



ADVANCES IN PEDIATRICS

EDITORS:



Michael S. Kappy
Lewis A. Barness
Leslie L. Barton
Carol D. Berkowitz
Enid Gilbert-Barness
Jane Carver
Moritz Ziegler

Pediatrics

Editor-in-Chief Michael S. Kappy, MD, PhD

Professor of Pediatrics, University of Colorado School of Medicine, Children's Hospital Colorado, Aurora, Colorado



Vice President, Global Medical Reference: Mary Gatsch

Editor: Kerry Holland

Developmental Editor: Donald Mumford

© 2014 Elsevier Inc. All rights reserved.

This periodical and the individual contributions contained in it are protected under copyright by Elsevier and the following terms and conditions apply to their use:

Photocopying

Single photocopies of single articles may be made for personal use as allowed by national copyright laws. Permission of the Publisher and payment of a fee is required for all other photocopying, including multiple or systematic copying, copying for advertising or promotional purposes, resale, and all forms of document delivery. Special rates are available for educational institutions that wish to make photocopies for non-profit educational classroom use.

For information on how to seek permission visit www.elsevier.com/permissions or call: (+44) 1865 843830 (UK)/(+1) 215 239 3804 (USA).

Derivative Works

Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the Publisher is required for resale or distribution outside the institution. Permission of the Publisher is required for all other derivative works, including compilations and translations (please consult www.elsevier.com/permissions).

Electronic Storage or Usage

Permission of the Publisher is required to store or use electronically any material contained in this periodical, including any article or part of an article (please consult www.elsevier.com/permissions). Except as outlined above, no part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior written permission of the Publisher.

Notice

No responsibility is assumed by the Publisher for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of any methods, products, instructions or ideas contained in the material herein. Because of rapid advances in the medical sciences, in particular, independent verification of diagnoses and drug dosages should be made.

Although all advertising material is expected to conform to ethical (medical) standards, inclusion in this publication does not constitute a guarantee or endorsement of the quality or value of such product or of the claims made of it by its manufacturer.

Reprints: For copies of 100 or more of articles in this publication, please contact the Commercial Reprints Department, Elsevier Inc., 360 Park Avenue South, New York, NY 10010-1710. Tel: 212-633-3874; Fax: 212-633-3820; E-mail: reprints@elsevier.com.

Printed in the United States of America.

Transferred to Digital Printing, 2014

Editorial Office:

Elsevier

1600 John F. Kennedy Blvd,

Suite 1800

Philadelphia, PA 19103-2899

International Standard Serial Number: 0065-3101

International Standard Book Number: 13: 978-0-323-26461-7

Pediatrics

VOLUMES 1 THROUGH 59 (OUT OF PRINT)

VOLUME 60

Introduction, by Michael S. Kappy

Helen Brooke Taussig: Pediatric Cardiology Leader and Innovator, by Kathryn Neubauer and Anne M. Murphy

Immunization Update IV, by Ayesha Mirza and Mobeen H. Rathore

Bullying and Victimization Among Children, by Rashmi Shetgiri

Slums Are Not Places for Children to Live: Vulnerabilities, Health Outcomes, and Possible Interventions, by Kacey C. Ernst, Beth S. Phillips, and Burris "Duke" Duncan

Detecting Disorders of Vitamin D Deficiency in Children: An Update, by Pallavi Iyer and Frank Diamond

Infections Related to International Travel and Adoption, by Kristina N. Feja and Robert W. Tolan, Jr

Update on Allergen Immunotherapy for Treatment of Allergic Diseases, by Kenny Y. Kwong and Sydney Leibel

Advances in Noninvasive Imaging in Pediatric Cardiology, by Melanie Nies and Priya Sekar

Recent Advances in Interventional Pediatric Cardiology, by Ram N. Bishnoi, John D. Coulson, and Richard E. Ringel

Sudden Cardiac Death in Young Athletes, by Mohammed Mortazavi

Enteropathies of Infancy and Childhood, by Pierre Russo

Necrotizing Enterocolitis: Contemporary Management and Outcomes, by Stephanie Papillon, Shannon L. Castle, Christopher P. Gayer, and Henri R. Ford

