



# **OUTCOMES**



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国家心血管病中心简介 29 Brief on NCCD.China Similar to previous version, 'OUTCOMES 2010' systematically summarized the achievements made in the past year by Fu Wai Surgical team. The effort and contribution of each colleague in this team deserves our heartfelt encouragement and praise. It is an inspiration to the whole team by having revealed these successful cases and satisfactory results in the annual report. Also, we wish to express our sincere appreciation of the patients' firm trust and our peers' kind support.

The year of 2010 was remarkable to each one in Fu Wai Hospital that National Center for Cardiovascular Disease (NCCD) was officially established, and Fu Wai Hospital has been selected as the clinic department of NCCD. Given the serious increasing incidence of cardiovascular disease in China, the creation of NCCD stands for a milestone as our government has decided to gradually divert its focus in combating the disease from the sole treatment through surgery or medication to more preventative measures like cultivating healthy life styles. Nevertheless, it is a new challenge to the whole Fu Wai Surgical team that we should carry out more research on this new task and strive for more successes in this new field.

Innovation and Quality — always at Fu Wai Hospital

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一如既往的,《阜外医院外科年度报告2010》系统回顾了"阜外医院外科团队"过去一年的工作。使我们团队的每一名员工都能看到自己辛勤付出的收获,从我们优良的治疗效果和患者满意的康复中得到鼓励,并以此作为鞭策自己继续前进的动力,是这份报告希望达到的一个目的。我们也希望通过年报所显露的高质量的工作,来感谢那些一直信赖我们的患者,感谢那些一直支持我们的同行。

2010年,对阜外医院的每一名成员而言都是不同寻常的一年。国家心血管病中心 (NCCD) 在这一年正式建立了,阜外医院成为这一国家级中心的临床医疗部。 NCCD的建立意味着在面对中国目前心血管病流行趋势日益严峻形势下,我国政府将把对抗心血管病的重心从临床疾病的手术、药物治疗,逐渐转向以预防为主的生活方式的干预。这也就意味着每一位阜外医院的成员都必须去面对未来新增加的任务和挑战,以争取在新的征程中创造更好的业绩。

"创新与品质",是我们阜外团队永恒的追求!





# 概 述 Overview

#### 年手术量及手术死亡率

In 2010 the surgical volume in Cardiovascular Surgery Department reached 9,384 in Beijing headquarters. This is a new milestone for Fu Wai Hospital, which positioned us one of the top cardiovascular surgical centers world-wide. Operative mortality has been controlled at a low level for many years as opposed to the rising surgical volume mentioned. In 2010, operative mortality for all cardiovascular surgical procedures was down to 0.73%.

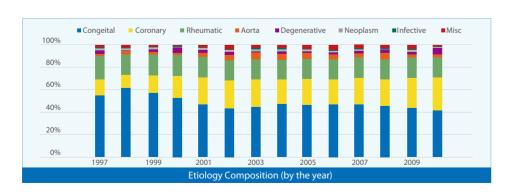
阜外医院心血管外科2010年的手术量达到9384例(不含分院及协作点的手术量),居世界前 茅。在手术量逐年增长的同时,一直保持了较低的手术死亡率。2010年手术死亡率仅为0.73%。



#### 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 1997 to 2009 in our department. Congenital Heart Disease always ranked the first, while Coronary Heart Disease increased obviously.

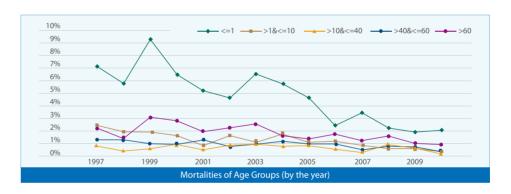
阜外医院心血管外科是全国收治心血管疾病种类最齐全的中心。这张手术患者病因学分类逐 年变化图基本反映出中国大陆的心脏病外科治疗谱。



#### 年龄分组死亡率

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

阜外医院心血管外科近年来收治的患者呈现出低龄和高龄患者持续增长,而中间年龄段患者 逐渐减少的趋势,这是导致手术死亡率增高的危险因素。



Patients coming to Fu Wai Hospital for their cardiovascular surgery were from 31 provinces in main-land China, Hong Kong, Macao and 4 foreign countries, Mongolia, America, North and South Korea.

