





EurAsia Heart – A Swiss Medical Foundation

EurAsia Heart is a registered, humanitarian, non-profit Swiss Foundation based in Zurich (ZH HR, CH- 020.7.001.353 -3). The foundation is focused on training and education in cardiology and cardiovascular surgery of neonates, children and adults and is mainly active in Armenia, Bulgaria, Cambodia, China, Eritrea, Kazakhstan, Myanmar, Russia, Ukraine, Uzbekistan and Vietnam. On request of the governments, EurAsia Heart educates the medical personnel in these countries in their own departments delivering abroad what is hardest to learn: *practical knowledge, technical skills and its implementation on the operating table as well as the intensive care unit.*

The pool of teaching experts of the Foundation is international and is – among others – derived from Yale University, the University Hospital of Vienna, the three largest University Hospitals in Switzerland, the University Children's Hospital Zurich, the Ukrainian Children's Cardiac Center and the Pavlov Medical University St. Petersburg, just to mention a few. The head quarter of EurAsia Heart is located at the Department of Cardiac Surgery of the University Hospital Zurich, Switzerland (Director and Chairman: Prof. Paul R. Vogt, MD). EurAsia Heart offers basic as well as advanced postgraduate teaching in numerous hospitals in the countries mentioned above and beyond. In addition, EurAsia Heart already provided medical consulting, diagnostics, and interventional and surgical treatment for numerous local decision makers in politics, science and business.

The Board of Trustees of EurAsia Heart consists of businessmen. Former Federal President Dr Adolf Ogi and former Chancellor of Germany, Gerhard Schröder act as Co-Presidents of the Patronage Committee. The "Swiss Government for Internal Affairs" directly monitors EurAsia Heart Foundation.

In recent years, the Foundation has grown exponentially working abroad now for more than 20 years. EurAsia Heart Foundation performed more than 4800 surgeries and consulted more than 23'000 patients and has become a "global player". The Foundation achieved to be a strong representative of Switzerland, which in turn has led to numerous other requests and international projects. The Foundation has the official ZEWO-certification and is acknowledged and supported by the SDC: the *Swiss Agency for Development and Cooperation* (DEZA: Direktion für Entwicklung und Zusammenarbeit), which belongs to the *Federal Department for Foreign Affairs*. In order to meet these future challenges EurAsia Heart would like to ask for your support.

Joint Presidency of the Patronage Committee

EurAsia Heart – A Swiss Medical Foundation



**Former Swiss President
Adolf Ogi**



**Former German Chancellor
Gerhard Schröder**

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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 depending 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, anaesthesia, intensive care as well as postoperative medical treatment – separately 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 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, well-educated staffs including well-trained and highly motivated doctors supported by experienced nursing teams represent the most important part of a well functioning cardiovascular surgical department.

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 cooperating on charity basis with local experts and enabling 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, teach and educate.** The local team should work on its own using

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-effectively cardiovascular patients can be treated; (5) to support international cooperation; (6) to organize and establish international multicentre studies promoting sciences and research.**

Such kind of aid-to-self-aid must be based on **four local conditions:** (1) the local institutions of the corresponding country, including the top-government, are involved and support the entire project; (2) the cooperation is based on local infrastructure which will steadily be improved; (3) a stable 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, to date EurAsia Heart is **mainly focused on Armenia, Bulgaria, Cambodia, China, Eritrea, Myanmar, Russia, Ukraine, Uzbekistan and Vietnam.**

EurAsia Heart Foundation in Individual Countries

Russia

EurAsia Heart has become active in Russia since 2006. Russia represents a good example of how to cooperate in the best traditions of Swiss humanitarian medical organisations. During 16 years, EurAsia Heart has been functioning in St. Petersburg, Novosibirsk, Penza, Petrozavodsk, Tomsk, Yaroslavl, Irkutsk and Voronezh. EurAsia Heart cooperates with the Military Medical Academy, Saint Petersburg State Pediatric Medical University, Novosibirsk Institute of Circulation Pathology named after E.N. Meshalkin, Tomsk Children's Heart Centre, and Yaroslavl Medical University.

EurAsia Heart was engaged in the development of the cardiac surgical program in new-borns, young children and adolescents in the only Russian State Pediatric Medical University in St. Petersburg.

One of the key fields of collaboration with the Russian centres is to increase the trust of patients to the quality of the medical care they receive. The discussion on these issues was held at a session of the Northwest branch of the Russian Academy of Sciences in 2010. In cooperation with the Chief cardiac surgeon of North-West of Russia, Professor G.G. Khubulava, EurAsia Heart launched the program - **"Quality control in cardiac surgery"**,

EurAsia Heart does not only care for cardiac surgery, it also supports the development of related specialties: cardiology, perfusion, anaesthesiology, intensive care and post-operative treatment of adults and children. Together with Russian partners we have already prepared a new generation of cardiac surgeons, anaesthesiologists, cardiologists, electrophysiologists, who are able to treat the most complex patients. Consequently, they will be able in the future to educate others, constantly and continuously making the progress by increasing the complexity of surgical procedures. The basic principle of the EurAsia Heart is to support of aid-to-self-aid in Russia as well in all other countries.

The **Government of St. Petersburg represented by the Chairman of the Parliament V. Makarov** fully supports this style of cooperation. At the official meeting of the Head of St. Petersburg Parliament V.S. Makarov, Professor P.R. Vogt and the rector's office of St. Petersburg State University signed the agreement on further development of cooperation in the field of paediatric cardiac surgery, education and research.

Scientific research in Russia: Cooperation in the field of scientific research consists of sharing knowledge and organising international multi-centre studies involving highly trained Russian Centres

of Cardiovascular Surgery. Hence, EurAsia Heart has become the initiator, research consultant and coordinator of the project to eliminate sternal wound infections after cardiac surgery in Russia. This study was launched in 2009 in several Russian centres with a series of lectures and demonstrations of operations. As a result, the frequency of sternal wound infections has decreased to less than 1% in all the participating centres. **In 2014, this study was awarded the Grant of the President of the Russian Federation, Vladimir Putin.** Results of the multinational, multicentre trial involving hospitals in Russia, Switzerland and Austria including more than 8000 patients has been **published in the “American Journal of Clinical Microbiology and Antimicrobials”**. Today, all Swiss cardiovascular surgical unit use this infection prevention protocol, which e.g., also reduced the incidence of postoperative wound infection at the Department of Cardiac Surgery of the University Hospital Zurich from 7.4% in 2018 to <0.5% since July 2020.

The results of the 10-year cooperation between Russia and Switzerland have been presented on the 4th Russian-Swiss Forum held in Moscow, devoted to the 200th anniversary of establishment of diplomatic relations between Russia and Switzerland.

Since 2015, EurAsia Heart **extended its support to all Northern Caucasus provinces** (Ossetia, Ingushetia, Dagestan, Chechnya) **where mother and child mortality are the highest all over Russia.** For more information go to www.eurasiaheart.ru.

China

Although there are many excellent cardiovascular centres in China in the meantime, EurAsia Heart Foundation still receives many requests to remain active in China. In addition, the Chinese government also continues to support EurAsia Heart directly. Still, there are millions of kids and adolescents, waiting for life-saving cardiovascular surgery. For “**China State Administration for Foreign Expert Affairs**“, EurAsia Heart Foundation is still seen as a “**European Doctors Group for continued medical Education in China**“.

Since many Chinese centres have achieved an excellent level, the purpose of the commitment of EurAsia Heart has changed as well. Excellent Chinese centres are now cooperating in the areas of "Science and Research" with EurAsia Heart. Chinese cardiovascular centres are a proof of the sustainability of the work of EurAsia Heart Foundation:

The Union Hospital in Wuhan - where the first educational heart surgery of EurAsia Heart style has taken place in 2000 and where many “first of” have been performed – belongs to the top three heart hospitals in China now, the scope of treatment and results reaching international top level. Cooperation

with Wuhan now lasts for more than 20 years and proves the excellent long-term effect of international cooperation. More information about cooperation with China can be found on mediex.online.fr.



