IN MEMORIAM: ROBERT L. BERGER, 1930-2016

To the Editor:

Robert László Berger, MD, a pioneer in cardiothoracic surgery and a Holocaust survivor, died on January 1, 2016, at the age of 86.

Born in Debrecen, Hungary, Dr Berger was displaced to Budapest as a teenager during the Nazi occupation and fought with the Jewish resistance. Berger came to the United States shortly after the conclusion of the Second World War at the age of 17, speaking no English. After spending a year in intensive language school at Boston Latin, Berger went on to graduate from Harvard College and Boston University Medical School. He completed cardiothoracic surgical training at Boston City Hospital and in Scotland and went on to become first the Chief of Cardiac Surgery at St. Elizabeth's Hospital from 1963 to 1967 and later the Chief of the Department of Cardiothoracic Surgery at Boston University School of Medicine from 1968 to 1982. After leaving Boston University, Dr Berger took a position as the Director of Clinical Research in the Division of Thoracic Surgery at Beth Israel Deaconess Medical Center, where he continued to mentor trainees and conduct research.

Dr Berger's early career contributions helped fuel the explosive growth of cardiac surgery during the mid-20th century. In 1966, Dr Berger demonstrated the feasibility of transcatheter aortic valve implantation in dog subjects with experimental aortic insufficiency,¹ paving the way for its wide application more than 30 years later.

In 1978, Dr Berger successfully employed a paracorporeal left ventricular assist device in 2 post-myocardial infarction (MI), post-cardiotomy patients who could not be weaned from cardiopulmonary bypass.² These 2 long-term survivors halted a string of 24 consecutive deaths as part of a National Heart, Lung, and Blood Institute clinical trial program investigating the use of temporary left ventricular assist device support in post-MI patients with refractory cardiogenic shock. Berger's success not only buoyed the sinking clinical trial program but demonstrated

the potential for myocardial recovery in the post-MI failing heart.

More recently, Dr Berger's research in emphysema has helped lead to the development of novel techniques for lung volume reduction surgery. But perhaps Berger's most personally gratifying contribution to medical science came from his critical, evidence-based investigation into Nazi medical experimentation. In 1990, Berger shattered the scientific validity of the Dachau cold immersion experiments—in essence, indiscriminate torture of more than 300 concentration camp prisoners performed in the name of medical science.³ Although the abject lack of ethical integrity of these “studies” was never under question, Berger decisively dismantled Nazi science not on ethical grounds but because of its flawed scientific methods:

[The Dachau hypothermia experiments were] conducted without an orderly experimental protocol [and] with inadequate methods and an erratic execution...On analysis, the Dachau hypothermia study has all the ingredients of a scientific fraud, and rejection of the data on purely scientific grounds is inevitable...Inferior science does not generally come to the attention of the ethicist because it is usually discarded by scientists...If the shortcomings of the Dachau hypothermia study had been fully appreciated, the ethical dialogue probably would never have begun. Continuing it runs the risk of implying that these grotesque Nazi medical exercises yielded results worthy of consideration and possibly of benefit to humanity. The present analysis clearly shows that nothing could be further from the truth.³

Berger's early life experiences no doubt fueled his sense of social justice, which was evident in his workplace. As chief of a cardiothoracic surgery division, he cultivated a racially and gender-diverse environment. Dr John Polk, a Berger cardiothoracic surgery mentee and now assistant dean of student affairs at Boston University Medical School, estimates that “Bob trained more women and minorities in cardiac surgery than in any other program in the country, probably to this day.” A consummate physician, Berger was known for his absolute and unflagging dedication to patients. As a senior attending surgeon, he was known to spend entire nights in a patient's room, personally tracking their recovery from surgery.

Dr Berger's dedication to furthering patient care, medical science, and social justice will be felt by generations of physicians to come.

The Editor welcomes submissions for possible publication in the Letters to the Editor section that consist of commentary on an article published in the Journal or other relevant issues. Authors should: • Include no more than 500 words of text, three authors, and five references. • Type with double-spacing. • See <http://jtcv.ctsnetjournals.org/misc/fora.shtml> for detailed submission instructions. • Submit the letter electronically via jtcvs.editorialmanager.com. Letters commenting on an article published in the JTCVS will be considered if they are received within 6 weeks of the time the article was published. Authors of the article being commented on will be given an opportunity of offer a timely response (2 weeks) to the letter. Authors of letters will be notified that the letter has been received. Unpublished letters cannot be returned.

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TECHNICAL CHANGES IN THE IMPLANT OF SUTURELESS AORTIC VALVES: THE SENSE OF BEING PIONEERS

To the Editor:

Although the Perceval sutureless aortic valve (LivaNova PLC, London, UK) is currently routinely used in many European cardiac surgery centers,¹ concerns remain regarding the need for postoperative permanent pacemaker implantation.² In this regard, we read with great interest the article by Yanagawa and colleagues,³ who presented a simple technical modification to lower the rate of pacemaker implantation in patients undergoing aortic valve replacement with the Perceval sutureless bioprosthesis.

From 2010 to date, we have implanted 380 Perceval valves, with 10% of patients requiring postoperative pacemaker implant up to August 2015. Since then, we have implemented several changes trying to refine the implant technique. In particular, attention to the appropriate depth of suture placement in relation to the annulus is critical to ensure adequate valve functioning without additional risks for the conduction system. These sutures are placed at the nadir or midpoint of the leaflet insertion line. Use of a semi-circular needle facilitates the placement of the guiding sutures, beginning no more than 2 mm below the annulus and exiting approximately 2 mm above the annulus. Passing these sutures from below to above the annulus was found to be helpful to control suture insertion depth. Inappropriately deeper placement of the guiding sutures into the left ventricular outflow tract carries the risk of damage to the

conduction system after valve placement. During valve deployment, special attention should be paid to the angle of the holder with regard to the seating of the valve in the noncoronary sinus. Inappropriate tension of the guiding sutures may cause the valve to be seated too deeply, particularly at the commissure between the right and noncoronary cusps, with potential for damage to the underlying conduction system.

With the adoption of these measures, since September 2015 only 1 additional patient (3.3%) has required pacemaker implantation postoperatively in our institution. Our comment is intended to help centers starting to implant the Perceval valve, showing that the unique position of being pioneers in the use of a new device should contribute to the standardization of the technique by accurate monitoring of the results.

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THE TIPPING POINT: WHEN SHOULD A MODIFICATION BECOME THE STANDARD TECHNIQUE?

Reply to the Editor:

We appreciate the commentary by Fischlein et al¹ from one of the largest single-center experiences with the Perceval valve (LivaNova, Milano, Italy) and the authors of several important publications, including a recent large multicenter cohort study.² Similar to our experience, they also found that deeper placement of the guiding sutures into the left