



Cardiovascular Diseases - a major problem worldwide

In developing countries, cardiovascular diseases are the major cause of death in neonates, children, adolescents and adults. **Untreated congenital heart disease is the major cause of death worldwide in children younger than five years of age**, exceeding the combined death rate caused e.g., by malaria, tuberculosis or HIV.

In many developing countries, life expectancy is limited to an average of 58 to 64 years of age. In addition, quality of life is markedly reduced while the number of disabled patients and patients being dependent from social welfare is steadily increasing. The major cause is undiagnosed and untreated cardiovascular diseases. **Eighty percent of all cardiovascular deaths worldwide occur in developing countries.**

Cardiology and cardiovascular surgery are powerful tools to increase the life expectancy, to improve and normalize the quality of life, to preserve patients able to work and to reduce the overall health care costs as well as costs for social welfare for those otherwise disabled by chronic cardiovascular diseases.

In Western countries, there are around 1000 cardiac operations performed per 1 million people. The mean number of patients operated in developing countries may be as low as 16 to 25 patients per 1 million people. Hence, **there are millions of children, adolescents and adults waiting for cardiac surgery suffering from chronic cardiovascular disease.** In addition, the majority of neonates with congenital heart disease are going to die early after birth despite the fact that curative surgical treatment would be possible.

Developing countries invest in cardiology and cardiovascular surgery. **However, the establishment of a cardiovascular centre is a challenging task.** The problem is that several specialties have to be developed simultaneously: cardiology, cardiac surgery, perfusion techniques, anesthesia, intensive care as well as postoperative medical treatment - for adults *and* for children.

Cardiac surgery is prone to have complications which are even more demanding to treat - and complications *will* undoubtedly occur during the establishment of a new centre. Moreover, in contrast with many operations in general surgery or other specialties, **death and life-long disability are always potential complications in every patient undergoing any type of cardiac surgery**. In addition, cardiac surgical patients have become more difficult to treat than in earlier times because the easy-to-treat-patients usually are cared for by percutaneous cardiological interventions.

The current generation of cardiac surgeons in Western European countries already had experienced teachers and grew up with constantly more difficult to treat patients. Hence, they had the opportunity to grow up in parallel with the steady and continued progress of cardiac surgery experiencing the ever increasing complexity of modern surgical techniques.

By contrast, **surgeons in Eastern European and Asian countries are confronted from at the beginning with difficult to treat and chronically ill patients**, complex technologies and advanced knowledge in the operating theatre as well as in the intensive care station. For these reasons many centres in developing countries have - even in simple cases - high mortality and complication rates and are only able to treat a limited spectrum of patients being in urgent need for cardiac surgery. On the other side, patients expect perfect results even from newly established cardiac surgical centres, and so-called "learning curves" are no more accepted.

Governments may build new departments being equipped with expensive and latest state-of-the-art devices. Nevertheless, **the most important part of a well functioning cardiovascular surgical department is represented by a well educated staff including well trained and highly motivated doctors supported by an experienced nursing team**.

Doctors may be sent abroad. However, the majority is not allowed to operate abroad on their own due to tight legal restrictions. In addition, those who have become successful abroad are no more willing to return home - a well known and dramatic consequence which is called "**the fatal brain drain**". Doctors emigrate because they do not receive adequate education at home. Regardless of the amount of money governments may invest into a newly established department, **three things can simply not be bought: knowledge, experience and skills**.

EurAsia Heart Foundation - the solution

The most sophisticated way of teaching is to transfer knowledge, experience and skills directly into these centres. **EurAsia Heart** represents a foundation, located in Zurich, Switzerland,

which is focused on cardiology and cardiovascular surgery performed in children, adolescents and adults. Members of **EurAsia Heart** travel to developing centres cooperate on charity basis with local experts and enable them to adequately provide once their own country with cardiovascular diagnostics and treatments as well as measures to prevent these diseases. **EurAsia Heart** is not a group of doctors travelling around to do surgery only on their own. **The basic principle of EurAsia Heart is to assist. The local team should work on its own, and should use EurAsia Heart's staff to improve their skills, to solve their problems and to discuss all relevant topics they need to improve the treatment of their patients.** The foundation offers a one-to-one teaching with the corresponding local experts using their own equipment and treating their own patients in their own hospitals. **The aim of such a kind of cooperation is (1) to reduce the operative mortality rate; (2) to reduce the complication rate and, hence, the rate of patients being disabled as the result of the interventional or surgical treatment; (3) to increase the scope of patients being able to get adequate treatment, and (4) to demonstrate how cost-effective cardiovascular patients can be treated.**

Such kind of **aid-to-self-aid** must be based on **four local conditions**: (1) the local institutions of the corresponding country are involved and support the entire project; (2) the cooperation is based on local infrastructure which will steadily be improved; (3) a local team must be present which can benefit from this kind of cooperation; (4) the cooperation must be **based on a long-term commitment** of both players: the local staff as well as the members of **EurAsia Heart** Foundation.