病人来自全国31个省市自 治区, 以及香港、澳门地 区。还有蒙古、朝鲜、韩 国、和美国的患者前来就

#### 术后住院时间

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

术后住院时间的缩短反映出医疗与护理质量的进步。





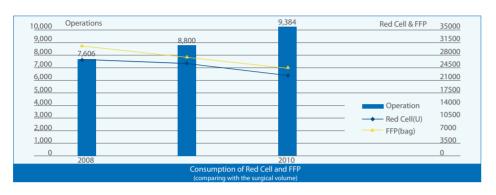
2010 OUTCOMES **2010 OUTCOMES** 



#### 红细胞及血浆用量

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

在手术量持续增长的同时,使用红细胞和血浆的总量却在明显减少,这明确反映了医疗质量的提高。



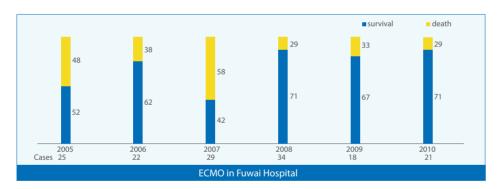
#### ECMO辅助

ECMO示意图 ◆

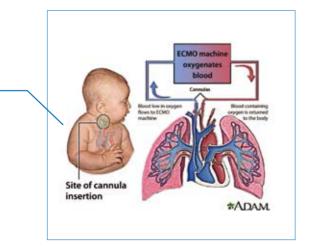
ECMO辅助

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。







### 先天性心脏病

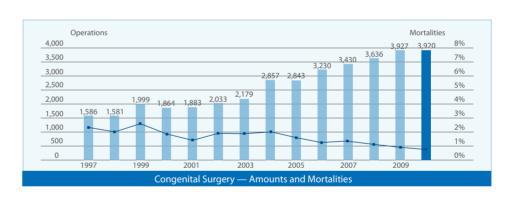
# **Congenital Disease**



#### 先天性心脏病手术量及死亡率

Congenital heart defect is the most common anomaly of the neonates in main-land China. There are 100,000 to 150,000 newborns with congenital heart defects every year in the nation. Congenital heart defect correction remains the largest number of cardiac procedures at Fu Wai Hospital.

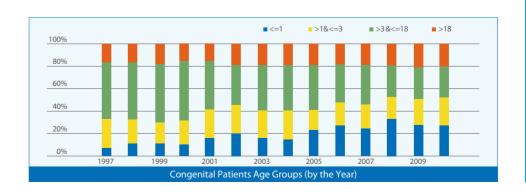
先天性心脏病是中国大陆新生儿最常见的先天性缺陷,全国每年约出生10-15万先天性心脏病患儿。先天性心脏病矫治术的数量一直居阜外医院心血管外科各类手术的首位。



#### 先天性心脏病手术患者的年龄分布

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。



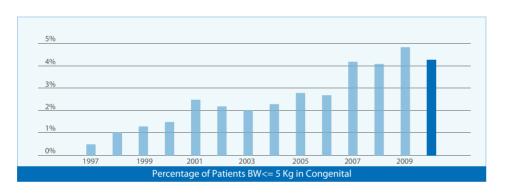
2010 OUTCOMES 5



#### 体重小于5公斤的先心手术患者比率

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

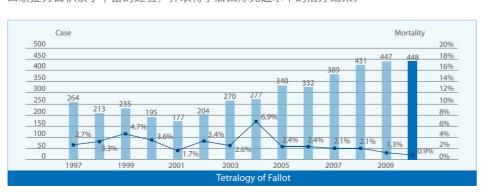
低体重是影响手术的一个危险因素,但这部分患儿的明显增加是将来的趋势。



#### 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 broad experiences on surgical correction of Tetralogy of Fallot, with excellent outcome in the world.

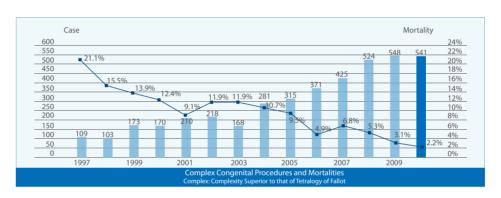
法洛四联症是中国大陆居紫绀类先天性心脏病首位的疾病。阜外医院心血管外科在根治法洛四联症方面积累了丰富的经验。并取得了居国际先进水平的治疗结果。



#### 复杂先心病矫治

In Fu Wai Hospital, the volume of patients with complex congenital heart disease (complexity superior to that of Tetralogy of Fallot) has increased obviously in recent years. Simultaneously, the result of surgical correction for these patients improved greatly.

