血管的研究

The research on in-vitro reconstruction of tissue engineering graft with valve by Cell-free scaffolds seeded with Bone Mesenchymal Stem Cells

可降解胸骨固定材料PBS/PLA生物性能研究

The study on biological properties of PBS/PLA biodegradable blend as sternal fixation apparatus

● 北京市科技计划

Supported by Science & Technology Research Project of Beijing

法洛四联症根治术后肺动脉瓣返流提早干预对右心室功能保护的前瞻性随机对照研究

The research on protection of the right ventricular function by early intervention of the pulmonary valvular regurgitation after repair of tetralogy of Fallot ——a prospective randomized controlled trial.

急性A型主动脉夹层累及冠状动脉救治策略与风险预警的前瞻性研究

The prospective study on treatment strategy and risk forewarning of patients with acute type A aortic dissection involving the coronary artery

3种大隐静脉获取方式对切口愈合及1年静脉桥血管通畅率的影响

The study on the effect on healing of incision and 1 year postoperative venous bridge vascular patency rate by three different methods of great saphenous vein accessing

医用一氧化氮自动给药系统的临床前研究

The preclinical research on automatically medical nitric oxide delivery system

喉罩用于气道狭窄患儿心脏手术的临床研究

Clinical research on laryngeal mask application for children with airway stenosis during cardiac surgery.

婴幼儿先心病免输血体外循环术的临床应用研究

Clinical study on the application of free blood transfusion technique in infants with congenital heart disease during cardiopulmonary bypass surgery

继发性三尖瓣关闭不全的规范化治疗策略及其临床应用

The study on the strategies and clinical application of standardized treatment in tricuspid valve regurgitation.

升主动脉——主肺动脉分流“非UF策略”治疗合并粗大体肺侧枝的难治性肺动脉闭锁的临床研究

Clinical research on the ascending aorta to main pulmonary artery shunt of "non-UF strategy" treatment in refractory pulmonary atresia combined major aorta pulmonary collateral arteries

体外循环杂交全弓置换术与深低温停循环全弓置换术后脑并发症的前瞻性随机对照研究

Comparative analysis on 'hybrid approach' supported with cardiopulmonary bypass and regular method with deep hypothermia circulatory arrest: a Prospective Randomized Controlled Study on risk for cerebral complications after total aortic arch replacement

改良扩大Morrow手术治疗肥厚梗阻性心肌病手术疗效的临床研究

Clinic research on the therapeutic effect of modified Morrow procedure in hypertrophic obstructive cardiomyopathy (HOCM) treatment

ECMO治疗重度心力衰竭的临床应用研究

The study on clinical application of treatment on severe heart failure by ECMO

● 首都医学发展基金资助项目

Supported by Research Foundation of Capital Medical Development

再血管化自体心房肌组织移植治疗缺血性心脏病临床研究

The clinic research on treatment of ischemic cardiomyopathy by transplantation of revascularized autologous atrial tissue patch.

采取规范化的综合措施提高主动脉瓣成形手术疗效的临床研究

The clinic study on improving operation outcome of aortic valve plasty by promoting standardized multimodality therapy

● 首都卫生发展科研专项

Supported by Special Research Project of Capital Hygiene Development

采取规范化的综合措施提高肥厚梗阻性心肌病手术疗效的临床研究

The clinic study on improving operation outcome of hypertrophic obstructive cardiomyopathy by promoting standardized multimodality therapy

● 北京市科技新星计划

Supported by Nova cultivation program on Science & Technology Research in Beijing

干细胞迁移在大网膜包裹术改善心肌梗死后心脏神经重塑的机制研究

The research on the influence of stem cell migration mechanism in improving cardiac and neurologic remodeling after myocardial infarction during the Pedicled Omentum Wrapped procedure

● 高校博士点科研基金

Supported by Research Fund for the Doctoral Program of Higher Education of China

七氟烷缺血处理的心肌保护作用与钙稳态的关系

The research on the relationship between the myocardial protective effects of Sevoflurane ischemia treatment and calcium homeostasis

β 肾上腺素受体阻断剂对七氟烷缺血后处理心肌保护作用的影响

The study on the impact of β -adrenergic receptor blockers on myocardial protection after Sevoflurane treatment of ischemia

肺动脉内血氧饱和度变化对肺动脉高压的影响机制研究

The study on the mechanism in the pulmonary hypertension affected by the change of oxygen saturation within the pulmonary artery

miR-130a在先天性心脏病相关肺动脉高压肺血管重塑中的作用及机制研究

The research on effect and mechanism of miR-130a in pulmonary vessel remodeling during the pulmonary hypertension related to congenital heart disease

干细胞迁移机制在大网膜包裹术改善心肌梗死后心律失常的实验研究

Experiment study on the influence of stem cell migration mechanism in decreasing arrhythmias after myocardial infarction during the Pedicled Omentum Wrapped procedure

胸主动脉手术围术期脊髓缺血损伤监测及损伤机制的基础研究

Basic research on monitoring and mechanism of spinal cord ischemic injury during peri-operative period of thoracic aortic surgery

新知识

NEW KNOWLEDGE

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最佳心外科专科评选简介

BRIEF ON 'THE BEST HEART SURGERY OF CHINA'

Since 1991, 'U.S. News & World Report' began to survey approximately 5,000 hospitals all over America, and made national ranking of the best hospital of USA every year. The most famous hospitals such as John Hopkins Hospital or Mayo Clinic were all on that list.

Hospital Management Institute of Fudan University, drawing upon 'U.S. News & World Report', began to make national ranking by specialty in Chinese hospitals since 2010. Each year, they published the result on the list of 'The Best Hospitals of China'. Till now, it has lasted for 5 years.

On November 1st, 2014, the results of "The Best Hospitals of China in 2013" were published. For the 2013 ranking, Hospital Management Institute of Fudan University surveyed 2,047 outstanding experts from 30 different specialties.

Fu Wai Hospital has topped 'The Best Cardiology & Heart Surgery of China' for five consecutive years.

1991年,《美国新闻与世界报道》杂志开始评选美国最佳医院和最佳专科,每年更新一次。约翰·霍普金斯医院、梅奥诊所等美国“名院”等均榜上有名。

2010年8月,复旦大学医院管理研究所借鉴美国的评选方法,开始了《中国最佳医院综合排行榜》和《中国最佳专科声誉排行榜》的评选活动。每年推出上一年度的排行榜评比结果,至2014年已连续发布5个年度。

2014年11月1日,复旦大学医院管理研究所公布了2013年度的评选结果。这次评选由全国30个临床专业的2047名著名专家学者共同参与评审。

阜外医院连续5年蝉联“心血管病第一”。而阜外医院外科也连续5年蝉联“心外科第一”。显示出专家和公众对我们提供的医疗服务的高度认可。



OUTCOMES 2014

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