Dickinson W. Richards Memorial Lecture:
The Lungs as Receptor Sites for Cardiovascular Regulation
John T. Shepherd

Original Articles:
Responsiveness of the Coronary Circulation to Brief vs Sustained Alpha-adrenergic Stimulation
David O. Williams and Albert S. Most

Effect of Intravenous Nitroglycerin on Collateral Blood Flow and Infarct Size in the Conscious Dog
Bohd I. Jugdutt, Lewis C. Becker, Grover M. Hutchins, Bernadine H. Bulkley, Philip R. Reid, and Clayton H. Kallman

Demonstration of Lateral and Epicardial Border Zone Salvage by Flurbiprofen Using an In Vivo Method for Assessing Myocardium at Risk
John R. Darsee, Robert A. Kloner, and Eugene Braunwald

Clinicopathologic Correlations in Patients After Myocardial Infarction
William R. Kooske, Robert M. Savage, Robert A. O'Rourke, and Colin M. Bloor

Significance of Exercise-induced ST-segment Elevation in Patients Without Myocardial Infarction
Giuseppe Specchia, Stefano de Servi, Colomba Falcone, Luigi Angoli, Antonio Mussini, Ezio Bramucci, G. Piero Marinon, Diego Ardisino, Jorge Salerno, and Piero Bobba

Exercise Testing with Myocardial Scintigraphy in Asymptomatic Diabetic Males

Relationship Between Clinical Features of Acute Myocardial Infarction and Ventricular Runs 2 Weeks to 1 Year After Infarction
Robert E. Kleiger, J. Philip Miller, Samer Thanavaro, Michael A. Province, Thomas F. Martin, and G. Charles Oliver

Failure of Antiarrhythmic Drugs to Prevent Experimental Reperfusion Ventricular Fibrillation
Masahito Naito, Eric L. Michelson, James J. Kmetzo, Elieser Kaplinsky, and Leonard S. Dreifus

Coexistence of Sick Sinus Rhythm and Atrial Flutter-Fibrillation
Joseph Anthony C. Gomez, Pripal S. Kang, Marianne Matheson, William Bradley Gough, Jr., and Nabil El-Sherif

The Pathophysiology of Failure in Acute Right Ventricular Hypertension: Hemodynamic and Biochemical Correlations
Gus J. Vlahakes, Kevin Turley, and Julien E. Hoffman

Hemodynamic Effects of Oral Pirbuterol in Chronic Severe Congestive Heart Failure
Najam A. Awan, Mark K. Evenson, Kathleen E. Needham, Thomas O. Evans, John Hermanovich, Colin R. Taylor, Ezra Amsterdam, and Dean T. Mason

Hydralazine and Isosorbide Dinitrate: Comparative Central and Regional Hemodynamic Effects When Administered Alone or in Combination
Carl V. Leier, Raymond D. Magorien, Christopher E. Desch, Michael J. Thompson, and Donald V. Unverferth

Hormonal Adaptation to the Stresses Imposed Upon Sodium Balance by Pregnancy and Lactation in the Yanomama Indians, A Culture Without Salt
William J. Oliver, James V. Neel, Roger J. Grekin, and Edwin L. Cohen

Effect of Naloxone, A Specific Opioid Inhibitor, on Blood Pressure Fall During Sleep
Peter Rubin, Terrence F. Blischke, and Christian Guilleminault

Manipulation of Ascending Aortic Pressure and Flow Wave Reflections with the Valsalva Maneuver: Relationship to Input Impedance
Joseph P. Murgo, Nico Westerhof, John P. Giolma, and Stephen A. Altobelli

Beat-to-beat Left Ventricular Performance Assessed from the Equilibrium Cardiac Blood Pool Using a Computerized Nuclear Probe
Harvey J. Berger, Ross A. Davies, William P. Batsford, Paul B. Hoffer, Alexander Gottschalk, and Barry L. Zaret, with the technical assistance of Linda Pylik

