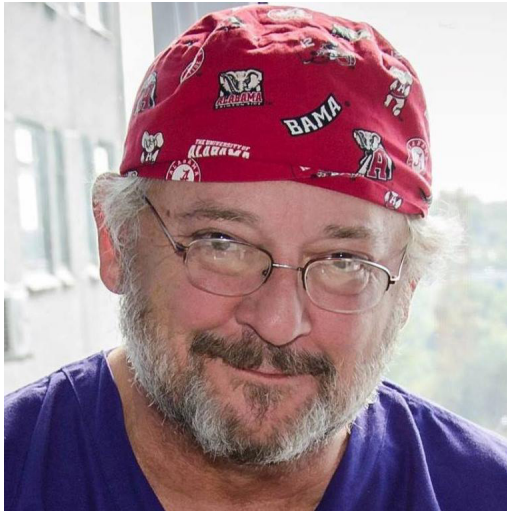




**Novick Cardiac Alliance  
Medical Mission  
Nizhny Novgorod, Russia  
April 2 - April 15, 2017**





The Novick Cardiac Alliance is committed to bringing sustainable health care solutions to children with cardiac disease in the developing world.

We are dedicated to improving the skills, knowledge, technology and experience of local health-care providers in regions of the world without access to quality Pediatric Cardiac Care.

We aim to provide comprehensive care to all children with congenital or acquired heart disease regardless of gender, ethnicity, religion, political ideation, genetic factors or economic means.

Our vision is that in the future all children with heart disease, no matter where they are born, will be able to receive the medical and surgical care they require to live a long and healthy life.



*“In our cardiac center, significant progress has been made in pediatric heart surgery. This all became possible, in large part, due to Dr. Novick’s missions.”* **Dr. Anton Maximov**, Head of the Nizhny Novgorod Cardiac Center and

Chief Specialist in Cardiovascular Surgery, Ministry of Health of the Nizhny Novgorod Region.

The Gift of Life, Inc., Russian Gift of Life USA, and renowned cardiac surgeon Dr. William Novick are collaborating to improve the care of children with heart disease by developing children’s heart centers abroad. Currently, several areas of Russia still do not provide comprehensive pediatric cardiac care to children in need. Instead these little patients are being referred to Moscow, St. Petersburg, or out of the country, while others face a shortened life expectancy.

## **Nizhny Novgorod – Gift of Life in Historic Russia**

Nizhny Novgorod, colloquially shortened to Nizhny, is a city located in the Nizhny Novgorod Region and Volga Federal District. The city was founded in 1221 by Prince Yuri II of Vladimir and the old citadel is preserved to this day. In 1817, Nizhny Novgorod became a great trade center of the Russian Empire. In 1896 at a fair, an All-Russia Exhibition was organized. From 1932 to 1990, the city was known as Gorky after the writer Maxim Gorky, who was born there. The city is an important economic, transportation and cultural center in Russia and the vast Volga-Vyatka economic region, and is the main center of river tourism in Russia. In the historical part of the city there are a large number of universities, theaters, museums and churches. Nizhny Novgorod is located about 400 km east of Moscow, where the Oka river empties into the Volga. Nizhny’s population is over 1.2 million people.



## Medical Missions – Touching Many Lives

After a site assessment in March 2014, Dr. Novick, Russian Gift of Life USA and the Nizhny Novgorod Cardiac Center agreed to collaborate on a project to improve pediatric cardiac services in Nizhny Novgorod, Russia. Eight months later, a ten-member international medical team arrived for the inaugural Gift of Life medical mission to Nizhny. The team performed sixteen open-heart surgeries in collaboration with their Russian counterparts. Since then Dr. Novick has continued to coordinate and send international teams of pediatric cardiac specialists to work with the appropriate colleagues at the cardiac center to expand cardiac services. The visiting teams work side by side with their Russian colleagues at all times providing direct hands on teaching at all levels. The visiting teams also provide 24-hour coverage in the intensive care unit and provide life-saving open-heart surgery to some ten children on each visit.