Historical Development of Pediatric Surgical Quality: The First 100 Years, by Jennifer Bruny and Moritz M. Ziegler

Introduction: Parents' Perspective, by John P. Moyer

Abdominal Organ Transplantation in Children, by Jonathan P. Roach and Frederick M. Karrer

Surgical Management of Adolescent Obesity, by Sean J. Barnett

Pediatrics

Editor-in-Chief

MICHAEL S. KAPPY, MD, PhD, Professor of Pediatrics, University of Colorado School of Medicine, Children's Hospital Colorado, Aurora, Colorado

Associate Editors

- LEWIS A. BARNESS, MD, DSci(hc), DPH(hc), Distinguished University Professor Emeritus, Department of Pediatrics, University of South Florida College of Medicine, Tampa, Florida
- LESLIE L. BARTON, MD, Professor Emerita, Department of Pediatrics, Steele Memorial Children's Research Center, University of Arizona, Tucson, Arizona
- CAROL D. BERKOWITZ, MD, Executive Vice Chair, Department of Pediatrics, Harbor-UCLA Medical Center; Distinguished Professor of Pediatrics, David Geffen School of Medicine at UCLA, Torrance, California
- ENID GILBERT-BARNESS, AO, MD, MBBS, FRCPA, FRCPath, DSci(hc), MD(hc), Professor, Departments of Pathology and Cell Biology, Pediatrics, and Obstetrics and Gynecology, University of South Florida College of Medicine, Tampa General Hospital, Tampa, Florida
- JANE CARVER, PhD, MS, MPH, Professor, Department of Pediatrics and Molecular Medicine, University of South Florida College of Medicine, Tampa, Florida
- MORITZ ZIEGLER, MD, Retired Surgeon-in-Chief, Pediatric Surgery, Children's Hospital Colorado, Retired, Professor of Surgery, University of Colorado School of Medicine, Denver, Colorado

Pediatrics

CONTRIBUTORS

- P. DAVID ADELSON, MD, Barrow Neurological Institute at Phoenix Children's Hospital, Phoenix, Arizona
- KIMBERLEE ALLRED, RN, NNP-BC, Barrow Neurological Institute at Phoenix Children's Hospital, Phoenix, Arizona
- SUSAN D. APKON, MD, Director, Associate Professor, Rehabilitation Medicine, Seattle Children's Hospital, University of Washington, Seattle, Washington
- JO APPLEBAUM, MPH, Children's Health Fund and Community Pediatric Programs, Montefiore Medical Center, Bronx, New York
- JORGE I. ARANGO, MD, Barrow Neurological Institute at Phoenix Children's Hospital, Phoenix, Arizona
- SANDRA AREVALO, MPH, RD, CDE, Center for Child Health and Resiliency, Montefiore Medical Center, Bronx, New York
- DANIEL K. BENJAMIN Jr, MD, PhD, MPH, Duke Clinical Research Institute, Duke University Medical Center; Department of Pediatrics, College of Medicine, Duke University, Durham, North Carolina
- STEPHEN BERMAN, MD, Professor of Pediatrics and Public Health, University of Colorado Denver, Center for Global Health-Colorado School of Public Health, Aurora, Colorado
- JANET C. BERRY, RN, MBA, Nursing Administration and Perioperative Services; Nationwide Children's Hospital, Columbus, Ohio
- RICHARD J. BRILLI, MD, FAAP, FCCM, Chief Medical Officer, Hospital Administration, Quality Improvement Services; Nationwide Children's Hospital; Professor, Pediatrics, The Ohio State University College of Medicine, Columbus, Ohio
- LEE BUDIN, MD, Quality Improvement Services; Nationwide Children's Hospital; Clinical Assistant Professor, The Ohio State University College of Medicine, Columbus, Ohio
- CRISTINA CARBALLO, MD, Barrow Neurological Institute at Phoenix Children's Hospital, Phoenix, Arizona
- JANE CARVER, PhD, MS, MPH, Professor, Department of Pediatrics and Molecular Medicine, University of South Florida College of Medicine, Tampa, Florida