The Mechanism of Abnormal Septal Motion in Atrial Septal Defect: Pre- and Postoperative Study by Radionuclide Ventriculography in Adults
Joseph Hung, Roger F. Uren, David R. Richmond, and David T. Kelly

Left Ventricular Ejection Fraction Calculated from Volumes and Areas: Underestimation by Area Method

(Continued)
CONTENTS OF VOLUME 63

No. 2 (February)

Original Articles:

Aortic Valve Replacement Without Myocardial Revascularization in Patients with Combined Aortic Valve and Coronary Artery Disease
Robert O. Bonow, Kenneth M. Kent, Douglas R. Rosing, Lewis C. Lipson, Jeffrey S. Borer, Charles L. McIntosh, Andrew G. Morrow, and Stephen E. Epstein

Systolic Time Intervals in Adolescents. Normal Standards for Clinical Use and Comparison with Children and Adults
Kenneth L. Wannerman, Zamir Hayek, Ilya Ovseyshcher, Gabriel Loutaty, Angel Cantor, Yehoshua Gusarsky, and Moshe Gueron, with the technical assistance of Baruch Dadon

Case Reports:

Hormonal and Hemodynamic Profile of an Anaphylactic Reaction in Man
Jonathan Moss, Nabil R. Fahmy, Neelakantan Sunder, and Michael A. Beaven

Myocardial Ultrastructure and the Development of Atrioventricular Block in Kearn-Sayre Syndrome
Richard Charles, S. Holt, J. M. Kay, E. J. Epstein, and J. Russell Rees

ST-segment Elevation with Elective DC Cardioversion
Patrick K. C. Chun, James E. Davia, and Dennis J. Donohue

Electrophysiologic Delineation of the Intraventricular His Bundle in Two Patients with Endocardial Cushion Type of Septal Defect
Macdonald Dick, Douglas M. Behrendt, Kenneth E. Jochim, and Aldo R. Castaneda

Key References:

Pacemakers
compiled by Mark E. Josephson

Letters to the Editor

Impact of Environment on Cardiovascular Disease; Report of the American Heart Association Task Force on Cardiovascular Disease

News from the American Heart Association

Ad page 272A

(Continued)
CONTENTS OF VOLUME 63

No. 3 (March)

Editorial:
Quantitation of Exercise Electrocardiography ............................... 471
Maarten L. Simoons, Paul G. Hugenholtz,
Carl A. Ascoop, Cees A. Distelbrink,
Peter A. de Land, and Ruud V. M. Vinke

Original Articles:
Endothelial Cell Damage and Thrombus Formation After Partial Arterial Constriction: Relevance to the Role of Coronary Artery Spasm in the Pathogenesis of Myocardial Infarction ........................... 476
S. David Gertz, Gideon Uretsky,
Rebecca S. Wainberg, Naham Navot, and
Mervyn S. Gottlieb

EDITORIAL: Coronary Spasm in Myocardial Infarction: Fact or Fiction? .............. 487
William Ganz

Nonsurgical Coronary Artery Recanalization After Acute Transmural Myocardial Infarction .................................................. 489
Detlef G. Mathey, Karl-Heinz Kuck,
Volkmann Tilsch, Hans-Joachim Krebber,
and Walter Biefeld

EDITORIAL: Regional Streptokinase in Myocardial Infarction .................. 498
Robert C. Leinbach and Herman K. Gold

Diet and Its Relation to Coronary Heart Disease and Death in Three Populations ......................... 500
Tavia Gordon, Abraham Kagan,
Mario Garcia-Palmeri, William B. Kannel,
William J. Zukel, Jeanne Tillotson, Paul Sorlie,
and Marithana Hjortland

EDITORIAL: Diet and Coronary Heart Disease: The Statistical Analysis of Risk .......... 516
David W. Scott, G. Anthony Gorry, and
Antonio M. Gatto

Progression of Coronary Atherosclerosis .......... 519
John R. Kramer, Yasuo Matsuda,
John C. Mulligan, Martin Aronow, and
William L. Proudfoot

