

INTEGRATIVE PEDIATRICS



TIMOTHY CULBERT
AND KAREN OLNESS

Integrative Pediatrics

Weil Integrative Medicine Library

Published and Forthcoming Volumes

SERIES EDITOR

ANDREW T. WEIL, MD

Donald I. Abrams and Andrew T. Weil: *Integrative Oncology*

Timothy P. Culbert and Karen Olness: *Integrative Pediatrics*

Gerard Mullin: *Integrative Gastroenterology*

Victoria Maizes and Tieraona Low Dog: *Integrative Women's Health*

Randy Horwitz and Daniel Muller: *Integrative Rheumatology, Allergy,
and Immunology*

Bernard Beitman and Daniel A. Monti: *Integrative Psychiatry*

Stephen DeVries and James Dalen: *Integrative Cardiology*

Integrative Pediatrics

EDITED BY

Timothy P. Culbert, MD

Medical Director

Integrative Medicine Program

Children's Hospitals and Clinics of Minnesota

Assistant Professor of Clinical Pediatrics

Department of Pediatrics

University of Minnesota Medical School

Karen Olness, MD

Professor of Pediatrics

Family Medicine and Global Health

Case Western Reserve University

OXFORD
UNIVERSITY PRESS

2010

OXFORD
UNIVERSITY PRESS

Oxford University Press, Inc., publishes works that further
Oxford University's objective of excellence
in research, scholarship, and education.

Oxford New York
Auckland Cape Town Dar es Salaam Hong Kong Karachi
Kuala Lumpur Madrid Melbourne Mexico City Nairobi
New Delhi Shanghai Taipei Toronto

With offices in
Argentina Austria Brazil Chile Czech Republic France Greece
Guatemala Hungary Italy Japan Poland Portugal Singapore
South Korea Switzerland Thailand Turkey Ukraine Vietnam

Copyright © 2010 by Oxford University Press, Inc.

Published by Oxford University Press, Inc.
198 Madison Avenue, New York, New York 10016
www.oup.com

Oxford is a registered trademark of Oxford University Press

All rights reserved. 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 the prior permission of Oxford University Press.

Library of Congress Cataloging-in-Publication Data
Integrative pediatrics / [edited by] Timothy P. Culbert, Karen Olness.
p. ; cm.

Includes bibliographical references.

ISBN 978-0-19-538472-7

1. Children—Diseases—Alternative treatment. 2. Integrative medicine. I. Culbert, Timothy. II. Olness, Karen.
- [DNLM: 1. Complementary Therapies—methods. 2. Adolescent. 3. Child. 4. Infant. WB 890 I6o86 2o09]
RJ53.A48I62 2o09
618.92—dc22
2o08o4o39o

1 3 5 7 9 8 6 4 2
Printed in the United States of America
on acid-free paper

CONTENTS

<i>Foreword I</i>	ix
<i>Foreword II</i>	xiii
<i>Acknowledgments</i>	xv
<i>Contributors</i>	xvii

I Foundations of Integrative Pediatric Care

1. Introduction to Integrative Pediatrics	3
Timothy P. Culbert, Karen Olness, and Sunita Vohra	
2. Assessment and Treatment Planning in Integrative Pediatric Practice	13
Timothy P. Culbert, Victoria Maizes, Tai Mendenhall, and David K. Becker	
3. Culture and Spirituality in Integrative Pediatrics	30
Judson B. Reaney and Gregory A. Plotnikoff	
4. Essential Medicine: Self-Care for Pediatric Providers	47
Danna M. Park	
5. Research and Education in Integrative Pediatrics	73
Sunita Vohra and Trish Dryden	

II Pediatric Perspectives on Specific Therapeutic Approaches

6. A Pediatric Perspective on Acupuncture	103
Yuan-Chi Lin and Shu-Ming Wang	
7. A Pediatric Perspective on Aromatherapy	123
Maura Fitzgerald and Linda L. Halcón	
8. A Pediatric Perspective on Chiropractic	146
Karen Erickson, Elise G. Hewitt, Amy Lynne Watson, Anthony L. Rosner, and Randy L. Hewitt	
9. A Pediatric Perspective on Energy Therapies	180
Mary Jane Ott, Lorraine Bossi, and Jeanne Colbath	
10. A Pediatric Perspective on Exercise Medicine	204
Amanda K. Weiss Kelly and Susannah M. Briskin	

