

# Curriculum Vitae

## Barbara J. Norton, PT, PhD, FAPTA

Date: June 30, 2023

### Personal Information

Birthplace: St. Louis, MO

Citizenship: USA

### Address and Telephone Numbers

University: Washington University in St. Louis  
School of Medicine  
Physical Therapy  
660 S. Euclid Ave.  
St. Louis, MO 63110  
Campus Box 8502

Phone: 314-286-1412

Fax: 314-286-1410

email: nortonb@wustl.edu

### Present Positions

Professor, Physical Therapy

Associate Director for Education Technology

### Education and Training

1966 BS, Physical Therapy, Washington University in St. Louis, St. Louis, MO  
1985 MHS, Physical Therapy, Washington University in St. Louis, St. Louis, MO  
1996 PhD, Psychology, Washington University in St. Louis, St. Louis, MO

### Academic Positions and Employment

1966 - 1968 Staff Physical Therapist, Physical Therapy, Washington University in St. Louis, St. Louis, MO  
1968 - 1998 Instructor, Physical Therapy, Washington University in St. Louis, St. Louis, MO  
1968 - 1982 Research Physical Therapist, Physical Therapy, Washington University in St. Louis, St. Louis, MO  
1977 - 1977 Adjunct Instructor, St. Louis University, Department of Physical Therapy, St. Louis, MO  
1982 - 1993 Coordinator, Applied Kinesiology Laboratory, Washington University in St. Louis, St. Louis, MO  
1983 - 1993 Coordinator, Clinical Research Training Program, Washington University in St. Louis, St. Louis, MO  
1987 - 1987 Visiting Faculty, University of Wisconsin - La Crosse, Department of Physical Therapy, La Crosse, WI

- 1992 - 2014 Associate Director for Postprofessional Studies, Washington University in St. Louis, St. Louis, MO
- 1996 - 1996 Visiting Faculty, University of Evansville, Department of Physical Therapy, Evansville, IN
- 1997 - 1997 Visiting Faculty, University of Wisconsin - La Crosse, Department of Physical Therapy, La Crosse, WI
- 1998 - 1998 Visiting Faculty, University of Indianapolis, Department of Physical Therapy, Indianapolis, IN
- 1998 - 2003 Assistant Professor, Physical Therapy, Washington University in St. Louis, St. Louis, MO
- 2003 - 2011 Associate Professor, Physical Therapy, Washington University in St. Louis, St. Louis, MO
- 2011 - Pres Professor, Physical Therapy, Washington University in St. Louis, St. Louis, MO
- 2014 - 2015 Associate Director, Washington University in St. Louis, St. Louis, MO
- 2015 - Pres Associate Director for Education Technology, Washington University in St. Louis, St. Louis, MO

## **Appointments and Committees**

### University Affiliations

- 1989 - 1996 Steven J. Rose Research Award Committee, Program in Physical Therapy
- 1990 - 1996 Alumni Award Committee, Program in Physical Therapy
- 1992 - 2002 University College Faculty Council
- 1993 - Pres DPT Curriculum Committee, Program in Physical Therapy
- 1993 - 2014 Lorraine Lake Award Committee, Program in Physical Therapy
- 1996 Program Improvement Committee, Program in Physical Therapy
- 1998 - 2014 Postprofessional Clinical Doctorate Advisory Committee, Program in Physical Therapy
- 2000 - 2007 WUSM Computer-based Learning Special Interest Group (CBL SIG)
- 2001 - 2002 DPT Curriculum Development Committee, Program in Physical Therapy
- 2002 - 2015 Website Committee, Program in Physical Therapy
- 2004 - Pres Research Advisory Committee, Program in Physical Therapy
- 2009 - 2012 WUSM Educational Technology Advisory Committee
- 2009 - 2010 Faculty Search Committee, Program in Physical Therapy
- 2011 - Pres PTCAPES, Program in Physical Therapy
- 2014 - 2015 Movement System Symposium Planning Committee, Program in Physical Therapy
- 2014 - 2015 Program Philosophy Revision Committees for Research, Education, and Clinical Practice Divisions, Program in Physical Therapy
- 2014 - 2015 Program Strategic Planning Work Group for Marketing
- 2017 - 2018 Faculty Search Committee, Program in Physical Therapy
- 2017 - Pres Learning Management System (LMS) Review Committee, Washington University in St. Louis