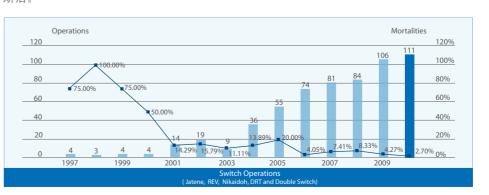
近年来阜外医院收治的复杂先心病患者(心脏畸形改变复杂程度超过法洛四联症)数量明显增加,手术效果也明显改善。



#### 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 accomplished for 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。



Fu Wai Hospital has modified Nikaidoh procedure for surgical treatment of complete TGA complicated with pulmonary stenosis, and initiated the concept of 'Double Root Translocation' (DRT) procedure. In recent 2 years, DRT procedure was successfully used for correction of Double-outlet right ventricle (DORV) accompanying non-committed ventricular septal defect (remote VSD).

阜外医院通过改良Nikaidoh 手术,首先提出了"根部 双调转"(DRT)术式治疗 完全大动脉转位合并肺动 脉狭窄,使复杂大动脉转 位外科治疗更进一步。近 两年来,阜外医院又运用 DRT手术成功地为室间隔缺 损远离两大动脉的右室双 出口患者进行解剖矫治。

2010 OUTCOMES



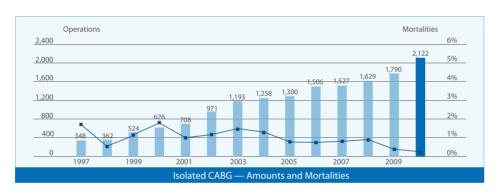
### 冠状动脉粥样硬化性心脏病

## **Coronary Disease**

#### 冠状动脉旁路移植术手术量及死亡率

In 1974, Fu Wai Hospital performed the first case of CABG in main-land China. The surgical volume of CABG increased rapidly with the climbing morbidity of coronary heart disease. In 2010, 2,705 patients received CABG operation in Fu Wai Hospital. In contrast to the rising surgical volume, the mortality of isolated CABG has remained stable six years in succession lower than 1%.

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)。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,治疗效果也已达到国际先进水平。2010年为2705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2122例。单纯冠状动脉旁路移植术的死亡率已连续6年低于1%。



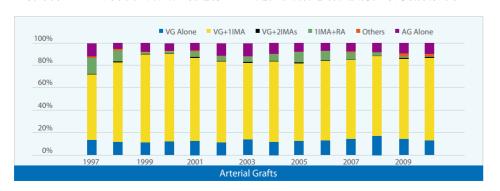
# Blocked artery Bypess graft using internal mammary artery

CABG示意图

#### 动脉旁路血管的运用

Arterial grafts, especially internal thoracic artery (ITA) grafts, are known for their excellent long-term patency and therefore are the conduits of choice for coronary revascularization. Extensive experience with arterial grafts used as conduits in CABG procedures benefits patients and can ensure better outcomes.

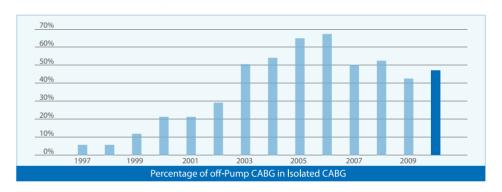
动脉旁路血管有利于保持桥血管远期通畅率,尤其是内乳动脉,效果更为明显。阜外医院心血管外科一直注重采用动脉旁路血管进行血运重建,以确保患者能获得良好的治疗效果。



#### 心脏跳动下的冠状动脉旁路移植术 (Off-pump CABG)

In main-land China, beating heart bypass surgery (Off-pump CABG) was firstly performed at Fu Wai Hospital in 1996. Our department has broad surgical experience in off-pump CABG with low hospital mortality.

