
Breakthrough in artificial heart valve

An artificial heart valve considered to be superior to any now in use is being researched at the University of British Columbia in Vancouver.

So far the valve has performed about ten times better than any other valve under laboratory conditions. The inventors, a mechanical engineer, a heart surgeon and three research assistants, are confident they can further improve the performance of the valve. After design improvements, the next step will be to test prototypes of the valve in calves.

The valve marks ten years of collaboration between Professor Vinod J. Modi of UBC's Department of Mechanical Engineering, and Dr. Richard T. Brownlee, chief of cardiac surgery at the Royal Jubilee Hospital in Victoria, B.C.

"Since the first artificial heart valve was implanted in a human patient 18 years ago, thousands have been used to replace leaking, worn-out or otherwise defective natural valves," said Dr. Brownlee. "A number of different models have appeared on the market, each selling for more than \$1,000.

One model is similar to a ping-pong ball which moves back and forth in a mesh cage, opening and closing the valve. Another is like a coin that pivots on a hinge.

The valves do not have a long life. Failure may occur after a few months or a few years. The average life of an artificial valve is about three years. The valves form blood clots, destroy red blood cells, clog, leak, stick or cause infections, and their mechanical parts can wear out.



This could be the ultimate heart valve.

The valve-testing work was supported by the Canadian Heart Foundation and the National Research Council.

The new valve closely resembles the natural mitral valve. It consists of two cusps made from material from a calf's pericardium or part of the heart, attached to a rigid frame.

Compared with the *Ionescu-Shiley*, the best valve presently in use, the new valve's maximum opening is 55 percent greater, allowing for more blood to pass. The pressure drop was only 15 per cent of the other valve and the energy loss was almost zero compared with 8 per cent. A low pressure drop and energy loss means a more efficient valve.

Course helps wives cope

A course, designed to help police wives cope with the frustration of their husbands' work and the various stresses associated with the job, began in Toronto recently.

The strain on a policeman's family had developed in frustrated isolation until members of the Metro Toronto Police Wives Association took matters into their own hands and approached Humber College with their problem.

The resulting course, conducted by William Anderson, a former Calgary policeman, outlines the daily pressures of police work, including irregular shift work, inter-office politics and barhopping on the plainclothes beat.

The incidence of alcoholism is high, but the problems do not start at home. "When the men don plainclothes to do street duty, especially in bars (to ensure no patrons are minors) they will order a ginger ale, but inevitably the bartender spikes it," said Vicki Bracker, president of the police wives' association. Mr. Anderson added that drinking after work with buddies also can contribute to alcoholism.

Even the principles of law and order can get out of hand, Mr. Anderson explains. "Because of their (policemen's) personality, obedience is a priority. They'll discipline their children too harshly or be too critical of their friends," he said.

Along with understanding and friendship, the course gives the women an opportunity to vent their true feelings. "The one thing that hits you is knowing that you're not in this boat alone," Mr. Anderson said.

Guardian for the unborn

A decision by a Nova Scotia family court to grant an unborn child a guardian could be a precedent-setting case in Canada, according to Arthur Foote, an expert in family law at Dalhousie University Law School in Halifax.

The case involves a 19-year-old woman who was refused an abortion at a local hospital because her estranged husband threatened to seek an injunction to prevent the operation.

In addition, a member of the Nova Scotians United for Life, an anti-abortion group, received permission from the court to become the guardian for the unborn child. The group claimed the life of the child was endangered.

"It is the first case I know of within the Anglo-Commonwealth system where a child not yet born has had a guardian appointed on its behalf," Mr. Foote said. "The traditional approach is that a child has to be born before you can have any particular proceedings in relation to the child," he said.

"A guardian is someone who is supposed to make all significant decisions about the child, said Mr. Foote. If the guardian thinks the mother's lifestyle is detrimental to the health of the baby to be born, can the mother be put on a special diet? Given the traditional obligations of a guardian of a child, how does this guardian actually operate? It cannot bypass the mother," he said.

Demand up for Canadian oil

Demand for Canadian crude oil in the first half of 1979 was 10 percent higher than in the first six months of 1978, forcing increased production and shortening the time available to find alternative supplies, according to a senior official of Imperial Oil Ltd. of Toronto.

Kenneth P. Powell, external affairs adviser to Imperial, said part of the increased production went to rebuild inventories tapped because of reduced Iranian production but some was attributable to a lack of conservation.

Mr. Powell said the increased demand and compensating for reduced imports led to acceleration of western Canadian production by about 200,000 barrels a day, compared with first half figures for 1978.