### Scientific Advisory Boards

- 1984 - 1986 Arthritis Foundation, Grant Reviewer

2010 - 2014 BJHF/ICTS Clinical and Translational Research Funding Program, Grant Reviewer

## **Licensure and Certifications**

1970 - Pres MO State Board of Registration for the Healing Arts #194

## **Honors and Awards**

1982 Outstanding Service Award for Research, Missouri Physical Therapy Association  
1988 Alumni Award, Washington University, Program in Physical Therapy  
1990 Mary McMillan Scholarship Award, American Physical Therapy Association  
1999 Golden Pen Award, American Physical Therapy Association  
2005 Catherine Worthingham Fellow of the American Physical Therapy Association  
2010 Mentor Award, Academic Women's Network, Washington University School of Medicine  
2020 Distinguished Faculty Award, Washington University in St. Louis  
2022 Rose Excellence in Research Award, Academy of Orthopedic Physical Therapy

## **Editorial Responsibilities**

### Editorial Boards

2000 - 2007 Journal of Orthopaedic and Sports Physical Therapy, Editorial Board Member  
2001 - 2007 Journal of Orthopaedic and Sports Physical Therapy, Associate Editor

### Editorial Reviews

1979 - Pres Physical Therapy, Manuscript Reviewer  
1999 - Pres Journal of Orthopaedic and Sports Physical Therapy, Manuscript Reviewer  
2004 - 2014 Physiotherapy Theory and Practice, Manuscript Reviewer  
2008 - 2015 Arthritis Care & Research, Manuscript Reviewer

## **Professional Societies and Organizations**

1965 - Pres American Physical Therapy Association, Member  
1965 - Pres Missouri Physical Therapy Association, Member  
1969 - Pres American Physical Therapy Association, Section on Research, Member  
1970 - 1972 Missouri Physical Therapy Association, Eastern District, Chair  
1970 - 1974 Missouri Physical Therapy Association, Eastern District, Member  
1973 - 1974 Missouri Physical Therapy Association, Eastern District, Chair  
1976 Missouri Physical Therapy Association, Eastern District, Member  
1976 - 1977 Missouri Physical Therapy Association, Co-Chair  
1978 - 1980 Missouri Physical Therapy Association, Eastern District, Chair  
1978 - 1974 Missouri Physical Therapy Association, Member  
1978 - 1982 Missouri Physical Therapy Association, Chair  
1982 - 1988 Missouri Physical Therapy Association, Chair  
1990 - 1995 Society for Medical Decision Making, Member  
1990 - 1993 American Physical Therapy Association, Member

1990 - 1992 American Physical Therapy Association, Member  
 1991 - 1999 Society for Judgment and Decision Making, Member  
 1992 - 1992 American Physical Therapy Association, Chair  
 1992 - 1993 American Physical Therapy Association, Member  
 1993 - 2003 American Physical Therapy Association, Education Section, Member  
 1993 - 1994 American Physical Therapy Association, Member  
 1994 - Pres American Physical Therapy Association, Orthopaedic Section, Member  
 1994 - 1995 American Physical Therapy Association, Member  
 1996 - 1997 American Physical Therapy Association, Section on Research, Member  
 1998 American Physical Therapy Association, Member  
 1999 - 2000 Missouri Physical Therapy Association, Chair  
 1999 - 2004 American Physical Therapy Association, Member  
 2006 - Pres American Physical Therapy Association, Section on Research, Member  
 2006 - 2010 American Physical Therapy Association, Member  
 2008 - Pres American Physical Therapy Association, Member  
 2008 - Pres American Physical Therapy Association, Orthopaedic Section, Member  
 2015 - Pres American Physical Therapy Association, Member

### **Major Invited Professorships and Lectures**

1996 - 1996 Rosemary Scully Visiting Scholar and Lecturer, Physical Therapy Department, University of Pittsburgh