The Anatomic Evolution of Coronary Artery Disease Demonstrated by Coronary Angiography in 256 Nonoperated Patients ........................................... 527
Albert V. G. Bruschke, Theodoor S. Wijers,
Waltz Kolsiter, and Jonas Landman

Comparisons of the Effects on Survival After Coronary Artery Surgery in Subgroups of Patients from the Seattle Heart Watch ...... 537
Timothy A. DeRouen, Karl E. Hammeister,
and Harold T. Dodge

Platelet Survival and the Development of Coronary Artery Disease in the Young Adult: Effects of Cigarette Smoking, Strong Family History and Medical Therapy .............................. 546
Valentin Fuster, James H. Chesebro,
Robert L. Frye, and Lila R. Elvebeck, with the technical assistance of James M. Byrne

Platelets, Thromboembolism and Mitral Valve Prolapse .................. 552
Peter N. Walsh, Tulay A. Kansu, James J. Corbett,
Peter J. Savino, Warren Goldburgh, and
Norman J. Schatz

Diastolic Sounds and Murmurs Associated with Mitral Valve Prolapse ............................. 559
Jeanne Y. Wei and Nicholas J. Fortuin

Incomplete Mitral Leaflet Closure in Patients with Papillary Muscle Dysfunction .......................... 565
Robert W. Godley, L. Samuel Wann,
Edwin W. Rogers, Harvey Feigenbaum, and
Arthur E. Weyman

Effect of Oral Propranolol on Rest, Exercise and Postexercise Left Ventricular Performance in Normal Subjects and Patients with Coronary Artery Disease ........................................... 572
Robert C. Marshall, Gerald Wisenberg,
Heinrich R. Schelbert, and Eberhard Henze

Regional Wall Motion from Radiopaque Markers After Intravenous and Intracoronary Injections of Nifedipine .......... 584
P. W. Serruys, R. W. Brower, H. J. ten Kate,
A. H. Bom, and P. G. Hugenholtz

Left Ventricular Function During Sudden Strenuous Exercise .................. 592
Carl Foster, James D. Anholm,
Charles K. Hellman, John Carpenter,
Michael L. Pollock, and Donald H. Schmidt

Detection and Quantitation of Myocardial Infarction In Vivo Using Transmission Computed Tomography ................................. 597
Paul W. Doherty, Martin J. Lipton,
Walter H. Berninger, Claes G. Skjoeldebrand,
Erik Carlsson, and Rowland W. Redington

Experimental Evaluation of the Extent of Myocardial Dyssynergy and Infarct Size by Two-dimensional Echocardiography ......................... 607
H. L. Wyatt, Samuel Meerauma, Ming K. Heng,
Jacob Rit, Pascal Guerci, and Eliot Corday

Reduction of CK and CK-MB Indexes of Infarct Size by Intravenous Nitroglycerin .............. 615
Wulf-Diess Bussmann, Doris Passek,
Werner Seidel, and Martin Kaltenbach

Body Surface Distributions of Repolarization Potentials After Acute Myocardial Infarction. II. Relationship Between Isopotential Mapping and ST-segment Potential Summation Methods .............................. 623
David M. Mimir

Quantitative Thallium-201 Redistribution with a Fixed Coronary Stenosis in Dogs .................. 632
Jeffrey Leppo, Joel Rosenkrantz,
Robert Rosenthal, Robert Bontemps, and
Tada Yipinchn

Radionuclide Imaging of Experimental Myocarditis ........................................ 640
William C. Reeves, George L. Jackson,
Fred W. Flickinger, H. G. Kwee, E. J. Schweitzer,
John Werner, Larry Whitesell, Mary A. Biddle,
Gary Cohenovaer, Baha S. Shaikh, and
Robert Zelis

Relation of the Renin-Angiotensin-Aldosterone System to Clinical State in Congestive Heart Failure ............................. 645
Victor J. Dzau, Wilson S. Colucci,
Norman K. Hollenberg, and
Gordon H. Williams