- ROBERT C. CASKEY, MD, MSc, Resident, Department of Surgery, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania
- MICHAEL COHEN-WOLKOWIEZ, MD, PhD, Duke Clinical Research Institute, Duke University Medical Center; Department of Pediatrics, College of Medicine, Duke University, Durham, North Carolina
- LINDSEY COOPER, MD, Clinical Assistant Professor of Pediatrics, University of Colorado Denver, Center for Global Health-Colorado School of Public Health, Aurora, Colorado
- WALLACE V. CRANDALL, MD, Quality Improvement Services; Nationwide Children's Hospital; Professor, Clinical Pediatrics, The Ohio State University College of Medicine, Columbus, Ohio
- HEDA DAPUL, MD, FAAP, Attending Physician, Pediatric Critical Care Medicine; Maimonides Medical Center, Infants and Children's Hospital of Brooklyn, Brooklyn, New York
- J. TERRANCE DAVIS, MD, Quality Improvement Services; Nationwide Children's Hospital; Professor Emeritus, Clinical Surgery, The Ohio State University College of Medicine, Columbus, Ohio
- BRIAN DUNOSKI, MD, Instructor, Radiology, Wayne State University School of Medicine, Children's Hospital of Michigan, Detroit, Michigan; Children's Mercy Hospital, Kansas City, Missouri
- KRISTINA N. FEJA, MD, MPH, Division of Allergy, Immunology and Infectious Diseases, The Children's Hospital at Saint Peter's University Hospital, New Brunswick, New Jersey
- JAIME L. FRÍAS, MD, FAAP, FACMG, Emeritus Professor and Former Lewis A. Barness Professor and Chairman, Department of Pediatrics, University of South Florida
- BEATRIZ LLAMOSAS GALLARDO, MD, Associate Professor of Pediatrics, Emergency Department, Instituto Nacional de Pediatria, Distrito Federal, México
- ENID GILBERT-BARNESS, MBBS, MD, FRCPA, FRCPath, DSci(hc), MD(hc), Professor of Pathology and Cell Biology, Laboratory Medicine, Pediatric, Obstetrics and Gynecology, Department of Pathology, College of Medicine, Tampa General Hospital, University of South Florida Morsani, Tampa, Florida
- DANIEL GONZALEZ, PharmD, PhD, Division of Pharmacotherapy and Experimental Therapeutics, UNC Eshelman School of Pharmacy, University of North Carolina at Chapel Hill, Chapel Hill; Duke Clinical Research Institute, Duke University Medical Center, Durham, North Carolina
- SEAN P. GLEESON, MD, MBA, Quality Improvement Services; Nationwide Children's Hospital; Assistant Professor, Pediatrics-Practice, The Ohio State University College of Medicine, Columbus, Ohio