阜外医院心血管外科于1996年在中国大陆最早开展心脏跳动下的冠状动脉旁路移植术,在这一领域内积累了丰富的临床试验。

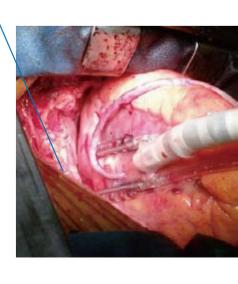


#### Off-pump CABG ◆

A retrospective review of prospectively collected data was conducted of 6,665 consecutive patients undergoing isolated CABG at Fu Wai Hospital during 1999-2006. All patients were followed up until 30<sup>th</sup> Sep 2008. Compared with On-pump CABG, Off-pump CABG is associated with small short-term gain but increased long-term risk of repeated revascularization and major vascular events, especially among high risk patients. Moreover, Off-pump CABG is more resource consuming and less cost effective in the long run.

--- 'Circulation 2010 Apr 27;121(16):1800-8.

阜外医院研究组对1999-2006年间在院内接受单纯CABG治疗的6665例患者进行随访研究(全部随访至2008年9月),比较常温不停跳和体外循环辅助两种CABG手术方式的近、远期结果。发现尽管采用常温不停跳的手术方式对患者术后早期恢复有一定的优势,但会增加远期再次再血管化治疗和发生主要血管事件的风险,尤其是对那些术前具备高风险因素的病人。长远评估疗效花费比,常温不停跳CABG的也要差于体外循环辅助下CABG。



8 **2010** OUTCOMES



### 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 2010, 3,035 patients received valvular operation in Fu Wai Hospital.

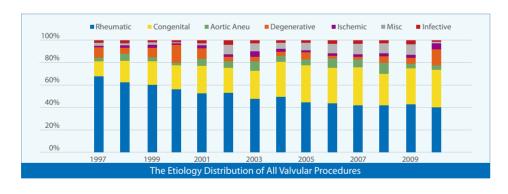
阜外医院心血管外科是中国最大的瓣膜手术中心,2010年完成心脏瓣膜手术3035例。



#### 心脏瓣膜手术患者病种构成的逐年变化图

From 1997 to 2010, rheumatic valve disease occupied a major share of valve diseases at Fu Wai Hospital, while the ratio of such disease declined year by year.

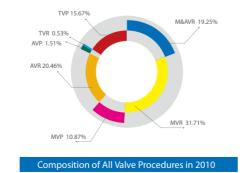
从1997年至2010年,阜外医院心血管外科收治的心脏瓣膜患者均以风湿性心脏瓣膜病变居首,但所占比重却在逐渐下降。



#### 心脏瓣膜手术分类

Valve replacement was still the major type of valve procedure.

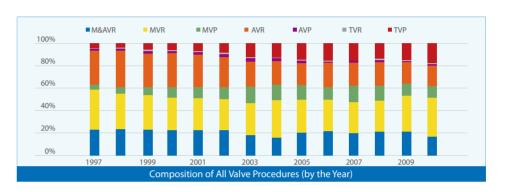
心脏瓣膜置换术仍是主要的手术治疗类型。



#### 心脏瓣膜手术种类构成的逐年变化图

From 1997 to 2010, the proportion of mitral valve replacement always occupied a major share of the total valve procedures.

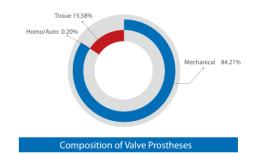
从1997年至2010年,二尖瓣置换术一直占据首位。



#### 人工瓣膜的种类

In 2010, mechanical valve replacement accounted for 84.2% of total valve replacement.

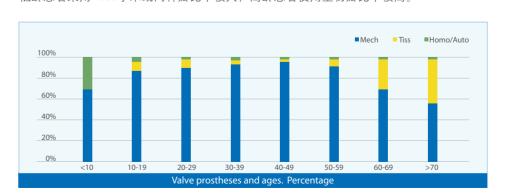
2010年人工机械瓣的使用占到瓣膜替换的84.2%。

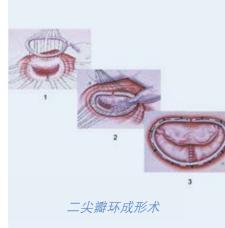


#### 不同年龄患者所用人工瓣膜种类

Although mechanical valve replacement occupied the major share of total valve replacement, more young patients prefered to select Auto/Homo valves, while more elder patients prefered tissue valves.

