Historical perspectives of The American Association for Thoracic Surgery: Paul A. Ebert (1932-2009)

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Paul Allen Ebert (Figures 1 and 2), the 68th president of The American Association for Thoracic Surgery (AATS), was born in Columbus, Ohio, on August 11, 1932. Graduating in 1954 from the Ohio State University, he laid the groundwork for an exceptional surgical career through athletic achievement at that institution. As a 6'4" center and forward on the basketball team, Ebert was a first-team All-Big Ten selection, led the team in scoring, and was voted the team's most valuable player every year that he played for the Buckeyes, from 1951 to 1954. He finished his collegiate basketball career with the team record in points scored (1436). As a senior, Ebert served as team captain and was named a third-team All-America selection by the United Press International. Remarkably, he was also a starting pitcher on the baseball team, with a career 21-8 record, and he set team records for single-season and career strikeouts. He finished his collegiate career with the Ohio State single-season (94) and career (223) records for strikeouts. Ebert was a consensus first team All-America selection as a senior. His athletic career culminated in a silver medal with the US baseball team in the 1955 Pan American Games.¹

After college, Ebert spent 2 summers playing semiprofessional baseball in Marshall, Minnesota. At the end of the first summer in Marshall, he returned to Columbus to begin medical school at Ohio State and to be married to Louise Joyce Parks, with whom he would have 3 children. Ebert received offers to sign with the New York Giants and Pittsburgh Pirates, but under the rules of the time he would have been required to stay with the major league club for 2 years and could not have attended medical school.

After his graduation from medical school in 1958, Ebert completed a prestigious internship and residency under Dr Alfred Blalock (30th AATS president) at the Johns Hopkins Hospital. He then spent 2 years as a senior assistant surgeon at the National Heart Institute of the National Institutes of Health in Bethesda, Maryland, where he specialized in thoracic and cardiovascular surgery, developing a career-long interest in congenital heart surgery.

Subsequently, Ebert was recruited by Dr David C. Sabiston (65th president of the AATS) to join the faculty at Duke University Medical Center. Dr Sabiston had only been the chair at Duke for about 2 years when he recruited Dr Ebert, who was certainly one of Dr Sabiston's most important early recruits. When Dr Ebert came to Duke, his athletic history preceded him, and the residents at the time were in awe of both him and his accomplishments. Still, he was polite, kind, unassuming, humble, and gentle, and he soon became known as the most technically gifted surgeon on the staff. Furthermore, he introduced the concept of increased resident responsibility on difficult cases, particularly for patients on what was referred to as the private service, with whom residents were rarely considered the operating surgeon. The residents would sometimes refer to him as the "Gentle Giant," but others called him "Big Bird," referring to his elegant wingspan in the operating room. As heralded as his arrival at Duke had been, so great also was the disappointment among the residents regarding his departure, albeit to another prestigious university. After attaining the level of professor of surgery with only 5 years on faculty at Duke, Dr Ebert considered offers to leave Duke to chair at another institution.

Before Dr Ebert's decision to leave Duke, a graduating resident had expressed his desire to work with Dr Ebert at his next institution, qualifying this wish with the stipulation, "anywhere but New York." Despite that qualification, Dr Ebert indeed brought Dr William Gay with him as he became the chair of the department of surgery at New York's Weill-Cornell Medical College in 1971. He helped to support Dr Gay with funding until independent funding was achieved, igniting the field of cardioplegia research. In 1975, Dr Ebert was recruited as the chair of the department of surgery at the University of California San Francisco Medical Center. His election to the executive directorship of the American College of Surgeons in 1986 saw his exit from clinical practice and solidified his numerous academic achievements.

ACHIEVEMENTS IN CARDIOPROTECTION DURING CARDIAC SURGERY

Dr Ebert began work on myocardial protection as a resident at Johns Hopkins Hospital, a decade after the clinical implementation of cardiopulmonary bypass by Dr John Kirklin (59th AATS president), Dr C. Walton Lillehei, and Dr John H. Gibbon, Jr (41st AATS president).² With the evolution of heart surgery, a debate ensued regarding the optimal

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Paul A. Ebert

FIGURE 1. Dr Paul Allen Ebert, 68th president of The American Association for Thoracic Surgery (photo and signature courtesy of the American College of Surgeons).

means of arresting the heart and preventing myocardial injury during aortic crossclamping.³ Dr Ebert studied the physiologic effects of hypothermia and aortic occlusion on myocardium at the National Heart Institute.⁴ He compared simple anoxic arrest with various coronary perfusion and myocardial hypothermia strategies to demonstrate that combining coronary perfusion with cooled blood and external myocardial hypothermia would preserve maximal myocardial function.⁵

Dr Ebert subsequently turned his attention to optimizing cardioplegia to improve myocardial preservation during cardiopulmonary bypass, basing his investigation on work that demonstrated the benefit of hypothermia combined with coronary infusion of cold cardioplegic solution.⁶ Led by a seminal paper by Drs Ebert and Gay in 1973, potassium-based cold chemical cardioplegia was reintroduced into clinical practice in the United States.⁷ Prolonged, safe cardiac arrest provided operative time for

advancements in heart surgery previously impossible because of the limits of myocardial viability. In what would be a future direction of his research, Dr Ebert also astutely identified the need for careful evaluation of the myocardial and systemic effects of hyperkalemia in patients.