- RICHARD GRADY, MD, Professor of Urology; Section of Pediatric Urology, Seattle Children's Hospital, University of Washington School of Medicine, Seattle, Washington
- LARRY A. GREENBAUM, MD, PhD, Marcus Professor of Pediatrics and Division Director, Pediatric Nephrology, Emory University and Children's Healthcare of Atlanta, Atlanta, Georgia
- HONGYAN GUAN, MD, PhD, Associate Professor of Pediatrics, Department of Early Childhood Development, Capital Institute of Pediatrics, Beijing, China
- SOLVEIG HART, PT, MSPT, PCS, Rehabilitation Services, Seattle Children's Hospital, Seattle, Washington
- ANA A. ORTIZ-HERNÁNDEZ, MD, Associate Professor of Pediatrics, Emergency Department, Instituto Nacional de Pediatria, Distrito Federal, México
- JORDANA E. HOPPE, MD, Pediatric Pulmonary Fellow, Department of Pediatrics, Children's Hospital Colorado, University of Colorado Denver, Aurora, Colorado
- HOPE T. JACKSON, MD, Surgical Resident, The George Washington University School of Medicine and Health Sciences, Washington, DC
- SABAH KALYOUSSEF, DO, Division of Allergy, Immunology and Infectious Diseases, The Children's Hospital at Saint Peter's University Hospital, New Brunswick, New Jersey
- TIMOTHY D. KANE, MD, FACS, Professor of Surgery and Pediatrics, The George Washington University School of Medicine and Health Sciences; Director, Surgical Residency Training Program; Chief, Division of Pediatric Surgery, Department of Surgery, Sheikh Zayed Institute for Pediatric Surgical Innovation, Children's National Medical Center, Washington, DC
- MICHAEL S. KAPPY, MD, PhD, Department of Pediatrics, University of Colorado School of Medicine, Children's Hospital Colorado, Aurora, Colorado
- KELLY J. KELLEHER, MD, Quality Improvement Services; Nationwide Children's Hospital; Professor, Pediatrics, Psychiatry, and Public Health, The Ohio State University College of Medicine, Columbus, Ohio
- DANIELLE LARAQUE, MD, FAAP, Maimonides Medical Center, Infants and Children's Hospital of Brooklyn, Brooklyn, New York; Professor of Pediatrics, New York University School of Medicine, New York City, New York
- AMY LEE, MD, Assistant Professor, Pediatric Neurosurgery, Seattle Children's Hospital, University of Washington, Seattle, Washington
- BERTRAM LUBIN, MD, President and Chief Executive Officer, UCSF Benioff Children's Hospital Oakland, Oakland, California

- HILDRED MACHUCA, DO, Center for Child Health and Resiliency, Montefiore Medical Center, Bronx, New York
- STACEY L. MARTINIANO, MD, Assistant Professor of Pediatrics, Department of Pediatrics, Children's Hospital Colorado, University of Colorado Denver, Aurora, Colorado
- PATRICIA J. McFEELEY, MD, Professor Emerita, Department of Pathology, Office of the Medical Investigator, University of New Mexico School of Medicine, University of New Mexico, Albuquerque, New Mexico
- THOMAS McNALLEY, MD, MA, Assistant Professor, Rehabilitation Medicine, Seattle Children's Hospital, University of Washington, Seattle, Washington
- GRANT MORROW III, MD, Professor Emeritus of Pediatrics, The Ohio State University, Columbus, Ohio; Medical Director, Research Institute at Nationwide Children's Hospital
- MICHAEL L. NANCE, MD, Professor of Surgery; Director of Pediatric Trauma Program, Children's Hospital of Pennsylvania, Philadelphia, Pennsylvania
- LEE NISWANDER, PhD, Department of Pediatrics, Section Head of Developmental Biology, Children's Hospital Colorado, Investigator, Howard Hughes Medical Institute, Professor, University of Colorado School of Medicine, Aurora, Colorado
- JULIETTE PETERSEN, MS, Doctoral Candidate, Molecular Biology Program, University of Colorado Denver Anschutz Medical Campus, Aurora, Colorado
- IAN M. PAUL, MD, MSc, Departments of Pediatrics and Public Health Sciences, College of Medicine, Penn State University, Hershey, Pennsylvania
- SHERIDAN REMLEY, PT, DPT, Rehabilitation Services, Seattle Children's Hospital, Seattle, Washington
- GENESIS RIVERA, MD, Assistant Professor of Pediatrics, St. Luke's College of Medicine, Quezon City, Philippines
- KERRY ROSEN, MD, MBA, FACC, FAAP, Quality Improvement Services; Nationwide Children's Hospital; Associate Professor, Clinical Pediatrics, The Ohio State University College of Medicine, Columbus, Ohio
- DEBORAH ROTENSTEIN, MD, Director, Pediatric Endocrinology, Endocrine Division, Pediatric Alliance, Pittsburgh, Pennsylvania
- SCOTT D. SAGEL, MD, PhD, Associate Professor of Pediatrics, Department of Pediatrics, Children's Hospital Colorado, University of Colorado Denver, Aurora, Colorado
- ALAN SHAPIRO, MD, Children's Health Fund and Community Pediatric Programs, Montefiore Medical Center, Bronx, New York

