

Dr. Albert Starr, winner of the 2015 Grand Prix Scientifique

In Paris on June 3 2015, Oregon-based cardiovascular surgeon Dr. Albert Starr collected the 2015 Grand Prix Lefoulon-Delalande. Awarded annually by the Institut de France, the leading French academic society, the prize is the world's most prestigious in the field of cardiovascular research and among the largest and most important scientific prizes in the world.

Dr. Starr receives the *Grand Prix* for his contributions to science and in particular for his role in revolutionizing cardiovascular surgery. Among many achievements, he is credited with co-inventing and implanting the world's first artificial heart valve in 1960, the Starr-Edwards mitral valve, a breakthrough familiar to physicians and medical students today.

1960: The first implant

The story began in the late 50s, when a young Dr. Starr met engineer and inventor Miles "Lowell" Edwards to discuss creating an artificial heart. After convincing Edwards to focus on an artificial heart valve, for which there was immediate need, the Starr-Edwards mitral valve was developed.

The world's first successful mitral valve implant was performed on 21 September 1960 at Oregon Health & Science University (OHSU). The patient was a 52-year-old farmer with a scarred and deformed heart valve as a result of childhood rheumatic fever. The procedure was a success, with newspapers fascinated by the "miraculous" surgery. The patient died from an unrelated cause a decade later.

Less than 12 months after introducing the world's first commercially available replacement mitral heart valve, Edwards and Starr introduced the first mechanical aortic replacement valve.

55 years of innovation

Innovation in the 55 years since the first implant has been rapid, with millions of lives saved or improved. With no medication able to prevent or effectively treat heart valve disease, surgical replacement with an artificial valve still remains the gold standard therapy today.

Surgical trends are now towards durable biological valves and minimally-invasive approaches, but still hold true to the concept of the original device and procedure. More recently, transcatheter replacement has become available for elderly patients deemed inoperable or high-risk for surgery.

Today, more than 250,000 valve surgeries take place worldwide each year – one every two minutes.

A lifetime of achievement

Born in 1926 in New York, Dr. Starr received a B.A. from Columbia College in 1946, and a medical degree from Columbia College of Physicians and Surgeons in 1949. In 1950, following an internship at Johns Hopkins Hospital, he began residency at Columbia Bellevue and Presbyterian Hospitals. Serving during the Korean War, he resumed training and completed his residency in 1957.



Later in 1957 Dr. Starr joined OHSU where he established the open-heart surgery program. In addition to implanting the first artificial heart valve, he also performed the world's first successful triple valve replacement surgery.

In 1964 Dr. Starr took leadership of a joint cardiac surgery program for OHSU and Providence Health System, and in 1986 became director of the Providence Health System Heart & Vascular Institute. In 2004 he was named director of bioscience research and development at Providence.

In 2011, Dr. Starr was appointed special adviser at the OHSU's School of Medicine and distinguished professor of cardiovascular medicine. He is Chairman of the OHSU Knight Cardiovascular Institute.

Dr. Starr's awards include:

1966: Susan and Theodore Summings Humanitarian Award, American College of Cardiology

1988: Distinguished Scientist Award, American College of Cardiology

2001: d'Honneur au grade de Chevalier Award, Paris, France

2007: Lasker Award for Clinical Medical Research

2009: Phoenix Award for Innovation

2011: Oregon Historical Society History Maker Medal

(Source: OHSU Knight Institute)

The Lefoulon-Delalande Foundation

Part of the Institut de France, the Lefoulon-Delalande Foundation was created in 2000 to provide financial assistance to cardiovascular research. Annually since 2002, its International Scientific Council of the Board of Directors recommends a scientist for contributions to cardiovascular physiology, biology, or medicine.

Recent winners include: in 2014, Adolfo J. de Bold (University of Ottawa), for contributions to cardiovascular physiology and the discovery and isolation of atrial natriuretic peptide; in 2013, Garret FitzGerald (University of Pennsylvania) and Carlo Patrono (Catholic University, Rome), for the development of low-dose aspirin in the prevention of cardiovascular disease.

About Edwards Lifesciences

Edwards Lifesciences is the global leader in the science of heart valves and hemodynamic monitoring. Driven by a passion to help patients, the company partners with clinicians to develop innovative technologies in the areas of structural heart disease and critical care monitoring, enabling them to save and enhance lives. Additional company information can be found at edwards.com.

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