

Introduction to the forthcoming European Society of Cardiology Congress, 29 August–2 September 2009, in Barcelona, Spain



The ESC Congress Barcelona 2009 is the largest cardiovascular meeting in the world: 5 days, 30 lecture rooms, over 500 h of peer ESC sessions, 180 h of industry sessions, and over 13 000 m of scientific exhibitions. A unique forum bringing together in a *Catalan atmosphere* all of the different players and disciplines involved in cardiology. A full immersion into education as we cover both specific and broad general issues of cardiology. A unique possibility to **'meet and read with the experts'**, **'meet the trialists'** immediately after the **'hot line'** presentations, to attend the highly acclaimed **'focus sessions'** with live transmissions and practical take home messages, or the **'basic science state of the art'** and the **'translational track'** with the latest breaking news of emerging clinical implications. A unique opportunity to receive five new **'clinical practice guidelines'**, to attend **'hands-on-tutorials'** focusing on the latest imaging software, to attend a series of **'joint sessions'** with several other scientific societies and with the European Commission which is aiming to support cardiovascular research. All of this on top of three **'clinical updates'** and **'hot lines'** which, this year, are extremely rich with presentations of the results of trials such as PLATO, RE-LY, CURRENT, OASIS 7, ACTIVE 1, PROTECT, and many others. A unique possibility to navigate through a record number of nearly 10 000 abstracts submitted, reviewed by an average of eight reviewers, and of those, 4000 have been accepted for presentation in the form of **'future research'** (where the best abstracts are selected), **'young investigator awards'** (submitted by presenters under 35 years of age), and oral and moderated poster sessions in a redesigned area.

This year, the highlight is **'Prevention of Cardiovascular Disease: from Cell to Homo sapiens to Society'**. Consequently, we have organized 50 separate sessions in a special prevention

track and the Spanish Society of Cardiology will run a public event on prevention in the city of Barcelona.

The person responsible for this complex, modern, and innovative scientific programme is Fausto Pinto, a Portuguese cardiologist who has built all of this with the expertise of the ESC Congress Programme Committee and with the help of the ESC Congress Division.

But... Barcelona 2009 is more than just a scientific meeting. It is a gathering of the ESC family, where the members of the family come to follow science, but also for the pleasure of meeting each other and exchanging ideas, results, concerns, etc. It is the place where every cardiologist wishes to go, because he knows he will meet his friends in a truly European cardiological atmosphere. This year, there will be a new area dedicated to the National Society booths with ample space to meet, relax, and switch from English to your own language!

As every family should, the ESC would like to pay tribute to those who unfortunately are no longer with us. In Barcelona, there will be two new special lectures in honour of Ketty Schwartz, a distinguished scientist, and Phillip Poole-Wilson, a Past President of the ESC and a great friend.



This year, the ESC is focusing on all members of its 'family'. We are proud to announce a new initiative—**European Heart for Children**—originating from my wife, which will be carried out mainly by the partners of Board members and of the ESC leadership.



It is a humanitarian action focused on those ESC countries where treatment of congenital heart disease is problematic. The idea is simple and straightforward: several medical missions will be conducted in a given country to show the medical and political community that it is possible to treat children with congenital heart disease. Thereafter, taking advantage of the training programmes of our Society, we will encourage, while continuing the missions, that the local doctors and allied professionals be trained in the more advanced countries. The final step will be to help these countries both financially and professionally, and to establish a small unit for the treatment of congenital heart disease. The project is endorsed by AEPC (Association for European Paediatric Cardiology) and will be conducted in partnership with other associations already operating worldwide, such as Bambini Cardiopatici del Mondo, founded by Dr Frigiola and Fondazione Anna Maria Sechi.

Last, but definitely not least, there is another reason to attend the ESC Congress: it is in Barcelona—truly a wonderful city. Well connected to Europe by 'El Prat' the largest airport in Catalonia, Barcelona, offers an incredible range of cultural sites ranging from Gaudi architecture



Casa Batlló

through the Ciutat Vella to the modern harbour area. Barcelona has superb classic



Barcelona Hams and Wine

and innovative food (Catalonia is the home of molecular cuisine!) and . . . a rather good soccer team!

You will not recognize the Convention Centre. Everything is new: the underground arrives on-site, the overhead express walkway reaches the different zones, and there is a new delegate's lounge. However, you will recognize the ESC family brand, and as soon as you walk in you will feel at home.

For all of these and many other reasons, it will be a pleasure to welcome you to Barcelona.