- BENJAMIN SHULMAN, BA, Department of Biostatistics and Informatics, University of Colorado School of Public Health, Aurora, Colorado
- HILLARY SHURTLEFF, PhD, Clinical Associate Professor, Department of Neurology, University of Washington School of Medicine; Department of Child Psychiatry, Seattle Children's Hospital, Seattle, Washington
- THOMAS L. SLOVIS, MD, Professor Emeritus, Radiology, Wayne State University School of Medicine, Children's Hospital of Michigan, Detroit, Michigan
- PARITA SONI, MD, Barrow Neurological Institute at Phoenix Children's Hospital, Phoenix, Arizona
- LINDA STOVEROCK, RN, DNP, MSN, NEA-BC, Chief Nursing Officer, Nursing Administration; Nationwide Children's Hospital, Columbus, Ohio
- RYAN STRADLEIGH, BS, Barrow Neurological Institute at Phoenix Children's Hospital, Phoenix, Arizona
- ALTAGRACIA TOLENTINO, MD, Center for Child Health and Resiliency, Montefiore Medical Center, Bronx, New York
- REMY WAHNOUN, PhD, Barrow Neurological Institute at Phoenix Children's Hospital, Phoenix, Arizona
- WILLIAM O. WALKER Jr, MD, Chief, Division of Developmental Medicine, Seattle Children's Hospital, Robert A. Aldrich Endowed Professor of Pediatrics, University of Washington School of Medicine, Seattle, Washington
- MOLLY WARNER, PhD, ABPP-CN, Clinical Associate Professor, Department of Neurology, University of Washington School of Medicine; Neuropsychologist, Neuropsychology Consult Service, Department of Psychiatry, Seattle Children's Hospital, Seattle, Washington
- JOSEPH WATHEN, MD, Associate Professor of Pediatrics, University of Colorado Denver, Center for Global Health-Colorado School of Public Health, Aurora, Colorado
- EDITH T. ZEMANICK, MD, MSCS, Assistant Professor of Pediatrics, Department of Pediatrics, Children's Hospital Colorado, University of Colorado Denver, Aurora, Colorado



ADVANCES IN PEDIATRICS

Introduction

Michael S. Kappy, MD, PhD

he editors present volume 61 of Advances in Pediatrics, founded in 1952. We are saddened by the death of one of the prime developers of this journal, Dr Lewis Barness, and a tributory article in his memory begins this volume.

Our annual "Foundations of Pediatrics" honors Lula Lubchenco, a distinguished physician who greatly improved the care of neonates and who set the standards by which we estimate risk in the newborn period. The article was written by her daughter, PatriciaMcFeeley.

We include our biennial review of advances in pharmacology and toxicology, submitted this year by Daniel Gonzalez and others.

In addition, we begin a series of multidisciplinary clinical care topics with the article by Susan Apkon and others on the care of children with spina bifida.

A comprehensive review of advances in pediatric radiologic imaging is presented by Dunoski and Slovis, and, in keeping with the purpose of this journal, a wide variety of updates in many medical and surgical areas of pediatrics, including cystic fibrosis, heart disease, obesity, brain injury, lead poisoning, and others, are presented, including an update on patient safety by Brilli and others.

As always, we welcome comments about each volume of Advances in Pediatrics, as well as suggestions for future topics. These can be sent to:

Michael S. Kappy, MD, PhD
Department of Pediatrics
University of Colorado School of Medicine
Children's Hospital Colorado
13123 East 16th Avenue, B-265
Aurora, CO 80045, USA

E-mail address: michael.kappy@childrenscolorado.org

0065-3101/14/\$ – see front matter http://dx.doi.org/10.1016/j.yapd.2014.04.006 © 2014 Elsevier Inc. All rights reserved.



ADVANCES IN PEDIATRICS

In Memoriam: Lew Barness



Lewis A. Barness, MD: 1921-2013

GRANT MORROW III, MD

When first asked to write some comments about one of the greatest pediatricians of his time, it seemed sad not to be able to talk with him and laugh about our past experiences. But, as I mulled the challenge over, I realized that solo reminiscing about Lewis A. Barness would be a wonderful trip through the past by itself and there would be no restrictions on which memories could be used to describe this great, caring human known by all of us as THE CHIEF.