(Continued)
Repetitive Responses to Single Ventricular Extrastimuli in Patients with Serious Ventricular Arrhythmias: Incidence and Clinical Significance ................................................. 767
Jeremy N. Ruskin, John P. DiMarco, and Hasan Garan

EDITORIAL: The Clinical Significance of the Repetitive Ventricular Response .............................. 773
Masood Akhtar

Initiation of Sustained Ventricular Tachyarrhythmias in a Canine Model of Chronic Myocardial Infarction: Importance of the Site of Stimulation .................................................. 776
Eric L. Michelson, Joseph F. Spear, and E. Neil Moore

Coronary Surgery After Recurrent Myocardial Infarction: Progress of a Trial Comparing Surgical with Nonsurgical Management for Asymptomatic Patients with Advanced Coronary Disease ................................................................. 785

Clinical and Angiographic Predictors of Operative Mortality from the Collaborative Study in Coronary Artery Surgery (CASS) .................................................. 793

Identification of Left Ventricular Thrombi in Man Using Indium-111-labeled Autologous Platelets. A Preliminary Report ................................................................. 803
Michael D. Ezekowitz, Joe C. Leonard, Eileen O. Smith, E. William Allen, and Fletcher B. Taylor

Significance of Coronary Arterial Thrombus in Transmural Acute Myocardial Infarction. A Study of 54 Necropsy Patients ............................. 810
Frank C. Brosius III and William C. Roberts

Reduced Coronary Dilatary Capacity and Ultrastructural Changes of the Myocardium in Patients with Angina Pectoris But Normal Coronary Arteriograms ........................................ 817
Dieter Opherk, Horst Zehe, Eberhard Weihe, Gerhard Mali, Charlotte Därr, Beate Gravert, Helmuth C. Mehmel, Franz Schwarz, and Wolfgang Kübler

Imaging the Inflammatory Response to Acute Myocardial Infarction in Man Using Indium-111-labeled Autologous Leukocytes ........................................ 826
Ross A. Davies, Mathew L. Thakur, Harvey J. Berger, Frans J. Th. Wackers, Alexander Gottschalk, and Barry L. Zaret

Frequency and Clinical Significance of Failure to Visualize the Conus Artery During Coronary Arteriography .................................................. 833
David C. Levin, Carl F. Beckmann, J. Daniel Garnic, Patrick Carey, and Michael A. Bettmann

Beneficial Effects of Amrinone-Hydralazine Combination on Resting Hemodynamics and Exercise Capacity in Patients with Severe Congestive Heart Failure ........................................ 838
Lewis A. Siegel, Edmund Keung, Steven J. Siskind, Robert Forman, Halbert Feinberg, Joel Strom, Doris Efstathakis, Edmund H. Sonnenblick, and Thierry H. LeJemtel

Treatment of Variant Angina with Drugs: A Survey of 11 Cardiology Institutes in Japan ........................................ 844
Eiichi Kimura and Hiroshi Kishida

Prevention by Nifedipine of Abnormal Coronary Vasconstriction in Patients with Coronary Artery Disease .................................................. 849
Stephen Gunther, Laurence Green, James E. Muller, Gilbert H. Mudge, Jr., and William Grossman

Influence of Resting Left Ventricular Function on the Left Ventricular Response to Exercise in Patients with Coronary Artery Disease ........................................ 856
Steven Porti, Patricia McEwan, Frederick R. Cobb, and Robert H. Jones

The Response of Left Ventricular Function and Size to Atrial Pacing, Volume Loading and Afterload Stress in Patients with Coronary Artery Disease ........................................ 864
Robert Slutsky, John Watkins, Kirk Peterson, and Joel Karliner

The Effects of Large Negative Intrathoracic Pressure on Left Ventricular Outflow Tract Obstruction in Muscular Subaortic Stenosis ........................................ 875
Andrew J. Buda, Garry W. MacKenzie, and E. Douglas Wigle