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较高。







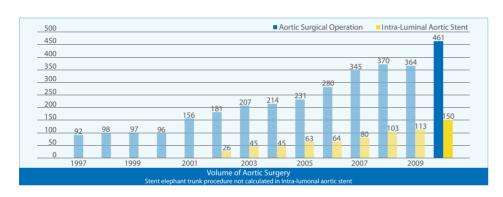
### 主动脉外科

# **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 2010, the surgical volume of aortic open-surgery was 461 cases, and endovascular repair were successfully performed for 150 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。2010年完成主动脉直视手术461例,实施腔内覆膜支架血管修复术150例。





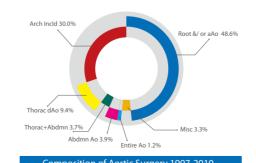


主动脉夹层示意图

### 主动脉外科手术构成图

The figure demonstrated the composition of aortic surgery from 1997 to 2010 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1997-2010年间主动脉 外科手术的构成情况。主动脉根部、升主动 脉及主动脉弓病变的处理占主要份额。

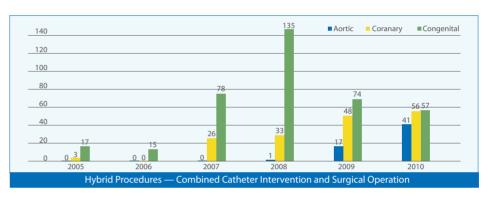


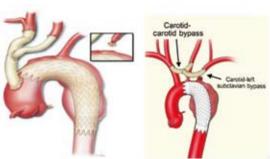
# 杂交手术

# Hybrid Approach to Heart Disease

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。





主动脉弓部杂交手术示意图

One-stop hybrid approach can be used in treating multivessel coronary heart disease with left main branch involved. It also can be used for the management of neonates with pulmonary atresia with intact ventricular septum and of Fallot's tetralogy with major aorto-pulmonary collateral arteries. For patients who suffered from atrial septum defect complicated by partial anomalous pulmonary venous connection or ventricular septum defect combined with coarctation of aorta, Hybrid approach can make the one-stage correction for their defects simpler and safer. In addition, for type A or B aortic dissection, and aortic pseudoaneurysm with aortic arch involved, 'One-stop hybrid approach', such as carotid arterial-bypass-supported endovascular aneurysm repair of the aortic arch lesions, has shown promising results as a less invasive alternative to conventional open-surgery.

运用"一站式"杂交手术治疗的疾病有:冠心病左主干合并多支血管病变;新生儿室间隔完整的肺动脉闭锁或重度肺动脉瓣狭窄;法乐氏四联症合并粗大的体肺侧支血管;房间隔缺损合并部分肺静脉异位引流;以及室间隔缺损合并主动脉缩窄的一期矫治等。另外,对于A型主动脉夹层、B型主动脉夹层以及主动脉假性动脉瘤累及到主动脉弓部的复杂病变,阜外医院通过采用"一站式"杂交手术治疗,有效降低了手术损伤,为不能耐受传统手术的高危病人提供了新的治疗选择。





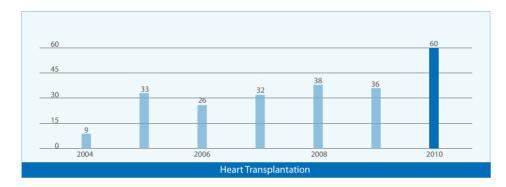
### 心脏移植

# **Heart Transplantation**

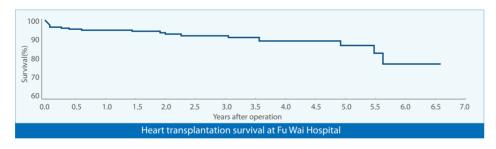
#### 心脏移植数量

Since June 2004, 234cases of Heart Transplantation have been performed at Fu Wai Hospital, among which 60 were done in 2010. All patients got strict follow-up, with the mean followup time of 2.5 years (the longest was 6.6 years). The one-year's survival rate was 95 %, and the five-year's survival rate reached 87%.