The second medical mission to Nizhny took place from June 6th through 20th of 2015. The eleven-member team performed thirteen open-heart surgeries in collaboration with their Russian counterparts. The third medical mission to Nizhny took place from May 14th through 28th 2016. The twelve-member international team performed eleven open-heart surgeries and five endovascular closures in collaboration with their Russian counterparts. The fourth medical mission to Nizhny took place from September 24 through October 8, 2016 and was dedicated in memory of Peter Tymus, who passed away on July 20th. The eleven-member team performed nine open-heart surgeries in collaboration with their Russian counterparts. The fifth medical mission to Nizhny took place from April 2nd through April 15, 2017. The seven-member team performed eleven open-heart surgeries in collaboration with their Russian counterparts.

### Nizhny Novgorod, Russia April 2 - April 15, 2017



This was the Novick Cardiac Alliance's fifth trip to the Specialized Cardio-surgical Clinical Hospital in Nizhny Novgorod, Russia. During the the medical mission, eleven children between the ages of four days and eight years received surgery. The team, including two native Russian speakers, provided the local surgeons with minimal assistance for ten of the eleven surgeries. Eight of the children had had previous surgeries, six as part of a staged plan



## Some of this trip's patients



**Zakhar** Tuesday, April 4th

Zakhar, born only 4 days prior to the start of the medical mission was the first operation. Performed as a semi-urgent procedure transposition of the great arteries is usually operated in the first weeks of life. Local surgeon Dr. Orlov had performed the same operation called an arterial switch operation on another baby just the previous week and did this with supervision from Dr. Novick. Zakhar had some complications pre-operatively and was sick in the intensive care unit post operatively - but recovered well over the next 3 days, came off the ventilator, and left the Intensive Care Unit on Sunday, April 9th, his fifth post-operative day.



**Andrei** Wednesday, April 5th

Andrei, age 5, was undergoing his fourth operation, suffering from obstruction of a conduit placed just two years previously. The operation took most of the day, since bleeding is a major risk in such re-operations, but was slow and sure and passed without any complications. Andrei came off the ventilator just two hours post-operatively and left the intensive care unit two days later.



## **Vika**      Wednesday, April 5th

Vika had had an urgent operation just a few days previously, and was on a ventilator in the Intensive Care Unit when the team arrived. She had a complication of too much blood flow to her lungs. Her blood pressure dropped severely, and circulation stopped. She required 30 minutes of resuscitation in the Intensive Care Unit by the Novick Cardiac Alliance and local teams working collaboratively. She went for an emergency re-operation, where the previously placed shunt was carefully narrowed by a little over 1 mm, which stabilized and re-balanced her circulation. Her recovery was expectedly prolonged after such trauma but she came off the ventilator four days later and left the Intensive Care Unit on April 11th. Vika was doing very well but will require at least one more surgery in the next one to two years. Vika's emergency surgery was performed simultaneously with Andrei's in another operating room.



## **Karina**      Thursday, April 6th

Only one surgery was scheduled today, Karina, the oldest of the children operated on, and a delightful girl. She had the most complex defect having problems with three of the four cardiac valves, and a previously placed pace-maker system needing revision. After twelve hours in the operating room, Karina recovered amazingly quickly. She came off the ventilator after less than two hours, was smiling and drinking the very next morning, and left the Intensive Care Unit on Sunday, April 9th just three days after surgery.



## **Vera**      Friday, April 7th

The local team, with no assistance, performed the only scheduled surgery of the day on little 1 year old Vera. Her surgery was done by one of the more junior local surgeons and she will likely need no further intervention. Vera left the Intensive Care Unit the very next day. Vera is pictured here with her mother.

## **Max**      Monday, April 10th

Max, not yet age 3, was undergoing his third surgery - and finally has a corrected circulation, but using a tube that will not in itself grow with him. He will require careful follow up for eventual replacement of his conduit, some time over the next 10 - 15 years. Max's recovery was slow and he remained in the Intensive Care Unit at the end of the trip. The Cardiac Center reports that he has recovered more fully. Max has a good chance of 10 to 15 years without further surgeries.



