

Journal of Athletic Training

<http://www.natajournals.org>

Volume 51, Number 5, May 2016

Editor-in-Chief

Craig R. Denegar, PhD, PT, ATC, FNATA
University of Connecticut

Associate Editors

David C. Berry, PhD, AT, ATC
Saginaw Valley State University

Paul A. Borsa, PhD, ATC, FACSM
University of Florida

Steven P. Broglio, PhD, ATC
University of Michigan

Douglas J. Casa, PhD, ATC, FNATA, FACSM
University of Connecticut

Mitchell L. Cordova, PhD, ATC, FNATA, FACSM
Florida Gulf Coast University

Joseph M. Hart, PhD, ATC, FNATA, FACSM
University of Virginia

J. Ty Hopkins, PhD, ATC, FNATA, FACSM
Brigham Young University

Kristin L. Kucera, PhD, MSPH, ATC
University of North Carolina at Chapel Hill

Stephanie M. Mazerolle, PhD, LAT, ATC, FNATA
University of Connecticut

Patrick O. McKeon, PhD, ATC, CSCS
Ithaca College

Joseph B. Myers, PhD, ATC
Tampa Bay Rays

James A. Oñate, PhD, ATC, FNATA
The Ohio State University

Darin A. Padua, PhD, ATC
University of North Carolina at Chapel Hill

Susan A. Saliba, PhD, PT, ATC, FNATA
University of Virginia

Tamara C. Valovich McLeod, PhD, ATC, FNATA
Arizona School of Health Sciences

Stacy E. Walker, PhD, ATC
Ball State University

Official publication of the following associations

National Athletic Trainers' Association
Taiwan Athletic Trainers' Society
Japan Athletic Trainers' Organization
Athletic Rehabilitation Therapy Ireland

Senior Associate Editors

Jay Hertel, PhD, ATC, FNATA, FACSM
University of Virginia

Jennifer M. Hootman, PhD, ATC, FNATA, FACSM
Centers for Disease Control and Prevention

Sandra J. Shultz, PhD, ATC, FNATA, FACSM
University of North Carolina at Greensboro

Clinical Applications Editor

Marjorie A. King, PhD, PT, ATC
Plymouth State University

Statistical Consultants

R. Curtis Bay, PhD
A.T. Still University

Heather Bush, PhD
University of Kentucky

Stephen W. Marshall, PhD
University of North Carolina at Chapel Hill

Bryan L. Riemann, PhD, ATC, FNATA
Armstrong State University

Statistical Consultant Emeritus

Bruce M. Gansneder, PhD
University of Virginia

Consulting Editors

Christopher D. Ingersoll, PhD, ATC, FNATA, FACSM
The University of Toledo

Kenneth L. Knight, PhD, ATC, FNATA, FACSM
Brigham Young University

David H. Perrin, PhD, ATC, FNATA, FACSM
University of Utah

Clint Thompson, MA, ATC
Seattle, WA

Managing Editor

Leslie E. Neistadt, ELS

Editor

Kevin P. Clear

Indexes: Currently indexed in MEDLINE, PubMed Central, Focus on Sports Science & Medicine (ISI: Institute for Scientific Information), Research AlertTH (ISI: Institute for Scientific Information), Physical Education Index, SPORT Discus (SIRC: Sport Information Resource Centre, Canada), CINAHL (Cumulative Index to Nursing & Allied Health Literature), AMED (Allied and Alternative Medicine Database), PsycINFO (American Psychological Association), EMBASE (Elsevier Science), Science Citation Index, Current Contents/Clinical Medicine, Science Citation Index Expanded (SciSearch), Journal Citation Reports/Science Edition, Biological Abstracts, and BIOSIS Previews.

The *Journal of Athletic Training* (ISSN 1062-6050) is published monthly (\$267 for 1-year institutional subscription; \$303 foreign) by the National Athletic Trainers' Association, Inc., 1620 Valwood Parkway, Ste. 115, Carrollton, TX 75006. Periodicals postage paid at Carrollton, TX, and at additional mailing offices. Claims for copies lost in the mail must be received within 90 days (180 days foreign) of the issue date to ensure replacement at no charge.

POSTMASTER: Send address changes to *Journal of Athletic Training*, c/o NATA, 1620 Valwood Parkway, Ste. 115, Carrollton, TX 75006. CHANGE OF ADDRESS: Request for address change must be received 30 days prior to date of issue with which it is to take effect. Duplicate copies cannot be sent to replace those undelivered as a result of failure to send advance notice. ADVERTISING: Although advertising is screened, acceptance of the advertisement does not imply NATA endorsement of the product or the views expressed. Rates available upon request. The views and opinions in the *Journal of Athletic Training* are those of the authors and are not necessarily of the National Athletic Trainers' Association, Inc.

Copyright 2016 by the National Athletic Trainers' Association, Inc. All rights reserved. Printed in the United States. The *Journal of Athletic Training* is printed on paper that meets the requirements of ANSI/NISO Z39.48-1992 (Permanence of Paper).

Editorial Board

Jatin P. Ambegaonkar, PhD, ATC, OT, CSCS
George Mason University

Lawrence E. Armstrong, PhD, FACSM
University of Connecticut

Christopher M. Bailey, PhD
Case Medical Center

Michael F. Bergeron, PhD
Youth Sports of the Americas

J. Troy Blackburn, PhD, ATC
University of North Carolina at Chapel Hill

Michelle C. Boling, PhD, LAT, ATC
University of North Florida

Thomas G. Bowman, PhD, ATC
Lynchburg College

Robert C. Cantu, MD
Emerson Hospital

Thomas A. Cappaert, PhD, ATC, CSCS, CES
Indiana University–Purdue University Indianapolis

Christopher R. Carcia, PhD, PT
Duquesne University

Shane V. Caswell, PhD, ATC
George Mason University

Michael W. Collins, PhD
University of Pittsburgh

R. Dawn Comstock, PhD
Colorado School of Public Health

Tracey Covassin, PhD, ATC, FNATA
Michigan State University

Kevin M. Cross, PhD, PT, ATC
University of Virginia

Gianluca Del Rossi, PhD, ATC, FNATA
University of South Florida

Eamonn Delahunt, PhD, BSc (Physiotherapy)
University College Dublin

Lindsay J. DiStefano, PhD, ATC
University of Connecticut

Carrie L. Docherty, PhD, ATC, FNATA
Indiana University

Michael G. Dolan, MA, ATC, CSCS
Canisius College

Thomas P. Dompier, PhD, ATC
Datalys Center for Sports Injury Research and Prevention, Inc

Jennifer E. Earl-Boehm, PhD, ATC
University of Wisconsin-Milwaukee

Kyle Ebersole, PhD, ATC
University of Wisconsin-Milwaukee

Ruben Echemendia, PhD
PANBA, Inc

Todd A. Evans, PhD, ATC
University of Northern Iowa

Reed Ferber, PhD, ATC, CAT(C)
University of Calgary, Canada

Sandra Fowkes Godek, PhD, ATC
West Chester University

Matthew S. Ganio, PhD
University of Arkansas

Phillip A. Gribble, PhD, ATC, FNATA
The University of Toledo

Kevin M. Guskiewicz, PhD, ATC, FNATA, FACSM
University of North Carolina at Chapel Hill

Jolene M. Henning, EdD, ATC
High Point University

Lee Herrington, PhD, MSc, MCSP
University of Salford, United Kingdom

Mark Hoffman, PhD, ATC, FNATA
Oregon State University

Tricia J. Hubbard-Turner, PhD, LAT, ATC, FNATA
University of North Carolina at Charlotte

Lennart D. Johns, PhD, ATC
Quinnipiac University

Daniel A. Judelson, PhD
Nike Sport Research Lab

Thomas W. Kaminski, PhD, ATC, FNATA, FACSM
University of Delaware

Sarah B. Knowles, PhD, MPH
Palo Alto Medical Foundation Research Institute

Michael C. Koester, MD, AT Ret
Slocum Center for Orthopedics and Sports Medicine

John E. Kovaleski, PhD, ATC
University of South Alabama

Kevin G. Laudner, PhD, ATC, FACSM
Illinois State University

Carl G. Mattacola, PhD, ATC, FNATA
University of Kentucky

Timothy A. McGuine, PhD, ATC
University of Wisconsin, Madison

Jennifer M. Medina McKeon, PhD, ATC, CSCS
Ithaca College

Jason P. Mihalik, PhD, CAT(C), ATC
University of North Carolina at Chapel Hill

Kevin C. Miller, PhD, ATC
Central Michigan University

John Nyland, EdD, PT, SCS, ATC, CSCS
Spalding University

Riann M. Palmieri-Smith, PhD, ATC
University of Michigan

Brian G. Pietrosimone, PhD, ATC
University of North Carolina at Chapel Hill

Scott G. Piland, PhD, ATC
The University of Southern Mississippi

William A. Pitney, EdD, ATC, FNATA
Northern Illinois University

Scott E. Ross, PhD, ATC
University of North Carolina at Greensboro

Eric L. Sauers, PhD, ATC, CSCS, FNATA
Arizona School of Health Sciences

Randy J. Schmitz, PhD, ATC, FNATA
University of North Carolina at Greensboro

JoEllen Sefton, PhD, ATC, CMT
Auburn University

Susan M. Sigward, PhD, PT, ATC
University of Southern California

Michael R. Sittler, EdD, ATC, FNATA
Temple University

Chad Starkey, PhD, ATC, FNATA
Ohio University

Erik E. Swartz, PhD, ATC, FNATA
University of New Hampshire

Paula Sammarone Turocy, EdD, ATC
Duquesne University

Bonnie L. Van Lunen, PhD, ATC
Old Dominion University

Evert Verhagen, PhD
EMGO Institute for Health and Care Research

Cailee E. Welch, PhD, ATC
A.T. Still University

Erik A. Wikstrom, PhD, ATC, FACSM
University of North Carolina at Chapel Hill

Gary B. Wilkerson, EdD, ATC, FNATA
University of Tennessee, Chattanooga

Jonathan E. Wingo, PhD
University of Alabama

Susan W. Yeargin, PhD, ATC
University of South Carolina