自2004年6月开始,在院内完成心脏移植234例。其中2010年实施心脏移植60例。对全部 234例患者进行严格随访,平均随访2.5年,最长随访6.6年,随访率100%。结果发现我院 移植后患者1年生存率达95%, 3年生存率91%, 5年生存率87%; 明显高于国际心肺移植协 会统计的同期生存率。

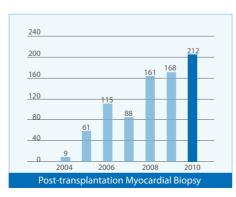


#### 心脏移植生存率图





#### 心脏移植后心肌活检



### 技术协作

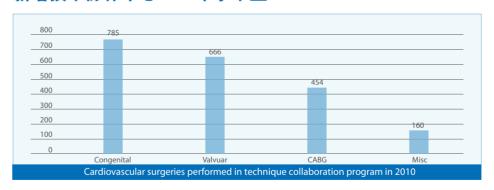
# **Technical Collaboration Program**

Fu Wai Hospital has carried out technique collaboration program 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. From 2009 to 2010, 22 hospitals took part in this program. In 2010, 2065 cases of cardiovascular surgery were successfully performed in these hospitals with the support of Fu Wai Surgical Team.

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。2009至2010年间,阜外医院新增协作医院22个。2010年,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2065例。



#### 新增技术协作中心2010年手术量











### 交流

# Communication



# China Heart Congress & IHF Beijing 2010 中国心脏大会暨北京国际心血管病论坛2010







On August 12-15, 2010, the China Heart Congress & International Heart Forum Beijing 2010 was held successfully, with the theme of 'Innovation·Translation·Health', hosted by Fu Wai Hospital. The Health Minister, Chenzhu, attended the opening ceremony and announced the creation of National Center for Cardiovascular Disease.

The congress is the largest and the most comprehensive conference in China in featuring the latest developments in all areas of cardiovascular diseases, including basic, clinical, and preventive fields. About 6,000 people attended this conference, including experts from mainland china, Hong Kong, Tai Wan, and world-wide famous cardiovascular specialists from 15 countries.

Distinguished surgeons presented their original scientific works and debated the hottest topics and controversies on day to day clinic practice on branch forum of Cardiac Surgery, especially for the advancement in minimally invasive surgery, comparison between open surgery and endo-vascular repair for aortic disease. Plenary discussions were also performed for left ventricular retraining of TGA.

2010年8月12-15日,由阜外医院组织的"中国心脏病大会暨北京国际心血管病论坛2010" 成功举办。大会的主题是"创新•转化•促健康"。卫生部部长陈竺出席大会开幕式,并宣布了国家心血管病中心的成立。

"中国心脏病大会"是我国心血管病领域最具综合性的大会,内容涵盖心血管病预防、基础研究和临床等各个领域。来自15个国家的知名心脏病学专家,以及来自包括香港、台湾地区的国内专家学者共6000余人参加了这次学术盛会。

心血管外科专家们在外科分论坛上全面展示了他们在治疗先天性心脏、冠心病、瓣膜及主动脉疾病方面的原创性工作,并共同讨论了目前心血管外科所面临的挑战。尤其是在微创外科进展、主动脉外科开放式手术治疗与腔内介入治疗的比较,以及在超龄大动脉转位患者左室训练等热点问题上进行了深入的探讨。

# The Third Complex Congenital Heart Disease Forum and Surgical Training Program on Management of Double Outlet of Right Ventricle

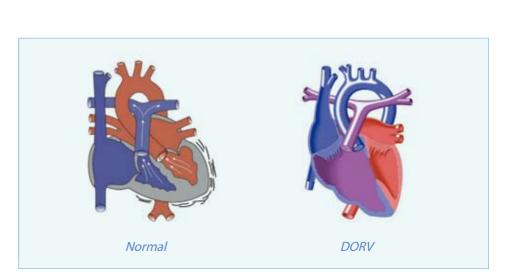
#### 右心室双出口的外科治疗研习班

On April 1-3, 2010, The Third Complex Congenital Heart Disease Forum and Surgical Training Program on Management of Double Outlet of Right Ventricle was successfully held in Fu Wai Hospital. More than 200 surgeons and anesthetists from all over the country took part in the conference. In addition, several live shows of surgical treatment for challenging cases were presented during the conference.

The long-term results of traditional surgical treatment of double outlet right ventricle with non-committed VSD, associated with pulmonary stenosis, were unsatisfactory. The team of Fu Wai Hospital, got a satisfactory midterm results of those anomalies by using Double-Root Translocation (DRT) technique. The DRT technique is thought as an innovative breakthrough by refrain many disadvantage of traditional Rastelli procedure.

