American Heart Association.

RESEARCH

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AHA and Pediatric Research

Scientific Discovery

The American Heart Association is a relentless force for a world of longer, healthier lives! We are committed to supporting innovative science and building research careers that impact disease prevention and treatment, including pediatrics.

- As the largest non-profit funder of cardiovascular disease and stroke research outside of the federal government, the AHA invested $157.9 million to fund 690 new awards in 2021-22 and funded $5 billion in research since 1949. Many of these awards fund research projects on determining how the heart develops before birth, how congenital heart defects form and maintaining heart health in children.
- Additional basic science, clinical, and population research funded by the AHA can be applied to congenital and acquired heart and blood vessel diseases that affect children.

Scientific Councils, Statements and Guidelines, and Lifelong Learning

The AHA'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 develop AHA statements and guidelines and organize scientific meetings and conferences. The Council on Lifelong Congenital Heart Disease and Heart Health in the Young (Young Hearts Council) is focused on pediatric scientific issues.

The American Heart Association and American Stroke Association publish medical guidelines and scientific statements on various cardiovascular disease and stroke topics. AHA/ASA volunteer scientists and healthcare professionals write the statements. The statements are supported by scientific studies published in recognized journals and have a rigorous review and approval process. Scientific statements 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.

The Young Hearts Council initiated and published 39 scientific statements over the last 10 years relative to pediatric cardiology. Topics include disease risk factors, neurodevelopmental outcomes, and diagnostic issues. For example, published in April 2022 is *SARS-CoV-2 Infection and Associated Cardiovascular Manifestations and Complications in Children and Young Adults: A Scientific Statement From the American Heart Association.*

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 Tetrology of Fallot (blue baby syndrome). This concept led to the Blalock-Taussig shunt procedure developed by Dr. Alfred Blalock and Vivien Thomas, 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 — Dr. Donna M. Ferriero at the University of California, San Francisco receives The Thomas Willis Award, the American Stroke Association's highest honor, for groundbreaking work detailing the molecular and cellular mechanisms of hypoxic-ischemic injury in the developing brain. Her work translating those advances to the clinical realm include key roles in 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.

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2014 – The Children's Heart Foundation partners with the AHA to co-fund the AHA/CHF Congenital Heart Defect Research Awards. A total of $22.5 million will be awarded through 2028 to support investigators who conduct basic, clinical, population or translational research related to congenital heart defects.

2017 – AHA establishes Strategically Focused Research Network on Children, awarding nearly $15 million to investigative teams from Children's National Health System, University of Utah, Northwestern University, and Duke University Medical School. They collaborate to study pressing questions about childhood obesity, ideal heart health, congenital heart disease and rheumatic heart disease.

2019 - Enduring Hearts and the American Heart Association establish a research award for investigators conducting research specific to pediatric heart transplantation.

2020 - The AHA awards $20 million to End Nicotine Addiction in Children and Teens (ENACT) network of research projects on the health impacts of nicotine and nicotine delivery products in children and youth. Among the results is 2022 Cardiopulmonary Consequences of Vaping in Adolescents: A Scientific Statement from the American Heart Association.

2022 – The AHA commits $20 million to establish the Health Equity Research Network on Disparities in Maternal-Infant Health Outcomes, to significantly advance our understanding of the factors underlying the disproportionate impact of maternal mortality and morbidity on Black women, Native American women, and those living in rural areas. Because heart and vascular issues account for about half of these deaths, the AHA is uniquely positioned to address this critical issue.

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Congenital Heart Defects Tools and Resources

The AHA maintains a web page that houses English and Spanish language information on these topics: About Congenital Heart Defects; The Impact of Congenital Heart Defects; Understand Your Risk; Symptoms and Diagnosis; Care and Treatment; Tools and Resources; Commonly Asked Questions About Children and Heart Disease, and Personal Stories.

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The American Heart Association is working to help kids and families live heart-healthy lives.

Saving Lives at School - Students across the country are getting active, learning about health, and raising money to fight heart disease. And they are having fun, too, in both the Kids and American Heart Challenges.

American Heart Association. KIDS HEART CHALLENGE™ | AMERICAN HEART CHALLENGE™

Teaching Gardens® Teaching Gardens is impacting kids and youth by helping to implement instructional gardens for students.

Mom Life Simple, science-based tips and tools made for the busy lives of moms with kids of all ages.

NFL PLAY 60 - The American Heart Association and the National Football League (NFL) teamed up with a goal to get kids physically active and improve their overall health. Learn more about our in-school digital Virtual Experiences that teachers can tune-into with their students and the NFL PLAY 60 App.

Early Childcare Education - Formerly known as Healthy Way to Grow, early childhood programs (serving children from birth through age five) help to improve and sustain policies and best practices in nutrition, physical activity, screen time, infant feeding, sleep habits, staff wellness, and family engagement.

Voices for Healthy Kids - The American Heart Association has awarded policy campaign grants to sixteen nonprofit organizations nationwide for use in strategic issue advocacy campaigns focused on improving health equity with a focus on economic security, food security and healthy eating