See you there

Roberto Ferrari, President, European Society of Cardiology

Pioneers in cardiology

Ulrich Sigwart's place in the history of arterial stenting

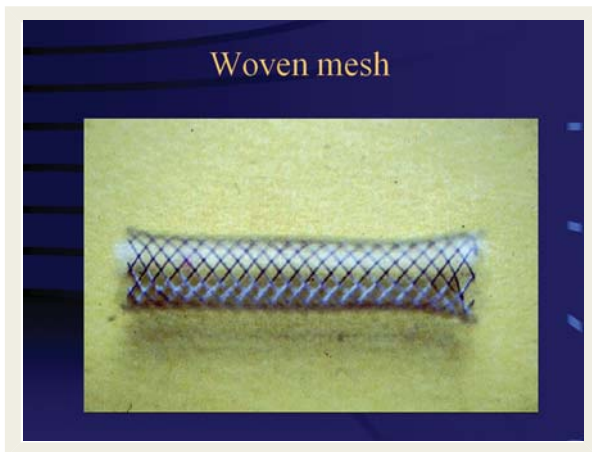
Cardiovascular stents: now the internal scaffolding for arteries have had a rocky history and are still being refined



Following on from the ground-breaking successes of coronary angioplasty developed by Andreas Gruentzig who sadly died in a plane crash in 1985, even more inventive methods for dealing with the problem of arterial plaques have been trialled and developed. Many such trials have allowed comparison between angioplasty techniques and bypass surgery, and several new and refined devices for angioplasty have appeared. One such device was the double-lumen catheter through which on one side a motor driven cutter could be used to actually shave plaque from the arterial lumen. Other devices include the rotablator which is a high-speed rotating, pulverizing device which, by employing a vacuum system, aspirates the shaved plaque segments back into the shaft of the equipment. There have also been several laser devices and we have now moved on to the use of endoluminal stents to act as a form of 'scaffolding' to improve procedural success, prevent restenosis and to help prevent any possible acute vessel closure following balloon angioplasty procedures.

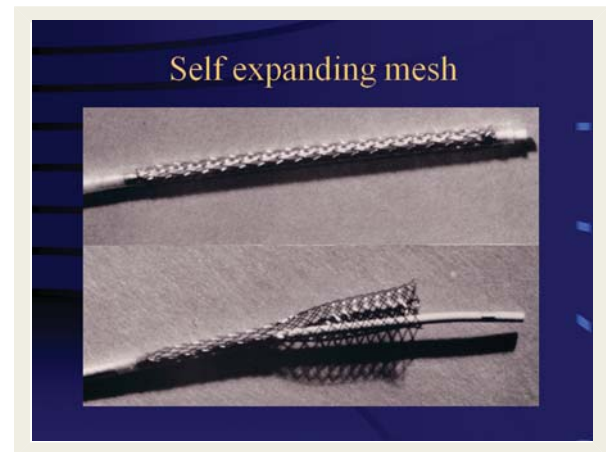
maintain an adequate false lumen until natural processes of fibrosis and re-intimalization has taken place.¹

Dotter went on to experiment in 1969 with stainless steel and later in 1983 with Nitinol coils inserted into the peripheral arteries of dogs with somewhat mixed results. Later in the 1980s, three more stent designs appeared, the first designed rather like a spring in that its diameter size could be constrained and later expanded to fit the necessary pre-determined arterial size on removal of the constraint.



Woven mesh stent

The concept of employing vascular stents was first introduced by Charles Dotter in a paper written in 1964 in which he expressed the view that: 'Once a pathway has been created across the occluded segment, repeated dilatation or the temporary use of a Silastic endovascular (or, in some cases paravascular) splint could



Self expanding mesh stent

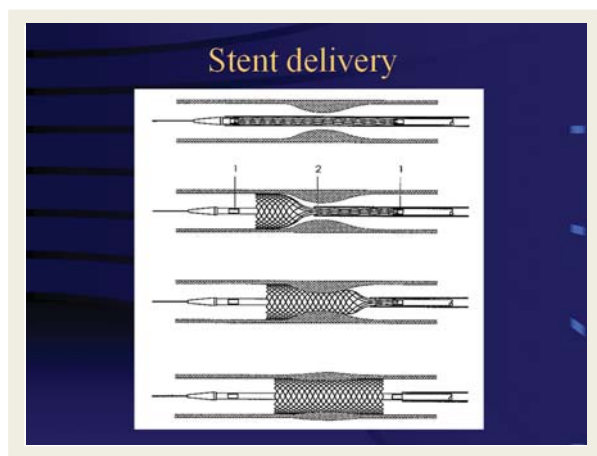
Thermal memory stents provided a further design consideration: made from the metal Nitinol such stents were capable of expansion from small to a large diameter on warming to body temperature.

Julio Palmaz and colleagues experimented with balloon expandable stents based on the concept of the deformation of metal beyond its elastic limit, thus negating any possibility of later collapse. The Palmaz design had certain positive features including ease of delivery and a minimal amount of metal in its surface area after expansion. The early self-expanding stents were not without problems, however, as they were plagued by stent migration and geometric instability; perfection is never that easily achieved!

In these various stent designs, cellular and histology responses demonstrated that with maintenance of the arterial outflow, there followed a mild formation of thrombus, fibroblast proliferation, and a growth of viable endothelium. Before moving on to human trials, Palmaz and colleagues decided that it was important to test the thrombogenicity of the stents particularly since the initial thrombus deposit would undoubtedly influence later neointimal growth. In animal studies, they found that those animals treated with aspirin, dipyridamole, heparin, and dextran showed appreciably less thrombus than was found in stents from a control group that had been given various combinations of such drugs.