2010年4月1-3日,"复杂先天性心脏病外科治疗研讨会暨培训班第三期。右心室双出口的外科治疗研习班"在阜外医院成功举办。来自全国各地的200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。

右室双出口合并肺动脉狭窄及远离型室间隔缺损的治疗以往中远期效果不够理想,阜外团队采用根部双调转术(DRT)治疗这种畸形取得了优良的中期结果,避免了传统的Rastelli术式的诸多缺陷,在手术技术方面取得了革命性的突破。









# Reconstructive Heart Valve Surgery Forum 心脏瓣膜外科重建手术论坛

The Reconstructive Heart Valve Surgery Forum was successfully held on September 24-25, 2010, at conference hall of Fu Wai Hospital. Both domestic and international experts on heart valve surgery attended the meeting.

The Forum invited Professor Alain F. Carpentier, the world-famous surgeon known as 'the father of modern heart valve repair surgery', to make an excellent presentation on the state-of-art development of reconstructive treatment for heart valve. This was his second visit of China and Fu Wai Hospital after a gap of 10 years. The guest lecturers also included Dr. Kevin Accola, the cardiac surgeon from Florida hospital in USA, and Dr. Alain Berrebi from Georgia Pompidou European Hospital in France.

In addition, Professor Alain F. Carpentier made a live show of surgical treatment for challenging cases during the conference.

由阜外心血管病医院主办,中华医学会胸心血管外科学分会、北京医学会心血管外科专业委员会和爱德华(上海)医疗用品有限公司协办的"心脏瓣膜外科重建手术论坛"于2010年9月24-25日在阜外心血管病医院成功举行。

论坛特别邀请来自法国,具有"瓣膜修复之父"美誉的Alain F Carpentier 医师就"瓣膜成形修复治疗术"作了极其精彩的演讲。这是 Carpentier 医师在时隔10年之后,再次访问中国和阜外医院。来自美国的Kevin Accola医师和来自法国的 Alain Berrebi医师也就瓣膜重建术作了学术发言。

论坛还专门安排 Carpentier 医师就经典病例进行手术演示,使来自各地的参会者受益匪浅。



# The Fu Wai Conference on Aortic Surgery 2010 第二届阜外主动脉外科国际研讨会







In order to share and exchange experience on aortic disease treatment, on December 4-5, 2010, more than 400 surgeons and anesthetists from 105 medical centers took part in 'The Fu Wai Conference on Aortic Surgery 2010' .

Distinguished specialists presented their thorough considerations about the treatment for type A and type B aortic dissection, ascending and aortic arch disease, thoracic-abdominal aortic aneurysm and aortic root aneurysm.

Plenary discussions were performed on 'one-stop hybrid approach' for repairing of the aortic arch lesions, time and strategy selection for treatment of type A aortic dissection, EAVAR treatment for complex abdominal aneurysm and rescue therapeutic intervention for rupture of abdominal aneurysm and surgical re-intervention for complications after aortic surgery.

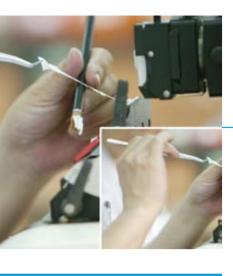
2010年12月4~5日,"第二届阜外国际主动脉病变治疗研讨会"在北京顺利举行。来自一百多家医疗中心的400多位外科专家、麻醉医师参加了会议。

与会专家就升主动脉及近端主动脉弓部病变腔内支架治疗的时代是否真的到来、"一站式"杂交手术治疗累及主动脉弓部复杂病变技术、主动脉A型夹层手术治疗的时机与策略选择、复杂腹主动脉瘤EAVAR手术、腹主动脉瘤破裂抢救性介入治疗、大血管手术中的血液保护技术以及主动脉病变治疗后并发症的再次外科干预等重要问题进行了论深入而广泛的交流和探讨。









### 科研创新

## **New Research**



 Supported by the Major State Basic Research Development Program of China "973"项目

Basic Research on causes, development and intervention of congenital heart diseases 先天性心脏病形成、发展和干预的基础研究

■ Supported by the National Key Technology Research and Development Program "十一五"国家科技支撑计划资助项目

Research on Key Technology of Heart and Lung Transplantation 心肺移植关键技术研究

■ Supported by the R&D Special Fund for Health Professional 卫生行业科研专项项目

Clinical research on application of thoracoscopic and hybrid techniques in Cardiovascular Disease

胸腔镜技术和复合技术在心血管疾病中的应用研究

 Supported by Science Foundation of Ministry of Education of China 教育部创新团队

Comprehensive Surgical Treatment for Patients in Advanced Stage of Heart Failure 心力衰竭晚期外科综合治疗的研究

■ Supported by National Nature Science Foundation of China 国家自然科学基金资助项目

Experiment study on treatment for acute lung injury caused by Cardiopulmonary Bypass with pumpless interventional lung assist system inserted into pulmonary artery-left atrial and embedded with continuous hemofiltration.

