

## The History of Heart Surgery

By Mike Martin

In 450 BC, Hippocrates, the father of medicine, wrote, "A wound in the heart is mortal." With few exceptions the heart remained sacred territory, outside the bounds of surgery, for centuries.

The first paper relating to heart surgery was published in 1801 by the Spanish surgeon, Francisco Romero. After making an incision next to the sixth rib he opened the pericardium, or sac around the heart, to drain a five pound build up of fluid. In his memoir Romero stated, "I have established a new medical landmark for posterity in the year 1801."

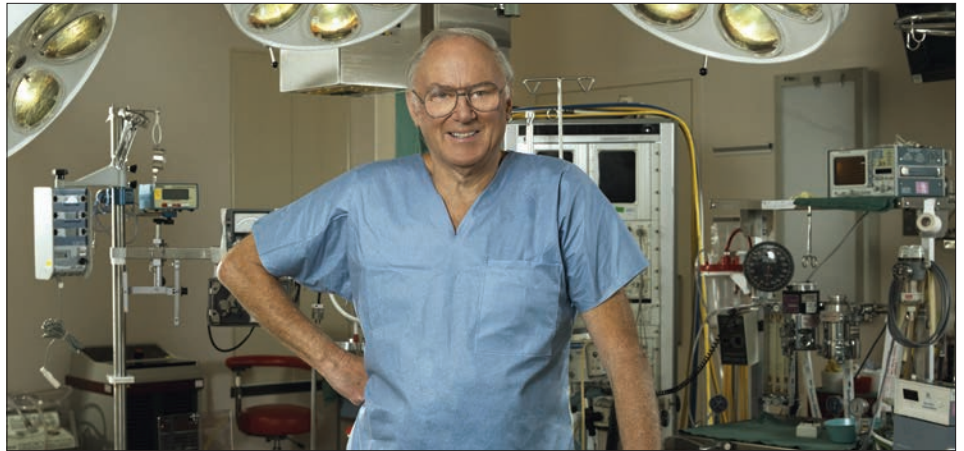
In 1896, Dr. Ludwig Rehn repaired a stab wound to the right ventricle of a patient's heart, a procedure known as cardiorrhaphy.

Theodore Tuffier, in France, successfully opened a narrowed aortic valve with his finger in 1912.

In 1938, Dr. Robert Gross, a paediatric surgeon, performed the first ligation of a Patent (Open) Ductus Arteriosus, in a 7½ year old girl at Boston's Children's Hospital. The PDA is an artery that abnormally connects the pulmonary artery and the aorta causing blood to be shunted from the left to the right heart which overworks the left ventricle.

In 1946, Clarence Crawford repaired an aortic coarctation, also referred to as narrowing of the aorta. In the same year, closed mitral valvulotomy was reintroduced by Dwight Harken and Charles Bailey. Both surgeons, in separate operations, inserted their index fingers and used a small knife to open the blockage.

Most complex surgeries that are fairly common today would not be possible without the invention and development of the



Dr John Callaghan. Courtesy of "The Alberta Order of Excellence."

heart-lung machine. The heart had to continue beating and blood had to circulate through the lungs to be oxygenated. In 1952, John Lewis used systemic hypothermia to reduce heart movement and made it possible to close an atrial septal defect in a five year old girl. In 1954, Walton Lillihei was able to maintain circulation and oxygenation while one of the patient's parents was used as a "heart-lung machine."

Open Heart Surgery (OHS) means the patient is connected to a heart-lung bypass machine to maintain oxygenation and circulation of the blood. The invention of the first prototype heart-lung machine by physician John Gibbon of Philadelphia was an important breakthrough in making OHS possible. The first human operation was performed by Gibbon in 1953.

In 1956, Dr. John Callaghan performed Canada's first open heart surgery at the University of Alberta Hospital. The first successful complete repair of "blue baby" malformation, Tetralogy of Fallot, was a ten-hour procedure repairing a combination of four defects of the heart. In 2014, by an amazing twist of fate, Callaghan's great granddaughter was born with the same malformation. Baby Tate underwent a

two-hour surgery to fix the defect nearly 60 years after her great grandfather performed the first such repair in Canada.

In April, 1957, the first operation using a heart-lung machine was performed in British Columbia at Vancouver General Hospital on an eight year old boy with a hole in the upper chamber of his heart called an atrial septal defect.

In May, 1960, OHS was performed on a twelve year old girl at St. Paul's Hospital. The first Canadian made heart-lung machine was designed and built by Dr. Harold Rice at St. Paul's. The new Children's Hospital opened in Vancouver in July, 1982. At that time the paediatric surgery department moved there.

Currently, Open Heart Surgery is performed in British Columbia at Vancouver General Hospital, St. Paul's Hospital, Children's Hospital, Royal Jubilee Hospital in Victoria, (1973), Royal Columbian Hospital in New Westminster, (1991), and Kelowna General Hospital (2012). Approximately 900 operations are performed each year at each hospital.