In a paper published in 'Circulation' in 1989, Richard Schatz, MD, Director of Research and Education at the Arizona Heart Institute Foundation, pointed out that the 'success of a vascular stent should depend on minimal thrombosis and rapid endothelialisation'.² He went on to stress that 'because endothelium cannot grow on bare metal but can develop on a thin layer of fibrin and thrombus, thrombosis is essential for healing but it must be controlled'.

Andreas Gruentzig had recognized the problem of restenosis after angioplasty and the need for a suitable form of coronary stenting in the hope of reducing or preventing this problem. The first human implants of such vascular stents were undertaken and reported by Ulrich Sigwart. These vascular stents implanted in peripheral and coronary circulation were multi-filament self-expanding, spring-like devices and thus Sigwart became the next link in the chain initiated by Gruentzig's revolutionary developments in angioplasty, and at last, the concept of overcoming coronary stenosis percutaneously rather than by the very invasive bypass surgery might be realized.

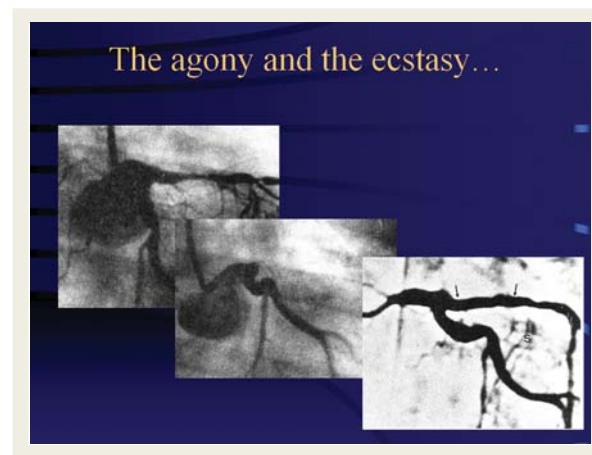


Stent Delivery

Professor Ulrich Sigwart was born in Germany in 1941. He attended medical school in Freiburg and then Basel in Switzerland. After a general internship in Lörrach, Germany, Sigwart moved to the USA where he took a residency at Framington Union Hospital, MA, USA. His cardiology Fellowship was at Baylor College in Houston, TX, USA, then in 1973 Sigwart returned to Europe. After a spell of additional training at University Hospital, Zurich,

he was recruited to Bad Oeynhausen, Germany, where he set up an invasive cardiology programme. He then moved to Lausanne, Switzerland, where at the University Hospital between 1979 and 1989, he played an important role in the concept and development of coronary stenting.

Sigwart's early stenting work received great interest and many travelled to Lausanne to observe the technique in practice. In a 1987 paper entitled 'Intravascular stents to prevent occlusion and restenosis after transluminal angioplasty', Sigwart *et al.* gave an interesting account of the clinical use of stents to prevent occlusion and restenosis. Sigwart's work also provided him with an opportunity to observe the outcomes and indeed the shortcomings resulting from stent therapy.



The agony and the ecstasy...

One such case was that of a patient who, 3 months after implantation in the proximal left anterior descending artery, developed severe chest pain and angiography showed severe restenosis. Sigwart urged the surgeon to remove the stented segment and reported how 'Gazing at the massive tissue obstructing the stent lumen, the hypothesis of mechanical support for the prevention of restenosis looked like an illusion and that a combination of mechanical and biologic factors would be the *sine qua non* to overcome the problem of recurrence'.³

In 1989, Sigwart took up the directorship of the Department of Invasive Cardiology at the Royal Brompton Hospital in London, England, and during his 12-year tenure at this post, he put forward the first plan aimed at comparing percutaneous coronary intervention employing stents with the relatively well-accepted coronary bypass surgery. As with all procedures, there are 'pros' and 'cons', and in this case, the research and questions remain ongoing.

Diana Berry

References

1. Dotter CT. Transluminal treatment of arterio-sclerotic obstruction. *Circulation* 1964;**30**:654.
2. Schatz RA. A view of vascular stents. *Circulation* 1989;**79**:447.
3. Sigwart U. Drug eluting stents; some thoughts from old Europe. *Am Heart Hosp J* 2007;**5**:135-137.

Swiss cardiac teams ‘parachute’ into Russia

Humanitarian impulses persuade Swiss cardiac surgeons and cardiologists to take Western techniques into a remote part of Russia, with astonishing results—but it is not entirely a one-way traffic, Professor Thierry Carrel, MD, tells Barry Shurlock, MA, PhD

One of those who benefited from changes in Europe after the Second World War was heart surgeon Professor Hans G. Borst, MD, who spent 6 years studying in the USA. In 1996, he retired as head of the Department of Thoracic and Cardiovascular Surgery, Hannover Medical School, Hannover, Germany. It was only a few years after the fall of the Berlin Wall and it was clear that the collapse of political and economic structures had left medicine—and in particular cardiac surgery—in a parlous state. Prof. Borst therefore decided to devote his retirement years to finding out how the West could help.