持续血滤嵌入式肺动脉-左房无泵肺辅助治疗体外循环术后急性肺损伤的实验 研究

The study on attenuating myocardial ischemia–reperfusion injury after ischemic post-conditioning by Sevoflurane.

七氟烷缺血处理对心肌缺血再灌注损伤保护的策略优化和机理研究

The Research on intracardiac survival and extracardiac redistribution of transplanted cell managed by low-energy laser.

低能激光处理对移植后细胞心内存活和心外再分布影响的研究



Experiment study on improvement of cardiac nerve remodeling after myocardial infarction by Pedicled Omentum Wrapped procedure.

大网膜包裹术改善心肌梗死后心脏神经重塑的实验研究

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

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

### ■ Supported by Research Foundation of Capital Medical Development 首都医学发展基金资助项目

A study on establishing network system for medical care service in Beijing for the neonate and the infant with congenital heart disease.

北京地区新生儿及小婴儿先天性心脏病救治网络的建设

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

再血管化自体心房肌组织移植治疗缺血性心肌病临床研究

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

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

#### Supported by Research Fund for the Doctoral Program of Higher Education of China 高校博士点科研基金

The preliminary research on hematological dynamic change in the early stage during extracorporeal membrane oxygenation support by blood visco elasticity monitoring

血液粘弹性监测体外膜肺氧合支持期间血液学早期动态变化的初步研究



More than 92 articles were published in peer-reviewed journal in 2010, including 35 articles published in English.

2010年阜外医院外科系统发表专业论著90余篇,在心血管外科的临床与研究领域内进行着新知识的传播与交流。



### 新知识

# **New Knowledge**

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### 国家心血管病中心简介

## **Brief on NCCD, China**

After more than four years meticulous work, National Center for Cardiovascular Disease (NCCD), directly under the supervision of Ministry of Public Health of China, was officially established in August, 2010 in Beijing.

NCCD includes the Clinical Medicine Department and Prevention Research Department. The former relies on Fu Wai Hospital, while the latter, located at Mentougou District, consists of Prevention Center, Translation-medicine Center and Cardiovascular Information Center, is expected to be finished in 2013.

Both common risk factors and incidence of cardiovascular disease markedly have a climbing trend with reformation of social economy and people's lifestyle in China. Common risk factors include hypertension, smoking, lipid disorder, diabetes, obesity, physical inactivity and unbalance dietary nutrition. Cardiovascular diseases turn into a huge burden of society, make a lot of patients disabled and lose their working and living abilities. Coexistent death resulting from cerebrovascular diseases and cardiovascular diseases tend to top all deaths in city and country populations.

By carrying out a large-scale epidemiological study and exercising intervention on risk factors, NCCD aims to effectively restrain, control and finally decrease the rapidly climbing morbidity and mortality of cardiovascular diseases in China.

经过4年多的精心筹备,直属卫生部的"国家心血管病中心"(NCCD, China)于2010年8月在北京正式成立。NCCD由临床医疗部和防治研究部两部分组成。临床医疗部依托于阜外医院,而防治研究部将建于北京门头沟区。由心血管病防治中心、心血管病转化医学研究中心和心血管病信息中心组成。防治研究部大楼将于2013年竣工。

近年来,我国居民生活方式发生明显转变,缺乏体力活动、膳食不合理以及吸烟等,导致高血脂、高血压、高血糖、肥胖等危险因素日趋普遍,随之而来的心血管疾病已呈持续快速上升态势。心血管疾病已成为我国高死亡率、高致残率、高医疗风险和高医疗费用的第一大慢性疾病。

国家心血病中心将致力于组织动员全国心血管病专家队伍,进行了大规模的流行病学调查,开展人群心血管病危险因素干预;从而对我国目前正在快速上升的心血管病发病率和死亡率进行有效的遏制,并最终使之下降。