ACHIEVEMENTS IN PEDIATRIC CARDIAC SURGERY

Dr Ebert is recognized as one of the most influential pediatric cardiac surgeons of his time. During his years as chair of surgery at the University of California, San Francisco (1975-1986), his prime interest was the surgical correction of complex cardiac anomalies during early infancy. His achievements are documented in more than 50 publications on the anatomy, pathophysiology, and surgical treatment of congenital cardiac defects. The scope of Dr Ebert's work encompassed a myriad diseases including tetralogy of Fallot, transposition of the great vessels, and endocardial cushion defects.⁸⁻¹⁰ One of his former chief residents at Moffitt-Long Hospital remarked in reference to complex cardiac lesions that "each of these rare diagnoses became more common than appendicitis" under his leadership.¹¹ Numerous studies focused on the role of correcting certain defects in early infancy instead of performing a palliative intervention followed by a subsequent corrective operation.^{8,12} In line with pushing the limits of congenital cardiac surgery to younger patients, Dr Ebert was one of the first surgeons to demonstrate successful intrauterine cardiothoracic surgery by using a fetal lamb model.¹³

ACHIEVEMENTS OUTSIDE THE OPERATING ROOM

To the surprise of many, Dr Ebert resigned from surgical practice in 1986 to become the executive director of the American College of Surgeons, a position he held until retirement in 1998. As the executive director, Dr Ebert identified the burgeoning need for health care outcomes research and innovation beyond single-surgeon experiences.¹⁴ Although Dr Ebert's insights were published more than 2 decades ago, he accurately predicted the future utilization of large databases to study patient outcomes. Although simpler studies demonstrating the success of individual procedures were available, Dr Ebert found few publications that compared the direct patient benefits of one surgical therapy versus another. He also foresaw the pitfalls of outcomes research for surgeons and advocated caution in the face of potential "report cards" for physicians, hospitals, and specialty groups.¹⁵ Disclosure of performance results represented not only an opportunity for quality improvement but also an opportunity for unwarranted penalization. As Medicare was implementing reforms, including the hospital prospective payment system and risk-based health maintenance organization programs,

FIGURE 2. Dr Ebert (photo courtesy of the American College of Surgeons).

Dr Ebert raised concerns that the goals of quality improvement and cost reduction could conflict without direct physician involvement. Through his directorship, Dr Ebert became one of the first champions of surgeon as leaders in outcomes research and health care reform.

ACADEMIC ASSOCIATIONS

Through the years, Dr Ebert was a member and leader of numerous academic societies and received multiple awards recognizing his contribution to medicine. From 1976 to 1978, he served as the chair of the American Board of Surgery, and from 1987 to 1989, he served as the vice chair of the American Board of Thoracic Surgery. He received an Alumni Achievement Award from Ohio State University, was recognized as a Markle Scholar by Duke University, and was inducted into the Johns Hopkins Society of Scholars. In 1989 the National Collegiate Athletic Association awarded him the Theodore Roosevelt Award, its highest honor, granted to a distinguished citizen of national reputation on the basis of outstanding life accomplishments.

He held the presidency of the Society of University Surgeons, the presidency of the American College of Cardiology, and the presidency of the Western Thoracic Surgical Society. Most notably, Dr Ebert was the 68th president of the AATS, presiding over the annual meeting in Los Angeles in 1988. This meeting is well remembered by one of the authors (T.A.D.), because it was the first scientific meeting he attended. It is also remembered how Dr Sabiston stressed the importance of this AATS meeting specifically (including the opportunity to meet Dr Ebert), as well as the importance of the AATS in our future in general. Dr

Ebert's presidential address was ironically titled, "A Profile of Thoracic Surgery as Viewed from the Sidelines." Dr Ebert implored, as many presidents have before and since, that each thoracic surgeon review the progress of our specialty and its future direction. In referring to the need for us to improve the field continually and to avoid complacency, however, he unwittingly predicted some of the less favorable developments in thoracic surgery, a topic of other addresses for decades to follow.

CONCLUSIONS

Dr Paul Allen Ebert died at the age of 76 years of an acute myocardial infarction while golfing on April 21, 2009, near Sacramento, California. His legacy encompasses amazing accomplishments in athletics, in clinical and investigative cardiothoracic surgery, and in health care policy. Although his abilities and talents distinguished him in many ways, he is also fondly remembered for his equanimity, grace, kindness, and humility.

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