Quantitative Analysis of the Distribution of Cardiac Muscle Cell Disorganization in the Left Ventricular Wall of Patients with Hypertrophic Cardiomyopathy ........................................ 882
Barry J. Maron, Thomas J. Anan, and William C. Roberts

Hemodynamic Alterations Induced by Isoproterenol and Pacing After Aortic Valve Replacement with the Björk-Shiley or St. Jude Medical Prosthesis ........................................ 895
J. Thormann, M. Gottwik, M. Schlepper, and F. Hehrlein

Anatomic Correction of Transposition of the Great Arteries: Pre- and Postoperative Cardiac Catheterization with Angiocardiography in Five Patients ........................................ 905
Robert M. Freedom, J. A. G. Culham, Peter M. Olley, Richard D. Rowe, William G. Williams, and George A. Trulzer

Application of Information Theory to Clinical Diagnostic Testing. The Electrocardiographic Stress Test ................................................................. 915

The Genesis of Gallop Sounds: Investigation by Quantitative Phonographic and Apexcardiography ................................................................. 922
P. Sudhakar Reddy, Frank Meno, Edward F. Curtiss, and James D. O'Toole

(Continued)
Original Articles:

Selective Reduction of Renal Perfusion Pressure and Blood Flow in Man: Humoral and Hemodynamic Effects

Cesare Fiorentini, Maurizio D. Guazzi, Maria T. Olivari, Antonio Bartorelli, Giovanni Necchi, and Fabio Magrini

The Effect of Swimming on Patients with Ischemic Heart Disease

Sheldon Magder, Dag Linnarsson, and Lennart Gullstrand

Diagnostic Quantification of CASS (Coronary Artery Surgery Study): Clinical and Exercise Test Results of Coronary Artery Disease. A Multivariate Approach


Short- and Long-term Changes in Myocardial Perfusion After Percutaneous Transluminal Coronary Angioplasty Assessed by Thallium-201 Exercise Scintigraphy

Heinz O. Hirzel, Karl Neusch, Andreas R. Gruentzig, and Urs M. Luejolf

Exercise-induced Alterations in Left Ventricular Volumes and the Pressure-Volume Relationship: A Sensitive Indicator of Left Ventricular Dysfunction in Patients with Coronary Artery Disease

Gregory J. Dehmer, Samuel E. Lewis, L. David Hills, James Corbetti, Robert W. Parkey, and James T. Willerson

Diagnostic Value of Exercise Electrocardiography and Thallium Myocardial Scintigraphy in Patients Without Previous Myocardial Infarction: A Bayesian Approach


Electrophysiologic Effects of Combined Autonomic Blockade in Patients with Sinus Node Disease

Jawahar M. Desai, Melvin M. Scheinman, Harold C. Strauss, Barry Massie, and Judy O'Young

Gastric Dilation During Stimulation of Cardiac Sensory Receptors

U. James Johannsen, Robert Summers, and Allyn L. Mark

Key References:

Mitrval Valve Surgery

compiled by Peter F. Cohn

Letters to the Editor

News from the American Heart Association .. Ad page 42A
Current Topics:
Coronary-prone Behavior and Coronary Heart Disease: A Critical Review ........................................... 1199
Review Panel on Coronary-prone Behavior and Coronary Heart Disease

Original Articles:
The Linearity of the End-systolic Pressure-Volume Relationship in Man and Its Sensitivity for Assessment of Left Ventricular Function ................................................................. 1216
Helmuth C. Mehmel, Benjamin Stockins, Kai Ruffmann, Klaus v. Olshausen, Gerhard Schuler, and Wolfgang Kubler

EDITORIAL: The End-systolic Pressure-Volume Relation of the Ventricle: Definition, Modifications and Clinical Use .................................................................................................................. 1223
Kiichi Sagawa