EurAsia Heart represents the **only foundation worldwide** directly transferring **knowledge, experience and skills** in the way as described above. While numerous requests for support comes from so many Eastern European, Asian and African countries, **EurAsia Heart is mainly focused on Russia, Uzbekistan, Ukraine, Myanmar, China and Vietnam.**

EurAsia Heart Foundation's work in individual countries

► **Myanmar** has three cardiac surgical departments. The largest one is located at the Yangon General Hospital in the former capital Yangon (Rangoon). Throughout the country, 250 heart operations are performed every year - for nearly 60 million people! The scope of surgical procedures is limited, the variety of disease however is endless, the death rate unknown. **EurAsia Heart** Foundation supports the development of the cardiovascular surgical department at the General Hospital in **Yangon** providing donated materials and cooperating in clinical work.

► **Uzbekistan** performs about 1000 heart operations for 27 million people. The majority of surgical procedures concerns rheumatic heart valve and congenital heart diseases, as well as some coronary artery surgery with a high mortality rate. **EurAsia Heart** Foundation supports the development of the cardiovascular surgical department at the Republican Research Centre of Emergency Medicine at **Tashkent** which represent the major national medical centre. Requests also came from **Samarkand** and **Buchara** primarily concerning support for the development of local cardiological centres.

► **China** has numerous cardiac surgical centres. Apart from some excellent centres, the operative mortality rates are high according to the complexity of the disease. Millions of patients are waiting for live-saving cardiac surgery. „China State Administration for Foreign Expert Affairs“ supports **EurAsia Heart** as „European Doctors Group for continued medical education in China“.



► **Vietnam:** There are more than 80 million people living in Vietnam, but only a few hospitals perform around 6000 operations per year (Germany: 82 million people; 60'000 to 90'000 operations every year since the late seventies). The operative mortality rate is high and not exactly known. Currently, there are thousands of children and adolescents in **Ho Chi Minh City** alone waiting for cardiac or vascular surgery. The city has chosen **EurAsia Heart** as a partner for the new University Hospital to be built.

► **Ukraine:** **EurAsia Heart** supports build up of a pediatric cardiac surgery department in **Lviv**. Ukrainian adolescents, waiting for urgent vital cardiac surgery, for which operative treatment in Lviv will come too late, have already been operated in the Hospital "Im Park" in Zurich, Switzerland. This initiative was broadcasted on Ukrainian television and published in the Swiss press. Established cooperation involves centres in **Lviv**, **Kiev** (Amosov Institute) and **Donezk**.

► **Russia:** cooperation has been established with the **Meshalkin Institute** in **Novosibirsk**, the **Pavlov Medical University Hospital** and the **Military Academy** in **St. Petersburg**. **EurAsia Heart** Foundation signed a long-term agreement to support the Pavlov University cooperating with the „**North American Branch of Almazov Foundation**“, **Yale University**, and the „**Healthy Heart Foundation**“ located in St. Petersburg.

► **Eritrea:** For three years now, **EurAsia Heart** directs the development of a cardiac surgery unit in **Asmara, Eritrea, Africa**, which is realized in cooperation with the **German Hammerforum e.V.** Every year, a team of experts travels to Asmara, Eritrea's capital, to operate children on charity basis and educate local expert.

*The way **EurAsia Heart** works*

The aim of **EurAsia Heart** consists in transfer of “medical knowledge” and “cardiological and surgical skills” in diagnostics, treatment and prevention of cardiovascular diseases as well as in those specialities being involved in the care of cardiovascular patients such as infectious diseases, hygiene, data collection and data analysis.



The foundation's pool of doctors consists of cardiac surgeons, cardiologists, anaesthetists and intensive care specialists who work on a rotation basis to guarantee long-term presence of **EurAsia Heart** members cooperating with local experts. Every qualified doctor from whatever country being dedicated to education is welcome to work with **EurAsia Heart** Foundation. The scope of specialities covered by the foundation can be extended according to the needs of the local hospitals.

EurAsia Heart connects qualified experts and professionals performing clinical work, research, education, and prevention. The attractiveness as well as the huge public relation effect of the foundation is demonstrated by the press coverage in Eastern Europe, Asia and Switzerland as well.

EurAsia Heart – Perspective

„Health Care“ has become a global task. **Development assistance on the spot representing help to self-help is the main goal of foreign aid.** The support in the development of adequate health care systems in these countries and emerging economies is inextricably linked to global, and hence, to our health.

EurAsia Heart needs you

The aim of the foundation is to guide the pool of expert physicians regarding administrative, organizational and financial matters so that they can perform their duties in these countries. All activities of the foundation are provided free of charge and without any compensation. Only travel expenses and local costs are reimbursed to the foundation members. Due to dramatically increasing demands from many Eastern European and Asian countries, **EurAsia Heart's** limited financial capabilities restrict the ability of the foundation to help making **fundraising a vital task.**



EurAsia Heart - a Vision

To preserve the health of our youth and to prevent premature deaths of our children and adolescents caused by cardiovascular diseases.

EurAsia Heart welcomes you to join a network of enthusiastic people to make our vision come true.

I would be very happy to receive the opportunity to introduce EurAsia Heart Foundation personally to demonstrate in detail how developing centres work with this unique kind of Swiss Medical foundation and how children, adolescents and adults highly benefit from this international network of cooperating centres.

With my best wishes

Sincerely, yours

Paul R. Vogt, MD

Professor of Cardiovascular Surgery

Initiator and President of EurAsia Heart