Myanmar

Starting point in 2009: at that time, the Republic of the Union of Myanmar had three cardiac surgical departments. The largest one is located at the Yangon General Hospital in the former capital Yangon. Throughout the country, around 300 heart operations have been performed every year – for nearly 60 million people! The scope of surgical procedures was limited, the variety of disease however was endless, and the death rate unknown but certainly exceedingly high. EurAsia Heart Foundation started to support the development of the cardiovascular surgical department at the Yangon Medical University and the Yankin Children's hospital in the former capital Yangon, providing donated materials and cooperating in practical clinical work. In the Yankin Children's Hospital, the main children's hospital in Myanmar, a paediatric cardiology and cardiac surgery department was created. The administration of the children's hospital, the local and national governments, the ministry of health, as well as all parties involved supported these projects.

Since the beginning, about 6 to 8 missions for cardiology and cardiac surgery have been taken place every year until the end of June 2019. Missions have only been interrupted – as in all other countries as well – by the COVID-19 pandemic. Numerous patients have been treated by cardiological interventions (stenting), have been operated and received interdisciplinary consultation about their best possible treatment. Since the beginning of our cooperation, the numbers of cardiovascular surgeries have tripled. Even more important, however, is the dramatic reduction in operative mortality even though more complex patients with more difficult to treat lesions have received surgery or cardiological interventions.

Nowadays, all kinds of adult cardiac surgery procedures can be carried out at the department of cardiovascular surgery at Yangon Medical University, including composite-graft replacement of the aortic root, Tirone-David-Operation, aortic surgery at the level of the ascending aorta or the aortic arch; even thoracoabdominal aortic aneurysm can successfully be managed. In addition, a large number of adolescents and adult patients with congenital heart disease get successful treatment. Still, the list of patients waiting for cardiological intervention or cardiac surgery is enormous.

Aside from education and teaching, EurAsia Heart Foundation provided hardware and software (including heart-lung-machine; echocardiography, cannulas etc) as well as devices and implants for millions of Swiss Francs, donated by industry, individuals and by hospitals in Switzerland leaving a huge amount of material to EurAsia Heart. A new operation bloc with 10 modern operating theatres has been opened at Yangon Medical University 1. The staffs have been up-graded and a lot of young doctors and nurses compile a promising team.

The next steps at Yangon Medical University consist in teaching and education of a new and young generation of cardiac surgeons. The cardiology department has an experienced group of physicians covering all aspects of cardiology such as diagnostics, catheter intervention or electrophysiology.

Aside from the Yangon Medical University 1, there is the Yanking Children's Hospital in Yangon, the only one caring for congenital heart disease in patients <10kg of body weight. However, more difficult to treat and complex patients cannot yet be operated and unfortunately pass away with medical treatment alone. There are other new cardiovascular centres in Myanmar waiting for support, e.g., the new centre in the capital Nay Pyi Taw. Despite the COVID-19 pandemic and the most recent political unrest, EurAsia Heart Foundation will continue its commitment to the children in Myanmar.

Uzbekistan

Starting point in 2010: in Uzbekistan surgeons performed about 800 heart operations for 27 million people. The majority of surgical procedures concerned rheumatic heart valve and simple congenital heart diseases, as well as some coronary artery surgery with an unknown mortality rate. EurAsia Heart Foundation supported the development of the Emergency Cardiovascular Surgical Department in Tashkent. Requests also came from Samarkand and Buchara primarily concerning support for the development of local cardiological centres. After a break due to organisational matters between 2014 and 2014, EurAsia Heart Foundation resumed his support again in 2015.

After a two-year break EurAsia Heart Foundation re-established cooperation in Uzbekistan. Thereafter, an average of six mission have been carried out every year. Various surgical

procedures have been performed and numerous patients consulted in four different hospitals:

«**Republican Specialized Centre for Cardiology**»: this cardiological centre treats more than 55'000 patients every year and has decided to establish a new cardiovascular surgical department. The necessary equipment (cardiopulmonary bypass and other equipment) to start has been donated by EurAsia Heart.

In addition, the Foundation performed 40 out of the first 100 cardiovascular operations in this centre assisting many others. Meanwhile, the hospital is established in short time, focuses on acquired and congenital heart disease in adulthood and already has a waiting list of several months. Currently the overall mortality rate for rather complex surgery came down to 2%. Training and education aiming to widen the scope of diseases treated in this centre will continue. **Until today, this centre has performed more than 3000 heart operations led and constantly supported by EurAsia Heart Foundation.**

«**Republican Research Centre for Emergency Medicine**»: the previous cooperation at this national centre for emergency medicine has been resumed. Training and education in emergency surgery of the aorta has urgent priority, as patients with acute dissections of the aorta currently do not receive any treatment at all in Uzbekistan. Without prompt surgical treatment, up to 95% of patients are going to die from acute aortic dissection and this vascular catastrophe affects a rather younger patient population.

«**Children's University Hospital**»: the cardiac surgery department at the Children's Hospital in Tashkent only performs a few basic operations. The paediatric cardiac surgery must effectively be established from at the beginning. EurAsia Heart has examined about 250 children who were judged to be inoperable or difficult to treat having been rejected outright from different centres.

During 2018/2019 EurAsia Heart Foundation spent almost 1 ½ year continuously in Uzbekistan working at the «**Ezgu Niyat Medical Center**» to strengthen the development of cardiovascular medicine. More than 1000 children with congenital heart disease have been examined along the silk road: Navoi, Buchara, Samarkand, Emirate of Qo'qon. During this time, EurAsia Heart operated more than 500 children, but had to emigrate from Uzbekistan in March 2020 due to a strict COVID-19 induced lockdown.

EurAsia Heart participated in several medical meetings. In addition, cooperation with the National Foundation «**Healthy Generation**» («**Sog'lom Avlod Utschun**»), **linked to the formers President's wife**, has been signed.

In 2021, EurAsia Heart organized the first post-COVID-mission to Tashkent as well as to Qarshi, which should become a central Asian cardiovascular centre providing care for patients with cardiovascular diseases from Uzbekistan, Tajikistan, Turkmenistan, Kyrgisa and Afghanistan. In

addition, **the new “National Children’s Hospital” in Tashkent, covering all pediatric specialties is in urgent need for teaching and education.**

Vietnam

Since 2002, EurAsia Heart cooperates with the German-Vietnamese Society for Promotion of Cardiology (www.dvfk.eu) and – as in other countries - is committed to improving skills teaching on-site new techniques in the fields of heart and visceral surgery. These activities are undertaken within the framework of VGAC (Vietnamese German Academy for Science and Education in Cardiology and Cardiovascular Surgery). The DVFK started cooperation in 1986, EurAsia Heart joined in 2002 and was active in Ho Chi Minh City as well as in Hanoi. Eventually, the next joined mission is planned in December 2021.

Ukraine

L’viv, Uzhgorod, Donezk: since about 15 years, EurAsia Heart Foundation has a close cooperation with Ukraine. The first contacts have been established 15 years ago with the “L’viv Regional Children’s Clinical Hospital Ochmatdyt”. Equipment and devices have been donated to Ochmatdyt; guest doctors have spent educational period in Klinik Im Park in Zurich, Switzerland; and some children from L’viv region have been operated voluntarily in Zurich. Until today, there is exchange of knowledge and experience with the cardiothoracic surgical unit in Western Ukraine.

Several missions have been carried out till April 2014 to the **«Department of Cardiac Surgery, Institute of Urgent and Recovery Surgery, Academy of Medical Sciences» in Donezk**. The cardiac surgical team in Donezk already had a stable knowledge about cardiac surgery and achieved good results. Based on these missions, the number of surgeries they have performed has been increased; in addition, the spectrum of surgical operations offered has markedly been widened. Hence, various operative procedures have been performed such as aortic surgery, re-operations as well as coronary artery bypass grafting, with or without the use of the heart-lung-machine ("off-pump" technique). This cardiac surgery department so far survived the current turmoil in the Donbass region and has some web-based cooperation with EurAsia Heart Foundation.