He had just been elected president of the European Association of Cardiothoracic Surgery (EACTS) and he used the platform to launch a detailed study of the problems of former Soviet satellites and also in those territories which became the Confederation of Independent States (CIS). He travelled extensively, wrote a good deal, and pulled no punches. The short story, according to him, was that the satellites, such as Hungary, Poland, and the Czech Republic, were promising—given time they would catch up with Western Europe—and they are. But the CIS, he feared, had more deep-rooted problems that would be hard to solve. He painted pictures of decimated economies, old hospitals, outdated and inappropriate equipment, poorly paid medical staff, and much else.

One of the people that Prof. Borst met on his travels was Prof. Sergey Sukhanov, MD, Chief, The Heart Institute, Perm, Perm Krai, Russia. He had trained as a general surgeon and had a good deal of experience of thoracic and vascular disease. In 1996, he had established a centre for treating heart disease in Perm but it had no contact with the West, and until a few years ago, it did not employ any specialist cardiologists or heart surgeons.



Sergey's office Carrel left Sukhanov right

On a visit to the Mayo Clinic in 2001, Prof. Sukhanov ran into Prof. Thierry Carrel, Head, University Department of Cardiac and Vascular Surgery, Inselspital, Bern, Switzerland, who had worked with Prof. Borst in Hannover. The Russian was there to learn about animal studies, and although he spoke no English, he was obviously very observant and had excellent manual skills. With encouragement from Prof. Borst, Prof. Carrel was motivated to help him, and when he returned to Bern, he decided to visit Perm, which required considerable planning.

Perm is a city of 1.2 million people in a mineral-rich region of 4 million, 1800 km east of Moscow in the North Urals on the Kama River, a tributary of the Volga, the great river that provides a waterway to the Black Sea and much else. Once dependent on the fur trade, it is now an important centre for the manufacture of military equipment, production of oil and petrochemicals, timber processing, and food. Prof. Carrel comments: ‘When I started I had no idea what I would encounter, what the hospital was like, the climate, and what sort of things they were performing. We had a lot of phone contact and wrote to each other and so I quickly realized that the surgical materials and equipment would not be very luxurious. I made a list and took lots of things with me—including sutures, artificial and biological valves and vessels, disposable devices for extracorporeal circulation like oxygenators, tubing systems, and patch material to close ventricular septal defects’.

The planning by Prof. Carrel and his colleague Dr Lars Englberger paid off. He said: ‘When we arrived we saw how important it was to have taken our materials!’



Carrel and translator Irina Subhova outside Perm Heart Institute

I had suspected that on this first visit, we would not be able to operate, but on the very first day Prof. Sukhanov presented five cases and we got to work! They were mainly adult congenital cases requiring complex palliative or definitive correcting interventions—not technically very difficult, but we soon realized that post-operative management was less than optimal’.

Since this ‘baptism by fire’ Prof. Carrel and his colleagues, including cardiac surgeons Dr Pascal Berdat, Dr Lars Englberger, and Dr Alexander Kadner, have visited Perm for a week at least once a year, sometimes twice, in summer and winter, when the outside temperature can be -40°C . Each week they perform 14–20 operations. Initially, most procedures were to correct congenital, valvular, or sometimes aortic problems in adults. Some patients had previously had palliative surgery in Moscow or Nizhniy Novgorod (formerly called Gorky), a large city 1000 km to the west of Perm. More recently, they have operated on small children and babies aiming for total correction. In this, he has been helped by paediatric cardiologists Dr Jean-Pierre Pfammatter, Dr Mladen Pavlovic, and Dr Marco di Stefano, mainly to ‘read round’ the diagnosis and help with postoperative care.

As the visits went on, it became routine for the Russians to arrange for 30–50 patients to have echocardiograms in a nearby hospital and then to be served up to the visitors early in the morning. Prof. Carrel comments: ‘Often 30 min after reviewing a case the patient would be on the operating table! Sometimes after opening the chest, within minutes we had to change the plan. This was *not* for beginners!’ Initially, the Swiss surgeons had to operate with diagnoses based only on echocardiography, but a few years ago, the hospital acquired a cath lab, at a cost of \sim \\$1 million, made available by the governor of the region.



Perm Heart Institute team with Carrel & Englberger

The Heart Institute at Perm has a staff of \sim 20–30 specialists, including cardiac surgeons, cardiologists, and anaesthesiologists. Prof. Carrel estimates that the historic lack of facilities for treating heart disease in the Perm region has left a backlog of 30 000–50 000 untreated people. From a base of 100 cardiac operations performed in 1996, the figure rose to 450 in 2001 and then to 1700 in 2007 and last year (2008) to 3000 on-pump cases. Early work by Prof. Borst and colleagues to start coronary surgery in Russia was off-pump as, he says, heart–lung machines were too expensive. In recent years, the Perm centre has moved to coronary bypass surgery on-pump, which now makes up \sim 50% of the case load.