Left Ventricular Diastolic Performance At Rest and During Exercise in Patients with Coronary Artery Disease. Assessment with First-pass Radionuclide Angiography .................. 1228
Lawrence A. Reduto, William J. Wickemeyer, James B. Young, Leslie A. Del Ventura, John W. Reid, Donald H. Gaeser, Miguel A. Quinones, and Richard R. Miller, with the technical assistance of Jay Gaeta, Greg Freund, and Karla Madalin

Transient Reduction of Regional Myocardial Perfusion During Angina at Rest with ST-segment Depression or Normalization of Negative T Waves ......................................................... 1238
Oberdan Parodi, Nilda Utherralt, Silva Severi, Walter Bencivelli, Claudio Michelassi, Antonio L’Abbate, and Attilio Maseri

In Vivo Quantitation of Regional Myocardial Blood Flow by Positron-emission Computed Tomography .......................................................... 1248
Gerald Wisenberg, Heinrich R. Schelbert, Edward J. Hoffman, Michael E. Phelps, Gerald D. Robinson, Jr., Carl E. Selin, John Child, David Skorton, and David E. Kuhl

N-13 Ammonia as an Indicator of Myocardial Blood Flow ........................................................................ 1259
Heinrich R. Schelbert, Michael E. Phelps, Sung-Cheng Huang, Norman S. MacDonald, Herbert Hansen, Carl Selin, and David E. Kuhl

Myocardial Lactate Metabolism: Evidence of Lactate Release During Net Chemical Extraction in Man ...... 1273
Edward W. Gertz, Judith A. Wisneski, Richard Neese, J. David Bristow, Gilbert L. Searle, and J. Timothy Hanlon

Myocardial Metabolic and Hemodynamic Effects of Dobutamine in Heart Failure Complicating Coronary Artery Disease ..................................................................................................... 1279
Richard G. Pozen, Robert DiBianco, Richard J. Katz, Rebecca Borta, Robert J. Myerburg, and Ross D. Fletcher

Digoxin Sensitivity in Amyloid Cardiomyopathy ...................................................................................... 1285
Alan Rubinow, Martha Skinner, and Alan S. Cohen

Electron Microscopic Investigation of Endomyocardial Biopsy Samples in Hypertrophy and Cardiomyopathy. A Semiquantitative Study in 48 Patients .................................................. 1289
U. Baandrup, R.A. Florio, F. Roters, and E.G.J. Olsen

Reduced Volume Fraction of Myofibrils in Myocardium of Patients with Decompensated Pressure Overload ............................................................................................................. 1299
Franz Schwarz, Jutta Schaper, Dieter Kittstein, Wimlem Flameng, Paul Walter, and Wolfgang Schaper

Aortic Input Impedance in Man: Acute Response to Vasodilator Drugs ....................................................... 1305
Walter Gundel, George Cherry, Beeshma Rajagopalan, Lip-Bun Tan, Grant Lee, and Donald Schultz

Left Ventricular Functional Reserve in Adult Patients with Atrial Septal Defect: Pre- and Postoperative Studies .................................................................................................................. 1315
Robert O. Bonow, Jeffrey S. Boroe, Douglas R. Rosing, Stephen L. Bacharach, Michael V. Green, and Kenneth M. Kent

Late Cardiac Tamponade After Open Heart Surgery: Incidence, Role of Anticoagulants in Its Pathogenesis and Its Relationship to the Postpericardiotomy Syndrome .................................. 1323

Effect of Bypass Surgery on Survival in Patients in Low- and High-risk Subgroups Delineated by the Use of Simple Clinical Variables ............................................................... 1329
Prepared by Katherine Detre, Peter Peduzzi, Marvin Murphy, Herbert Hultgren, James Thomsen, Albert Oberman, Timothy Takaro, and the Veterans Administration Cooperative Study Group for Surgery for Coronary Arterial Occlusive Disease

The Arm-Ankle Pressure Gradient in Relation to Cardiovascular Risk Factors in Intermittent Claudication ................................................................................................. 1339
L. Janson, S.E. Bergentz, B.F. Ericsson, and S.E. Lindell