Kiev: the cooperation with the “Ukrainian Children’s Cardiac Centre” put the commitment of EurAsia Heart Foundation to the Ukraine in a completely different sphere. Since long-time, EurAsia Heart Foundation was in search of a partner department, which could share the increasing challenge of teaching and education in “EurAsia” as more requests for support from different countries have been noted.

The outstanding excellency of the “**Ukrainian Children’s Cardiac Centre**” including his adult cardiac surgery and GUCH (adults with congenital heart disease) departments has been found to represent the ideal partner for EurAsia Heart Foundation to further promote and improve cardiac surgery knowledge and experience all over EurAsia. Since our first meeting in 2008, a remarkable and great development in our cooperation has been achieved in cardiology as well as in cardiovascular surgery and related fields.

A joint meeting has been held in the “Ukrainian Children’s Cardiac Centre” which has hosted **Ambassadors from all central Asian countries**, being interested in the fruitful cooperation between the “Ukrainian Children’s Cardiac Centre” and EurAsia Heart Foundation. Since March 2021, four post-COVID-19-missions have already been undertaken to Kiev.



Eritrea

For several 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. So far, more than 600 children with severe cardiac malformations have been operated on successfully.

Bulgaria

A cooperation has been established with the „Sveti Marina“ Hospital in Varna at the border of the Black Sea. The most important topics within this cooperation concern the elimination of superficial and deep sternal wound infections after cardiac surgery, myocardial protection during cardiac surgery, as well as the prevention of perioperative neurological complications. Besides, EurAsia Heart and „Sveti Marina“ co-work in less frequent, but more complex pathologies such as the surgical treatment of complex hypertrophic-obstructive cardiomyopathy as well as in the treatment of aneurysms of the descending thoracic and thoraco-abdominal aorta.

Armenia

The „Bridge to Healthy Hearts“ – Foundation in Yerevan supports international cooperation as well as education in the entire field of cardiovascular medicine. During the first fact-finding mission to Yerevan, a future cooperation has been shaped with the Erebouni Medical Centre regarding cardiovascular surgery and electrophysiology. Numerous patients have been examined in both centres. In the Erebouni Medical Centre first patients has been operated during a total of four missions. International cooperation as offered by EurAsia Heart represents a new starting point for these centres. Hence, adaptations still are necessary to fulfil the very basic aim of EurAsia Heart consisting in effective on-site teaching and education according to the principle of help-to-self-help.

Kazakhstan

A first mission to South Kazakhstan has been undertaken in 2015 to Chimkent. Since then, several missions have been carried out to Nursultan as well as Almaty. Due to its success, **the government of Kazakhstan** is interested to extend the cooperation with EurAsia heart to its Southern and Eastern parts where access to high-level cardiovascular surgery is limited.

Moldavia

The President of the Board of EurAsia Heart Foundation is also Board Member of the “Baby’s Heart Foundation”, a small foundation caring for children with congenital heart disease from Moldavia. Over many years, children with complex heart diseases born in Moldavia are transferred to the “Ukrainian Children’s Cardiac Center” in Kiev, where they received appropriate diagnostics and treatment. Transfer to Kiev as well as the entire treatment is financed by the Baby’s Heart Foundation. Eventually, this foundation will be merged into EurAsia Heart Foundation. For more information, please check www.babysheartfoundation.ch.

The Way EurAsia Heart Foundation 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 rotational 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 Foundation – Performance

Since the end of the year 2000, EurAsia Heart is working according to principles outlined above. From the administrative standpoint, EurAsia Heart has officially founded in 2006 in Zurich and is registered in the trade registry of the Canton Zurich in Switzerland. EurAsia Heart Foundation was constantly present in all countries mentioned above. The COVID-19-pandemic however caused a break in all EAHF activities except in teaching and education by Zoom, Skype or Webinar-based meetings. The **“Activity Report 2020” including the list of Webinar-teachings can be found as Addendum 1** at the end of this manuscript.

During the past 22 years:

- EurAsia Heart **performed more than 4800 cardiovascular operations in children, adolescents and adults;**
- EurAsia Heart **consulted more than 23’000 patients** determining appropriate management of the cardiovascular problems in children, adolescents and adults.
- **Addendum 2 – the “Activity Report 2019”** represents the typical performance of EurAsia Heart Foundation and can be found at the end of this manuscript.
- EurAsia Heart **donated material, equipment, devices and disposals for a total amount of 10.5 million Swiss Francs** distributing a lot of material to all participating countries.

EurAsia Heart’s work is entirely based on charity. 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. There is no compensation paid for loss of earnings while working abroad. In addition, members of the board and the patronage committee of the foundation also work free of charge. Neither meeting fees nor other benefits are provided.

The only administrative costs consist in the costs for liability insurance, the secretariat as well as the technical installation and the operation of its website. Average administrative costs usually are between 3% to 8%.

EurAsia Heart Foundation – Guest Doctors in Zurich

EurAsia Heart Foundation actively supports the visit of guest doctors at his home base at the University Hospital, as well as in departments of the Hirslenden-Group, both in Zurich, Switzerland.

So far, many guest doctors from Vietnam, China, Myanmar, Ukraine, Uzbekistan, Eritrea and Russia spent time as guest doctors in Zurich, working as surgeons, anaesthesiologists, intensive care doctors, cardio-technicians or cardiologists. Based on this, they will continue to be educated at home working with their own conditions on their own patients.

EurAsia Heart Foundation – Cooperating Partners

The attractiveness of EurAsia Heart Foundation allowed establishing numerous international co-operations with excellent institutions, interested and engaged in teaching and education abroad.



Therefore, EurAsia Heart has become an organisation with a broad international base being able to mobilise a great number of excellent experts, all being committed to the primary aims of the Foundation: teaching, education, science and research. Among these institutions you may find:

- AKH University Hospital Vienna, Austria
- Cardiac Centre “Hitzing”, Vienna, Austria
- Yale School of Medicine, New Haven, USA
- University Children’s Hospital, Zurich, Switzerland
- Cardiovascular Centre Zurich, “Klinik Im Park” Zurich, Switzerland
- University Hospital St. Marina, Varna, Bulgaria
- Ukrainian Children’s Cardiac Centre Kiev, Ukraine
- Military Medical Academy, St. Petersburg, Russia
- St. Petersburg Children’s State Medical University, Russia
- University of Petrosavodsk, Russia
- Meshalkin-Institute, Novosibirsk, Russia
- Federal Medical Centre, Penza, Russia
- Yaroslavl State Medical Academy, Jaroslavl, Russia
- Department of Congenital Heart Surgery, University of Tomsk, Russia

EurAsia Heart Foundation – Seminars and Symposia

EurAsia Heart participates in a network of clinicians and educators which organises 2- to 5-day symposia and seminars and the frontline West-East. Young talents from the West-East frontline which are thought to become decision makers in their own countries participate in seminars, lectures and practical work. Participation is free. The faculty consists of excellent teachers from all over the world. Such seminars have been carried out in St. Petersburg, Vienna, Istanbul, Cesme, Ankara, Izmir and other places. Topics presented are available on the web and as an example please look at the www.perioperativebleeding.org. The financial support to carry out these seminars is provided by grants from the medical-technical industry. As with all other topics, COVID-19 caused a break. The next seminar, however, will be held in December 2020 in Salzburg, Vienna, the topics being patient blood management and infection prevention in surgery.

EurAsia Heart Foundation – supported by “The World of Classic Music”

Both, “**The St. Petersburg Symphonic Orchestra**” and the “**Camerata Schweiz**” with the **Pekinel-Sisters as piano players, conducted by Howard Griffith**, played in the past charity concerts in the “Tonhalle Zurich”. In 2017, “**The London Philharmonic Orchestra**” donated a classic music evening again in the Tonhalle Zurich in favour of EurAsia Heart Foundation.