## **Ksenia**      Tuesday, April 11th

Ksenia is an incredibly cute baby, who was a few days short of her first birthday when she had her second operation in life. She will have at least one more surgery - in the next 1 to 2 years - and will definitely be scheduled for a subsequent visiting trip. Ksenia was a favorite with all the visiting and local team. She enjoyed playing with her feet and posing for photos.

# Core Principles of NCA

## Collaborate

We Collaborate with Governments, Health Ministries, healthcare professionals and Humanitarian Organizations to provide total cardiac care to children in developing countries. The children we serve have limited access to quality care and the families lack the financial resources to seek care elsewhere. This collaboration will enable local health-care authorities to build Pediatric Cardiac care services in-country and in time eliminate the need to send these children abroad for surgery.

## Educate

We educate Local health-care professionals and work with their educational institutions to improve the standard of training and hence care provided to children with Heart disease. Our education model is open and flexible and is delivered using multiple modalities. We work with each site individually to find the best template for education and development of clinical judgement. We provide clinical bedside teaching, didactic lectures and ad hoc teaching sessions on site; and encourage the use of internet based resources and access to international academic journals. We are currently in the process of building a virtual learning environment using “Moodle”<sup>™</sup> as the platform.

## Sustain

Our goal is that our partner site’s develop full independence over time and to operate on and care for the children with a home grown team of experts and no continuing need for direct outside assistance. We monitor the quality and effect of our assistance, and tailor our teams size and skill set accordingly. We commit to maintaining professional relationships with those hospitals and personnel well into the future and focus on areas such as academic work, conference attendance and occasional short visits. We have seen that a significant proportion of volunteers and core staff on our teams enthusiastically emerge from previously assisted sites.

## Innovate

We facilitate practical and affordable solutions to a variety of clinical, technical and patient problems, which are unique to the sites we work in. First world approaches are often unaffordable or inappropriate to the needs of our partner sites. Surgical, Interventional Catheter and ICU techniques are tailored and modified to address the needs of the population we serve. Many of the children we see are much older than would typically be seen in developed countries and consequently the medical and surgical options for these children are very different. Many of these innovations emerge from professionals at our partner sites and we encourage presentation and publication of such in conferences and journals.





**Thank you,  
Russian Gift of Life USA for  
your generous and continued  
support.**

**Thank you for helping the  
children of Russia fight  
congenital heart disease!**

## **Patient List**

1. Zakhar Yashir	4 days	*Arterial Switch
2. Andrei Dudkin	5 years	*RV-PA Conduit after previous Tetralogy of Fallot Repair
3. Vika Khramova	13 days	*Revision of MBT Shunt for Pulmonary Atresia
4. Karina Mitina	7 years	*LV-PA Conduit, Pacemaker Revision Repair of Tricuspid and Mitral Valves
5. Vera Lashmanova	1 year	*ASD Closure
6. Max Glukhikh	2 years	*RV-PA Conduit and VSD Closure
7. Ksenia Kholysheva	11 months	*Left MBT Shunt
8. Vera Kuptsova	1 year	*RV-PA Conduit and VSD Closure
9. Baby Butusov	5 days	*Hybrid Palliation of Hypoplastic Left Heart Syndrome
10. Kirill Krukhov	11 months	*Rastelli Operation with extensive VSD enlargement and tunnel LV-PA
11. Uhmidojov Boltaev	4 years	*Tetralogy of Fallot

## **Cardiac Alliance Team**

Dr. William Novick	Surgeon	Tennessee, USA
Dmitry Furmachuk	Anesthesiologist	Minsk, Belarus
Eugene Suslin	Intensivist	Minsk, Belarus
Frank Molloy	PICU Nurse/Educator	London, UK
Ashley Dyok	PICU Nurse	North Carolina, USA
Brittany Greaves	PICU Nurse	North Carolina, USA
Mary Ann Lo	PICU Nurse	Vancouver, Canada

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