

Physical Therapy

Editor in Chief Alan M. Jette, PT, PhD, FAPTA, Boston, MA; ajette@bu.edu

Deputy Editors Diane U. Jette, PT, DSc, FAPTA, Boston, MA; Samuel R. Ward, PT, PhD, La Jolla, CA

Editor Emerita Rebecca L. Craik, PT, PhD, FAPTA

Editorial Board Kristin R. Archer, PT, PhD, FAPTA, Nashville, TN; Marla K. Beauchamp, PhD, Hamilton, Ontario, Canada; Katherine Berg, PT, PhD, Toronto, Ontario, Canada; W. Todd Cade, PT, PhD, St Louis, MO; John Childs, PT, PhD, MBA, FAPTA, San Antonio, TX; Leonardo Costa, PT, PhD, São Paulo, Brazil; Gammon Earhart, PT, PhD, St Louis, MO; G. Kelley Fitzgerald, PT, PhD, Pittsburgh, PA; Mary Gannotti, PT, PhD, West Hartford, CT; Kathleen Gill-Body, PT, DPT, FAPTA, Boston, MA; Arlene Greenspan, PT, DrPH, Atlanta, GA; Karin Harms-Ringdahl, PT, PhD, Huddinge, Sweden; Jill C. Heathcock, PT, PhD, Columbus, OH; Gregory Hicks, PT, PhD, Newark, DE; Rana Hinman, PT, PhD, Carlton, Victoria, Australia; Sarah H. Kagan, RN, PhD, Philadelphia, PA; Michel Landry, BScPT, PhD, Durham, NC; Teresa Liu-Ambrose, PT, PhD, Vancouver, British Columbia, Canada; Mari Lundberg, PT, PhD, Huddinge, Sweden; Christopher Maher, PT, PhD, Sydney, NSW, Australia; Christine McDonough, PT, PhD, Boston, MA; Patricia J. Ohtake, PT, PhD, Buffalo, NY; Elizabeth K. Rasch, PT, PhD, Bethesda, MD; Darcy Reisman, PT, PhD, Wilmington, DE; Linda Resnik, PT, PhD, Providence, RI; Barbara K. Smith, PT, PhD, Gainesville, FL; LaDora Thompson, PT, PhD, Minneapolis, MN; Philip J. van der Wees, PT, PhD, Nijmegen, The Netherlands

Contributing Editors Stuart Binder-Macleod, PT, PhD, FAPTA, Newark, DE; Anthony Delitto, PT, PhD, FAPTA, Pittsburgh, PA; Pamela Duncan, PT, PhD, FAPTA, Winston-Salem, NC; Steven Z. George, PT, PhD, Gainesville, FL; James J. Irrgang, PT, PhD, FAPTA, Pittsburgh, PA; Justin Moore, PT, PhD, Alexandria, VA; Michael Mueller, PT, PhD, FAPTA, St Louis, MO; Ruth Purtilo, PT, PhD, FAPTA, Boston, MA; Richard Shields, PT, PhD, FAPTA, Iowa City, IA; Carolee Winstein, PT, PhD, FAPTA, Los Angeles, CA; Steven Wolf, PT, PhD, FAPTA, Atlanta, GA

Statistical Consultants Hang Lee, PhD, Boston, MA; Xiangrong Kong, PhD, Baltimore, MD; Gregory F. Petroski, PhD, Columbia, MO; Michael E. Robinson, PhD, Gainesville, FL; Paul Stratford, PT, MSc, Hamilton, Ontario, Canada; David Thompson, PT, PhD, Oklahoma City, OK; Samuel Wu, PhD, Gainesville, FL

Senior Manuscript Reviewers Neil Artz, PhD; Karen Barker, PhD; Paul Beattie, PT, PhD, FAPTA; M.J. Blaschak, PT, PhD, MSEE; Stephen Blumberg, PhD; Michael Bodner, PhD; Geoff Bostick, PhD; Jennifer Brach, PT, PhD; Timothy Brindle, PhD; Helen Brooks, PhD; Donna Cech, PT, MS; Cathy Chapple; Yuping Chen, PT, ScD; Nicole Christensen, PT, PhD; Kevin Chui, PT, DPT, PhD; Rhea Cohn, PT, DPT; Chad Cook, PT, PhD, MBA; Janet Copeland, Dip PT, MHealSc; Catherine Curtis, PT, EdD; Timothy Dall; Willem De Hertogh, PT, PhD; Stacey Lynn DeJong, PT, PhD; Joost Dekker, PhD; Clare Delany, PhD; Leland Dibble, PT, PhD, ATC; Almas Dossa, PT, PhD; Pam Duffy, PT, PhD; Ryan Duncan, PhD; Kim Dunleavy, PT, PhD; Stacey Dusing, PT, PhD; Marie Earl, PT, PhD; Brian Eckenrode, PT, DPT; Ian Edwards, PhD; Cheryl Ford-Smith, PT, DPT; Jorge Fuentes, PT, PhD; Stephanie Glegg, MSc, OTR; Adam Goode, PT, DPT, PhD; Sharon Gorman, PT, DPTSc; Bruce Greenfield, PhD; Anita Gross, PT, PhD; Regina Harbourne, PT, MS; Dustin Hardwick, DPT, PhD; Karen Hayes, PT, PhD; Eric Hegedus, PT, DPT, MHSc; Roger Hilfiker; G. Thomas Hornby, PT, PhD; Markus Huebscher, PhD; Lana Karasik, PhD; Albere Köke, PhD; Suzanne Kuys, PhD; Alyssa LaForme Fiss, PT, PhD; Merrill Landers, PT, DPT; Catherine Lang, PT, PhD; Abigail Leddy, PT, DPT; Szu-Ping Lee, PT, PhD; Natalie Leland, PhD, OTR/L; Vernon Lin, MD, PhD; Michele Lobo, PT, PhD; Paula Ludewig, PT, PhD; Susan Magasi, PhD; Matthew Major, PhD; Daniel Malone, PhD; Kathleen Kline Mangione, PT, PhD, FAPTA; Gregory Marchetti, PT, PhD; Brook Martin, PhD; Karen McCulloch, PT, PhD; Margaret McNeely, PT, PhD; Gretchen Meyer, MD, PhD; Andrew Moore, PhD; David Morris, PT, PhD; Susan Muir-Hunter, PT, PhD; Gina Musolino, PT, EdD; Kristin Musselman, PhD; Joe Nocera, PhD; Margaret O'Neil, PT, MSc; Anand Pandyan, PhD; Kirkwood Personius, PT, PhD; Stéphane Poitras, PT, PhD; Emilio Joseph Puentedura, PT, DPT; Lori Quinn, PT, EdD; Troy Rand, MS; Daniel Cury Ribeiro, PhD; Kathleen Rockefeller, PT, ScD, MPH; Sandy Ross, BSPT, MHS; Sean Daniel Rundell, DPT, PhD; Pasqualina Santaguida, PhD; Andrew Sawers, PhD; David Scalzitti, PT, PhD; Susan Scherer, PT, PhD; Harvey Schwartz, PhD, MBA; Delva Shamley, PhD; Nancy Sharby, PT, DPT; Susan Slade, PhD; Beth Smith, PT, DPT, PhD; James Michael Smith, DPT; Neil Spielholz, PT, PhD, FAPTA; Jennifer Stith, PT, PhD, LCSW; Sandra Stuckey, PT, PhD; Laura Lee Swisher, PhD; Annie Tessier, PhD; Michael Tevald, PT, PhD; Kimberly Topp, PT, PhD; Melissa Moran Tovin, PT, PhD; Julia Treleaven, PhD; Catherine Trombly Latham, ScD; Frank Underwood, PT, PhD; Kirsti Uusi-Rasi, PhD; Ann Vendrely, PT, EdD, DPT; Susan Flannery Wainwright, PT, PhD; Benedict Wand, PhD; Stuart Warden, PT, PhD; Cherie Wells; Marie Westby, PT, PhD; Ann Williams, PT, PhD; Cynthia Zadai, DPT, FAPTA; Joseph Zeni, PhD

PTJ Editorial Office **Managing Editor:** Jan P. Reynolds, janreynolds@apta.org; **PTJ Online Editor / Assistant Managing Editor:** Steven Glaros; **Associate Editor:** Stephen Brooks, EL; **Editorial Assistant:** Natacha Leonard; **Editorial Tracking Manager:** Karen Darley

Association Staff **Chief Executive Officer:** Justin Moore, PT, PhD; **Vice President of Research:** Robyn Watson Ellerbe, PhD; **Advertising Manager:** Julie Hilgenberg; **Permissions / Reprint Coordinator:** Michele Tillson

Advertising Sales Ad Marketing Group, Inc, 2200 Wilson Blvd, Suite 102-333, Arlington, VA 22201; 703/243-9046, ext 102; **President / Advertising Account Manager:** Jane Dees Richardson

Board of Directors **President:** Sharon L. Dunn, PT, PhD; **Vice President:** Lisa K. Saladin, PT, PhD; **Secretary:** Roger A. Herr, PT, MPA; **Treasurer:** Elmer Platz, PT; **Speaker of the House:** Susan R. Griffin, PT, DPT; **Vice Speaker of the House:** Stuart Platt, PT, MSPT; **Directors:** Susan A. Appling, PT, DPT, PhD; Jeanine M. Gunn, PT, DPT; Matthew R. Hyland, PT, PhD, MPA; Kathleen K. Mairella, PT, DPT; Sheila K. Nicholson, PT, DPT, JD, MBA; Carolyn Oddo, PT, MS; Robert H. Rowe, PT, DPT, DMT, MHS; Kip Schick, PT, DPT, MBA; Sue Whitney, PT, DPT, PhD, ATC, FAPTA

Physical Therapy (**PTJ**) (ISSN 0031-9023) is published monthly by Oxford University Press, 2001 Evans Road, Cary, NC, 27513-2009, on behalf of the American Physical Therapy Association (APTA). Copyright © American Physical Therapy Association. All rights reserved. No portion of the contents may be reproduced in any form without written permission of the publisher.

Subscription Information

Beginning January 1, 2017, all non-member subscription inquiries, orders, back issues, claims, and renewals should be addressed to Journals Customer Service Department, 2001 Evans Road, Cary, NC, 27513-2009. Telephone, 800/852-7323; fax, 919/677-1714; email: jinlorders@oup.com; <https://academic.oup.com/ptj/subscribe>. **Subscription Price:** institutions, \$268; individuals, \$132. For all customers outside the Americas, please visit <https://academic.oup.com/ptj/subscribe> for information. **Claims:** Claims for undelivered copies must be made no later than 6 months following month of publication. The publisher will supply replacement issues when losses have been sustained in transit and when the reserve stock will permit.

Member Subscription Information

APTA member inquiries, change of address, claims, and membership renewal requests should be addressed to APTA, Attn: Member Services, 1111 North Fairfax St, Alexandria, VA 22314-1488, or memberservices@apta.org. **Claims:** Claims for undelivered copies must be made no later than 6 months following month of publication. The publisher will supply replacement issues when losses have been sustained in transit and when the reserve stock will permit.

Mission Statement

Physical Therapy (**PTJ**) engages and inspires an international readership on topics related to physical therapy. As the leading international journal for research in physical therapy and related fields, **PTJ** publishes innovative and highly relevant content for both clinicians and scientists and uses a variety of interactive approaches to com-

municate that content, with the expressed purpose of improving patient care. **PTJ** is the official scientific journal of the American Physical Therapy Association (APTA). Readers are invited to submit manuscripts to **PTJ**. **PTJ**'s content—including editorials, commentaries, and letters—represents the opinions of the authors and should not be attributed to **PTJ** or its Editorial Board. Content does not reflect the official policy of APTA or the institution with which the author is affiliated, unless expressly stated.

Indexing and Document Delivery

PTJ is indexed by MEDLINE, PubMed, Cumulative Index to Nursing & Allied Health (CINAHL), EMBASE/Excerpta Medica, AgeLine, Allied and Complementary Medicine Database (AMED), Index Medicus, and Science Citation Index (SCI), among others. A complete list is available from <https://academic.oup.com/ptj/pages/About>. Article abstracts are available online at <https://academic.oup.com/ptj> (1980 through present) and via MEDLINE, PubMed, Allied and Complementary Medicine Database (AMED), Cumulative Index to Nursing & Allied Health (CINAHL), Dialog, and OCLC FirstSearch, among others. Full-text articles are available for free at <https://academic.oup.com/ptj> 12 months after the publication date (1980 to present). Full text is also provided through Dialog, EBSCOhost, InfoTrac, ProQuest, and Westlaw.

Copyright Permission

Permission requests to photocopy or otherwise reproduce material published in this journal should be submitted to journals.permissions@oup.com. Permission may also be requested by

contacting the Copyright Clearance Center via their website at www.copyright.com or via email at info@copyright.com.

Supplements, Reprints, and Corporate Sales

For requests from industry and companies regarding supplements, bulk article reprints, sponsored subscriptions, translation opportunities for previously published material, and corporate online opportunities, please email corporate.services@oup.com or visit <http://www.oupmediainfo.com>.

Advertising

Advertisements are accepted by **PTJ** when they conform to the ethical standards of the American Physical Therapy Association. **PTJ** does not verify the accuracy of claims made in advertisements, and acceptance does not imply endorsement by **PTJ**, the Association, or Oxford University Press. Acceptance of advertisements for professional development courses addressing advanced-level competencies in clinical specialty areas does not imply review or endorsement by the American Board of Physical Therapy Specialties.

Statement of Nondiscrimination

APTA prohibits preferential or adverse discrimination on the basis of race, creed, color, gender, age, national or ethnic origin, sexual orientation, disability, or health status in all areas including, but not limited to, its qualifications for membership, rights of members, policies, programs, activities, and employment practices. APTA is committed to promoting cultural diversity throughout the profession.

Resources

Abstracts of Papers to be Presented at APTA's NEXT Conference (added every May): aptaapps.apta.org/abstracts

PTJ Submission Guidelines: ptjournal.apta.org/content/author-guide

iOS App: ptjournal.apta.org/content/ptj-ios-app

APTA Membership Statistics: June issue
PTJ Statement of Ownership:
December issue