As in so many heart centres in Russia, there is not a clear separation between the departments of cardiac surgery, cardiology, and intensive care. Prof. Carrel says: ‘This means that from our perspective there are issues of organization, as the power is vested in one person. Congenital and valvular operations have given them more confidence and they are beginning to tackle the huge amount of untreated coronary artery disease in the city. But from a Western perspective, what is strange is that it is cheaper to carry out a CABG than to insert a stent! Some surgeons spend 36–48 h in the hospital without going home and don’t complain. They are good people, proud to serve their own population’.

Much of the equipment in Perm was old when the Swiss started, but local politicians were persuaded of the need for more funding, especially for better equipment and drugs to be used for treatment and secondary prophylaxis, according to Prof. Carrel.

Russian radio and TV programmes often carry appeals for funds. There is a good deal of money from industry in the region, but channeling it towards medical care is not easy. Some equipment in the operating theatres and the intensive care unit comes mostly from the West, as Russian products are not always available. The Swiss ship in a good deal of equipment, including monitors for intensive care treatment, modern cardiopulmonary bypass equipment, oxygenators, and tubing systems. Only a few heart valve prostheses from the West are now taken in, as Russian implants have improved considerably in recent years.

As well as taking their experience to Russia, the Swiss surgeons have identified two or three younger surgeons, who will probably make the next generation of chief surgeons. From time to time, members of the Russian team spend several weeks in Bern. The expectation is that when they have completed their training, they will return to Perm with a sound knowledge of the Western approach to cardiac surgery. Funds from industry and a Swiss family foundation are being used to buy costly material for shipping to Perm. The funds are also used to help trainees attend EACTS or other meetings and extend the range of literature available. They have noticed that over the last 4–5 years, the local economy of Perm has improved and there is now much better internet access.



Early Swiss teaching session using video from Bern

The impulse that has taken the Swiss surgeons to Russia is largely humanitarian, but there are benefits. Prof. Carrel comments: ‘What I have learned is how to work really simply. When I return

to Switzerland from Perm I realize that we could do a lot of major surgery with less equipment. I'm also impressed with the low rates of hospital infection in Perm. I can't explain it—perhaps it's because they do not use so many antibiotics and therefore have less bacterial resistance. Or perhaps, it's because the centre only has cardiac patients and therefore, there are no trauma patients and none with infectious diseases. The operating rooms are completely sterile, but they lack things such as laminar flow ventilation and in the summer the window is often open!

Human factors differ greatly between Perm and Bern! Prof. Carrel sketches out the scenario: 'Parents and their children often have to travel many hours by bus to reach the Heart Institute. Theatre technicians work long hours with poor equipment, often poorly serviced, and sheer fatigue can lead to some alarming lapses of concentration. After the operation, patients lie close together on narrow iron beds, with no privacy.'



ICU bed in Perm Heart Institute with new monitor & respirator

Prof. Sukhanov strides about the ward with a worried look, barking out orders to his staff. Patients never complain and only rarely dare to question him.'

On a personal level, the visits to Perm have involved the visitors staying in a wide range of accommodation—including friends' houses, the governor's guesthouse 'in the forest', and large traditional Russian hotels. Prof. Carrel says he 'never signs anything' before he operates but patients are well informed by the Russian physicians. This is work that—more than anything—requires trust on both sides. And it seems to work. After 8 years,

Prof. Thierry Carrel can see that the Heart Institute relies on the regular visits from Bern to support its programme. He knows that several dozen children would not be alive if he had not undertaken the long journey. At the end of each week, when the surgeons pack up their instruments, there are often a handful of mothers waiting to say farewell and hand out gifts for saving their children's lives.

For their part, the Russians are fired up by the Swiss cooperation. Prof. Sukhanov identified the main benefits as the implementation of European standards and modern surgical techniques, and compares their results with European databases. Deputy director of cardiac surgery, Dr Viktor Kashin, and anaesthesiologist, Dr Sergey Kovalchuk, praised Prof. Carrel in particular for his introduction of new techniques of aortic valve implantation. Visits by the Swiss are highlighted by the mass media, which makes people more aware of the value of cardiac surgery and facilitates meetings with local government authorities.



