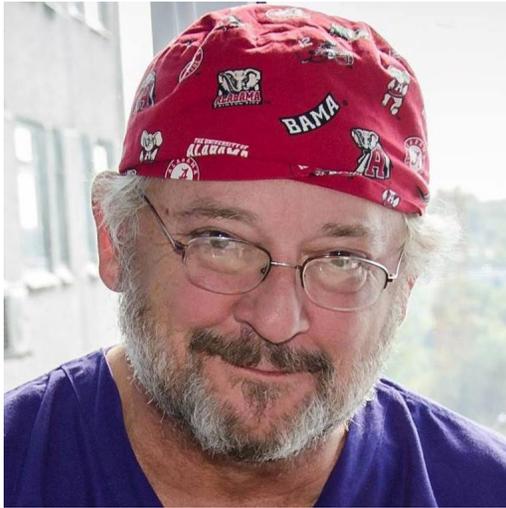




**Novick Cardiac Alliance
Medical Mission
Voronezh, Russia
February 25 - March 11, 2017**





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.

Voronezh, Russia



The Novick Cardiac Alliance trip to Voronezh in February 2017 was the eighth medical mission led by Dr. Novick to the Voronezh Regional Hospital site. Novick Cardiac Alliance staff and co-founders Pavel Shauchenka and Frank Molloy are now considered frequent repeat visitors to the site. They were accompanied by six other volunteers and Novick Cardiac Alliance staff—making a total team size of nine, from five different countries.

The first Voronezh trip in November 2013 was comprised of 16 team members, team size reduction is evidence of a more confidently and competently functioning specialist local team and is a testament to the success of earlier teams, and the inherent quality of the local team.

During our trip nine children between the ages of three days and five years of age received surgery, three of the children were under 1 month of age. Six were female and three male. Five surgeries were performed by local surgeons, additionally there were six further surgeries performed on the same children, all of which were performed by local surgeons. This represents a further incremental increase in locally led operations since our last report of October 2016. Three of the children had had previous surgeries, two as part of a staged plan.



Some of this trip's patients



Maria Monday, February 27th

The first Maria Popova of two with identical names is a 5 month old baby born with a Ventricular Septal Defect. Surgery was done on the first day of the trip by Dr. Bykov. She was breathing on her own after two hours, and left the Intensive Care Unit two days later. Maria is unlikely to need any further surgery and the age at which her operation was done was optimal and typical for top centres worldwide.



Jan Wednesday, March 1st

Jan, a three and a half year old with Atrial Septal Defect, Tri-cuspid valve insufficiency, and Trisomy 21 (Down Syndrome), had his defect repaired as the first case of the day by Dr. Novick assisted by Dr. Bykov. He awoke promptly and was off the ventilator after 1 hour and left the Intensive Care Unit the next day. Jan was in great spirits whenever we visited him in the cardiology ward, and contributed to a group “thank you” picture presented to the team of the last day. (See last page of this report for the group picture).

David Tuesday, February 28th

David, at three days of age, was born the same day as the team was beginning their travel for the trip. His defect - Hypoplastic Aortic Arch and Ventricular Septal Defect, often repaired in two stages, was able to be repaired in a single procedure by Dr. Bykov. The operation lasted over seven hours. Such a prolonged surgery on a baby of only three days of age is highly risky and as a precaution, David's chest was left open after the operation. His postoperative course was marked by renal failure requiring dialysis and tachycardia. His chest was closed two days later and he was transferred on the 6th of March to the nearby perinatal Intensive Care Unit, where he was recovering with no significant issues, but still on the ventilator.



Sasha Wednesday, March 1st

Sasha had her second operation at only seven months of age. She is certain to need at least one further operation in a few years time for her complex defect of Tricuspid Atresia. Sasha was first operated (PA Band) at only one week of age and was in the Intensive Care Unit for over two weeks after that first procedure. Her mother was used to the ups and downs of heart surgery in such small children and was amazingly cheerful and positive during several setbacks that occurred postoperatively.

