

Scientific Discovery

- The American Heart Association and American Stroke Association (AHA/ASA) is committed to supporting cutting-edge science and building research careers that impact every aspect of CVD and stroke prevention and treatment, including pediatrics.
- As the largest private funder of cardiovascular disease and stroke research, AHA/ASA invested \$152.5 million to fund 882 new awards in 2016-2017, and has funded \$4.1 billion in research since 1949.
- Many of these awards fund research projects aimed at determining how the heart develops before birth and how congenital heart defects develop, and maintaining heart health in children.
- Additional basic science, clinical, and translational research funded by AHA/ASA can ultimately be applied to congenital and acquired heart and blood vessel diseases that affect children.

Scientific Councils, Statements and Guidelines and Lifelong Learning

AHA/ASA's 16 scientific councils are made up of science and research professionals who actively support our mission through research, education and advocacy. The councils help to develop AHA statements and guidelines and organize scientific meetings and conferences. The Council on Cardiovascular Disease in the Young is focused on pediatric scientific issues.

The AHA/ASA publishes medical scientific statements on various cardiovascular disease and stroke topics written by volunteer scientists and healthcare professionals. The statements are supported by scientific evidence, have a rigorous review and approval process, and are published in recognized journals. Scientific statements generally include a review of data available on a specific subject, an evaluation on its relationship to overall cardiovascular disease science, and often an AHA/ASA position based on that evaluation.

Since 1995, 51 statements have been published relative to pediatric cardiology issues such as disease risk factors, neurodevelopmental outcomes, and diagnostic issues.

In addition to funding research awards, AHA/ASA facilitates scientific conferences and symposia to update the understanding of anatomy, diagnosis, and medical and surgical management of pediatric heart disease.

Cardiovascular Development and Pediatric Research Science Categories

-- Recently-funded pediatric-related projects fall in the following AHA science categories:

Cardiovascular Development — Basic Science

- Angiogenesis—Vasculogenesis
- Animal Models of Cardiovascular Development
- Bioinformatics-Systems Biology
- Cardiovascular Cell Fate: Lineage and Differentiation
- Cardiovascular Congenital Malformations
- Cardiovascular Molecular Signaling Pathways During Development
- Cardiovascular Morphogenesis
- Developmental Bioengineering
- Epicardium
- Gene Regulation
- Genomics and Genetics of Cardiovascular Development
- Mammalian and non-mammalian models
- Pediatric Cardiovascular Disease
- Stem Cells — iPS Cells — Regenerative Science
- Valve Development and Morphogenesis

Cardiovascular Development — Clinical

- Cardiac Imaging
- Cardiovascular Congenital Malformations
- Clinical outcomes
- Epidemiology
- Genomics and Genetics of Cardiovascular Development
- Heart Failure
- Molecular Signaling Pathways and Gene Regulation
- Pediatric Cardiovascular Disease
- Prevention and Management

Clinical and Population Science Topics:

- Behavioral Science (Prevention/Intervention)
- Cardiac Arrest/Resuscitation
- Genomics and Translational Biology
- Observational/Epidemiology
- Outcomes

Congenital Heart Disease Resources

Written by experts in Cardiovascular Disease in the Young for the AHA website: [Adults with Congenital Heart Defects Web Booklet](#) and [If Your Child Has a Congenital Heart Defect Web Booklet](#).

Pediatric Research Milestones

1944 – Dr. Helen B. Taussig establishes the field of pediatric cardiology. She developed the concept for a procedure that would extend the lives of children born with Tetralogy of Fallot (blue baby syndrome). This concept led to the Blalock-Taussig shunt, a procedure developed by Dr. Alfred Blalock and Vivien Thomas, who were Taussig's colleagues at The Johns Hopkins Hospital. AHA supported Taussig with a 1973 Grant-in-Aid, "Follow-Up Patients with Tetralogy Of Fallot."

1966 – Pediatric cardiologist Dr. William Rashkind at the Children's Hospital of Philadelphia, along with Dr. William Miller, develops balloon atrial septostomy, a lifesaving technique and device for neonates with transposition of the great arteries. A father of interventional catheterization, Rashkind also created devices to close atrial septal defects and persistent patent ductus arteriosus. A longtime AHA volunteer, he received a 1983 Grant-in-Aid titled, "Transcatheter Treatment of Congenital Heart Disease."

1986 – Dr. Craig Lillehei receives a Midwest Affiliate Fellowship, "Ventricular Function During Cardiac Allograft Rejection." As an attending surgeon, he later worked with technology pioneer Redmond Burke to perform the first three pediatric heart-lung transplantations in New England, with the help of colleagues from Brigham and Women's Hospital including Malcolm Decamp and Sari Aranki.

1990 – The FDA approves Exosurf Neonatal to treat respiratory distress syndrome, a life-threatening condition for premature infants with heart and lung defects. The drug is developed by AHA career investigator Dr. John Clements.

2010 — Donna M. Ferriero, MD, Professor of Neurology and Pediatrics and Director of Child Neurology at the University of California, San Francisco, receives the American Stroke Association's highest honor, The Thomas Willis Award for groundbreaking work detailing the molecular and cellular mechanisms of hypoxic-ischemic injury in the developing brain. Her accomplishments in the laboratory are matched by an equally inspiring body of work translating those advances to the clinical realm, including key roles in the success of the first trial of hypothermia for neonatal brain injury, the first multicenter randomized clinical trial of a neuroprotective intervention in childhood ischemic brain injury, and major contributions in neuroimaging and clinical pathophysiology of neonatal brain injury.

2014 – The Children's Heart Foundation (CHF) partners with the American Heart Association to establish the AHA/CHF Congenital Heart Defect Research Awards. A total of \$22.5 million will be awarded from through June 2021 to support investigators who are actively conducting basic, clinical, population or translational research directly related to congenital heart defects.

2017 – AHA establishes [Strategically Focused Pediatric Research Network](#). Comprised of investigative teams from Children's National Health System, University of Utah, Northwestern University, and Duke University Medical School. Investigators will use the nearly \$15 million award to collaborate over four years to [study](#) pressing questions about childhood obesity, maintaining ideal heart health, congenital heart disease and rheumatic heart disease.

The American Heart Association is working to help kids and families live heart-healthy lives. Many exciting resources can be found at

http://www.heart.org/HEARTORG/GettingHealthy/HealthierKids/Healthier-Kids_UCM_304156_SubHomePage.jsp



<p>Our Kids' Programs - Find out what we're doing to improve children's health and create a nation of healthier kids.</p>	<p>Childhood Obesity - As a parent, you want the best for your child. Every parent does. And we can help.</p>
<p>Activities for Kids Join the American Heart Association as we strive to teach kids the importance of staying active and eating healthy. Help your child live a stronger, healthier life with some of these programs and activities.</p>	<p>Simple Cooking with Heart™ for Kids - We've created this demonstration guide with kid-friendly recipes to spark young people's interest in food, cooking and health.</p>
<p>Life's Simple 7™ for Kids - Life's Simple 7 for kids was developed to help you understand how your lifestyle affects your heart so that you can make small heart-healthy choices every day.. Learn more by exploring the articles in this section.</p>	<p>How to Make a Healthy Home - Parents and caregivers are essential decision-makers when it comes to the nutrition, physical activity and health needs of their children. Help your child develop healthy habits for lifelong benefits.</p>