

Journal of Athletic Training

<http://www.natajournals.org>

Volume 56, Number 11, November 2021

Editor-in-Chief

Jay Hertel, PhD, ATC, FNATA
University of Virginia

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, FNATA
University of Michigan

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

Tracey Covassin, PhD, ATC, FNATA
Michigan State University

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

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

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

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

Stephanie Mazerolle Singe, PhD, ATC, FNATA
University of Connecticut

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

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

Joseph B. Myers, PhD, ATC
Tampa Bay Rays

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

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

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

Stacy E. Walker, PhD, LAT, ATC, FNATA
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

Clinical Applications Editors

Terry L. Grindstaff, PhD, PT, ATC, CSCS
Creighton University

Senior Associate Editors

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

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

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

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

Statistical Consultants

R. Curtis Bay, PhD

A.T. Still University

Heather M. Bush, PhD
University of Kentucky

Monica R. Lininger, PhD, LAT, ATC
Northern Arizona University

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

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

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, FNATA, FACSM
University of Utah

Digital Applications Editor

Christopher M. Kuenze, PhD, ATC
Michigan State University

Managing Editor

Leslie E. Neistadt, ELS
Saint Louis University

Editor

Jessica Ingle, BFA
Saint Louis University

Indexes: Currently indexed in MEDLINE, PubMed Central, 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), 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 2021 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

- William M. Adams, PhD, ATC
United States Olympic & Paralympic
Committee
- Jatin P. Ambegaonkar, PhD, ATC, OT, CSCS
George Mason University
- David R. Bell, PhD, ATC
University of Wisconsin-Madison
- Michael F. Bergeron, PhD
SIVOTEC Analytics
- 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
University of Lynchburg
- Christopher R. Carcia, PhD, PT
Duquesne University
- Shane V. Caswell, PhD, ATC
George Mason University
- Damien Clement, PhD, ATC, CMPC, NCC
West Virginia University
- Michael W. Collins, PhD
University of Pittsburgh
- R. Dawn Comstock, PhD
Colorado School of Public Health
- Nicole Cosby, PhD, ATC
Point Loma Nazarene 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
- Thomas P. Dompier, PhD, LAT, ATC
Datalys Center for Sports Injury
Research and Prevention, Inc
- Jeffrey B. Driban, PhD, ATC, CSCS
Tufts Medical Center
- Ruben Echemendia, PhD
PANBA, Inc0000
- Todd A. Evans, PhD, ATC
University of Northern Iowa
- Reed Ferber, PhD, ATC, CAT(C)
University of Calgary, Canada
- Matthew S. Ganio, PhD
University of Arkansas
- Kevin M. Guskiewicz, PhD, ATC,
FNATA, FACSM
University of North Carolina at Chapel Hill
- Lee Herrington, PhD, MSc, MCSP
University of Salford, United Kingdom
- Matthew Hoch, PhD, ATC
University of Kentucky
- Mark Hoffman, PhD, ATC, FNATA
Oregon State University
- Yuri Hosokawa, PhD, ATC
Ritsumeikan University
- Tricia J. Hubbard-Turner, PhD, LAT,
ATC, FNATA
University of North Carolina at Charlotte
- Thomas W. Kaminski, PhD, ATC,
FNATA, FACSM
University of Delaware
- Zachary Y. Kerr, PhD, MPH
University of North Carolina at Chapel Hill
- Roger O. Kollock, PhD, ATC, CSCS
The University of Tulsa
- Kenneth C. Lam, ScD, ATC
A.T. Still University
- Carl G. Mattacola, PhD, ATC, FNATA
University of North Carolina at Greensboro
- Timothy A. McGuine, PhD, ATC
University of Wisconsin, Madison
- Jennifer M. Medina McKeon, PhD,
ATC, CSCS
Ithaca College
- Kevin C. Miller, PhD, ATC
Central Michigan University
- Anh-Dung Nguyen, PhD, ATC
High Point University
- Sakiko Oyama, PhD, ATC
The University of Texas at San Antonio
- Riann M. Palmieri-Smith, PhD, ATC, FNATA
University of Michigan
- William A. Pitney, EdD, ATC, FNATA
Northern Illinois University
- Johna K. Register-Mihalik, PhD, LAT, ATC
Matthew Gfeller Sport-Related TBI
Research Center
- Scott E. Ross, PhD, ATC, FNATA
University of North Carolina at
Greensboro
- Eric L. Sauers, PhD, ATC, 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
- Rebecca Stearns, PhD, ATC
University of Connecticut
- Erik E. Swartz, PhD, ATC, FNATA
University of New Hampshire
- Abbey C. Thomas, PhD, ATC
University of North Carolina at Charlotte
- Toni M. Torres-McGehee, PhD, SCAT,
ATC
University of South Carolina
- Bonnie L. Van Lunen, PhD, ATC
Old Dominion University
- Luzita I. Vela, PhD, LAT, ATC
University of Virginia
- Evert Verhagen, PhD
EMGO Institute for Health and Care
Research
- Cailee E. Welch Bacon, 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