Sasha required a second operation for a paralysis of the diaphragm muscle, the day after her surgery and subsequently needed to go back onto the ventilator on two occasions, possibly related to her time spent in Intensive Care Unit as a newborn. She also suffered some neurological damage affecting her vision, which we hope will be temporary. Sasha was still in the Intensive Care Unit at the end of the trip. She was comfortable and feeding by stomach tube, on the ventilator. Her mother was visiting frequently - talking, touching, and kissing her.



Semeon

Friday, March 3rd

Semeon, who is only three weeks old, had the first of at least three surgeries with the creation of a shunt to increase the blood flow to his lungs. He has a complex single ventricle defect which will require repeated expert assessments and surgeries at appropriate future occasions. His chest was left open after surgery and he had several complications of low oxygen levels and repeated exploration of his chest over the next two days. The Intensive Care Unit and surgical teams were kept busy over the weekend, but he progressed well. His chest was closed on Monday the 6th of March and he was successfully extubated on March 7th. He was transferred out to the nearby perinatal Intensive Care Unit on Thursday March 9th, feeding and happy.

Milana

Friday, March 2nd

Milana, having her second operation (previously a PA Band), after an initially uncomplicated surgery, Milana tragically suffered cardiac arrest in the Intensive Care Unit about eight hours postoperatively, from which she failed to recover despite all efforts. May she rest in peace.



Maria Monday, March 6th

Maria's nine hour operation was done by Drs. Novick and Bykov and was her second surgery, having had a previous palliative shunt and PA band. Her defect - Transposition of the Great Arteries - is usually operated correctively in the first month of age, but the local team did not yet have the experience to do this confidently so a palliative procedure was done. Her chest was left open as a precaution, and she encountered some complications of venous obstruction in her neck. Yet her chest was closed the next day, she was extubated two days later, and was comfortable and feeding in the Intensive Care Unit as the team was departing.



Tatiana

Thursday, March 9th

Tatyana had her operation to relieve an obstruction below the aorta - having had a previous closure of a Ventricular Septal Defect by the local team. Tatiana was the 1,000th surgery of the Novick Cardiac Alliance since its inauguration in October 2014 and was an appropriate success. She recovered rapidly and left the Intensive Care Unit the very next day.



Viktoria Thursday, March 9th

Viktoria's surgery, at age 19 days of age - took less than two hours in total. She returned to the Intensive Care Unit, rested overnight and was ready to come off the ventilator as the team signed out the next day. She suffered no postoperative complications and faces a future with a very low likelihood of any repeat surgery.



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”[™] 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, for
your generous and continued
support.**

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

Patient List

1. Maria Popova	5 months	*VSD closure and PDA ligation
2. David Cheprilianov	3 days	*Repair of Hypoplastic Aortic Arch and VSD Closure
3. Jan Kolosovski	3 years	*ASD Closure and repair of Tricuspid Valve
4. Aleksandra Fursova	7 months	*Bilateral Bidirectional Glenn Shunt
5. Milana Sementsova	1 year, 5 months	*CAVC Repair
6. Semeon Skorokhodov	22 days	*Central Shunt
7. Maria Popova	6 months	*Arterial Switch and PA De-band
8. Tatiana Shusareva	5 years	*Resection Sub Aortic Membrane
9. Viktoria Toroptseva	19 days	*Coarctation of Aorta Repair

Cardiac Alliance Team

Dr. William Novick	Surgeon	Tennessee, USA
Dmitry Furmanchuk	Anesthesiologist	Minsk, Belarus
Pavel Shauchenka	Intensivist	Minsk, Belarus
Eugene Suslin	Intensivist	Minsk, Belarus
Frank Molloy	PICU Nurse/Educator	London, UK
Karen Bowtell	PICU Nurse/Educator	Melbourne, Australia
Natalie Constantin	PICU Nurse	Melbourne, Australia
Anna Kuznetsova	PICU Nurse	Washington, USA
Esther Lehmann	PICU Nurse	White Horse, Canada

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