In the future, several classic concerts are in preparation or already definitely planned: “**Camerata Schweiz**” will give a concert on **January 11, 2022** at the Tonhalle Zurich. In addition, another two classical concerts are planned playing the rarely presented **Koslowski-Requiem**. These two concerts will take place on September 10, 2022 at the Tonhalle in Zurich (confirmed) and on September 11 in the monastery of Einsiedeln (still in negotiation).

EurAsia Heart Foundation – Cardiology

Undoubtedly, cardiology is an indispensable partner for cardiovascular surgery. Without cardiology, EurAsia Heart could hardly work properly and efficiently. On the one hand, cardiology is engaged in peri- and intraoperative diagnostics of congenital as well as acquired heart disease offering decisive and strong on-site support for the cardiovascular surgical teams.

On the other hand, within EurAsia Heart, cardiology evolved as powerful self-standing unit educating the local staff in clinical and interventional cardiology, electrophysiology as well as peri- and intraoperative echocardiography. Based on generous donations of numerous stents, supported by industrial companies, EurAsia Heart Foundation’s cardiologists offer help to those sick patients, which simply cannot afford interventional stent treatment of their coronary artery disease. This kind of donation saves not only numerous lives, but also restores quality of life in many patients suffering from severe limitations.



EurAsia Heart Foundation – Overall Perspective

„Health Care“ has become a global task. Developmental 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.

Since 2006, EurAsia Heart has been operated more than 4800 neonates, children and adults and carried out more than 23'000 consultations defining best possible medical, interventional or surgical treatment for these patients.

Since 2011, EurAsia Heart has been active **at least once per month** extending its activities due to the increasing number of requests.

Since March 2012, EurAsia Heart also provided **support in other specialties such as visceral surgery, neurosurgery, ear-nose-throat surgery, plastic and reconstructive surgery and orthopaedic surgery.**

EurAsia Heart has two options: the first is, to restrict its activities to the field of cardiovascular medicine limiting the number of trips, the number of participating centres as well as the number of members being active for the foundation; or, EurAsia Heart extends the spectrum of specialties, the numbers of countries and departments to cooperate with as well as the number of experts being evolved in on-site education abroad offering support to other fields e.g. such as complex liver and pancreatic surgery, neurosurgery, or paediatric oncology – **all urgent request from so many countries all over EurAsia.**

According to the decision of the Board of the Foundation as well as the Patronage Committee of EurAsia Heart, the Foundation acknowledges the need to extend its scope and is willing to take the challenge to offer a more widespread support extending its educational support to various specialties following the best humanitarian Swiss tradition.

Based on this, EurAsia Heart has already established a full-time administrative secretariat to be able to manage the existing and forthcoming tasks in a timely manner. In addition, management, fundraising and networking have to be addressed in a far more consistent style necessitating a more powerful board of the foundation, which currently is in intense discussion.

EurAsia Heart Foundation – Science and Research

EurAsia Heart Foundation published an extremely successful multi-national, multicentre study with more than 8500 patients, aimed to reduce the incidence of sternal wound infection after cardiac surgery. The study carried out in Russia, Austria, Bulgaria and Switzerland and proved that a specific protocol is able to almost eliminate postoperative sternal wound infection in cardiac surgery.

Currently, an innovative research program is carried out to develop a **pulmonary flow restrictor stent** to be able to treat patients with inoperable combined heart/lung disease (“Eisenmenger” syndrome) as well as those with left-sided heart failure for whom implantation of assist devices or cardiac transplantation remain the latest option to survive.

To date, acute and chronic animal studies have already been performed and first of human trials in Kiev and Tashkent are in preparation, potentially saving hundred of thousands of severely suffering patients thank to this new interventional technology.

In 2021, EurAsia Heart Foundation **started his first FDA-approval study** for a US research company in Uzbekistan.

Since July 2020, the University Hospital in Zurich has become the base of EurAsia Heart Foundation and missions have been carried out with staff member from the cardiology and cardiac surgery departments. In June 2021, Prof. Thierry Carrel made his first mission for EurAsia Heart Foundation. In the near future, Thierry Carrel's Foundation "Corelina" and EurAsia Heart Foundation will merge increasing the power and efficiency of both organisations.



EurAsia Heart Foundation – The Mission

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 Medical foundation and how children, adolescents and adults highly benefit from this international network of cooperating centres.

Why should you support **EurAsia Heart Foundation**?

EurAsia Heart is not about an episodic charity operation in a sick child somewhere in Eastern Europe or in Asia. EurAsia Heart has a continued presence in the countries described.

EurAsia Heart performs thousands of operations and consultations in children, adolescents and adults mainly in Eastern Europe and Asia and, partly, in Africa.

EurAsia Heart should be supported, because the foundation:

- means aid-to-self-aid
- transfers education where education is needed
- offers tailored education and solutions according to the specific local needs
- transfers what you can nowhere be bought: skills, knowledge and experience
- supports the development of a tailored infrastructure
- successfully works for 12 years
- is entirely base on charity
- holds an effective and time-saving administration (3% up to 9% of total funds spent for administration only)
- offers a unique platform for image building.

As for many projects, COVID-19 caused a break in the work of EurAsia Heart Foundation. On March 15, 2020, the EurAsia Heart Foundation team had to emigrate from Uzbekistan because of its complete lock-down. Until March 2020, regular missions have been carried out with personal presence in all participating countries. After March 2020, EurAsia Heart Foundation changed to Zoom-based Webinar teaching and education. Webinar activities including teaching about COVID-19 are found in the Activity Report 2020.

The first COVID-19 missions have been carried out in March 2021 – after a one-year break. Since then, 7 missions have been done to Uzbekistan and Ukraine.

The COVID-19 pandemic was not only devastating for those who became infected – this pandemic was also devastating for children and adults with cardiovascular diseases and this was particularly true in developing countries. COVID-19 heavily increased the number of children waiting for life-threatening cardiac surgery. Today, 90% of all children with congenital heart disease do not receive any treatment at all. Worldwide, 4000 additional congenital cardiac surgeons would be necessary to help these children including material and equipment. **Overall, EurAsia Heart has distributed**

equipment, materials, devices and disposals to participating countries for the total amount of 10.5 million Swiss Francs. Materials have been found in the cellars of Swiss and Austrian hospitals or have been donated from medical-technical companies.

The post-COVID-time caused a surge in request from many countries, e.g., Kirgizia, Tadjikistan, Turkmenistan, Tanzania, Palestine, Ethiopia, Ghana, Nigeria, Pakistan and others. EurAsia Heart Foundation can do more – definitely, particularly since the University Hospital Zurich serves as the base of the Foundation providing a large number of experts willing to travel and help. The number of missions is not limited by the number of available experts, but by the financial restriction, or in other words: by the lack of funds and this is exactly the reason why we like to present EurAsia Heart Foundation.

Further information is presented at our websites:

www.eurasiaheart.com;

www.eurasiaheart.ru;

<http://mediex.online.fr/>;

www.swiss-surgery.swiss

www.herzchirurgie-paulvogt.ch, available in German, English and Chinese versions.

Sincerely, yours

Paul R. Vogt, MD

Professor of Cardiovascular Surgery

Initiator and President of **EurAsia Heart - A Swiss Medical Foundation**

Director, Department for Cardiac Surgery

University Hospital Zurich, Switzerland



Addendum I

Activity Report 2020

1) Cardiology – cardiovascular surgery (cv-surgery): active clinical practice; continued education; teaching assistance in daily clinical practice; scientific presentations:

January

- 6.-13.: Tashkent, Uzbekistan: **(7 days - 8 Persons)** complete team Zurich-St. Petersburg: cardiac surgery; anaesthesia, cardiology, perfusion, intensive care medicine: Ezgu Niyat Medical Center
- 18.-31.: Tashkent, Uzbekistan: **(13 days - 8 persons)**: complete team Zurich-St. Petersburg: cardiac surgery; anaesthesia, cardiology, perfusion, intensive care medicine Ezgu Niyat Medical Center:
(140 patients operated; 240 consultations; 340 patients treated; 1/3 1st mission; 2/3 2nd Mission)
- Ukrainian Children's Cardiac Centre (UCCC): 1 Mission (cardiology) **(1 person – 6 days; 50 patients treated; 40 patients consulted)**
- Policy Dialog: Meeting mit Soglom avlod u'chun + Ezgu Masquod Foundations

February

- Ukrainian Children's Cardiac Centre (UCCC): 1 Mission (cardiology) **(5 days - 1 person; 40patients treated; 20patients consulted)**
- 4.-28.: Tashkent, Uzbekistan: **(28 days - 2 persons + 14 days - 6 persons)** complete team Zurich-St. Petersburg: pediatric cardiac surgery; anaesthesia, cardiology, perfusion, intensive care medicine: Ezgu Niyat Medical Center
- Policy Dialog: Meeting mit Soglom avlod u'chun + Ezgu Masquod Foundations; meeting with Director of pharm-Committee; evaluation of first clinical studies in Uzbekistan.