Meeting with Ministers

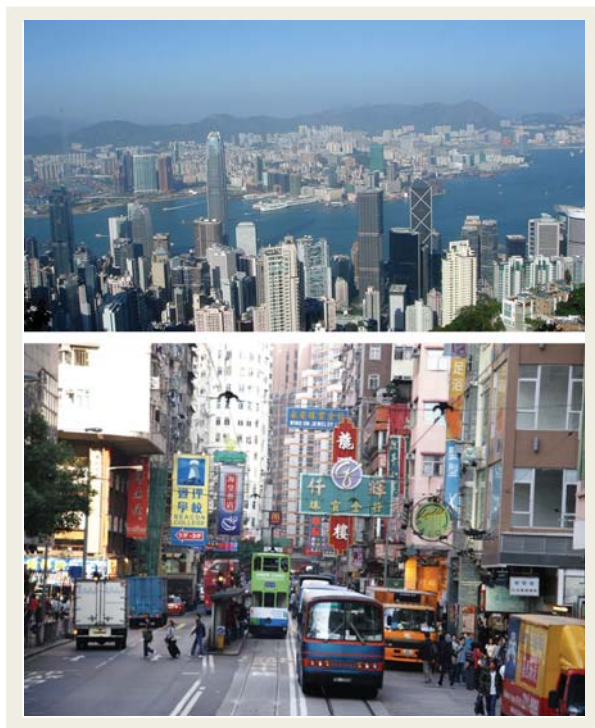
In 2007, the Russian government agreed to fund 15 Federal Centres for high-tech cardiovascular surgery, one of which one will be at Perm. A new centre based on Perm Heart Institute is planned to start construction in 2010. The expected changes should make Perm the first centre in Russia to carry out CABG using a minimal extracorporeal circulation system and it is also planned to make it a regional aneurysm centre. One statistic supplied by the Russians that illustrates the huge benefits of the Swiss visits is that whereas the mean number of bed-days for cardiac surgery in Russia is 19.8, in Perm it is only 7.8.

Emerging problems and important issues for cardiovascular disease in Hong Kong

Cardiovascular disease (CVD) prevention is an important consideration for Hong Kong, where heart disease has been the second main cause of death (after cancer) since the 1960s, accounting for ~10% of all mortalities in 2005.¹ The majority of CVD-related deaths are caused by coronary heart disease

(CHD). Notably, age-standardized mortality for CHD in Hong Kong has fallen substantially since around 1980 and nowadays is lower than that for many Western countries (e.g. about half of the rates observed in the USA and UK) and has remained low, despite rapid economic growth. However, recent research has

identified emerging problems and important issues that could pose significant public health ramifications for CVD rates.



Coronary heart disease trends in Hong Kong

The landmark INTERHEART study identified nine risk factors (smoking, lipids, hypertension, diabetes, obesity, diet, physical activity, alcohol consumption, and psychosocial factors) that account for over 90% of acute myocardial infarction (AMI) and showed these to be consistent in men and women, across different geographic regions and ethnic groups. According to these results, the majority of AMI cases can be explained by the presence of simple risk or cardioprotective factors that can easily be assessed in clinical practice, and importantly, can be modified. It has been suggested that working and living environments must be reshaped and cultural and social factors favouring destructive behaviours must be addressed to make a real impact on MI rates. An impact model using five classical risk factors (smoking, cholesterol, blood pressure, diabetes, and body mass index) has attempted to explain CHD mortality in Hong Kong between 1989 and 2001 in relation to treatments and changes in population risk factors.¹ The model was applied to males and females aged 25–84 years. According to the estimates, a total of 1264 deaths were prevented or postponed, compared with 1186 fewer deaths in reality. Of these, up to 78% of the actual reduction was attributable to advances in medical treatments (for initial AMI, secondary prevention post-AMI, heart failure, hypertension, and hyperlipidaemia, secondary prevention post-angioplasty, and treatment for chronic angina), and 28% to risk factor changes. Thus, the model showed that improvement of treatment uptake levels can substantially reduce CHD mortality.

Mainland China has experienced a large increase in CHD deaths, which have been attributed to a rise in cholesterol levels due to a

change in diet and other lifestyle factors from traditional Chinese to mixed modern Chinese and western patterns. It has been suggested that Hong Kong may experience these changes in the future if western diets continue to be popular among the younger age groups, as indicated by the prevalence of obesity in Hong Kong children and current dietary practices. Indeed, obesity and its related health problems are an increasingly significant economic burden in Hong Kong. Estimated hospitalization costs for obesity and related conditions in Hong Kong public hospitals increased from HK\$2.29 billion (US\$0.29 billion) in 1998 to HK\$3.36 billion (US\$0.43 billion) in 2002, which amounted to 9.8% of total public expenditure on health in Hong Kong, and 20% of the cost of all hospital admissions in the public sector obesity and related medical conditions, including diabetes, hypertension, and dyslipidaemia (Table 1). These three conditions are all related to obesity as part of the metabolic syndrome, which was associated with all-cause and vascular disease mortality in a population-based cohort study of Hong Kong Chinese adults.² That study revealed high levels of the metabolic syndrome, especially among the elderly (e.g. almost 40% of people aged 65–74 years have this condition), which could potentially have overwhelming medical and societal ramifications. As the prevalence of obesity increases, it is likely that there will be accompanying increases in the prevalence of diabetes mellitus, glucose intolerance, and the metabolic syndrome.

Researchers have recommended introducing urgent public health actions to minimize further development of the obesity pandemic and subsequent vascular disease. The prevalence of the metabolic syndrome and the incidence of CVDs are predicted to increase with the ageing population in Hong Kong. Population-based preventative lifestyle and therapeutic interventions that have been proposed include encouraging consumption of foods that are low in glycaemic load and index, and high in fibre. Daily exercise is seen as essential. However, adherence to therapeutic lifestyle changes is notoriously poor; drugs play an important part in treating those with severe obesity and those who have a high cardiovascular risk. In Hong Kong, orlistat and sibutramine are the most commonly used medications for the treatment of obesity.