He trained at exemplary places, Harvard for medical school and internship, followed by a research fellowship and pediatric residency at Boston Children's. From 1950 through 1972, he served as a faculty member at the University of Pennsylvania. In 1972, the University of South Florida wisely appointed him Chair of Pediatrics. In 1987, love moved him to the University of Wisconsin to join his distinguished wife, Dr Enid Gilbert-Barness, as an emeritus professor. In 1993, they both came back to the University of South Florida to finish their careers together.

Lew was one of the rare "triple-threat" academicians—a superb clinician, a superb researcher, and a superb teacher. He received almost all of the major pediatric academic awards during his career—a great testimony, by his peers, to his national and international prominence. His seminal work with children suffering with methylmalonic acidemia is only one example of his many innovative research studies that lasted throughout his entire career.

His true love was teaching. It was insightful, instructive, and flavored with good humor. But the most important characteristic of his effective teaching was that he loved students; he respected people, and he was optimistic about society. He kept that attitude throughout his entire life.

He loved to tell awful jokes. It was almost painful to hear the groans after his shaggy dog stories. A good example is the one about two snails walking down

the street. They went into a Jaguar car dealer and after some negotiations one snail said he'd buy the most expensive car if the dealer would paint large "S's" on both sides of the car. The other snail was perplexed and asked why. The answer: "So when I drive down the street everyone will watch me and say, look at that S car go." Typical but awful.

His bedside patient rounds with the students, residents, and staff were classic. He would go to the bedside, examine the patient, discuss issues, and then, most terrifying of all, he would become very Socratic by firing questions at someone in the group. They were thought-provoking and usually had a humorous flavor. Sometimes his water gun got the attention of a distracted student. Another wakeup alarm was that THE CHIEF had alternative names to call various faculty and students. Walter Tunnessen was one of the teaching staff and a great pediatrician. Lew would call him, "Tunafish," and if there was no quick answer, he'd call him "Tuna." It always got a smile. My appellation was "Edgar" due to the fact that Edgar R. Murrow, a well-known newsman, had died and Lew felt that some of my answers were dead wrong. Frank Oski, a great academician, was "Oscar," named for Oscar Mayer wieners. The unusual thing about his using alternative names was that no one felt they were the brunt of a joke or singled out for ridicule. It was just THE CHIEF having a good time on rounds. Somehow his brisk comments made the individual try harder, read up on the disease, and want to become a better physician. When I had written my first paper, I asked him if he'd review it. He did and said that it was fine except for two problems. I felt a sense of relief and said, "What are they?" He came back with, "Edgar, the science is pure \$\%#\&" and "It needs to be rewritten in English." We finally got the paper published but I certainly learned a lot about how to write a manuscript. He was always very effective in supporting and cultivating the careers of his faculty.

Later in his career, when he was Chair of the Department of Pediatrics at the University of South Florida, he was able to build the Department, recruit excellent faculty, and produce a culture of camaraderie and excitement that made working there a privilege. Lew was well established nationally and internationally as an expert in nutrition and how it affects one's individual health. He never overate and, in fact, he never ate much at all. He usually had a Mr. Goodbar for lunch as he smoked his pipe, and he participated in absolutely no physical exercise whatsoever. What was the outcome of his not following his own advice? Were his arteries clogged? No, he didn't have one scintilla of calcium in any of his arteries and his intellect was perfectly intact. Being a geneticist, Lew knew that could trust his genetics more than his eating habits.

Even after he retired in 2007, he and Enid wrote many of the classic text-books about nutrition, metabolic diseases, as well as physical and clinical diagnoses. One of his favorite quotes was by Socrates (ie, "The unexamined life is not worth living"). It was a true mantra for him and helped explain why he was so insightful and productive throughout his entire career.

Other flashes of memory are that he was humble for being so well-known and prominent. Throughout his career, he always bought his clothes from a Haband catalog. He had no need to flaunt his status.

In trying to express how people felt about Lew, the word Mensch seems most appropriate. It's perfect since it means a person of integrity and honor, a person to admire and emulate, and a person of noble character. Lew personified all of these traits.

