



Novick Cardiac Alliance
Nizhny Novgorod, Russia
June 6—20, 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.

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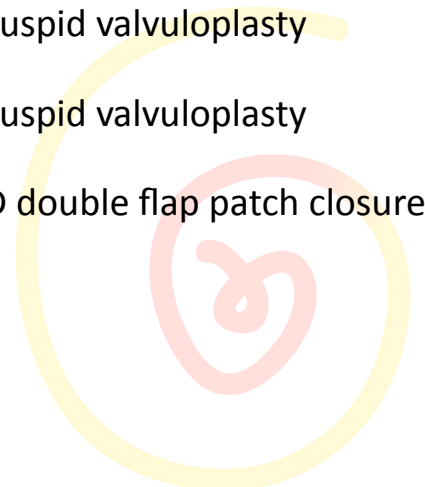


This is our second trip to the Specialized Cardio-surgical Clinical Hospital in Nizhny Novgorod, Russia. As this is a dedicated cardiac center, the local team regularly performs cardiac surgeries pediatric patients in need, as well as adult patients in need. Novick Cardiac Alliance was invited to assist the Nizhny Novgorod team in improving their skills to care for patients with more complex cardiac defects.

During our first week we performed seven operations on pediatric patients in need. In our second week, we performed six operations on four pediatric patients along with two adult patients. The two adult patients were refused surgeries by local teams because of the operation's risks, but under Dr. Novick and the team there surgeries were successful.

Patient List

1. Artem Sagin	4 months	Complete AVC repair, ASD patch closure, VSD patch closure, MV cleft repair, TV plasty
2. Alexander Kalinin	4 years	Complete AVC repair, MV cleft repair, PA Deband
3. Barbara Tatarinova	2 years	Bidirection Glenn
4. Dimitriy Patrunin	6 years	Resection of the coarctation with aortic anastomosis, Aortic Arch reconstruction
5. Denis Chrapunov	8 months	Bidirection Glenn, PA Band tightened
6. Vlodimir Sokolouski	4 years	VSD direct closure, repair of perforated aortic valve leaflet Tricuspid valvuloplasty
7. Vladislav Kulikov	8 years	Tricuspid valvuloplasty
8. Dimitriy Klodikov	31 years	VSD double flap patch closure



Patient List

9. Alexi Semenov	14 years	Mitral valvuloplasty with Ring
10. Anatoliy Kashin	24 years	VSD double flap patch closure
11. Nikolai Siseuv	4 years	LPA augmentation; recon- -struction of bifurcation of PA, insertion of 'Penza' 18 mm RV-PA valve conduit
12. Alina Ladseva	5 years	RVOT muscle resection, RVOT patch cormatrix
13. Vlada Koshlakova	2 months	Central Shunt



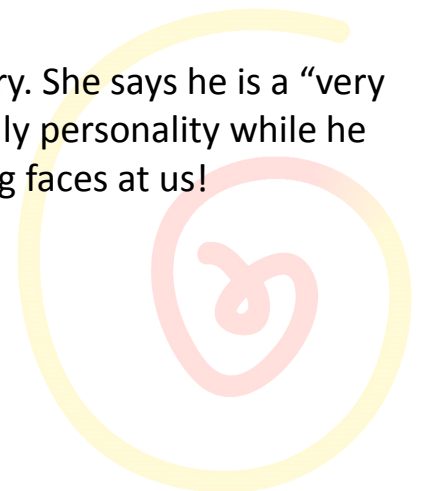
Alexander



Alex also has Down syndrome and an atrioventricular septal defect (AV canal). Alex lives with his parents and 1 year old brother in the town of Sekolska, 150 km from Nizhny Novgorod. At 1 month old Alex's mom, Svetlana brought him to the doctor to do specific testing to confirm down syndrome and at this time, the doctor also discovered a heart defect. He had a surgery at age 1 to place a band on his pulmonary artery so less blood would flow to his lungs through the big hole in his ventricles. Alex then had to wait for government approval of health insurance (Quota) to have his next surgery to completely repair his defect.

A few months ago, the doctors at the Nizhny Novgorod cardiac center told Svetlana to return in June because an international team was going to be coming and could do Alex's surgery then.

Svetlana is happy to see Alex recovering so well after surgery. She says he is a "very social and kind. He likes to hug everyone." We saw Alex's silly personality while he was playing on the ward, sticking his tongue out and making faces at us!



Artem Tuesday 9th June

Artem is a 4 month old boy with Downs syndrome and a heart defect called complete atrioventricular septal defect (AV canal). This is a common defect in children with Downs syndrome.

He is a sweet baby who often holds his hands together. Artem did great after surgery and was transferred to the pediatric ward just two days after surgery.



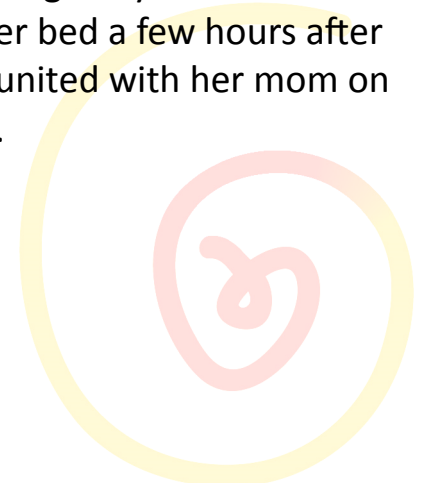
Barbara Wednesday 10th June

Barbara is a 2 year old girl with a rare heart defect called Epstein's anomaly of the tricuspid valve. This defect involves an abnormality of the tricuspid valve that can cause other problems with the right side of the heart as well as a few other places. She also has a ventricular septal defect and a atrial septal defect (holes in the heart).



She had a Glenn Shunt procedure done to allow her more blood that goes to her lungs. She did very well after surgery and had her breathing tube out an hour and a half after she returned from surgery and was out of the ICU in less than 24 hours!

She is a spunky little girl with long curly blonde hair that was ready to get out of her bed a few hours after surgery. She is now happily reunited with her mom on the intermediate cardiac floor.



Dmitriy (Dima)

Dima was born with hypoplastic aortic arch and coarctation of the aorta, meaning the main blood vessel (aorta) that supplies blood to the whole body had a large kink in it and the overall size of the vessel was too small to supply adequate blood to the body as he grew up. This defect is almost always repaired when the child is an infant, but Dima never had any problems from his heart defect so he never had surgery. His mother says he was diagnosed with a murmur as an infant but the doctors told them it would go away over time. Last year at a follow up cardiology appointment, the doctors discovered that his defect was getting worse as he grew and soon his heart would not work effectively to pump blood to his body.



Dima's cardiologist did a catheterization to get a better picture of his heart and afterwards told his parents that Dima would need surgery to repair his heart. The doctors explained that there are different ways to repair his heart defect and that they should return in the Cardiac Center in Nizhny to be evaluated by Dr Novick's team.

Dima's surgery involved cutting out the part of his aorta that was kinked and reconstructing his aortic arch to make it larger, so that he will get enough blood to the rest of his body. Dima did great after surgery. His breathing tube was taken out about one hour after surgery and he was walking around the ICU less than 24 hours after his surgery. Two days after surgery he was discharged from the ICU.

Denis Thursday 11th June

Denis is an 8 month old boy with a defect called transposition of the great arteries with single ventricle physiology. In this defect, the big vessels in the heart (aorta and pulmonary artery) are on the opposite sides they should be on. He also has a very large ventricular septal defect (hole in the heart), so large that Denis truly only has one ventricle instead of two. The typical surgery for transposition would be to switch the vessels to the correct place in the heart, but in Denis's case, with having a single ventricle, surgeon's decided that switching the vessels would not be a good option.

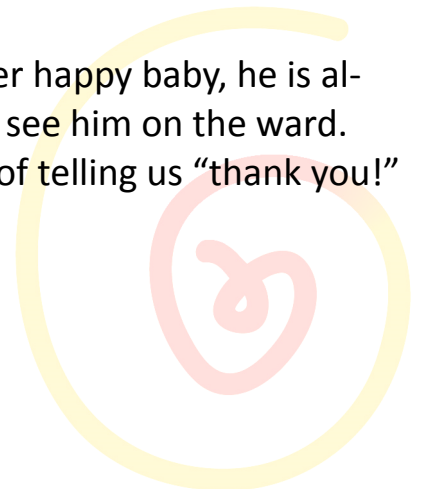


He had his first surgery during NCA's first trip to Nizhny! At this time, surgeons placed a pulmonary artery band on his main pulmonary artery to restrict blood flow to the lungs and allow more oxygenated blood to go to his body. He recovered well and came back this trip for his next surgery. This time he had a Glen shunt procedure to receive more pulmonary blood flow and a tightening of his pulmonary artery band.



He did very well and had his breathing tube out within an hour after arrival to the ICU and was letting us know how hungry he really was within minutes! He is a cute little guy with a good set of lungs!

Denis continues to be a super happy baby, he is always smiling when we go to see him on the ward. His mother says it's his way of telling us "thank you!"



Vladimir 4 years old male

Vladimir is a four year old boy. When he was an infant, Vladimir was hospitalized with a lung infection and his doctors found that he had a ventricular septal defect (hole in the heart). He had a surgery to repair it in January of 2014. He seemed to be doing well after the surgery, and was enjoying playing at home with his older sister, dogs, and cats. However, in April of 2015, he had a follow-up visit and his doctors discovered a residual VSD (he still had a small hole in between the ventricles). Vladimir's parents were told that the Cardiac Alliance would be coming to the hospital in June, and the family planned to return to the hospital at that time.



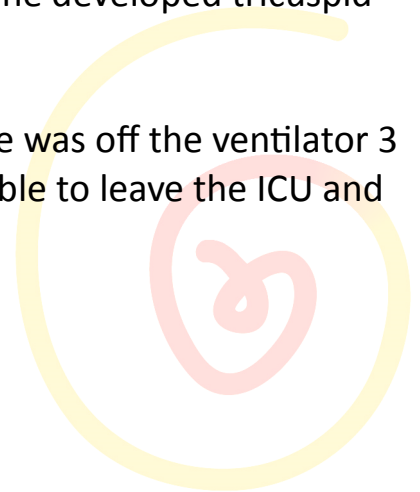
On June 11th, 2015 he received the necessary repairs to his heart and had his breathing tube removed about an hour after his arrival to the ICU. He likes playing with toy cars. When the Cardiac Alliance team visited him on the ward a few days after his surgery, he was laughing as he flipped his toy car over and yelled, "Uh-oh! Car crash! Car crash!"

Vladislav Friday 12th June



Vlad is a quiet 8 year old boy who had an atrial septal defect and ventricular septal defect that was previously closed. Over the years, he developed tricuspid valve insufficiency.

His surgery went great and he was off the ventilator 3 hours afterwards. Vlad was able to leave the ICU and go to the ward the next day!



Dmitriy Monday 15th June

Dmitriy is an adult who was born with a congenital heart defect in 1984. He has a ventricular septal defect (VSD), which was actually originally repaired in 1989 at this same cardiac center in Nizhny Novgorod. Over the years, his VSD redeveloped without him knowing. A few years ago, Dmitriy started getting more shortness of breath with normal activity and went to see a cardiologist. This is when the residual VSD was detected. Since he had this hole remaining in his heart for many years, he started getting too much blood flow to his lungs and he developed a disorder called pulmonary hypertension (high blood pressure in the lungs). This can lead to irreversible lung damage if not treated. He was placed on medications to help with the symptoms of pulmonary hypertension, but the only way to truly prevent the irreversible lung damage would be to close the hole (VSD) in his heart. Many times after surgery is done to close the VSD, the blood pressure in the lungs returns to normal. Sometimes it still remains higher than normal, making it harder for the heart to pump. In rare cases, the pressure may be too high and surgery becomes risky.

In Dmitriy's case, surgeons in Russia refused to perform the surgery needed to close the hole because they deemed it too risky because the blood pressure in his lungs was too high, even with medications. The cardiologists at the Nizhny Novgorod Cardiac Center knew that Dr. Novick has experience with this type of heart defect and pulmonary hypertension in patients, and presented Dmitriy for an echo on our first day of the trip. It's true that Dmitriy's pulmonary hypertension was quite severe, but Dr. Novick had a plan. He would teach the local surgeons how to close the hole in Dmitriy's heart using a technique called the "double flap patch." This type of patch would allow a "pop-off-valve" should the pressure in Dmitriy's lungs rise too high, allowing the pressure to release through the a valve in the specially designed patch.



Alexi Tuesday 16th June

Alex is a 14 year old boy who is in ninth grade. At a routine physical exam prior to starting school at age 6, Alex's heart defect was discovered. He has mitral valve insufficiency which means the valve located between his left atrium and ventricle does not function properly; therefore, allowing blood to flow backward in his heart. As a result, blood can't move through his heart or the rest of his body as efficiently, making him feel tired or out of breath.

In the operating room, surgeons discovered that Alex's mitral valve was worse than originally diagnosed from echo. His surgery took longer than expected, but he healed quickly in the ICU. His breathing tube was taken out 15 hours after surgery and he was asking to get out of bed and walk around 12 hours later. He was discharged to the ward less than 48 hours after surgery and was happy to be reunited with his friends Dima and Vlad, who he shared a room with prior to surgery.

When asked he was afraid of surgery, Alex's response was "I'm not afraid." He says he often gets tired and headaches. After coming to the hospital once a year to get an echo to monitor his heart, he understands that surgery will help him feel better. Alex told us that he enjoys watching movies and wants to ride a motorcycle when he grows up.



Cardiac Alliance Team

Dr. William Novick	Surgeon	Tennessee, USA
Elena Rabushko	Perfusionist	Minsk, Belarus
Sergey Liauchonak	Anesthesiologist	Ontario, Canada
Pavel Shauchenka	Intensivist	Minsk, Belarus
Antonino Firsova	Intensivist	Minsk, Belarus
Roslyn Rivera	PICU Nurse/Educator	California, USA
Jo Castanares	PICU Nurse	California, USA
Lacey Holevis	PICU Nurse	Washington, USA
Nina Hertsouskaya	PICU Nurse	Minsk, Belarus
Leila Appel	Medical Student	Tennessee, USA
Anna Kushnir	Medical Student	Tennessee, USA



Three Core Principles of NCA



COLLABORATE

Tonya and Lacey working with Sergey

EDUCATE

Dr. Novick instructing the team



SUSTAIN

The team goes over post operation procedures





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





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