March

- 1.-6.: Ukrainian Children's Cardiac Centre (UCCC): 1 Mission (cardiology) **(1 person – 6 days; 50 patients treated; 40 patients consulted)**
- March 9-15: HEART TEAM Winter Summit Zürs, Austria: joint presentation Sechenov University Moscow/EurAsia Heart Foundation **(1 person – 6 days)**
- Tashkent, Uzbekistan: 2 missions **(14 days - 5 persons + 7 days – 1 person)**: complete team Zurich-St. Petersburg: pediatric cardiac surgery; anaesthesia, cardiology, perfusion, intensive care medicine: The Republican Specialized Centre for Cardiology + Ezgu Niyat Medical Center

March 15, 2020, emigration from Uzbekistan back to Switzerland due to COVID-19-lockdown

2) Specific meetings and congresses outside Ezgu Niyat Medical Center, Tashkent, Uzbekistan (EAHF: Faculty Member, Course Director or Organizer)

- January 15/16: Course in Echocardiography; Faculty Member + Presentation with Uzbekistan experts **(2 persons – 2 days; Auditorium: 380 participants)**
- February 7-9: “Interdisciplinary Meeting on Bleeding Management in (Cardiac) Surgery and Obstetrics”, Thessaloniki, Greece, organized by EurAsia Heart Foundation and European

Interbalkan Medical Center; EAHF Co-Organisator + presentations) **(3 days – 1 person; Auditorium: 200 participants)**

- February 16-18: “Interdisciplinary Meeting on Bleeding Management in Cardiac Surgery: Focus on ECMO/ECLS; organized by EurAsia Heart Foundation EAHF Organisator + presentations) **(3 days – 1 person; Auditorium: 250 participants)**
- February 20: presentation Pediatric University Hospital + Perinatal Centre Tashkent: cooperation mit EAHF/Ezgu Niyat Medical Center Tashkent

From April to end of 2020, EAHF was only able to carry out webinar education and teaching. Topics: cardiovascular topics + COVID:

2020 Webinars (co)-organized and carried out by EAHF

1. **April 22:** <https://www.youtube.com/watch?v=yRneBklogGU&t=13s>. 1 hour and 27 minutes interview and questions answered by Russian people. Interviewer: **Ekaterina Andreeva**, journalist of the 1st Russian TV channel. She broadcast it on her own Youtube channel: **250,000 listeners!**
2. **April 25:** <https://htea.org/watch-the-webinar-from-our-learn-about-covid-19-infection-advanced-treatment-rehabilitation>. Webinar Vienna/Zurich: about COVID, Co-Organizer EAHF, gave 1st presentation; **250 listeners**
3. **May 12, 9:00 Webinar from Ukrainian Children's Cardiac Center in Kiev for doctors and nurses of the whole Ukraine.** EAHF: 1. Lecture by myself: COVID-19 2; lecture Irina Schwenk, IPS-COVID head of care USZ: lecture for caregivers/nurses of the whole Ukraine. Irina Schwenk works for EAHF as well and has been on many missions. The written invitation came from the Ukrainian government. **Number of participants: 12'000 from 12 countries and 4 continents!**
4. **May 23, 10:00: 1 ½-hour visit via Skype in Pavlov Medical University:** EurAsia Heart, St. Petersburg, Bucharest, Tashkent: discussed therapy of all COVID patients with local medical team; looked at all chest CT of all patients (as if we were there...). **24 patients visited.**
5. **May 29, 8:00 webinar: organizers: EAHF; Sistema;** Pavlov Medical University St. Petersburg: **connected 154 clinics worldwide.** Topic: COVID-19
6. **May 29, 15:00 Webinar organized by Greater Caspian Foundation.** My topic: lessons from COVID-19: how to face the next pandemic. **Participants: Russia, Israel, Kazakhstan, Azerbaijan; 700 listeners.**
7. **My personal COVID manuscripts + interviews** at the “Swiss Mittelländische Zeitung” have been downloaded 24 million times including 3 TV broadcasts at the "Club", Basler-TV and SWR1 (Germany) 1:1 interview. **In total manuscripts have been translated into 9 different languages.**
8. **Russian Swiss Health Magazine:** <https://swisshealthmagazine.ch/ru/kovid-19-prodolzhenie/>. **4 million downloads in the Russian-speaking world.**
9. **June 4, 9:00: 2-hour Skype visit with Ezgu Niyat Medical Center, Tashkent:** consultation for children with heart disease (as if we were there...).
10. **During the lockdown, our Russian team continued to work in Ezgu Niyat Medical Center** in Uzbekistan until June 2020 performing congenital as well as adult cardiac surgery.

Addendum 2

Activity Report 2019

1) Cardiology – cardiovascular surgery (cv-surgery): active clinical practice; continued education; teaching assistance in daily clinical practice; scientific presentations:

January

- Asmara, Eritrea: 1 mission (pediatric cardiac surgery) (**12 days - 12 persons**)
- Ukrainian Children's Cardiac Centre (UCCC): 1 mission (cardiology)
- Tashkent, Uzbekistan: 2 missions (**21 days - 8 persons**) with complete team: cardiac surgery, cardiac anaesthesia, cardiology, perfusion, intensive care medicine: Ezgu Niyat Medical Center

February

- Ukrainian Children's Cardiac Centre (UCCC): 1 mission (cardiology) (**5 days - 1 person**)
- Tashkent, Uzbekistan: 2 missions (**28 days - 2 persons; 14 days - 6 persons**) with complete teams Zurich + St. Petersburg: cardiac surgery, pediatric cardiac surgery; cardiac anaesthesia, cardiology, perfusion, intensive care medicine: Ezgu Niyat Medical Center
- Samarkand, Uzbekistan: City Hospital Samarkand 1 mission mit 3 cardiologists + 2 cardiac surgeons: outpatient consulting of 120 adults + children with congenital heart defects + presentations for local cardiologists and cardiac surgeons (**3 days - 4 persons**)

March

- Presentation HEART TEAM Winter Summit Zürs, Austria: 1) EurAsia Heart Foundation; 2) Infection Prevention by EAHF; 3) Cardiac Surgery in Uzbekistan
- Tashkent, Uzbekistan: 2 missions (**14 days - 5 persons; 7 days - 1 person**): cardiac surgery, cardiac anaesthesia, cardiology, perfusion, intensive care medicine: The Republican Specialized Centre for Cardiology + Ezgu Niyat Medical Center
- 2 guest doctors via EAHF at the University Hospital Zurich

April

- Ukrainian Children's Cardiac Centre (UCCC): 1 mission (cardiology, cardiovascular surgery) (**6 days - 2 persons**)
- Tashkent, Uzbekistan: 1 mission: cardiac surgery, cardiac anaesthesia, cardiology, perfusion, intensive care medicine: The Republican Specialized Centre for Cardiology + Ezgu Niyat Medical Center (**14 days - 8 persons**)
- "Interdisciplinary Meeting on Bleeding Management in (Cardiac) Surgery and Obstetrics" Cesme, Izmir, Turkey, April 14-19, 2019, organized by EurAsia Heart Foundation and Turkish Society of Cardiothoracic Anaesthesia and Intensive Care (**7 days - 2 persons**)
- 5 Guest doctors from Kazakhstan via EAHF at the University Hospital Zurich as well as the Hirslanden Clinic.