The field of pediatrics, its pediatric institutions, and mostly the children, have benefited greatly because of Lew.

All of us hope that we could be remembered by as many people and with as much fondness as there is for THE CHIEF. All of us, particularly the family, will miss him.

Grant Morrow III, MD Research Institute at Nationwide Children's Hospital The Ohio State University 700 Children's Drive, Columbus, OH 43205-2696, USA

E-mail address: morrowg@ccri.net

BERTRAM LUBIN, MD

It is an honor for me to write a few paragraphs that will be included in a tribute to Dr Lewis Barness. Dr Barness was a friend, a mentor, the pediatrician for two of my children, and a role model whom I have cherished my entire career. He was truly a pediatrician's pediatrician. I first met Dr Barness when I was an intern at Children's Hospital of Philadelphia in 1964. He had assembled a staff at the University of Pennsylvania that included future leaders in pediatrics, among whom was Frank Oski, my friend, mentor, and colleague for life. I recall the first visit to Dr Barness' office, where stacks of journals were on his desk and on the floor, the content of which he had stored in his brain, ready to ask me and others to recall. He remembered details that proved to be pearls for all of us. I was petrified when I first met him as his reputation preceded him. However, within seconds, without receiving a squirt from his water pistol, which he concealed in his white coat, my heart was won over. Over the years, I appreciated that what I had experienced was something shared by many, and the warmth he had for his students was one of his shining characteristics.

Dr Barness was an enormous help to my family and me. When I was a fellow in Hematology/Oncology at Boston Children's Hospital, I sought his advice as to how my family could make a decision regarding our newborn son, who had Down syndrome. I will never forget his wise comments when I stated that we would get attached to Charlie if we brought him home. Dr Barness promptly responded that we had already been attached to him for nine months, and that both of us had the strength to raise him in a world that did not understand that not all of us can make a great contribution to society. Charlie is now 45 years old and has brought joy to many people.

Dr Barness was always willing to visit Children's Hospital in Oakland and give Grand Rounds. On one occasion, when the topic for his talk was "Pediatric Smells," he accidentally left his slides on the plane. You can imagine the challenge of giving a talk on metabolic disease without slides. This did not faze him. The talk was excellent and much was learned by the community doctors, our house staff, and me.

I have this wonderful picture of Dr Barness in my office, bowtie and all, and his great smile. I will always remember Dr Barness and will use the knowledge he passed on to me. I try to be like Dr Barness, always available, always willing to help, always engaging, always comforting, always caring, always ready to laugh. Dr Barness, I will never forget you.

Bertram Lubin, MD Children's Hospital and Research Center Oakland, CA, USA

E-mail address: blubin@mail.cho.org

JAIME L. FRÍAS, MD, FAAP, FACMG

Lew Barness was widely recognized and admired for his stature as a pediatrician and a scientist, his encyclopedic knowledge, his strong commitment to his patients and students, and his gentle demeanor. But sartorial elegance was definitely not one of his attributes, as he regularly purchased his clothing from Haband—a mail-order haberdasher. A frequently repeated story that forms part of the legend surrounding Lew tells that a few months after arriving in Tampa as the Founding Chairman of the Department of Pediatrics, and probably as a result of having ordered several new outfits befitting his new role, Haband executives contacted Lew to offer him a position as their local representative. He, obviously, did not accept the offer, but did continue to be their devoted customer.

Lew was also admired for his delightful sense of humor along with his quick and amusing comments and rejoinders. One example is a classic Lew Barness response during an interview for the Oral History Project of the American Academy of Pediatrics. While talking about Lew's days in medical school, the interviewer, Howard Pearson, asked him, "Your role models were General Practitioners, but you decided early to be a pediatrician. Why?" Lew responded, "I don't know why. I guess I felt that I would never grow up anyway." And, if keeping the curiosity and the positive and optimistic attitude of the young means not growing up, Lew indeed never did. Same as a child who loves without reservation, he loved his family, his friends, his colleagues, his students, and his patients. Same as a child, he ignored the imperfections of those of us who surrounded him. And, same as a child, he could laugh freely when he found that something was funny. In the dedication of *The Little Prince*, Saint-Exupéry writes, "All grown-ups

were once children... but only few of them remember it." It is evident that Lew Barness never forgot.

