



**Novick Cardiac Alliance**

**Voronezh, Russia**

**March 14—28, 2015**





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



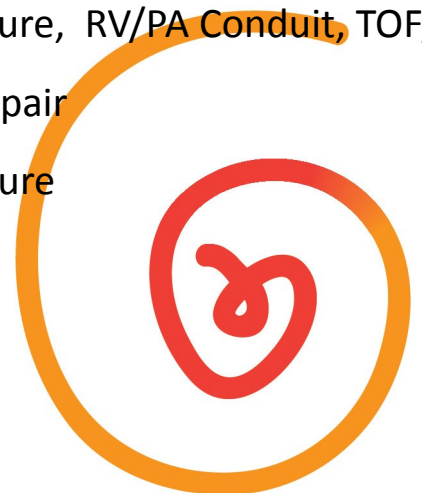
The NCA trip to Voronezh in March 2015 was the 4th team led by Dr. Novick to the Voronezh Regional Hospital site. NCA staff and co-founders Pavel Shauchenka, Frank Molloy, Eugene Suslin and Sergey Liauchonak - and volunteer Cardiologist Dr. Robert Arnold - now frequent repeat visitors to the site were accompanied by 6 other volunteers making a total team size of 12.

15 operations were completed on 14 children and many, many more were evaluated. At least 5 of the children had been seen by Dr. Arnold and Dr. Novick on previous team visits and deemed suitable to wait for surgery

Of the 15 operations, six were led and performed by the local surgical team Dr. Sergey Bykov and Dr. Dennis. This is a feature of the NCA trips - enabling and educating to support and build on existing independent practice. - in fact since the very first trip of Dr. Novick's team 1 in 3 of all surgeries were performed by the local team, and on each repeat visit the complexity of operation that they are able to lead in, increases.

# Patient List

1. Alexandra Nazarievo	14 years	PAPVR (Partial anomalous pulmonary venous connection repair)
2. Timofei Lyukov	2 years	PAPVR Repair, PDA Ligation
3. Anatasia Chehova	1 year	VSD Closure, Pulmonary Atresia
4. Aleutina Roschupkin	6 years	Coarctation of Aorta/ Aortoplasty
5. Yaroslav Popov	1 year	Arterial Switch, DORV Repair, VSD Closure, RV/PA Conduit
6. Julia Miklaeva	9 months	ASD Closure, PDA Ligation
7. Maxim Nabrodov	2 years	TOF DORV repair , Pulmonary outflow tract enlargement
8. Anna Baranova	2 years	TOF AVC Repair
9. Abdulhabir Gadjiev	1 year	ASD Closure
10. Danil Tatarenkov	newborn	Repair of Truncus, Arteriosus
11. Marya Darugina	7 years	TOF Repair, Valvotomy, ASD Closure
12. Darya Tishenko	7 years	PA Band, PDA Ligation
13. Ilya Pyhov	1 year	VSD Closure, RV/PA Conduit, TOF/ DORV Repair
14. Anna Goleva	2 years	ASD Closure

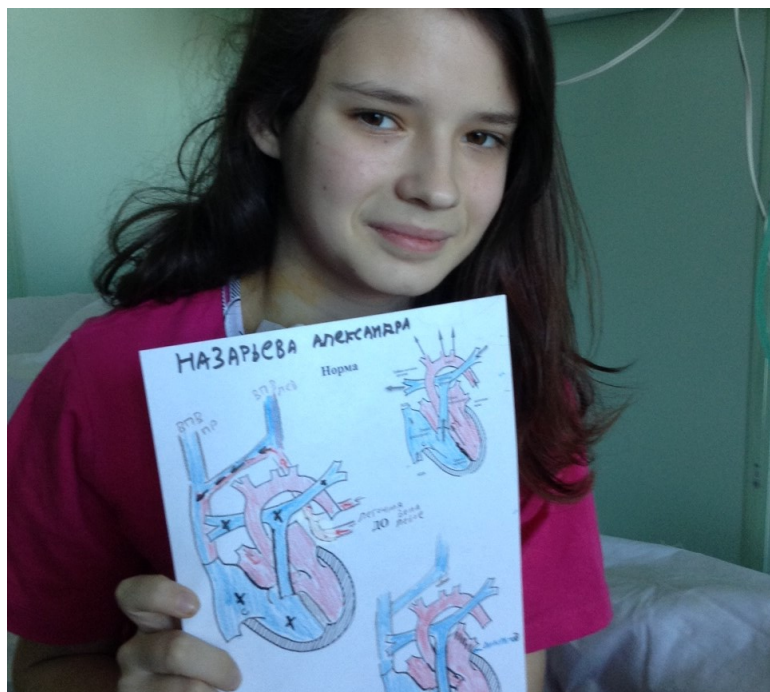




Alexandra ( "Sasha " ) age 14 was the first patient operated on this trip - Sasha had a heart defect called partial anomalous pulmonary venous drainage.

