

The Journal of  
**Thoracic and  
Cardiovascular  
Surgery**

**Official Publication of  
The American Association for  
Thoracic Surgery and The Western  
Thoracic Surgical Association**

---

### Editor

Andrew S. Wechsler, *Philadelphia, PA*

### Section Editors

Ralph J. Damiano, Jr, *St Louis, MO*  
D. Craig Miller, *Stanford, CA*  
G. Alexander Patterson, *St Louis, MO*  
Thomas L. Spray, *Philadelphia, PA*

### Statistics Editor

Eugene H. Blackstone, *Cleveland, OH*

### Ethics Editor

Martin F. McKneally, *Toronto, Canada*

### Managing Editor

Pamela W. Fried, *Philadelphia, PA*

### Editorial Assistants

Margaret Etherington, *Philadelphia, PA*  
Jonathan Nigro, *Philadelphia, PA*

### Senior Production Editor

Lois R. Lindley, *St Louis, MO*

### Former Editors

Evarts A. Graham, *Editor, 1931-1957*  
Emile Holman, *Editor, 1957-1962*  
Brian Blades, *Editor, 1962-1977*  
Dwight C. McGoon, *Editor, 1977-1987*  
John W. Kirklin, *Editor, 1987-1994*  
John A. Waldhausen, *Editor, 1995-2000*

### Editorial Board

Cary W. Akins, *Boston, MA*  
Carl Lewis Backer, *Chicago, IL*  
Friedhelm Beyersdorf, *Freiburg, Germany*  
Ray Chu-Jeng Chiu, *Montreal, Canada*  
Lawrence H. Cohn, *Boston, MA*  
Joseph S. Coselli, *Houston, TX*  
Marc R. de Leval, *London, England*  
Davis C. Drinkwater, Jr, *Nashville, TN*  
M. Arisan Ergin, *Englewood, NJ*  
J. William Gaynor, *Philadelphia, PA*  
Donald D. Glowder, Jr, *Durham, NC*  
Bartley P. Griffith, *Baltimore, MD*  
Alden H. Harken, *Oakland, CA*  
David H. Harpole, Jr, *Durham, NC*  
Axel Haverich, *Hannover, Germany*  
Valluvan Jeevanandam, *Chicago, IL*  
Larry R. Kaiser, *Philadelphia, PA*  
Harold L. Lazar, *Boston, MA*  
Antoon E. M. R. Lerut, *Leuven, Belgium*  
Michael A. Maddaus, *Minneapolis, MN*  
Roger B. B. Mee, *Cleveland, OH*  
Marc R. Moon, *St Louis, MO*  
Ivan M. Rebeyka, *Edmonton, Canada*  
Thomas W. Rice, *Cleveland, OH*  
Robert C. Robbins, *Stanford, CA*  
Valerie W. Rusch, *New York, NY*  
Hartzell V. Schaff, *Rochester, MN*  
Frank W. Sellke, *Boston, MA*  
Francis Spinale, *Charleston, SC*  
David J. Sugarbaker, *Boston, MA*  
Marko I. Turina, *Zurich, Switzerland*  
Willem van Oeveren, *Groningen, Netherlands*  
Jakob Vinten-Johansen, *Atlanta, GA*  
Richard D. Weisel, *Toronto, Canada*  
William G. Williams, *Toronto, Canada*

---

## THE AMERICAN ASSOCIATION FOR THORACIC SURGERY

### President

Joel D. Cooper, *St Louis, MO*

### President-Elect

Tirone E. David, *Toronto, Canada*

### Vice President

Richard A. Jonas, *Boston, MA*

### Secretary

Irving L. Kron, *Charlottesville, VA*

### Treasurer

J. Alexander Patterson, *St Louis, MO*

### Editor

Andrew S. Wechsler, *Philadelphia, PA*

### Executive Director

Robert P. Jones, Jr, *Beverly, MA*

### Councillors

Fred A. Crawford, *Charlottesville, VA*  
Bruce W. Lytle, *Cleveland, OH*  
D. Craig Miller, *Stanford, CA*  
Carolyn E. Reed, *Charleston, SC*  
David J. Sugarbaker, *Boston, MA*  
Marko I. Turina, *Zurich, Switzerland*

---

## THE WESTERN THORACIC SURGICAL ASSOCIATION

### President

Edward D. Verrier, *Seattle, WA*

### Vice President

Vaughn A. Starnes, *Los Angeles, CA*

### Secretary

R. Scott Mitchell, *Stanford, CA*

### Treasurer

Douglas E. Wood, *Seattle, WA*

### Editor

Andrew S. Wechsler, *Philadelphia, PA*

### Historian

Richard G. Fosburg, *Palm Desert, CA*

### ACS Board of Governors

Steven W. Guyton, *Seattle, WA*

### Executive Director

Robert P. Jones, Jr, *Manchester, MA*

### Councillors

Robbin G. Cohen, *Los Angeles, CA*  
Donald B. Doty, *Salt Lake City, UT*  
Elliot T. Gelfand, *Edmonton, Canada*  
W. R. Eric Jamieson, *Vancouver, Canada*

### Councillor/Founder

Arthur N. Thomas, *San Francisco, CA*