11.	A Pediatric Perspective on Herbs and Supplements Paula Gardiner and Tieraona Lowdog	217
12.	A Pediatric Perspective on Homeopathy David Riley, Menachem Oberbaum, and Shepherd Roe Singer	234
13.	A Pediatric Perspective on Massage Shay Beider, Erin T. O'Callaghan, and Jeffrey I. Gold	248
14.	A Pediatric Perspective on Mind-Body Medicine Daniel P. Kohen	267
15.	A Pediatric Perspective on Naturopathic Medicine Matthew I. Baral, Wendy Weber, and Jessica Mitchell	302
16.	A Pediatric Perspective on Nutritional Therapeutics Benjamin Kligler and Emilie Scott	314
17.	A Pediatric Perspective on Osteopathic Medicine Ali Carine, Miriam Mills, and Viola Frymann	340

III Clinical Applications in Integrative Pediatrics

18.	Integrative Adolescent Medicine Cora Collette Breuner	367
19.	Integrative Developmental/Behavioral Pediatrics Sanford Newmark	395
20.	Integrative Pediatric Gastroenterology Gerard A. Banez and Rita Steffen	425
21.	Integrative Pediatric Intensive Care David M. Steinhorn and Sheila Wang	446
22.	Integrative Pediatric Mental Health (Assessment and Treatment Using an Ecological Perspective) Scott M. Shannon	458
23.	Integrative Pediatric Oncology Susan F. Sencer	487
24.	Integrative Pediatric Pain Management Joy A. Weydert and Mark Connelly	518
25.	Integrative Pediatric Palliative Care Stefan J. Friedrichsdorf, Leora Kuttner, Krista Westendorp, and Ruth McCarty	569
26.	Integrative Pediatric Primary Care Lawrence D. Rosen	594
27.	Integrative Pediatric Pulmonology John D. Mark	621

IV The Future of Integrative Pediatrics: Looking Ahead

- | | | |
|------------|--|-----|
| 28. | The Future of Integrative Pediatrics
Timothy P. Culbert, Kathi J. Kemper, and Lawrence D. Rosen | 653 |
| | Index | 675 |

V Integrative Pediatrics: Additional Chapters—Web-Based Supplement

(www.oup.com/us/integrativepediatrics)

- | | |
|------------|--|
| 29. | Optimal Healing Environments in Pediatrics
Chris Feudtner and Wayne B. Jonas |
| 30. | Ethical Perspectives on Integrative Pediatrics
Kathi J. Kemper |
| 31. | Designing Integrative Pediatrics Programs: Business and
Administrative Aspects
Lynda Richtsmeier Cyr, Timothy P. Culbert, and Lori Knutson |
| 32. | Pediatric Perspectives on Environmental Medicine
Mark D. Miller and Alice C. Brock-Utne |
| 33. | A Pediatric Perspective on Creative Arts Therapies
Deforia Lane, Emily Darsie, and Barbara DiScenna |
| 34. | A Pediatric Perspective on Yoga
Gurjeet Singh Birdee and Paula Gardiner |
| 35. | Global Pediatrics and Health Disparities
Karen Olness and Boris Kalanj |

This page intentionally left blank

FOREWORD I

Integrative medicine and alternative medicine are not synonymous. Alternative medicine comprises all those therapies not taught in conventional (allopathic) medical schools, based on ideas of variable soundness, ranging from some that are sensible and worth including in mainstream medicine to others that are foolish and a few that are dangerous. The term “alternative medicine” has recently been incorporated into a broader term, “complementary and alternative medicine” or “CAM,” used by the US federal government and other institutions; the National Institutes of Health now has a national CAM center (NCCAM).

Neither “alternative” nor “complementary” captures the essence of integrative medicine. The former suggests replacement of conventional therapies by others; the latter adjunctive therapies, added as afterthoughts.

IM does include ideas and practices currently beyond the scope of the conventional, but it neither rejects conventional therapies nor accepts alternative ones uncritically. Most importantly, it emphasizes principles that may or may not be associated with CAM, that is

- *The Natural Healing Power of the Organism*—IM assumes that the body has an innate capacity for healing, for self-diagnosis, self-repair, regeneration, and adaptation to injury or loss. The primary goal of treatment should be to support, facilitate, and augment that innate capacity.
- *Whole Person Medicine*—IM views patients as more than physical bodies. They are also mental/emotional beings, spiritual entities, and members of particular communities and societies. These other dimensions of human life

are relevant to health and to the accurate diagnosis and effective treatment of disease.

- *The Importance of Lifestyle*—Health and disease result from interactions between genes and all aspects of lifestyle, including diet, physical activity, rest and sleep, stress, the quality of relationships, work, and so forth. Lifestyle choices may influence disease risks more than genes and must be a focus of the medical history. Lifestyle medicine, which is one component of IM, gives physicians information and tools to enable them to prevent and treat disease more effectively.
- *The Critical Role of the Doctor–Patient Relationship*—Throughout history people have accorded the doctor–patient relationship special, even sacred, status. When a medically trained person sits with a patient and listens with full attention to his or her story, that alone can initiate healing before any treatment is offered. A great tragedy of contemporary medicine, especially in the USA, is that for-profit, corporate systems have virtually destroyed this core aspect of practice. If practitioners have only a few minutes with each patient—the time limit set by the managed care systems they work for—it is very unlikely they will be able to form the kind of therapeutic relationships that foster health and healing.

Furthermore, this special form of human interaction has been the source of greatest emotional reward for the physician, and its disappearance in our time is a main reason for rising practitioner discontent. IM insists on the paramount importance of the therapeutic relationship and demands that health care systems support and honor it (e.g., by reimbursing physicians for time spent with patients rather than number of patients seen).

In essence, integrative medicine is conservative. It seeks to restore core values of the profession that have eroded in recent times. It honors such ancient precepts as Hippocrates' injunctions on physicians to "first do no harm" and "to value the healing power of nature." It is conservative in practice, favoring less invasive and drastic treatments over more invasive and drastic ones whenever possible, and it is fiscally conservative in relying less on expensive technology and more on simpler methods, *as appropriate to the circumstances of illness*.

How can pediatric medicine benefit from holding to these principles?

The innate healing power of organisms decreases with age. We can observe the workings of the body's healing mechanisms most easily in the young, and we can often support and facilitate them with less invasive, less expensive interventions than those required in adult patients. Homeopathic remedies, osteopathic manipulation, and hypnotherapy, for example, can be remarkably successful in children. By embracing this principle of IM, pediatricians can increase their effectiveness and also decrease costs and risks of treatment.

Some people dismiss the relevance of whole person medicine to the pediatric patient population, believing that the young do not have developed minds and belief systems. But even infants participate in the emotional dynamics of encounters between parents and doctors, and the possibilities for using mind/body interventions in children should never be ignored. Hypnosis and guided imagery can reduce pain and anxiety associated with office visits and procedures. Stress reduction training can reduce the need for medication in many instances.

Lifestyle analysis and counseling should be central in pediatrics, because patterns of behavior that influence long-term health are often set in childhood. Witness the epidemic of childhood obesity in North America, and in its wake, an epidemic of type-2 diabetes (with onset at younger ages than we have ever seen). This calamity is the result of dissonance between genes and lifestyle, in particular the increasing consumption of high-glycemic-load carbohydrates and unhealthy fats in the refined, processed, and manufactured food that has become so prominent in North American diets. A major responsibility of integrative pediatric medicine is to teach parents and children about the health consequences of lifestyle choices and to motivate them to make better ones.

And, of course, the doctor–patient relationship is as important in pediatrics as in any other area of medicine, both for effective practice and for emotional reward. Disruption of continuity of care by profit-driven medicine has made it a rarity for pediatricians to follow patients from infancy to young adulthood, to know them and their families well.

Consumer demand for integrative pediatric medicine is very high. More and more parents are wary of giving kids pharmaceutical drugs for every problem. They question the unprecedented use of psychiatric medication in the young. They ask why more children than ever are developing asthma and allergies. They want to know why the incidence of autism and ADHD is so high. Many even question the safety and value of immunizations. I believe that integrative pediatricians are best trained to listen to these concerns, help parents understand the risks and benefits of treatments, and analyze the nature and causation of disorders that affect children.

Ever since I founded the Program in Integrative Medicine (now the Arizona Center for Integrative Medicine [ACIM]) in 1994, I have worked to make training in IM available to pediatricians and to stimulate research in integrative approaches to pediatric disorders. I served as co-principal investigator (with Dr. Faye Ghishan) of NCCAM's Center for Pediatric CAM Research at the University of Arizona, helped organize the first conference on integrative pediatric medicine in the US, have treated pediatric patients at the outpatient integrative medicine clinic at the Arizona Health Sciences Center, and have taught pediatricians who have gone through our intensive IM fellowships (see www.integrativemedicine.arizona.edu). My colleagues and I at ACIM are now developing a comprehensive curriculum in IM (in distributed learning format) that we hope will become a required, accredited part of pediatric residency programs.

I do not see any real barriers to this enhancement of training. More than many other practitioners, pediatricians are open to the philosophy of IM. They are also highly motivated to promote health and prevent disease in the young, and eager to learn about low-risk, low-tech, low-cost interventions that not included in their training.

The editors of this volume, Drs. Timothy P. Culbert and Karen Olness, have compiled a great deal of information to help practitioners understand and use IM. I consider it a significant contribution to the emerging field of integrative pediatrics.

Andrew Weil, MD

FOREWORD II

Over the past two decades in the USA; non-traditional approaches (i.e. complementary, alternative, folk or culture-specific non-allopathic practices) to medical care have moved from the fringes of medical care to, if not center stage, at least somewhere on the stage. This is in part because a large percent of people of all ages are using some aspects of these therapies. Even more important in their acceptance, is the scientific approach by many clinicians, who are the authors of this book, to examine their efficacy. Most are not new theories and clinical care modes. Indeed many antedate allopathic medicine by centuries or even millenia. This book will challenge and engage most of us who know little about the many areas covered by this book.

A word about the title given to this field, for awhile “alternative medicine” had some popularity. But most clinicians did not like this term, for clearly there are many conditions for which non-traditional medicine works. We were not happy to discard much of non-traditional medicine. Then “complementary medicine” was in vogue. I liked this term because it implied that these approaches could be added to conventional care. Under the influence of George Engel, I have liked the term “bio-psycho-social” medicine but I have to admit that it has been used primarily by physicians and, while it could include the areas covered in this book, it rarely did. Now the title “integrative medicine” has come into use, as in this book. It is a good term for it puts these many non-traditional therapies on a par with allopathic medicine. An Integrative approach emphasizes the recognition of mind, body, spirit, and sociocultural context as both determinants of illness and treatment foci of care. The challenge for the clinician is to integrate these many therapeutic approaches together in a healing balance, for the best care of the patient.

The authors, each leaders in their fields, have put forward a fine description of the many specific areas of focus within integrative pediatrics. In the book's first section on "Foundations of Integrative Pediatric Care," Vohra discusses the research and educational needs, which are huge since so few pediatricians have received formal education in this area. The next 12 chapters review several of these therapeutic modalities in detail with specific attention to their relevance in pediatric care. The section on "Clinical Applications in Integrative Pediatrics" brings together a number of specific pediatric problems or age groups. I think that this integration of several of the fields described is the real challenge for the clinician. Selecting the most appropriate therapy for the patient and family while balancing risk and benefit with patient preferences is an art and science. It is the challenge taken up in this book. In the final chapter, Culbert et al. conclude with an essay on the future of integrative pediatrics. The goal should be to bring to bear on the patient the most appropriate collection of services in supporting each child and family in a process which facilitates optimal healing and ongoing wellness. This book will go a long way to achieve integrated care for the benefit of our young patients.

Robert Haggerty

ACKNOWLEDGMENTS

I would not have the privilege of editing this volume without my experience in the clinical practice of integrative pediatrics over the past 10 years. My thanks to the staff of the Integrative Medicine Program at Children's Hospitals and Clinics of Minnesota who make this a joyful undertaking, particularly Lynda Richtsmeier-Cyr and Maura Fitzgerald who have been there since the beginning and who participated equally in creating this amazing program. I extend my deep appreciation as well to all of the children and families I have been privileged to serve and learn from along the way.

It is important to recognize the courage and foresight of Julie Morath, former COO of Children's Hospitals and Clinics of Minnesota for her unyielding support as "executive champion" of this program at the leadership level of our organization from the very beginning. I also wish to thank Susan Sencer, MD for co-founding the program in Integrative Medicine at Children's Hospitals and Clinics of Minnesota in 1999, for offering me the chance to join this pioneering effort and for her wise council and positive influence.

I also wish to thank my friends and professional colleagues particularly Sunita Vohra, Kathi Kemper, Larry Rosen, Scott Shannon, Jon Mark, David Steinhorn, Rebecca Kajander, Penny George, Lori Knutson, Gerard Banez, Leora Kuttner, Lonnie Zeltzer, Anthony Galas, Paula Gardiner, Judson Reaney, and Daniel Kohen, who have been a constant source of support and inspiration as I have journeyed down this rewarding path. Thanks as well to the talented, hardworking, and innovative chapter authors for this volume who are defining this new field.

My heartfelt thanks to my co-editor Karen Olness, one of the pioneers of complementary medicine and global pediatrics, who kindled an interest in mind-body skills early on in my career and who has been a great friend and mentor.

Thanks to Andrew Weil, MD for offering me the opportunity to edit this volume and for being a consistent advocate for developing the pediatric area within Integrative Medicine.

With love to Heidi, Sam, Hannah, William, and Joanne Culbert.

Timothy P. Culbert

I dedicate this volume to the many unsung heroes and heroines of child health care who have taken good care of children and families integratively in spite of derision, criticism, and lack of reimbursement. My thanks go to the organizations that have facilitated integrative pediatric research, education, and clinical activities in the United States and worldwide. Some of these are Minneapolis Children's, Rainbow Babies and Children's Hospital in Cleveland, the SDBP, ASCH, SCEH, ISH, and others that are also multidisciplinary such as are the AAPB, AHMA, AHNA, IPA, IASP, AAP, SCHIM, and APA. My thanks also go to organizations such as NCCAM and The Bravewell Collaborative that have been willing to "take a chance" in supporting integrative pediatrics education programs and research. To a large extent, this book evolved because they took those chances.

And I thank all those mentors and colleagues on whose shoulders I stand including Erik Wright, Kay Thompson, Bob Pearson, Franz Baumann, Esther Bartlett, Bertha Rodger, Philip Ament, William Kroger, David Merrill, Neal Gault, Arnold Anderson, Robert Good, and Robert Haggerty.

And I especially thank my husband, Hakon, who remains the wind beneath my sails.

Karen Olness

CONTRIBUTORS

Gerard A. Banez, PhD

Program Director, Pediatric Pain
Rehabilitation Program
Cleveland Clinic Children's Hospital
Cleveland, OH

Matthew I. Baral, ND

Assistant Professor, Medical Director
Hamilton Elementary School Clinic
Southwest College of Naturopathic
Medicine
Tempe, AZ

David K. Becker, MD, MPH

Director
Pediatric Integrative Pain Clinic
and
Assistant Clinical Professor
UCSF Department of Pediatrics
University of California
San Francisco, CA

Shay Beider, MPH, LMT

Executive Director
Integrative Touch for Kids
Beverly Hills, CA

Gurjeet Singh Birdee, MD, MPH

Clinical Research Fellow
Osher Research Center Harvard Medical
School
Boston, MA

Lorraine Bossi, MS, APRN, BC

Medicine Patient Care Services Project
Manager
Children's Hospital Boston
Boston, MA

Cora Collette Breuner, MD, MPH

Associate Professor
Department of Pediatrics
Adjunct Associate Professor of
Orthopedics
Section of Adolescent Medicine and
Sports Medicine
University of Washington
Seattle Childrens Hospital
Seattle, WA

Susannah M. Briskin, MD, FAAP

Assistant Professor of Pediatrics
Primary Care Sports Medicine
Rainbow Babies and Children's Hospital
University Hospitals Case Medical Center
Cleveland, OH

Alice C. Brock-Utne, MD

Residency Curriculum Project Director
Pediatric Environmental Health Specialty
Unit
University of California
San Francisco, CA
and
General Pediatrician
Marin Community Clinics
San Rafael, CA

Ali Carine, DO, FACOP, C-NMM/OMM

Clinical Faculty
Ohio University COM
Columbus, OH

**Jeanne Colbath, RN, MSN, APRN, BC,
A-HNC, CHTP**

Coordinator of Cardiac Rehabilitation
Caritas St. Elizabeth's Medical Center
Boston, MA

Mark Connelly, PhD

Assistant Professor of Pediatrics
University of Missouri—Kansas City
School of Medicine
Children's Mercy Hospitals and Clinics
Kansas City, MO

Timothy P. Culbert, MD

Medical Director
Integrative Medicine Program
Children's Hospitals and Clinics of
Minnesota
and
Assistant Professor of Clinical Pediatrics
Department of Pediatrics
University of Minnesota Medical School
Minneapolis, MN

Emily Darsie, MA, MT-BC

Music Therapist
Rainbow Babies and Children's Hospital
Cleveland, OH

**Barbara DiScenna, MA, ATR-BC, LSW,
LPC**

Art Therapist
University Hospitals of Cleveland
Cleveland, OH

Tieraona Low Dog, MD

Assistant Professor, Internal Medicine
Director of Education, Program in
Integrative Medicine
University of Arizona
Tucson, AZ

Trish Dryden, RMT, MEd

Director of Applied Research
Centennial College
Toronto ON
Canada

Karen Erickson, DC

Spokesperson
American Chiropractic Association
Board of Trustees
New York Chiropractic College
New York, NY

Chris Feudtner, MD, PhD, MPH

Director, Department of Medical Ethics
The Steven D. Handler Endowed
Chair of Medical Ethics
The Children's Hospital of Philadelphia
and
Assistant Professor of Pediatrics
The University of Pennsylvania School of
Medicine
Philadelphia, PA

Maura Fitzgerald, RN, MS, MA, CNS

Clinical Nurse Specialist
Integrative Medicine
Children's Hospitals and Clinics of
Minnesota
Minneapolis, MN

Stefan J. Friedrichsdorf, MD

Pain and Palliative Care Program
Children's Hospitals and Clinics of
Minnesota
Minneapolis, MN

Viola Frymann, DO, FAAO, FCA

Fellow of the American Academy
of Osteopathy and Fellow of
the Cranial Academy
San Diego, CA

Paula Gardiner, MD, MPH

Assistant Professor
Department of Family Medicine
Boston University Medical Center
Boston, MA

Jeffrey I. Gold, PhD

Associate Professor
Anesthesiology & Pediatrics
Keck School of Medicine
University of Southern California
Pediatric Psychologist
Children's Hospital Los Angeles
and
Director
Pediatric Pain Management Clinic
Department of Anesthesiology
Critical Care Medicine Comfort
Pain Management and Palliative Care
Program
USC University Center for Excellence
Mental Health Childrens Hospital
Los Angeles
Los Angeles, CA

Linda L. Halcón, PhD, MPH, RN

Associate Professor
School of Nursing
University of Minnesota
Minneapolis, MN

Elise G. Hewitt, DC CST, DICCP, FICC

Board Certified Pediatric Chiropractor
Certified Craniosacral Therapist
President, ACA Council on Chiropractic
Pediatrics
Board of Directors, Integrative Pediatrics
Council
Portland Chiropractic Group
Portland, OR

Randy L. Hewitt, DC

Certified Chiropractic Sports Physician
Portland Chiropractic Group
Portland, OR

Wayne B. Jonas, MD

President and CEO
Samueli Institute
Alexandria, VA

Boris Kalanj, MSW, LISW

Director of Health Care Equity and
Cultural Competence
Children's Hospitals and Clinics of
Minnesota
Minneapolis, MN

Kathi J. Kemper, MD, MPH

Caryl Guth Chair for Holistic and
Integrative Medicine
Professor, Pediatrics, Public Health
Sciences
Wake Forest University School of
Medicine
Winston-Salem, NC