The Li Ka Shing Medical Faculty at the University of Hong Kong

Hong Kong hospitals offer cardiac rehabilitation programmes to cardiac patients, as a secondary preventive measure against

Table 1 Health expenditure in Hong Kong

Year	1998	2002
Projected annual cost for inpatients and day patients because of obesity and related conditions in public sector hospitals, Hong Kong (billions HK\$)	2.29	3.36
Total public expenditure on health in Hong Kong (billions HK\$)	2.79	3.42
Proportion of total health expenditure for admission because of obesity and related medical conditions under Hospital Authority, Hong Kong (%)	8.2	9.8
Proportion of total expenditure in public sector hospitals for obesity and related medical conditions	16.2	19.4

The economic burden of obesity and its related health problems is becoming ever more significant and this demands serious consideration. In Hong Kong, these conditions accounted for ~15% of all hospital admissions and the related expenditure increased by 47% in only 5 years. [Adapted from Ko GT. The cost of obesity in Hong Kong. *Obes Rev* 2008;**9**(Suppl. 1): 74–77.]

coronary artery disease. However, despite the well-recognized benefits associated with such programmes (including improved quality of life, increased exercise and functional capacity, reduced rate of future coronary events, and decreased cardiac morbidity and mortality risk), cardiac rehabilitation is constantly underutilized. In an attempt to identify reasons for not participating in a Phase II cardiac rehabilitation programme, researchers examined data from patients recruited for a Phase I cardiac rehabilitation programme from July 2002 to January 2003 following hospitalization for AMI, unstable angina pectoris, or coronary artery bypass graft surgery at a Hong Kong hospital. As few as 21% participated in the Phase II cardiac rehabilitation programme, although the researchers noted that this figure was similar to other cardiac rehabilitation centres in developed countries. Reasons for not

participating included physical unfitness, work or time conflicts and need to attend scheduled cardiac interventions. Further research is needed to determine how to minimize factors that prevent patients from attending cardiac rehabilitation.

A recent cost-effectiveness analysis evaluated the CARE (Cholesterol and Recurrent Events) approach from a Hong Kong perspective, using pravastatin 40 mg daily to treat a hypothetical cohort of patients with CHD and average cholesterol levels.³ The cost per life saved or death prevented was HK\$4 442 350 (non-discounted); cost per fatal or non-fatal cardiac event prevented was HK\$1 146 413; the cost per procedure prevented was HK\$732 759; and the cost per fatal or non-fatal stroke prevented was HK\$2 961 566. Net cost per quality-adjusted life year gained was HK\$73 218 and HK\$65 280 (non-discounted), using two alternative models. The study authors suggest that these results and others from similar studies can assist in prioritizing the use of healthcare resources in Hong Kong.

The ageing population and changing cardiac risk profiles among the inhabitants of Hong Kong will surely lead to higher numbers suffering from chronic diseases in the future. Effective public health strategies are needed to combat the challenge.

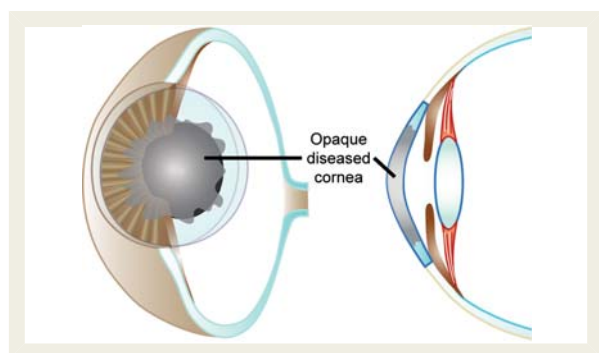
Iona MacDonald, MA, medical writer

References

1. McGhee SM, So JC, Thomas GN. Explaining coronary heart disease trends in Hong Kong: creation of a model for policy and planning. *Hong Kong Med J* 2009;**15**(Suppl. 2):S22–S25.
2. Thomas GN, Schooling CM, McGhee SM, Ho S-Y, Cheung BM, Wat NM, Janus ED, Lam KS, Lam TH. for the Hong Kong Cardiovascular Risk Factor Prevalence Study Steering Committee. Metabolic syndrome increases all-cause and vascular mortality: The Hong Kong Cardiovascular Risk Factor Study. *Clin Endocrinol* 2007;**66**: 666–671.
3. Chau J, Cheung BM, McGhee SM, Lauder IJ, Lau CP, Kumana CR. Cost-effectiveness analysis of applying the Cholesterol and Recurrent Events (CARE) study protocol in Hong Kong. *Hong Kong Med J* 2001;**7**:360–368.

A vanishing breed: the Medical Artist Illustrator

Nigel Webb a freelance scientific and medical artist still producing illustrations by hand for Oxford University Press and *European Heart Journal*, talks of his life and work with Andros Tofield.