Great strides have been made in the field of heart surgery since Hippocrates' time, the majority in the past 70 years. ♥

**Volunteer Visitors** are needed at three surgery hospitals. These visits take one to two hours every other week. Training is provided and you will be supported by a team leader and hospital staff. If you are interested, please contact one of the POHA team leaders for more information: **Nancy Farrell** • 604-442-7565 • St. Paul's Hospital. **Alfred Buchi** • 604-581-5508 • Vancouver General Hospital. **Mike Martin** • 604-535-3195 • Royal Columbian Hospital. ♥

## President's Report



Jay Chambers

Happy New Year  
Our Annual General Meeting was held on October 21st, 2023.

Revised Pacific Open Heart Association (POHA) membership criteria were presented and approved. It was felt that

our existing criteria were too restrictive and prevented us from attracting new members who were interested in supporting POHA.

The revised POHA membership criteria are as follows:

*"Membership shall be open to all persons who are awaiting or who have undergone cardiovascular-related procedures and their respective spouses and children. Additionally, interested members of the public may, upon application, become entitled to membership upon the terms which may be decided by the Directors from time to time."*

I am pleased to tell you that our hospital visitation program continues to be in full operation at Vancouver General Hospital, St. Paul's Hospital, Royal Columbian Hospital, and each of our feeder hospitals.

A highlight of the Annual General Meeting was the presentation of our annual Don Topp Memorial Award to Leisau and Roland Clifford in recognition of the great work they do, enthusiastically, to support POHA.

Three of our Directors, Rick Cozzuol, Barb Smith and Rolf Gullmes have retired from the Board. Rick and Rolf are Past Presidents and Barb was our Treasurer. Each was a major contributor to the operation of POHA and will be missed.

We were extremely fortunate that Meryl Kaye De Leon joined POHA as a Director and was appointed our new Treasurer. Meryl has held various roles in marketing, business operations and finance.

We are always in need of new recruits for our hospital visitation program. If you are interested, please contact us at:

[volunteer@pacificopenheart.org](mailto:volunteer@pacificopenheart.org)

All the best to you and yours in 2024.

Jay Chambers, *President*



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<https://www.pacificopenheart.org>

## Donations and Presentations



1 \$5,000 to Eagle Ridge Hospital. It requested funds to help purchase a new treadmill for its Cardio Lab. Centre back wearing light-coloured shirt; Brian Symonds, POHA visitor. Holding cheque; from left to right: Daisy Ma—Pacemaker Tech, Tania Oughton—Cardio Tech, Dr. Vineet Bhan, and Jenna Hobbs (Cavaleri) for the Eagle Ridge Hospital Foundation.

2 \$5,000 to Royal Columbian Hospital for a bedside monitor. From left: Art Doza, Patient Care coordinator; Rick Cozzuol, POHA visitor; Nidhi Gupta, Manager, 2 South.

3 \$5,000 to St. Paul's Hospital. Lisa Constable, (in green) presented a cheque for the purchase of raised toilet seats for washrooms; a TV for the patient lounge; and a microwave for the patient kitchen.

4 \$5,000 to VGH. Nancy Sweetapple, Manager Cardiac Sciences, received a cheque from Alfred Buchi, POHA director, for a Cardiac Surgery Patient Guide in three languages; English, Punjabi and Chinese.

5 Joga Singh Sangha, Director of Khalsa Credit Union, presented a cheque for \$2,000 to Jay Chambers and Mike Martin, in support of fundraising efforts at the June 2023 POHA golf tournament.

6 The 2023 Don Topp Memorial Award was given to Leisau & Roland Clifford. Leisau manages the POHA database and Roland manages printing and graphics.

## Golf Tournament

The POHA Golf Tournament is scheduled for Wednesday, June 5th, 2024.

**Venue:** Delta Golf and Country Club, 11550 Ladner Trunk Road, Delta, BC.

**Questions:** Call Roger Kocheff at 604-467-2904 or email: [rkocheff@telus.net](mailto:rkocheff@telus.net)

### YES! I WISH TO JOIN THE PACIFIC OPEN HEART ASSOCIATION

I ENCLOSE  \$10 ONE-YEAR MEMBERSHIP  \$20 TWO-YEAR MEMBERSHIP

DONATION (OPTIONAL) \$ \_\_\_\_\_ TOTAL \$ \_\_\_\_\_

NAME \_\_\_\_\_ ADDRESS \_\_\_\_\_

CITY/PROVINCE \_\_\_\_\_ POSTAL CODE \_\_\_\_\_

PHONE \_\_\_\_\_ EMAIL \_\_\_\_\_

I AM ALSO INTERESTED IN:  BEING A VISITOR  THE POHA GOLF TOURNAMENT

Please mail cheque to:

Pacific Open Heart Association, PO Box 45001, Ocean Park PO, Surrey, B.C., V4A 9L1.

Payment via e-Transfer can be sent to [etransfer@pacificopenheart.org](mailto:etransfer@pacificopenheart.org).

In the message area please specify "membership."