May

- Ukrainian Children's Cardiac Centre (UCCC): 2 missions (cardiac surgery, cardiology) (**5 days - 2 persons**)
- Faculty Member + presentation at the 1st State Medical University St. Petersburg: „Surgery for acute myocardial infarction“; „Surgery for GUCH patients“. (**5 days - 2 persons**)

- Tashkent, Uzbekistan: Ezgu Niyat Medical Center: 3 missions (cardiology, cardiac surgery, consulting for hospital administration and economy) **(14 days – 6 persons; 5 days – 2 persons)**
- Qo'qond, Uzbekistan: "Cardiohelp Medical Center": 1 mission mit 2 cardiologists + 1 cardiac surgeon: outpatient consulting for 169 children with congenital heart disease **(2 days - 4 persons)**
- "Interdisciplinary Meeting on Bleeding Management in (Cardiac) Surgery and Obstetrics" Hainburg, Österreich, Mai 26-31, 2019; EAHF: organizer, course director and two presentations **(5 days – 1 person)**

June

- Tashkent, Uzbekistan: Ezgu Niyat Medical Center: 3 missions (cardiology, cardiac surgery, consulting for hospital administration and economy) **(14 days – 7 persons)**
- Wuhan, China: Union Hospital Annual Meeting: two presentations (by invitations; EAHF als Faculty Member **(1 person – 3 days)**)
- Tiflis, Georgia: visceral surgery in children. 1 mission **(3 days - 3 persons)**
- 1 guest doctor from Uzbekistan via EAHF for 3 weeks at the University Hospital Zurich

July

- Yangon, Mandalay, Nay Paw Thaw, Myanmar. 2 missions (cardiology, adult and pediatric cardiac surgery; **(1 person – 14 days; 1 person - 7 days)**)
- Tashkent, Uzbekistan: Ezgu Niyat Medical Center: 3 missions (cardiology, cardiac surgery, consulting for hospital administration and economy) **(14 days – 7 persons)**
- Andijon, Uzbekistan: regional medical centre: 1 mission mit 3 cardiologists and 1 cardiac surgeon: outpatient consulting for 228 children and adults **(2 days - 4 persons)**

August

- Tashkent, Uzbekistan: Ezgu Niyat Medical Center: 3 missions (cardiology, cardiac surgery, consulting for hospital administration and economy) **(9 persons – total 133 days)**
- Ukrainian Children's Cardiac Centre (UCCC): 2 missions (cardiology, cardiac surgery) with interventional team for first TAVI-procedure **(5 days – 2 persons; 3 days – 2 persons)**
- Tashkent, Uzbekistan: Ezgu Niyat Medical Center: 1 mission (visceral surgery) **(1 person - 4 days)**
- Navoi + Jizzax, Uzbekistan: two regional medical centres: 1 mission mit 2 cardiologists + 1 cardiac surgeon: outpatient consulting of 254 children with congenital heart disease **(3 days - 4 persons)**

September

- Tashkent, Uzbekistan: Ezgu Niyat Medical Center: 3 missions (cardiology, cardiac surgery, consulting for hospital administration and economy) **(8 persons – total 178 days)**
- Tashkent, Uzbekistan: 11-day intensive course Ezgu Niyat Medical Center für nurses from all over Uzbekistan. Topic: general. **(4 persons – total 44 days)**. Participants: 40 nurses
- Buchara, Uzbekistan: City Hospital Samarkand 1 mission mit 4 cardiologists and 3 cardiac surgeons: outpatient consulting for 210 adults and children with congenital heart disease + presentations for cardiologists and cardiac surgeons **(3 days - 7 persons)**

October

- Ukrainian Children's Cardiac Centre (UCCC): 1 mission (cardiology) **(1 person – 5 days)**

- Kiev, Ukraine: Kongress “Regenerative Medizin 2 days, 1 person. EAHF: Faculty + 2 presentations **(1 person – 4 days)**
- Tashkent, Uzbekistan: 2 missions total 22 days mit complete team (PR Vogt; A. Nikolishin; S. Marchenko; A. Naumov, M. Andreev; I. Orlova; L. Kavardakova; N. Bilugov; I. Sharipov: cardiac surgery for children and adults, perfusion, cardiology, pediatrics, intensive care medicine) **(9 persons – total 183 days)**
- Belgrade, Serbia: 2-day-seminar «Interdisciplinary seminar about «patient blood management». EAHF course director. **(2 days – 1 person)**
- Tashkent, Uzbekistan: 1 mission; interventional cardiology **(1 person – 3 days)**
- Moscow, Russia: EHAF-presentation at the 14th international congress für sports medicine and rehabilitation, Sechenov-Universität, Moscow; Topic: ”Sudden cardiac death in athletes”. **(2 persons – 2 days)**
- Tashkent, Uzbekistan: 1-week course of intensive care treatment for nurses from all over Uzbekistan. Presentations and practical course **(6 persons – total 40 days). Participants: 24 nurses**
- Tashkent, Uzbekistan: 1-week practical course on the intensive care station of Ezgu Niyat Medical Center for nurses from all over Uzbekistan (intensive care medicine, ECMO, perfusion, pediatrics, cardiac surgery) **(8 persons - total 40 days). Participants: 24 nurses**
- Tashkent, Uzbekistan: Oktober 21st/22nd: course in echocardiography: functional diagnostics in children with congenital heart disease (A. Naumov; S. Marchenko). **Participants: 40 pediatric cardiologists from all over Uzbekistan (2 persons – total 4 days)**

November

- Lugansk, Ukraine: 2 missions (anaesthesia, cardiac surgery for adults and children) at the Republican Regional Clinical Hospital (arranged by “The First Pavlov State Medical University, St. Petersburg, Russia) **(2 persons – total 14 days)**
- Tashkent, Uzbekistan: 1 mission mit complete team (PR Vogt; A. Nikolishin; S. Marchenko; A. Naumov, M. Andreev; I. Orlova; L. Kavardakova; N. Bilugov; I. Sharipov: adults and pediatric cardiac surgery; anaesthesia, intensive care medicine, perfusion, nursing) **(9 persons – total 198 days)**
- Moscow, Russia: Russian All-Union Congress. Presentation by invitation: “Giant Hydatide Cyst”; **(1 person – 2 days)**
- Ukrainian Children’s Cardiac Centre (UCCC): 3 missions (cardiology, cardiac surgery, interventional team for TAVI-implantation) **(5 days – 4 persons)**
- Zurich, Switzerland: Lions Club Zurich Cosmopolitan; Charity-Event Miller’s Studio, Zurich-Tiefenbrunnen **(1 person – 1 day)**
- Tashkent, Uzbekistan: November 22nd/23rd: Course in intensive care medicine for anaesthetists and intensive care doctors: new methods in pediatric intensive care medicine. Course director: EAHF (A. Nikolishin, S. Marchenko, K. Bilugov). **Participants: 40 anaesthetists and intensive care doctors from all over Uzbekistan (3 persons – total 6 days)**

December

- Lugansk, Ukraine: 2 missions (anaesthesia, cardiac surgery for adults and children) at the Republican Regional Clinical Hospital (arranged by “The First Pavlov State Medical University, St. Petersburg, Russia) **(2 persons – total 14 days)**
- Tashkent, Uzbekistan: 3 missions mit complete team (PR Vogt; A. Nikoliski; S. Marchenko; A. Naumov, M. Andreev; I. Orlova; L. Kavardakova: cardiac surgery for adults and children; anaesthesia, intensive care medicine, perfusion) **(9 persons – total 212 days)**

- Ankara, Turkey: Interdisciplinary Seminar on Perioperative Bleeding and Patient Blood Management in Cardiac Surgery: Ankara City Hospital. EAHF: Organizer and Course Director **(1 person – 4 days)**
- Ukrainian Children's Cardiac Centre (UCCC): 1 mission (cardiology) **(5 days – 1 person)**
- Tashkent, Uzbekistan: 1 mission; orthopaedics, Ezgu Niyat Medical Centre **(1 person – 7 days)**
- Tashkent, Uzbekistan: consulting for hospital administration and economy; Ezgu Niyat Medical Centre **(1 person – 3 days)**