Jaime L. Frías, MD, FAAP, FACMG Department of Pediatrics University of South Florida Tampa, FL, USA

E-mail address: jfrias3540@gmail.com

JANE CARVER, PhD, MS, MPH

In 1980, I had the great fortune to be offered the opportunity to complete my graduate studies in Dr Barness' laboratory, where I worked under the guidance of him and Dr Susan Carlson. Those were exciting times in infant nutrition research. Considerable federal funding for research was available, and new analytical methods were revealing the unique components of human milk and their roles in infant nutrition and development. Dr Barness, a staunch advocate of breast-feeding, was convinced that "Mother Nature" knew best and was not wasteful. He accurately predicted that many human milk components considered to be artifacts did in fact play important roles in development. His insights led to improvements in infant formulas.

The atmosphere in Dr Barness' laboratory was one of hard work and dedication, tempered by fun, collegiality, and a stimulating intellectual atmosphere. Dr Barness was a very humble and light-hearted person, and he was quick to "correct" people who took themselves too seriously; he always did this in a kindly and amusing way. His birthday was a major event each year and we honored him in various ways, including having the entire lab wear T-shirts emblazoned with his picture, printing "Barness Bucks," and creating elaborate cakes themed after his favorite interests, including breast-feeding and baseball! One of Dr Barness' most endearing characteristics was the compassion he exhibited for colleagues, students, and employees. I often worked late in the lab, and it was not uncommon to find him in his office in the evening chatting with a member of the custodial staff, patiently listening to concerns they had about their children and families. Dr Barness made it clear to all of us that family interests came first. It's a lesson I have remembered over the years. His wisdom and guidance-both professional and personal-continue to guide me.

> Jane Carver, PhD, MS, MPH University of South Florida College of Medicine Department of Pediatrics and Molecular Medicine Tampa, FL, USA

> > E-mail address: jcarver@health.usf.edu

MICHAEL S. KAPPY, MD, PhD

Lew Barness was a giant in the field of pediatrics. He was the *only person in the long history of pediatrics* to be honored with all three of our most prestigious awards: the St. Geme Award (1991), the Jacobi Award (1991), and the Howland Award (1993).

He was born to Russian immigrants. His name, Barness, loosely translated from the Hebrew, as "Bar-Ness," means "son of a miracle." Whether or not this is accurate is not relevant, but he liked to mention it from time to time.

I once visited him and his wife, Enid, in Madison, Wisconsin, when he took a year's sabbatical from South Florida to be with her, a highly regarded professor of Pediatrics at the University of Wisconsin Medical School. He said, "It's too d*** cold here!"

He had a quality that drew people to him. In one of his tributes, it was stated that he was "one of the few remaining great clinicians, whose love for children, for his peers and students, and for advancing knowledge through research, and whose dedication to improving the human condition, have made him a 'legend in his own time'."

His list of publications numbers in the several hundreds. His trainees are also in the hundreds. His achievements were honored "officially" when he was Chief of Pediatrics at the University of South Florida Medical School, by the Mayor of Tampa's declaration of June 23, 1987 as "Lew Barness Day."

Finally, the American Academy of Pediatrics, in their Oral History Project in 1998, published a comprehensive interview of Lew by Dr Howard Pearson, a distinguished Professor of Pediatrics in his own right. When I asked Lew what he thought of the honor of being part of this project, he joked, "I fell asleep reading it."

It is fitting that we honor him in this volume of *Advances in Pediatrics*. He assumed the editor-in-chiefship of this journal in 1973–just the third person in this position since its founding in 1952. He served in that role for 30 years and remained on the Editorial Board along with Enid until he died. We miss him.

Michael S. Kappy, MD, PhD
Department of Pediatrics
University of Colorado School of Medicine
Children's Hospital Colorado
13123 East 16th Avenue
B-265, Aurora, CO 80045, USA

E-mail address: michael.kappy@childrenscolorado.org