Opaque Cornea

My career started in my early teens. I was sent to London for an aptitude test, the result came back with the option of working in science or art. Little did I know that the combination of both would be a career for most of my working life!

Winchester Castle education advice centre recommended I attend the art department at Basingstoke Technical College as it was back in the mid-1970s. There I found a group of the most inspiring art lecturers, among them Tony Adams, RA. Tony was the man who painstakingly taught me to see, you cannot teach a person to draw if the hand eye coordination and imagination is not there in the first place. In the end, a budding artist with an eye for detail was born.

From Basingstoke, I was accepted by the Southampton Faculty of art and design (now Solent University), initially to study scientific illustration. At interview I saw a course advert on the wall for Medical Illustrations, I was ecstatic to find I could combine my interest in medicine with my drawing skills. Our 5-year Medical Art training was delivered by members of the Medical Artist Association of Great Britain, our main tutor being Mr Terry Baker, MAA, and the Institute of Medical Illustrators who I later joined as a young professional.

I was plunged straight into the deep end after graduation with no reassurance of working as a junior and learning about my chosen profession with the guidance of seasoned medical illustrators. I was interviewed and accepted the post of Medical Artist and audio visual technician to the Oxford Department of Surgery at the Nuffield Orthopaedic Centre in Headington under Professor Robert Duthie who taught me how to survive the pressures of medical life. It was at the Nuffield I illustrated the first artificial knee joint developed by Mr Goodfellow and the advancement of artificial hip joint technology.

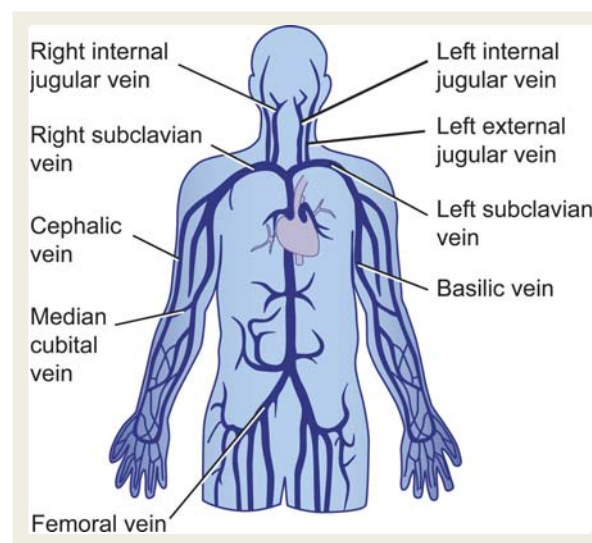
Having survived Oxford, I moved to one of Britain's most vibrant scientific research institutes, the Medical Research Council's Clinical Research Centre at Northwick Park Hospital in the mid-1980s. I took the post of Senior Medical Artist working, and with a team of four artists, we illustrated the most diverse work of my career never to be repeated. Just about every discipline in medicine was given to my team, to illustrate ground breaking medical science and technology for medical textbooks and journals.

The Clinical Research Centre closed after 20 years of success so I moved on to Smith Kline & French to run a graphics and photography unit. My thirst for hands-on work in surgery and frontline patient care drew me back to the NHS. A temporary post to head the St Mark's Hospital Medical Illustration as a medical photographer soon found myself working flat out in both art and photography.

St Mark's moved to Northwick Park in the mid-1990s and I find myself working for the North West London NHS Trust teaching, building, and delivering online/e-learning for medical and general hospital staff. This came about as the World Wide Web and Internet, made it possible to download artist work and play with it on a PC making an artist redundant. I now produce scientific, clinical, and surgical illustrations independently.

My recent work can be found in publications of Oxford University Press, St Mark's Hospital, and Elsevier's Accident and Emergency Radiology.

As we all know, medicine is both enthralling and infectious and I enjoy producing high-quality images for the European Heart Journal. Below is a sample of my work.



Veins suitable for total parental nutrition

CardioPulse correspondence: Dr Andros Tofield, Managing Editor CardioPulse, *European Heart Journal*. Email: docandros@bluewin.ch

Peoples' corner

doi:10.1093/eurheartj/ehp245

Tribute to Philip Poole-Wilson from Brazil

Fernando Amaral

Ribeirão Preto, Brazil

I read this morning, 20 May 2009, the well-written Philip Poole-Wilson obituary by Prof. Martin R. Cowie and I felt I should write something about it.

I first met Philip at the National Heart Hospital in early 1977. At that time I was a Jane Somerville Fellow, having starting my training in October 1976. The opportunity to contact him came when Jane suggested that I should talk to him about a research project on coarctation of the aorta, which turned out to be my Master's thesis in Brazil. I talked to him in his office at the Cardiothoracic Institute for two or three times and I was very impressed by his kindness and patience with a young Fellow who knew nothing about research. After that I had no other opportunity to meet him but that short experience, I believe, had some influence on my career. It was sad to hear that a good and sensible man left us.

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