2) Specific meetings and congresses outside Ezgu Niyat Medical Center, Tashkent, Uzbekistan (EAHF: Faculty Member, Course Director or Organizer)

- March: Presentation HEART TEAM Winter Summit Zürs, Austria: 1) EurAsia Heart Foundation; 2) Infection Prevention by EAHF; 3) Cardiac Surgery in Uzbekistan; EAHF Faculty Member **(1 person – 6 days)**
- April: “Interdisciplinary Meeting on Bleeding Management in (Cardiac) Surgery and Obstetrics” Cesme, Izmir, Turkey, April 14-19, 2019, organized by EurAsia Heart Foundation and Turkish Society of Cardiothoracic Anaesthesia and Intensive Care; EAHF Co-organizer + presentations) **(7 days – 2 persons)**
- May: Faculty Member + presentations at the 1st State Medical University St. Petersburg: „Surgery for acute myocardial infarction“; Surgery for GUCH patients. **(5 days – 2 persons)**
- May: “Interdisciplinary Meeting on Bleeding Management in (Cardiac) Surgery and Obstetrics” Hainburg, Österreich, Mai 26-31, 2019; organiser, course director and presentations: EAHF **(5 days – 1 person)**
- June: Wuhan, China: Huazhong University of Science and Technology (by invitation, several presentations + EAHF als Faculty Member) **(1 person – 4 days)**
- October: Interdisciplinary whole day session in Bleeding Management with focus of Patient Bleeding Management - Ohrid, N. Macedonia. EHAF course director and organizer **(1 person – 4 days)**
- October: Belgrade, Serbia: 2-day-Seminar «Interdisciplinary Seminar: «patient blood management». EAHF course director, organiser and presentations. **(2 days – 1 person)**
- October: Moscow, Russia: EHAF-presentation at the 14th international congress for sports medicine and rehabilitation, Sechenov-University, Moscow; Topic: ”Sudden cardiac death in athletes”. **(2 persons – 2 days)**
- November: Moscow, Russia: Russian All-Union Congress. Presentation by invitation EAHF: “Giant hydatide cyst”; **(1 person – 2 days)**
- December: Ankara, Turkey: Interdisciplinary Seminar on Perioperative Bleeding and Patient Blood Management in Cardiac Surgery: Ankara City Hospital. EAHF: Organizer, Course Director + presentation. **(1 person - 4 days)**
- December: Moscow, Russia: presentation by invitation at the Sechenov First Moscow State Medical University: Up-date in Cardiovascular Surgery **(1 person – 2 days)**
- December: presentation of EAHF at the Lions Club Cosmopolitan, Zürich: charity event for EAHF **(1 person – 1 day)**

3) Teaching and education: EAHF as course director:

- EAHF has established itself in 2019 as direct trainer. A total of five 2-day to 1-week seminars on problems in cardiovascular surgery, cardiology and transfusion medicine were organised

and carried out in 2019 in (1) Cesme, Turkey; (2) Belgrade, Serbia; (3) Ohrid, N. Macedonia; (4) Ankara, Turkey; (5) Vienna, Austria. The aim of these courses is to intensify education and training on the imaginary border "West-East Middle East". The "teachers", i.e. the faculty of the respective seminars, i.e. the lecturers, consisted of top experts from all over the world: USA (e.g. Harvard Medical School, Boston), Europe (e.g. University Hospital Zurich; City Hospital Triemli, Zurich; AKH Vienna, Austria) or Australia. **A total of 250 course participants attended the 5 courses free of charge.**

- Appendix 2 gives an overview of the current faculty of international experts (with curriculum) teaching at EAHF-organised seminars. A list of the Fellows is available. Fellows are selected and invited based on their curriculum. The selection is made for young, talented young people on the borderline between West, East and Middle East, who already hold positions in their countries that are connected to "teaching", according to the motto: "teach the young teachers".
- Nursing staff: EAHF has organized and conducted courses for nursing staff for the first time in 2019. In the Ezgu Niyat Medical Center, **88 nurses from Uzbekistan and the surrounding countries were trained theoretically and practically during 1 to 2 weeks.**

4) Science and research

- Intellistent Project: Development of a stent to reduce blood flow in the pulmonary artery in pulmonary hypertension, Eisenmenger's syndrome and left ventricular failure; establishment of two animal testing laboratories in Dublin, Ireland and Tel Aviv, Israel.
- "Eisenmenger Consultation" at the Ezgu Niyat Medical Center in Tashkent, Uzbekistan: Compilation of a list of patients for Batista surgery, respectively for stenting of the pulmonary artery (all children and adolescents from Central Asia who are considered inoperable). The first "Frist-in-human" trials are planned for 2020.

5) Material, equipment, apparatus

- The following clinics donated equipment, devices and consumables for EurAsia Heart Foundation: Triemli Hospital Zurich; Klinik Im Park and Hirslanden Clinic, Zurich; University Hospital Zurich; Hospital Hietzing, Vienna, Austria
- Currently, EAHF has stored material for about 2.5 million CHF, which is currently listed in detail and then donated.

6) Administration

- Establishment of cooperation with SDC / ZEWO / Unité
- Recruitment of a part-time employee to carry out the tasks assigned by SDC, ZEWO and Unité.
- Change of members of the Patronage Committee and the Foundation Board. Patronage Committee: Tanja Moser was newly appointed; Eric Sarasin, Walter Fust and Marc Girardelli were retired. Board of Trustees: Franco Hauri was newly appointed. On 23rd of December Mr Benno Hafner, attorney-at-law, also gave his consent to become a member of the Board of Trustees. The Board of Trustees has not yet been informed of this, but will be informed by circular letter. Udo Brockhausen, who was unable to fulfil his office due to illness, was removed from the Board of Trustees.
- ZEWO certificate: on 12th of December 2019 the "EurAsia Heart - A Swiss Medical Foundation", Zurich received the right to use the ZEWO seal of approval from 12.12.2019 to 31.12.2024.
- The ZEWO seal of approval is a step on the way to possibly being included in the SDC's 2021-2024 support programme. This work and necessary negotiations with ZEWO, SDC and Unité

have taken place under enormous time pressure, have caused a huge effort and have also swallowed up corresponding financial resources, which have been forcibly withdrawn from the core task of the EurAsia Heart Foundation. One can only hope that this effort will pay off for the patients and other beneficiaries in the end. Until the end of 2019, a definitive support by the SDC for the years 2021-2024 is not yet secured and has not yet been set down in writing.

- Within the framework of the cooperation with SDC, ZEWO and Unité, the administrative external staff will have to be employed directly by EurAsia Heart from 1.1.2020. The necessary administrative changes are in work.

7) *Miscellaneous*

- EurAsia Heart again looked after different guest doctors from those countries, in which the donation is active. The guest doctors were able to work with EurAsia Heart experts in various clinics, including the University Hospital Zurich, Klinik Im Park and Hirslanden Clinic Zurich.
- EurAsia Heart has again been consulted by a large number of patients from different countries, both in the field of cardiovascular surgery and for inquiries in various other specialties. EurAsia Heart has advised many patients and referred them to appropriate experts in Switzerland on a multidisciplinary basis.
- Establishment of cooperation with two foundations in Uzbekistan: "Soglom avlod uchun" and "Ezgu Masquod": Soglom avlod uchun has a large waiting list of children with heart disease, which have been rejected everywhere. These are now all sent to EAHF at the Ezgu Niyat Medical Center. Soglom avlod uchun, Ezgu Masquod and EAHF provide financial support to parents who are unable to pay for the vital surgery for their children.
- Consultation hours along the Silk Road from Navoi to Andijon: outpatient examination of adults and children in Navoi, Jizzax, Bukhara, Samarkand and Andijon. A total of 981 adults (20%) and children (80%) with congenital heart defects were examined and the further procedure was determined.