In this defect some of the veins from the lungs, carrying the oxygenated blood, return to the wrong side of the circulation - meaning the blood has to flow around the lungs a second time, creating a problem called pulmonary over circulation, which in time can lead to a disease called pulmonary hypertension. Pulmonary over-

circulation usually affects exercise tolerance, and makes children at risk of frequent respiratory infections. This defect is usually detected and treated in infancy in countries and regions with well-developed cardiac services.



Although complex to operate on initially the corrective operation is easily taught , and very few children with this problem will need any further surgery and can expect to live a normal life.

Sasha was lucky because although this variant is complex in its anatomy, and needed the assistance of the Novick team to perform the corrective surgery, it so far had not had a serious effect on Sasha's life quality.

Sasha is seen pictured after discharge from the ICU, one day after having a picture of her heart - colored to show the normal anatomy, the heart before and after the operation, and labelling in Russian.

The NCA team - with 3 fluent and 1 learning Russian speaker - routinely uses these pictures as a teaching aid to local professionals, and as a gift to keep.

Sasha was walking and eating the day after her surgery. She and her mother were delighted at the outcome of the surgery. Sasha wants to be a doctor when she grows up .



## Timofei - Tuesday 17th March Тимофей



Timofei aged 2 years 1 month, received an operation for a heart defect called partial anomalous pulmonary venous drainage. Timofei had an additional defect called Cor Triatriatum where an extra chamber inside the left collecting chamber into the heart can obstruct the return of blood from the lungs.

In this defect some of the veins from the lungs, carrying the oxygenated blood, return to the wrong side of the circulation - meaning the blood has to flow around the lungs a second time, creating a problem called pulmonary over circulation, which combined with the obstruction to the blood return to the heart - carried a big risk of leading to disease called pulmonary hypertension.

Timofei was already affected by this defect, visibly malnourished and about the same weight as a hearty baby of 10 months of age. Although complex to operate on initially most children with this

problem will not need any further surgery and can expect a normal quality of life, with a low risk of re-operation. The team will follow up on Timofei's progress and growth on subsequent trips. Children after this operation may often need sustained period of time in the ICU on drugs and a breathing machine.

Timofei came off his breathing machine 5 minutes after returning from the operating room, and left the ICU 2 days after his surgery. Timofei is seen here taking a rest in the ICU one day after surgery, and the next day - after discharge to the ward, eating a banana.

## Anastasia - Tuesday 17th March Анастасия

Anastasia aged 1 year 3 months had multiple holes between the pumping chambers in the heart, defects called Ventricular Septal Defects (VSD). Most children who have this only have one hole - but Anastasia had at least 3. Anastasia had an additional obstruction to the blood flow into her lungs called Pulmonary Stenosis.

Closure of a VSD is the most common heart operation needed, and done, worldwide and although part of the early training of geons - the treatment of multiple VSD's is challenging and very depend as well as surgical experience. Frequently not all holes need to be closed, and an informed decision the timing of surgery, and the specific to the overall success.



Anastasia had her surgery performed by Dr. Novick, assisted by Dr. Ser...

### **Aleutina Wednesday 18th March**

### **Алеутина**



Aleutina, a Pretty girl with Down Syndrome, aged 6 has already had two heart operations before she was a year old, and presented to the team with a defect called Coarctation of the Aorta - a narrowing of the main body blood vessel.

Re-operations carry many increased risks and present with additional difficulties, of bleeding and other issues that can result for the previous surgeries.

Surgical team experience is critical to the successful outcome.

Aleutina was a favorite child of the team on this trip, blowing kisses to the staff in the ICU - and was very talkative. Aleutina came off the breathing machine less than 1 hour after her operation, and left the ICU the very next day

### **Anna Thursday 19th March**

### **Анна**

Anna, age 2 years 10 months, had already had one surgery as a newborn which relieved most of her blueness and risks of blue spells, but urgently needed reparation as her prior surgery was only designed to carry her for 1-2 years.

Anna also has Down Syndrome and is an orphan.

Anna has two heart defects - Atrioventricular Canal, and tetralogy of Fallot. This is a complex combination of an abnormality of 3 of the heart valves, and 2 holes in the heart, which causes babies to become frequently blue, more so once they start to walk, and also can have problems within the heart even after repair of these valves. Early operation is very important to outcome, and constant follow up is equally important for both defects.

It is a high risk surgery and very dependent on surgical experience.

Anna came off her breathing machine less than 2 hours after her operation. As an orphan Anna had no family to take care of her at the weekend, so she stayed with the ICU team a little longer than her "classmates" but she







## **Abdulhadir Friday 20 March Абдулхадир**

Abdulhadir is a 1 year 3 month old baby with a hole between the two collecting chambers in the heart - an Atrial Septal Defect (ASD). This defect is usually corrected at some time before school age.

His operation was done by the young local Surgeon Dennis , without direct assistance of the NCA team.

Abdulhadir came out of the operation room breathing without assistance and left the ICU the very next day

Abdulhadir is seen here taking a drink in the ward a few days after his surgery

## **Julia Monday 23 March**

**юля**

Julia, a 9 month old baby, had her operation on Monday the 23rd March for a defect called atrioventricular canal, which affects two of the valves in the middle of the heart.

Luckily Julia's defect was found to be of the mild severity, her operation was done - and she was off the breathing machine in 30 minutes after arrival in the ICU. Julia stayed in the ICU for 2 more days as she had some mild obstruction in her throat as a result of the surgery and anesthetic.

Julia is seen here with her mother 2 days after surgery



## **Maxim Monday 23 March Максим**

Maxim had surgery for a complex defect called a complex defect which causes intermittent quies repair as early as possible.

Maxim was on the ventilator for about 12 hours in the ICU of the rest of that week, having complications that the NCA team frequently encountered before the operation.

We were delighted to receive a picture of Maxim after we returned home - out of the ICU and





**Dasha Tuesday March 24**

**Даша**



Darya (Dasha) is a 7 month old baby who had a complex defect called transposition, and double outlet ventricle - additionally one side of her heart was too small.

She will require repeated follow up by the NCA team, and on this occasion had a temporary operation (a palliative procedure) called Pulmonary Artery banding.

If we are able to raise sufficient funds we will be able to return at the optimal; time for her subsequent surgery or surgeries - the exact nature of which are at this time undecided and will need further team consultation.

**Masha Tuesday March 24**

**Маша**

Marya (Masha) is a 7 month old baby with a heart defect called Tetralogy of Fallot - this used to be called "Blue Baby" syndrome due to the frequency with which these babies can become cyanosed (blue lips) which is very distressing for the child and for the family.



The prevailing trend now is to have this defect repaired before 1 year of age - as the problems become much more pronounced once they begin to use energy and oxygen to run around. Masha was lucky, and now she has a good chance of a normal childhood - but will still require further surgery later in childhood.

Masha had some issues with stridor (sore throat caused by her breathing machine) less than 2 hours after she was discharged from the ICU. Masha is seen pictured in the position she felt most comfortable against a pillow.





# Cardiac Alliance Team

Dr. Wil-

	Surgeon	Tennessee, USA
	Perfusionist	London, UK
	Anesthesiologist	Minsk, Belarus
Robert Arnold	Cardiologist	Manchester, UK
Angela McLoyd	Respiratory Therapist	Georgia, USA
Pavel Shauchenka	Intensivist	Minsk, Belarus
Antonio Pires	Cardiologist	Porto, Portugal
Evgeni Suslin	Intensivist	Minsk, Belarus
Frank Molloy	PICU Nurse Specialist and Educator	London, UK
Mary Ann Lo	PICU Nurse	Vancouver, Canada
Heather Cooper	PICU Nurse	Georgia, USA
Lauren Walsh	PICU Nurse	New York, USA



# Three Core Principles of NCA



## COLLABORATE

NCA Picu Nurse, Mary Ann and local nurse, Nadia

## EDUCATE

Professor Bob Arnold teaching Dr. Elena to diagnose Dasha



## SUSTAIN

NCA PICU Nurse, Heather and Nadia







Thank You Gift of Life for your generous and continued support and for helping the children of Russia with congenital heart disease!





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[Cardiac-alliance.org](http://Cardiac-alliance.org)