### **Consulting Relationships and Board Memberships**

1983 Invited Participant, Clinical Investigation in Pathokinesiology: Process, Content and Practical Application, American Physical Therapy Association, Kansas City, MO  
 1984 - 1986 Grant Reviewer, Arthritis Foundation (Research)  
 1986 - 1987 Consultant, University of Alabama - Birmingham, Program in Physical Therapy, Birmingham, Alabama (Research)  
 1991 Member of Planning Group, Group Leader, Invited Participant, Conference on Content of Post-baccalaureate Degree Entry-Level Curricula (IMPACT I), American Physical Therapy Association, Department of Education, Amelia Island, FL  
 1992 Member of Planning Group and Invited Participant, Colloquium on Teaching Clinical Decision Making, American Physical Therapy Association, Task Force on Clinical Decision Making, Denver, CO  
 1992 Member Planning Committee, Conference Co-Chair, and Moderator, Regional Conference on Content of Post-baccalaureate Degree Entry-Level Curricula (IMPACT II - Session 3) , American Physical Therapy Association, Task Force on Content of Post-baccalaureate Degree Entry-Level Curricula , Baltimore, MD  
 1992 Member Planning Committee, Conference Co-Chair, and Moderator, Regional Conference on Content of Post-baccalaureate Degree Entry-Level Curricula (IMPACT II - Session 4) , American Physical Therapy Association, Task Force on Content of Post-baccalaureate Degree Entry-Level Curricula , Chicago, IL  
 1993 Invited Participant, Project Focus '93: Conference on Work Related Injury, Foundation for Physical Therapy, American Physical Therapy Association, Alexandria, VA

- 1994 Consultant, Committee to Revise HOD Policy on Diagnosis, American Physical Therapy Association, Alexandria, VA
- 2006 Chair of Planning Committee and Moderator, Diagnosis Dialog I, Washington University in St. Louis, Program in Physical Therapy, St. Louis, MO
- 2007 Chair of Planning Committee and Moderator, Diagnosis Dialog II, MGH Institute of Health Professions, Boston, MA
- 2007 Chair of Planning Committee and Moderator, Diagnosis Dialog III, Regis University, Physical Therapy Department, Denver, CO
- 2008 Chair of Planning Committee and Moderator, Diagnosis Dialog IV, Nashville, TN
- 2009 Chair of Planning Committee and Moderator, Diagnosis Dialog V, Las Vegas, NV
- 2009 Invited participant, Focus Group for Revising the Guide to Physical Therapist Practice , American Physical Therapy Association, Alexandria, VA
- 2009 Invited participant, Special Conference on Research - Creating a Culture of Collaboration: Vitalizing Practice through Research and Research through Practice , American Physical Therapy Association, Alexandria, VA
- 2010 - 2014 Grant Reviewer, BJHF/ICTS Clinical and Translational Research Funding Program (Research)
- 2010 Chair of Planning Committee and Moderator, Diagnosis Dialog VI, San Diego, CA
- 2010 Chair of Planning Committee and Moderator, Diagnosis Dialog VII, Boston, MA
- 2011 Chair of Planning Committee and Moderator, Diagnosis Dialog VIII, New Orleans, LA
- 2012 Chair of Planning Committee and Moderator, Diagnosis Dialog IX, Chicago, IL
- 2012 Invited participant in Webinar, APTA Visioning Consensus Group Conference , American Physical Therapy Association, Alexandria, VA
- 2012 Invited reviewer, Guide to Physical Therapist Practice Revision Work Group , American Physical Therapy Association, Alexandria, VA
- 2013 Chair of Planning Committee and Moderator, Diagnosis Dialog X, San Diego, CA
- 2014 Chair of Planning Committee and Moderator, Diagnosis Dialog XI, Las Vegas, NV
- 2015 Chair of Planning Committee and Moderator, Diagnosis Dialog XII, Indianapolis, IN
- 2016 Chair of Planning Committee and Moderator, Diagnosis Dialog XIII, Anaheim, CA
- 2015 - 2019 Member, APTA Movement System Task Force
- 2016 Invited Participant, APTA Movement System Summit

## **Research Support**

## **Governmental Support**

R01 HD047709 (Van Dillen - Research Associate)