8) *Overview of clinical activities*

- Compared to 2018, the number of patients treated increased significantly, mainly due to the high presence in Tashkent, Uzbekistan, where patients from all over Central Asia - especially children with congenital heart defects - come for consultations and surgical interventions: **by the end of 2019, EurAsia Heart Foundation had operated on a total of 4331 patients, or treated interventionally-invasively, and consulted, medically cared for and provided therapeutic advice to a total of 21,301 patients.** The number of operated and treated patients for the years 2000-2019 are shown graphically in Appendix 1.
- EAHF has recorded the volunteer working hours of the year 2019 in clinical everyday life: **in 2019 a total of 27'671 hours of volunteer work were performed.** Only the working time for mission and training seminars was counted. In the context of a mission, a daily working time of 12 hours was assumed, which is still rather low. Not included in the calculation were hours - the second 12 hours of a day or night, so to speak - during which the mission members were constantly available on call for possible emergency situations or actual medical emergencies on the spot at any time - day and night. By way of comparison, the average working hours in Switzerland are published on the Internet by various personnel offices: the average working time of a person in Switzerland is just over 2000 hours.
- The clinical work covers the entire spectrum of cardiology and cardiovascular surgery of congenital and acquired cardiovascular diseases in new-borns, children, adolescents and adults, and this in the following areas

- diagnostic and interventional cardiology;
 - cardiovascular surgery;
 - intensive care medicine;
 - anaesthesia;
 - perfusion (heart-lung machine and other assist systems);
 - prevention;
 - follow-up.
- In addition, other subjects outside of cardiovascular medicine, administration and economics were also supported in response to corresponding requests, e.g., orthopaedics and visceral surgery and nursing.
- The requirement profile of support from EurAsia Heart has become broader. On the one hand, training and further education in basic aspects of clinical activities still represent the main part of EurAsia Heart's work. On the other hand, EurAsia Heart has also introduced the latest technologies such as TAVI or MitraClip in many countries in response to corresponding requests and has demonstrated and then assisted in their first applications. In addition, new surgical techniques have been introduced, such as the Florida-Sleeve operation for the treatment of proximal aneurysms of the ascending aorta, also in Marfan patients, or the replacement of the aortic valve leaflets with autologous pericardium according to the method of Ozaki. Both techniques avoid lifelong anticoagulation, which has a high complication rate with a high mortality rate especially in EurAsian patients living in rural areas!
- Furthermore, minimally invasive bypass surgery for the surgical treatment of coronary heart disease was introduced in Uzbekistan. This can be performed off-pump, i.e., without a heart-lung machine, and saves patients the cost of an oxygenator of the heart-lung machine - an essential point, since most patients in Central Asia can hardly afford treatment.
- Furthermore, the clinical-practical missions include
 - Interventions and surgery by EurAsia Heart experts on complex patients and demonstration of newly introduced operations;
 - Education and training through active assistance at the heart catheter and operating table;
 - Clinical visits to the intensive care unit, department and outpatient clinics;
 - Discussions, advice and assistance in decision-making in clinical meetings: who needs treatment at all; who can be treated with medication; who needs intervention; who needs surgery; what is the best strategy?
 - Analyses of complications and deaths in morbidity-mortality conferences;
 - Lectures in all areas of cardiovascular medicine are part of every mission
 - Introduction of new technologies;
 - Training in cost-efficiency: "can-be done" versus "shouldn't-be done";
 - Adequate quality control.
 - Regular, weekly, clinical discussion and assessment of patients via Skype.
 - Scientific exchange and assessment of patients via Internet.
 - Consulting in Hospital Management + Hospital Organisation
 - Construction of a completely new heart clinic in Tashkent. Both, the first cardiological intervention and the first heart surgery operations have been performed by EAHF experts.

9) Example: Uzbekistan

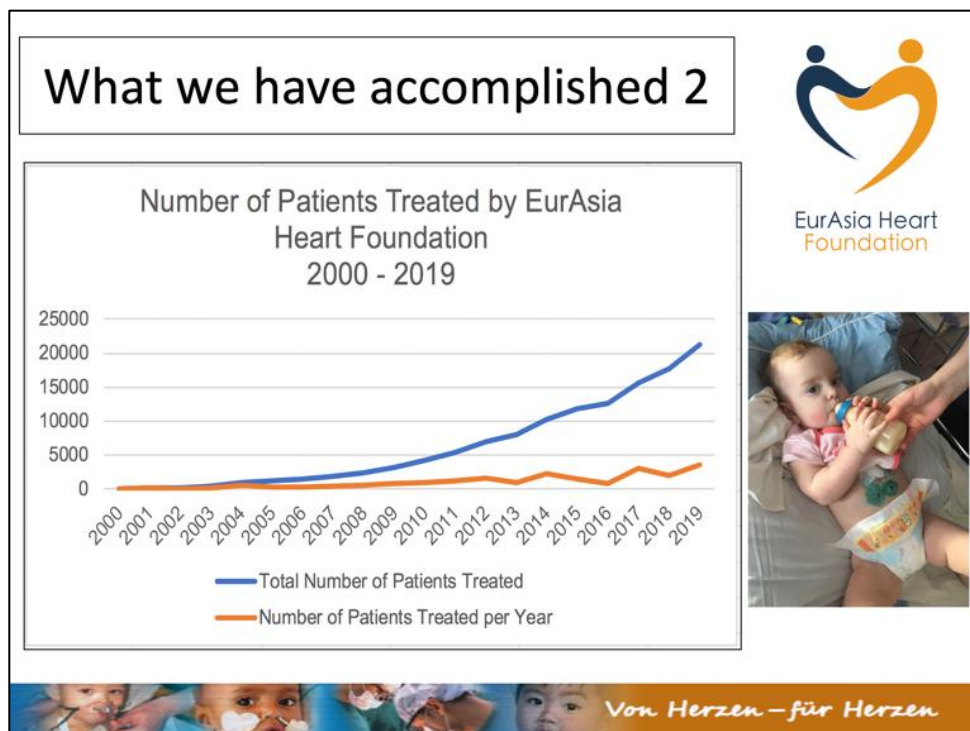
Under the leadership of EAHF, Ezgu Niyat Medical Center in Tashkent has quickly developed into a contact point for difficult and everywhere rejected patients in the field of cardiovascular medicine.

10) Challenges

- Despite the progress described above, EurAsia Heart is struggling with various challenges and is still confronted with many requests that could not be answered so far:
- The results of the fund raising in 2019 have not improved.
- On 24 December 2019, Dr. Norov Faridun from "The Ministry of health and social protection the population of the Republic of Tajikistan" came to Tashkent. As EAHF has operated on many patients from Tajikistan in Tashkent, Tajikistan officially asks if EAHF can become active in their country.
- Other requests from different countries, which wish the training and further training programs of EurAsia Heart Foundation likewise, could not be fulfilled further, so of:
 - Turkmenistan;
 - Kyrgyzstan;
 - several African countries;
 - various clinics in countries where EurAsia Heart is already active, such as Russia, e.g., Vladivostok, Khabarovsk or the Northern Caucasus.
 - Tanzania could relatively quickly become an African destination, as a group of Zurich cardiologists with a small association is active in this country. Patients who need surgery are sent to Dar-es-Salaam, which needs help. This favourable constellation could make it possible to be quickly and successfully active. The necessary contacts have already been established.
- A large amount of donated equipment and materials is needed to support the development of these clinics.
- The motivation of wealthy local people to support their clinics and provide medical treatment for their children in their country has increased, but is still underdeveloped and is actually only available in relation to the Ezgu Niyat Medical Center in Tashkent, Uzbekistan.
- The commitment of political and administrative decision-makers to support EurAsia Heart for their own benefit has improved, but is still insufficient.
- EAHF is still in negotiations with SDC/ZEWO. In contrast to 2018, it can be noted that the SDC has made a contribution of CHF 200,000 for 2019.

EurAsia Heart – A Swiss Medical Foundation

Performance figures 2000 - 2019



EurAsia Heart – A Swiss Medical Foundation

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