Implications of Findings in the Coronary Drug Project for Secondary Prevention Trials in Coronary Heart Disease ................................................................................................................ 1342
The Coronary Drug Project Research Group

Premature Ventricular Complexes in the Absence of Identifiable Heart Disease ........................................... 1351
John B. Kostis, Kathryn McCrone, A.E. Moreyra, Stavros Gotzoyannis, Nora M. Aglitz, N. Natarajan, and P.T. Kuo

Exercise-induced ST-segment Elevation in Leads V, or aVF, A Predictor of Anterior Myocardial Ischemia and Left Anterior Descending Coronary Artery Disease .................................. 1357
Richard F. Dunn, Ben Freedman, David T. Kelly, Ian K. Bailey, and Andrew McLaughlin

(Continued)
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-wave Amplitude Variations During Acute Experimental Myocardial Ischemia: An Inadequate Index for Changes in Intra-cardiac Volume</td>
<td>1364</td>
</tr>
<tr>
<td>Daniel David, Masahito Naito, Chin C. Chen, Eric L. Michelson, Joel Morganroth, and Mark Schaffenburg</td>
<td></td>
</tr>
<tr>
<td>The Transition to Ventricular Fibrillation Induced by Reperfusion After Acute Ischemia in the Dog: A Period of Organized Epicardial Activation</td>
<td>1371</td>
</tr>
<tr>
<td>Raymond E. Ideker, George J. Klein, Lura Harrison, William M. Smith, Jack Kasell, Keith A. Reimer, Andrew G. Wallace, and John J. Gallagher</td>
<td></td>
</tr>
<tr>
<td>Asystolic Episodes During Pacemaker Implantation</td>
<td>1379</td>
</tr>
<tr>
<td>Elieser A. Astrinsky, Seymour Furman, and Joe Florio</td>
<td></td>
</tr>
<tr>
<td>His-Purkinje Responses and Refractory Periods During Atrial Extra-stimulation in Children with Heart Defects</td>
<td>1383</td>
</tr>
<tr>
<td>Left Ventricular Hypertrophy: Relationship of Anatomic, Echocardiographic and Electro-cardiographic Findings</td>
<td>1391</td>
</tr>
<tr>
<td>Nathaniel Reichek and Richard B. Devereux</td>
<td></td>
</tr>
<tr>
<td>Quantitation of Human Left Ventricular Mass and Volume by Two-dimensional Echocardiography: In Vitro Anatomic Validation</td>
<td>1398</td>
</tr>
<tr>
<td>Joseph W. Helak and Nathaniel Reichek</td>
<td></td>
</tr>
<tr>
<td>Contrast Echocardiographic Evaluation of Changes in Flow Velocity in the Right Side of the Heart</td>
<td>1408</td>
</tr>
<tr>
<td>Akira Shiina, Kunio Kondo, Yutaka Nakasone, Masao Tsuchiya, Toshio Yaginuma, and Saichi Hosoda</td>
<td></td>
</tr>
<tr>
<td>Visualization of Cardiac Valve Motion in Man During External Chest Compression Using Two-dimensional Echocardiography. Implications Regarding the Mechanism of Blood Flow</td>
<td>1417</td>
</tr>
<tr>
<td>Jeffrey A. Werner, H. Leon Greene, Carolyn Janko, and Leonard A. Cobb</td>
<td></td>
</tr>
<tr>
<td>Verification and Clinical Demonstration of the Echo Doppler Series Effect and Vortex Shed Distance</td>
<td>1422</td>
</tr>
<tr>
<td>Zoe Keccecioglu-Draeios, Stanley J. Goldberg, Jose Areias, and David J. Sahn</td>
<td></td>
</tr>
</tbody>
</table>

### Key References:

- Pericardial Diseases ........................................ 1429
  compiled by Noble O. Fowler
- Corrections ..................................................... 1433
- Volume Author Index .......................................... 1435
- Volume Subject Index ........................................ 1441
- News from the American Heart Association ....... Ad page 41