5/1/2013- 4/30/2020

NICHD

Spinal control during functional activities to improve low back pain outcomes

Clinical trial

## Completed Support

(Norton - Principal Investigator) Washington University Program in Physical Therapy Testing of Prolonged Sitting with a Posture Monitoring System	3/1/2010- 11/30/2012
(Norton - Principal Investigator) Missouri Physical Therapy Association Development & Testing of a Sitting Posture Monitoring & Alerting System	7/1/2008- 6/30/2009
(Norton - Principal Investigator) Washington University Program in Physical Therapy Development & Testing of a Sitting Posture Monitoring & Alerting System	5/1/2008- 4/30/2009
(Norton - Principal Investigator) Foundation for Physical Therapy Reliability of a classification system for patients with low back pain and analysis of selected quantitated variables	1/1/1994- 12/31/1996
(Van Dillen - Co-Investigator) Washington University Institute for Clinical & Translational Science JIT Core Usage Funding Trunk and pelvic region characteristics in subgroups of people with low back pain	5/29/2009- 5/28/2010
(Sahrmann - Co-Investigator) Arthritis Foundation The effect of a specific exercise program on gait and functional capacity in patients with arthritis	1/1/1984- 12/31/1984
(Rose - Co-Investigator) American Back School Electromyographic analysis of forward bending in patients with low back syndrome	1/1/1983- 12/31/1983
(Sahrmann - Co-Investigator) Arthritis Foundation The relationship of altered neuromuscular responses and knee joint pathology to function in patients with arthritis	1/1/1982- 12/31/1982

(Sahrmann - Co-Investigator) 1/1/1980- 12/31/1980  
Arthritis Foundation  
Quantitative assessment of muscle tone in patients with rheumatoid arthritis

(Sahrmann - Co-Investigator) 1/1/1978- 12/31/1978  
Physical Therapy Fund  
Biomechanical & electrophysiological analysis of movement in the hand-knee position

1 T32 HD07434-01 (Sahrmann - Research Associate) 7/1/2000- 4/30/2005  
NIH-NIMRR  
Doctoral training in movement science

### Current Teaching Responsibilities

- 2000 - Pres Instructor, Professional Issues & Skill Development IV, Course #PT 655
- 2000 - Pres Lab Assistant for Negotiation Practicals, Professional Issues & Skill Development I, Course #PT 602
- 2000 - Pres Lab Assistant for Negotiation Practicals, Professional Issues & Skill Development III, Course #635
- 2000 - Pres Lecturer, Case Integration II Lab, Course #642
- 2000 - Pres Lecturer, Diagnosis & Evidence Analysis I, Course #601
- 2000 - Pres Lecturer, Diagnosis & Evidence Analysis III, Course #650

### Publications

1. **Norton BJ**, Bomze HA, Chaplin H Jr. An approach to the objective measurement of spasticity. *Phys Ther.* 1972;52(1):15-24. PMID:[5006976](#)
2. Sahrmann SA, **Norton BJ**, Bomze HA, Eliasson SG. Reflex responses to passive motion in normal and spastic man. *Proceedings of the World Confederation for Physical Therapy, Seventh International Congress.* 1974;403-410.
3. **Norton BJ**, Bomze HA, Sahrmann SA, Eliasson SG. Objective documentation of the relationship between spasticity and rate of passive movement. *Proceedings of the World Confederation for Physical Therapy, Seventh International Conference.* 1974;416-422.
4. Sahrmann SA, **Norton BJ**, Bomze HA, Eliasson SG. Influence of the site of the lesion and muscle length on spasticity in man. *Phys Ther.* 1974;54(12):1290-1297.
5. **Norton BJ**, Bomze HA, Sahrmann SA, Eliasson SG. Correlation between gait speed and spasticity at the knee. *Phys Ther.* 1975;55(4):355-9. PMID:[1118465](#)
6. Sahrmann SA, **Norton BJ**. The relationship of voluntary movement to spasticity in the upper motor neuron syndrome. *Trans Am Neurol Assoc.* 1977;102:108-12. PMID:[616084](#)
7. Sahrmann SA, **Norton BJ**. The relationship of voluntary movement to spasticity in the upper motor neuron syndrome. *Ann Neurol.* 1977;2(6):460-5. PMID:[617588](#)
8. Mullinix JM, **Norton BJ**, Hack S, Fishman MA. Skin temperature biofeedback and migraine. *Headache.* 1978;17(6):242-4. PMID:[621143](#)

9. **Norton BJ**, Sahrman SA. Reflex and voluntary electromyographic activity in patients with hemiparesis. *Phys Ther.* 1978;58(8):951-5. PMID:[674380](#)
10. Sahrman SA, **Norton BJ**. Stretch reflex of the biceps and brachioradialis muscles in patients with upper motor neuron syndrome. *Phys Ther.* 1978;58(10):1191-4. PMID:[693577](#)
11. Mayhew TP, **Norton BJ**, Sahrman SA. Electromyographic study of the relationship between hamstring and abdominal muscles during a unilateral straight leg raise. *Phys Ther.* 1983;63(11):1769-75. PMID:[6227021](#)
12. Gogia PP, Braatz JH, Rose SJ, **Norton BJ**. Reliability and validity of goniometric measurements at the knee. *Phys Ther.* 1987;67(2):192-5. PMID:[3809242](#)
13. Frese E, Brown M, **Norton BJ**. Clinical reliability of manual muscle testing. Middle trapezius and gluteus medius muscles. *Phys Ther.* 1987;67(7):1072-6. PMID:[3602100](#)
14. **Norton BJ**, McDonnell MK, Sahrman SA. Analysis of hip and spinal mobility in healthy and back pain subjects. *Proceedings of the XIth International Symposium of the Society for Postural and Gait Research; Posture and Gait: Control Mechanisms.* 1992;110-113.
15. Mueller MJ, **Norton BJ**. Reliability of kinematic measurements of rear-foot motion. *Phys Ther.* 1992;72(10):731-7. PMID:[1528966](#)
16. Mueller MJ, Host JV, **Norton BJ**. Navicular drop as a composite measure of excessive pronation. *J Am Podiatr Med Assoc.* 1993;83(4):198-202. PMID:[8473991](#)
17. **Norton BJ**, Ellison JB. Reliability and concurrent validity of the Metrecom for length measurements on inanimate objects. *Phys Ther.* 1993;73(4):266-74. PMID:[8456145](#)
18. Deusinger SS, Deusinger RH, Minor SD, **Norton BJ**, Sahrman S, Shierbecker J, Stith J. DPT controversy. *Phys Ther.* 1993;73(5):329-30. PMID:[8469717](#)
19. Stith JS, Sahrman SA, Dixon KK, **Norton BJ**, Woolsey NB. A curriculum to prepare diagnosticians in physical therapy. *Journal of Physical Therapy Education.* 1995;9:46-53.
20. Mercer VS, Sahrman SA, Diggles-Buckles V, Abrams RA, **Norton BJ**. Age Group Differences in Postural Adjustments Associated With a Stepping Task. *J Mot Behav.* 1997;29(3):243-53. PMID:[12453783](#)
21. **Norton BJ**, Strube MJ. The influence of experience with a set of simulated patients on diagnosis of simulated patients not previously diagnosed. *Phys Ther.* 1998;78(4):375-85. PMID:[9555920](#)
22. Van Dillen LR, Sahrman SA, **Norton BJ**, Caldwell CA, Fleming DA, McDonnell MK, Woolsey NB. Reliability of physical examination items used for classification of patients with low back pain. *Phys Ther.* 1998;78(9):979-88. PMID:[9736895](#)
23. Scheets PK, Sahrman SA, **Norton BJ**. Diagnosis for physical therapy for patients with neuromuscular conditions. *Neurology Report.* 1999;23:158-169.
24. Van Dillen LR, Sahrman SA, **Norton BJ**, Caldwell CA, Fleming D, McDonnell MK, Bloom NJ. Effect of active limb movements on symptoms in patients with low back pain. *J Orthop Sports Phys Ther.* 2001;31(8):402-13; discussion 414-8. PMID:[11508611](#)
25. **Norton BJ**, Hensler K, Zou D. Comparisons among noninvasive methods for measuring lumbar curvature in standing. *J Orthop Sports Phys Ther.* 2002;32(8):405-14. PMID:[12168959](#)
26. Van Dillen LR, Sahrman SA, **Norton BJ**, Caldwell CA, McDonnell MK, Bloom NJ. Movement system impairment-based categories for low back pain: stage 1 validation. *J Orthop Sports Phys Ther.* 2003;33(3):126-42. PMID:[12683688](#)
27. Van Dillen LR, Sahrman SA, **Norton BJ**, Caldwell CA, McDonnell MK, Bloom N. The effect of modifying patient-preferred spinal movement and alignment during symptom testing in patients with low back pain: a preliminary report. *Arch Phys Med Rehabil.* 2003;84(3):313-22. PMID:[12638097](#)



28. **Norton BJ**, Sahrman SA, Van Dillen LR. Differences in measurements of lumbar curvature related to gender and low back pain. *J Orthop Sports Phys Ther.* 2004;34(9):524-34. PMID:[15493520](#)
29. Van Dillen LR, Sahrman SA, Caldwell CA, McDonnell MK, Bloom N, **Norton BJ**. Trunk rotation-related impairments in people with low back pain who participated in 2 different types of leisure activities: a secondary analysis. *J Orthop Sports Phys Ther.* 2006;36(2):58-71. PMID:[16494073](#)
30. Scheets PL, Sahrman SA, **Norton BJ**. Use of movement system diagnoses in the management of patients with neuromuscular conditions: a multiple-patient case report. *Phys Ther.* 2007;87(6):654-69. PMID:[17504829](#)
31. Gombatto SP, Klaesner JW, **Norton BJ**, Minor SD, Van Dillen LR. Validity and reliability of a system to measure passive tissue characteristics of the lumbar region during trunk lateral bending in people with and people without low back pain. *J Rehabil Res Dev.* 2008;45(9):1415-29. PMID:[19319764](#)
32. Harris-Hayes M, Sahrman SA, **Norton BJ**, Salsich GB. Diagnosis and management of a patient with knee pain using the movement system impairment classification system. *J Orthop Sports Phys Ther.* 2008;38(4):203-13. PMID:[18434664](#)
33. **Norton BJ**. On "Diagnosis of fall risk in Parkinson disease..." Dibble et al. *Phys Ther.* 2008;88:323-332. *Phys Ther.* 2008;88(5):679; author reply 679-80. PMID:[18450763](#)
34. Gombatto SP, **Norton BJ**, Scholtes SA, Van Dillen LR. Differences in symmetry of lumbar region passive tissue characteristics between people with and people without low back pain. *Clin Biomech (Bristol, Avon).* 2008;23(8):986-95. PMID:[PMC2577573](#) PMID:[18590942](#)
35. Scholtes SA, **Norton BJ**, Lang CE, Van Dillen LR. The effect of within-session instruction on lumbopelvic motion during a lower limb movement in people with and people without low back pain. *Man Ther.* 2010;15(5):496-501. PMID:[PMC2922485](#) PMID:[20627798](#)
36. Scholtes SA, **Norton BJ**, Gombatto SP, Van Dillen LR. Variables associated with performance of an active limb movement following within-session instruction in people with and people without low back pain. *Biomed Res Int.* 2013;2013:867983. PMID:[PMC3747432](#) PMID:[23984416](#)
37. Gombatto SP, **Norton BJ**, Sahrman SA, Strube MJ, Van Dillen LR. Factors contributing to lumbar region passive tissue characteristics in people with and people without low back pain. *Clin Biomech (Bristol, Avon).* 2013;28(3):255-61. PMID:[PMC3677531](#) PMID:[23402957](#)
38. Van Dillen LR, **Norton BJ**, Sahrman SA. Classification specific versus non classification-specific treatment for low back pain. *Proceedings of the 8th World Congress on Low Back and Pelvic Pain 2013.* 2013;396-399.
39. Scheets PL, Sahrman SA, **Norton BJ**, Stith JS, Crowner BE. What is backward disequilibrium and how do i treat it? A complex patient case study. *J Neurol Phys Ther.* 2015;39(2):119-26. PMID:[25742374](#)
40. Sorensen CJ, **Norton BJ**, Callaghan JP, Hwang CT, Van Dillen LR. Is lumbar lordosis related to low back pain development during prolonged standing? *Man Ther.* 2015;20(4):553-7. PMID:[PMC4469524](#) PMID:[25637464](#)
41. Van Dillen LR, **Norton BJ**, Sahrman SA, Evanoff BA, Harris-Hayes M, Holtzman GW, Earley J, Chou I, Strube MJ. Efficacy of classification-specific treatment and adherence on outcomes in people with chronic low back pain. A one-year follow-up, prospective, randomized, controlled clinical trial. *Man Ther.* 2016;24:52-64. PMID:[PMC4921225](#) PMID:[27317505](#)

42. Sorensen CJ, Johnson MB, **Norton BJ**, Callaghan JP, Van Dillen LR. Asymmetry of lumbopelvic movement patterns during active hip abduction is a risk factor for low back pain development during standing. *Hum Mov Sci.* 2016;50:38-46. PMID:[PMC5097699](#) PMID:[27744105](#)
43. Spitznagle T, Cabelka C, Clinton S, Abraham K, **Norton BJ**. Diagnosis dialog for women's health condition's: The process and proposed pelvic floor muscle diagnoses. *Journal of Women's Health Physical Therapy.* 2017;41(3):154-162.
44. Van Dillen LR, Lanier VM, Steger-May K, Wallendorf M, **Norton BJ**, Civello JM, Czuppon SL, Francois SJ, Roles K, Lang CE. Effect of motor skill training in functional activities vs strength and flexibility exercise on function in people with chronic low back pain – a randomized clinical trial". *JAMA Neurology.* 2021; 78(4):385-395. doi:10.1001/jamaneurol.2020.4821. [PMCID:PMC7770617](#)

## Invited Publications

1. **Norton BJ**, Strube MJ. Guide for the interpretation of one-way analysis of variance. *Phys Ther.* 1985;65(12):1888, 1890, 1892 passim. PMID: [4070375](#)
2. **Norton BJ**, Strube MJ. Guide for the interpretation of two-way analysis of variance. *Phys Ther.* 1986;66(3):402-12. PMID: [3952157](#)
3. **Norton BJ**, Strube MJ. Some cautionary comments on the use of retrospective designs to evaluate treatment efficacy. *Phys Ther.* 1988;68(9):1374-7. PMID: [3047754](#)
4. **Norton BJ**, Strube MJ. Making decisions based on group designs and meta-analysis. *Phys Ther.* 1989;69:594-600.
5. VanSant AF, Jensen G, **Norton BJ**. Scripting a curriculum. *Rehab Management.* 1993;June/July:109-111.
6. **Norton BJ**. Commentary on The effect of awareness of measurement error on physical therapists' confidence in their decisions. *Phys Ther.* 1998;72:526-527.
7. **Norton BJ**, Strube MJ. Understanding statistical power. *J Orthop Sports Phys Ther.* 2001;31(6):307-15. PMID: [11411625](#)
8. Van Dillen LR, Sahrman SA, **Norton BJ**, McDonnell MK, Fleming DA, Caldwell CA, Woolsey NB. Response to invited commentary. *J Orthop Sports Phys Ther.* 2001;31:416-418.
9. **Norton BJ**. Focus on Diagnosis. *J Orthop Sports Phys Ther.* 2004;34(3):103-104.
10. **Norton BJ**. Harnessing Our Collective Professional Power: Diagnosis Dialog. Guest Editorial. *Phys Ther.* 2007;87:635-638.
11. **Norton BJ**. Diagnosis Dialog: Progress Report. Guest Editorial. *Phys Ther.* 2007;87:1270-1273.
12. **Norton BJ**. Diagnosis Dialog: Recap and relevance to recent APTA actions. *IJSPT.* 2017;12(6):871-833.

## Book Chapters (most recent editions)

1. **Norton BJ**. Clinical Decision Making in Physical Therapy: Role of Measurement and Research in Clinical Decision Making. In: R. Myers, eds. Philadelphia: WB Saunders Co; 1995:17-36.
2. Van Dillen LR, Sahrman SA, **Norton BJ**. