As one of the largest pediatric health systems in the nation, Nemours has made a promise to do whatever it takes to prevent and treat childhood illnesses and injury, from the most common to the most complex. Every day at Nemours, pediatric specialists, researchers and educators work together with our patients, their families, our physician partners, schools and communities to fulfill that promise.

Established in 1936 as a legacy of American industrialist and philanthropist Alfred I. duPont, Nemours cares for more than a quarter of a million children annually at its operations in Delaware, Pennsylvania, New Jersey, Maryland and Florida, treating children from across the nation and around the world. At Nemours, we are dedicated to achieving the highest standards and best outcomes for the children we serve. We begin by caring for children as if they were our own. For more than 70 years, this has been the Nemours Way.
A Specialized Center of Clinical Excellence

At Nemours Cardiac Center, we provide comprehensive pediatric cardiovascular care for children with the simplest to the most complex conditions in a family-supported environment. Our outcomes and quality measures are among the best in the nation, giving children and infants with congenital and acquired heart conditions the best chance for a long and fulfilling life.

What truly sets us apart is our personal approach to care. We recognize that you and your child will experience challenges as you embark on this unexpected journey. We will be with you every step of the way, helping you understand and cope with your child’s diagnosis and treatment. In addition to caring for your child's medical needs, we assist you with all the complexities involved in caring for your child.

The Nemours Cardiac Center team treats all cardiac conditions that occur in children, including:

- heart murmurs, cyanosis (blue skin coloration), and other problems related to congenital heart disease in newborns
- abnormal structure of the heart or large blood vessels discovered in infants, children and teenagers
- heart failure due to infection, an inherited condition or other causes
- chest pain, fainting, palpitations or abnormal heart rhythms
- high blood pressure and high cholesterol

The Cardiac Center Team

Everyone in Nemours Cardiac Center works as part of a team that specializes in children with heart problems. Many have worked together since the Cardiac Center opened. You and your child also have access to more than 30 other medical and surgical specialties at Nemours/Alfred I. duPont Hospital for Children in Wilmington, Delaware.

- Board-certified pediatric cardiologists, cardiothoracic surgeons, anesthesiologists, and critical care physicians lead the Cardiac Center team which also includes physician assistants and advanced practice nurses.
- Experienced and specialized Cardiac Center nurses, technicians, nutritionists, therapists, social workers, clinical psychologist, genetic counselor, pharmacists, child life specialists, educators and researchers contribute to the care of children in our inpatient and outpatient units and assist families in many ways.
- Our team works solely in the Cardiac Center, allowing for instantaneous communication, collaboration and rapid coordination of care for our patients.
- Nemours cardiologists, cardiothoracic surgeons, critical care physicians and anesthesiologists are members of the faculty at Thomas Jefferson University, Philadelphia; they publish frequently in professional journals and participate in national and international medical meetings.
Quality of Care

We know that getting superb care for your child is your top priority. Nemours and Nemours Cardiac Center are consistently recognized for quality and outcomes.

- Congenital heart surgery outcomes at Nemours Cardiac Center are comparable to those achieved by more than 100 top specialty centers that participate in the Society of Thoracic Surgeons Congenital Heart Surgery Database.
- Survival for newborns and infants who undergo surgery at the Cardiac Center exceeds national rates predicted by the Society of Thoracic Surgeons Congenital Heart Surgery Database.
- Cardiac Center cardiologists have reduced the X-ray time of electrophysiology procedures to less than five minutes in most cases, significantly below the national average.
- Cardiology and cardiac surgery at duPont Hospital for Children were ranked among the nation’s best by U.S. News & World Report for 2012-2013.
- The Leapfrog Group has named duPont Hospital for Children one of 12 Leapfrog Top Children’s Hospitals in the country for patient safety and quality for 2012. The hospital was selected as a Top Hospital out of nearly 1,200 hospitals participating in The Leapfrog Group’s annual survey.
- Nemours patient families consistently say they would recommend both the physicians and care at Nemours Cardiac Center according to Press Ganey patient satisfaction surveys.

Research

Nemours Cardiac Center is always looking for new and better ways to care for children with heart problems, and to prevent problems from happening in the first place. We are actively engaged in prevention and treatment research.

- Nemours Cardiac Center was selected to participate in the Pediatric Heart Network, created in 2001 by the National Heart, Lung and Blood Institute to improve outcomes and quality of life for children with heart disease.

“Nemours Cardiac Center was wonderful. Everyone on the team was very professional and focused on making sure we had a good experience. We highly recommend Nemours to everyone.”

—Marilyn, Dalton’s mother
Dalton began experiencing tachycardia, an abnormally fast heartbeat, at age 8, but it wasn’t until he was 14 that it was captured on a mobile heart monitor and he was referred to Nemours Cardiac Center. The cardiologist recommended cardiac ablation for Dalton, a procedure in which small areas of the heart that cause the abnormal rhythm (arrhythmia) are destroyed. An Electrophysiologist used computer-based technology to display a 3-D model of Dalton’s heart and electrical information that enabled him to locate anatomical landmarks, visualize the pattern of the arrhythmia and place catheters into blood vessels. The catheters were then used to deliver extreme heat to eliminate the source of the irregular heartbeat. Dalton’s successful ablation has cured the arrhythmia, and now at age 16 he is free to enjoy life with no restrictions. His passions include surfing and hunting.
Services Available for You and Your Child
Prenatal Diagnosis and Care Coordination

Fetal cardiology specialists from Nemours Cardiac Center can detect pediatric heart conditions as early as the fourth month of pregnancy. Families who learn their unborn child may have a heart condition are thus able to seek out the best medical options for their baby and prepare themselves emotionally.

When a fetal abnormality is detected, the Nemours Partners for Perinatal Management Program coordinates care to achieve the best possible outcome. If desired, we will arrange a visit to Nemours Cardiac Center for parents to tour the center and meet the staff. We communicate with the mother’s obstetrician and perinatologist, who continue to oversee her care. Most women can deliver in their community hospital, close to family and friends. The Nemours transport team and Cardiac Intensive Care Unit team are ready to transport and care for the baby if needed after delivery. In selected cases, the mother will deliver at duPont Hospital for Children so the Cardiac Center team can care for her baby immediately after birth.

Cardiac Catheterization

In cardiac catheterization, doctors insert long, thin tubes (catheters) through large blood vessels into the heart. We use this method to diagnose and often treat heart conditions in infancy through adolescence with a combination of dye injection, pressure measurement and X-rays. Our catheterization lab is designed specifically to allow cardiologists, cardiac surgeons, anesthesiologists, and nurses to work side by side and perform complicated combined catheterization and surgical procedures. Many of the procedures performed in this specialized catheterization lab would otherwise require open-heart surgery using a heart-lung machine.

Cardiac Imaging (Echo, MRI and CT scanning)

In order to make the best treatment decisions, doctors need an accurate understanding of the structure and function of a child’s heart. Cardiac Center cardiologists use echocardiography, cardiac MRI, and CT scanning to obtain this information. These tests require children to lie very still – not usually a problem for teens and school-aged children, especially when distracted by a favorite video or game. Babies and younger children often need a sedative medication or anesthesia to enable us to obtain the best pictures of their heart. Cardiac Center anesthesiologists and nurses who understand the child’s heart problem are experts in providing safe and effective anesthesia or sedation for these tests when necessary.

Comprehensive Treatment for Abnormal Heart Rhythms

Nemours Cardiac Center doctors diagnose and manage children with all heart rhythm disturbances. In some instances this may involve a specialized medication to control an abnormal rhythm until a child outgrows it. In other cases, tests such as an electrophysiology study (stimulation and mapping of the heart’s electric pathways) and radiofrequency ablation (heat) or cryoablation (cold) are used to diagnose a rhythm and permanently cure it.

Cardiac Center cardiologists and surgeons are experienced in inserting pacemakers and implantable defibrillators to provide a safety net for children with life-threatening heart rhythm disorders. Our cardiologists use studies such as EKG and mobile heart monitoring to evaluate children with fainting, chest pain and palpitations.
Cardiothoracic Surgery and Anesthesiology

Surgery is the best option for most forms of congenital heart disease and many heart problems that develop later in childhood. Cardiothoracic surgeons at Nemours Cardiac Center offer surgical repair for virtually all heart defects – even the most complex – in children of all ages. We can correct many heart problems with a single operation in early infancy. More complex abnormalities may require a series of two or three operations.

Appropriate anesthesia care is critical for infants and children undergoing cardiac surgery and certain diagnostic procedures. Nemours Cardiac Center has its own team of anesthesiologists with the special knowledge and experience to care for cardiac patients. Our anesthesiologists become familiar with children and families who have multiple visits, enabling them to determine which medications and strategies work best for each child.

Cardiac Transplantation

Some children may need a heart transplant, which requires a long-term commitment from the family and the medical care team. Nemours Cardiac Center has the resources to support transplant recipients in the short and long-term.

Our cardiologists and cardiac surgeons lead a team including anesthesiologists, critical care physicians, advanced practice nurses, physician assistants, pharmacists, physical and occupational therapists, nutritionists, social workers, and child life specialists who provide expert care for children and their families before, during and after heart transplantation. Our transplant coordinator provides ongoing personal support to transplant patients and their families.

Nemours Cardiac Center specialists are experienced with using ventricular assist devices (VADs) for mechanical circulatory support to patients with problems of the right or left ventricle, or in some cases, both ventricles. VADs, which can be in place for months if necessary, often are used as a bridge to heart transplantation and in some circumstances can be used as a bridge to heart recovery.

Psychological and Neurodevelopmental Assessment

Infants and young children who need surgery, intensive therapy and long hospitalization may have short-term or long-term delays in achieving the usual milestones for their age. The Cardiac Center has a full-time psychologist available to help identify children who may experience developmental delays, ADHD, or learning disabilities as a result of a serious heart condition or its treatment. Early intervention can prevent long-term problems.

Preventive Cardiology

Prevention of cardiovascular disease in children and adolescents is much preferred to treatment. Nemours Cardiac Center cardiologists perform thorough cardiovascular evaluations for children with risk factors including overweight and obesity, high blood pressure, diabetes and high cholesterol. Recommendations may include diet, exercise and lifestyle changes to reduce a child’s risk for future cardiovascular disease. We have specialists available to help parents put these recommendations into practice.

“The doctors at Nemours Cardiac Center are not only incredibly skilled, they have a personal touch that comes from within. To them, Miracle was not a number, a bed in the Cardiac Intensive Care Unit or an insurance card. They always made us feel that she was important to them, and welcomed us with open arms at every visit.”

–Yolanda, Miracle’s mother
Miracle was born a month early with an atrial septal defect, an opening between the upper chambers of her heart. Surgeons in New York, where she lived at the time, performed open heart surgery to correct the defect and implanted a pacemaker. Miracle’s family moved to Delaware when she was 7, and began regular trips to Nemours Cardiac Center for follow-up visits that included EKGs, echocardiograms, pacemaker checks and other tests to monitor her heart. She has had two surgeries at Nemours Cardiac Center, one to replace a faulty heart valve and the other to attach new pacemaker leads. She recently underwent a cardiac catheterization procedure to place a stent. Now age 11, Miracle is living up to her name. She is on the cheerleading squad and thinking about becoming a doctor someday.
Genetic Counseling

Many cardiac conditions are caused, at least in part, by changes in genes that are important for the heart to develop and function normally. Nemours Cardiac Center’s certified genetic counselor offers counseling to our patients and families when the cause of a cardiac condition may have a genetic component. Providing further insight into the genetic cause of a condition frequently benefits the immediate and extended family as well as the patient.

We analyze your family history, test for various cardiac conditions at laboratories that are leaders in cardiac genetics, and counsel you related to inheritance and the implications of a positive genetic test result for your child and the entire family.

Inpatient Care

Infants, children and teenagers who are hospitalized with heart problems require and receive care by pediatric cardiologists or critical care doctors who are assisted by Cardiac Center physician assistants and advanced practice nurses. Nurses and respiratory care practitioners working exclusively with heart patients have expertise and routines that strive for uniformly high-quality care. They also use their accumulated experience to anticipate your child’s needs and provide expert, compassionate care for you and your child.

The Cardiac Center is designed so that all inpatient care areas – including cardiac operating suites – are in close proximity and used exclusively for cardiac patients. This arrangement allows for smooth transfers of patients from one care area to another, ready communication between care teams, and easy navigation by families who are rooming in the Cardiac Center. Family members and caregivers spend a lot of time together in the Cardiac Center, and our patients and families often tell us how our nurses, doctors and other staff quickly became like family to them.

“We were extremely worried about how everything would go, but the Cardiac Center treated us very well. They were very concerned for Alexander’s well being. Now he has no limitations and is able to do everything his brothers do.”

– Mario, Alexander’s father
Alexander and his twin brother Alex had a normal birth and appeared healthy when they went for their first pediatrician visit less than two weeks later. When Alexander’s doctor detected a heart murmur, he was immediately referred to Nemours Cardiac Center. An echocardiogram led to a diagnosis of Tetralogy of Fallot (TOF). Children with TOF have a narrowing under the pulmonary valve; a thickened right ventricle; a hole between the lower chambers; and an aorta that can receive blood from both the left and right ventricles, instead of from just the left. While children with TOF often appear bluish, this was not the case with Alexander. None the less, he would need surgery to repair the defect. Doctors at Nemours Cardiac Center monitored Alexander’s condition carefully, and performed surgery to repair the hole and relieve the obstruction when he was 2 months old. Now, at almost 4 years old, he is not only keeping up with his twin, he is keeping up with older twin brothers Bryan and Eric.
Family Support
Caring for a child with a heart problem can be very stressful for families. We strive to make this undertaking as easy as possible by offering accommodations and support for you and your child that make your stay as comfortable as possible. We address your physical, emotional, spiritual and social needs so you can focus on helping your child get well.

Families who have walked in your shoes may be a source of comfort and information. We can put you in touch with others who are willing to share their experiences with you.

Child Life and Creative Arts Therapy Program

The Child Life and Creative Arts Therapy program helps to normalize the hospital environment by addressing the emotional, psychosocial and developmental needs your child and family may have throughout hospitalization. Child Life promotes effective coping through play, self-expression activities, and age-appropriate medical preparation and education. The Child Life Activity Center is available to you and your family free of charge and is located on the third floor of the hospital between the north and south elevators. The Activity Center is maintained by Child Life technicians and volunteers and provides a safe environment for children to play, free of medical staff and procedures.

Private Family Rooms

Private rooms with sleeping accommodations for two adults, allow you to remain at your child’s inpatient unit bedside and close by while he or she is in intensive care. Our family-friendly rooms include a private bathroom, bulletin board, telephone, TV and DVD player.

Made-to-Order Meals

Made-to-order meal choices for your child and optional meal orders for family members are provided anytime.

Family Resource Center

The Family Resource Center offers a quiet and comfortable place for you to seek relaxation, information and education. Open 24 hours, the center has laundry facilities, a visitor playroom, a kitchen, and a business center with a copier, fax machine, computers and printers.

Online Services

Multiple online services include:
- free wireless Internet access
- MyNemours, offering selected access to your child’s health records
- patient and family education through KidsHealth and EmmiKids™
- the GetWellNetwork, an interactive education, entertainment and communication television network
- CaringBridge, a free Internet service for families to easily share information and accept well-wishes from family and friends
Pastoral Care

Our pastoral care team offers spiritual and emotional care for you, your child and your family, or they can connect you with a faith leader of your choice. A nondenominational chapel open 24/7 is located on the first floor of the hospital near the gift shop and cafeteria. Worship services take place in the chapel several times each week, and it is available for respite, prayer, quiet meditation, and reflection for people of all faiths.

Ronald McDonald House

Ronald McDonald House of Delaware, with 50 guest rooms and amenities for additional family members, is located directly across the street. This very affordable “home away from home” provides a safe, comfortable environment where families can interact, receive support and comfort to one another. Visit www.rmhde.org for more information.

Financial Counseling and Social Work

Nemours Cardiac Center accepts most major health plans as well as Delaware and out-of-state Medicaid. Our staff works with health plans that are contracted to pay for the care provided at Nemours Cardiac Center. Additionally, qualifying patients can apply for financial support through the Nemours Foundation. Our social workers can assist you with finding financial resources as well as connecting you with community and hospital resources for any of your needs.

Free Valet Parking

Free parking and valet service are provided to all patients.

Cardiac Family Advisory Council

The Nemours Cardiac Center Family Advisory Council is a diverse group of parents, families and Nemours Associates dedicated to improving the quality of care for our patients and families. If you would be interested in participating in the work of the Family Advisory Council, please let the Director of Cardiac Nursing know.

Electronic Health Records

Nemours is an acknowledged leader in the use of computer technology to store health information.

- Nemours is among the elite one percent of U.S. hospitals to have implemented the electronic health record (EHR) and receive the Healthcare Information and Management Systems Society Stage 7 Award in 2011 for reaching the highest level of EHR adoption.
- Nemours physicians can view records from anywhere through a virtually paperless, efficient system that respects confidentiality and protects privacy.
- Nemours’ EHR makes past medical history – including test results, medications, and allergies – immediately available to physicians and other providers, decreasing the chance for error and duplication of tests.

“I never thought I would be capable of caring for a child with medical needs, but we are ok. When this little girl who might have died says, ‘I love you mommy,’ you realize how much she has touched so many lives.”

– Toni, Ahsya’s mother
Ahsya’s Story
BRIDGEVILLE, DELAWARE

Ahsya came into Toni and Brad’s life as a foster child when she was 1 day old, joining the couple’s three teenage boys. It soon became apparent that Ahsya had a serious heart problem, and they worried she might not live. She suffered from left ventricular noncompaction cardiomyopathy, a rare genetic disorder in which the wall of the heart’s left ventricle doesn’t completely develop, leaving it with a spongy appearance and diminished pumping ability. She spent many days in Nemours Cardiac Center, and when her condition could no longer be managed with medications, she was listed for transplant. Toni and Brad realized how much Ahsya needed them, and began the process of adoption. The adoption came through five days before her transplant.

“We spent five months in the Cardiac Center. The nurses took such good care of Ahsya and our whole family that I knew she was in good hands if I had to leave. Now she is entering the wonderful ‘terrible twos’ and we realize what a miracle she is. She makes us laugh every day,” Toni says.
Nemours Kids Transport

If your child needs to be transported from another hospital to Nemours Cardiac Center, the Nemours Kids Transport program will get patients here quickly and safely. Our mobile intensive care units provide 24/7 air or ground transportation with an onboard team of pediatric critical care transport specialists who consult with cardiac specialists before and during transport.

Caring for Children Throughout the Region

Children come to Nemours Cardiac Center from Delaware, Pennsylvania, New Jersey, Maryland, and other parts of the country and the world. We provide cardiac evaluations and inpatient and outpatient services at Nemours Cardiac Center at duPont Hospital for Children. Cardiac evaluations and outpatient care also are available at offices throughout the Delaware Valley.

Nemours Cardiac Center collaborates with many of the region’s hospitals and health systems to provide high-quality services to a greater number of children and families in their own communities. Nemours cardiologists are on call 24/7 for newborn, inpatient and emergency consultations at these locations.

For a complete listing of our collaborative locations as well as our network of outpatient Nemours duPont Pediatrics locations, visit Nemours.org.

“It made such a difference to be with Michael 24/7. We stayed in his room and had our own bed and shower. The nurses brought him treats sometimes, and made a cake and decorated his room for his 17th birthday. They dressed up with him for Halloween, and one night they dressed up his IV pole while he was sleeping. They made us feel so special.”

– MaryJane, Michael’s mother

Making an Appointment

In order to simplify your experience, we offer a single phone number for appointments and a streamlined check-in and check-out process, including pre-registration designed to minimize wait time.

To schedule an appointment with a pediatric cardiologist at Nemours/Alfred I. duPont Hospital for Children, call (800) 416-4441.
Michael was 6 weeks old when he was diagnosed with aortic stenosis, a condition in which the aortic valve is stiffened and narrowed. He underwent a catheterization at another hospital. He had surgery to replace faulty valves at age 4 and again at age 14. Michael was 16 when he came to Nemours Cardiac Center shortly after an embolism led to two strokes. He also had developed a fungal infection in his heart. Michael was treated for 47 days in Nemours Cardiac Center, and sent home with a peripherally inserted central catheter (PICC). The infection returned and he was back after 46 days undergoing surgery to remove the infected heart tissue shortly after his 17th birthday. Michael is now 21, working part-time while attending school. He is moving toward a career designing video games. “The whole Cardiac Center is awesome. They talked and joked with me, played cards and helped me with homework. It really helped,” Michael says.
Nemours/Alfred I. duPont Hospital for Children

Nemours/Alfred I. duPont Hospital for Children in Wilmington, Delaware, is part of a fully integrated system of care. Nestled among 300 acres of beautifully landscaped gardens, lush lawns and fresh air, our teaching hospital provides all the specialties of pediatric medicine, surgery and dentistry in a welcoming environment.

Offering inpatient and outpatient services covering more than 30 pediatric specialties, duPont Hospital for Children is known for programs in blood and bone marrow transplantation, cardiology and cardiac surgery, genetics, orthopedics, and solid organ transplantation.

We are academically affiliated with Thomas Jefferson University and the University of Delaware, and have the only Pediatric Trauma Center in Delaware.

Building a Healthier Future for Children

Opening in 2014, our expansion will create an environment to promote physical, emotional and spiritual healing. From the five-story atrium entrance to the interactive Discovery Zone to “nursing neighborhoods,” we are creating a children’s hospital like no other in the region. The expansion includes additional capacity in the Cardiac Intensive Care Unit as well as the intermediate care unit. For more information, visit Nemours.org/expansion.
“We try to make the experience for families dealing with the stress of congenital heart disease as easy and unencumbered as possible. We challenge ourselves every day to find innovative solutions and improve outcomes and to help families with the emotional, financial and social aspects of heart disease.”

– Christian Pizarro, MD  
Director of Nemours Cardiac Center and  
Chief of Cardiothoracic Surgery

“Our integrated model combines all critical cardiac disciplines into one department, creating very high-quality care with a very clear mission. Everyone in the Cardiac Center wakes up in the morning and goes to sleep at night thinking about the best way to care for children with heart problems.”

– Samuel S. Gidding, MD  
Chief of Cardiology and Director of  
Cardiac Outreach Programs
Nemours/Alfred I. duPont Hospital for Children has once again been ranked among the nation’s best in pediatric specialty care by U.S. News & World Report, with rankings in cancer, cardiology and heart surgery, gastroenterology, neonatology, nephrology, neurology and neurosurgery, orthopedics, pulmonology and urology.

Eleven Nemours Cardiac Center physicians were named Best Doctors in America® 2013-2014. A total of 159 physicians from Nemours across all specialty areas were named Best Doctors in America® 2013-14.

Parents, teens, and children can learn more about cardiac and other issues affecting children at KidsHealth.org, the world’s most visited website devoted to children’s health.

We encourage health care providers and parents to contact us to learn more about our cardiovascular care and services. Please call Nemours Cardiac Center at (302) 651-6600 or visit Nemours.org/cardiaccenter.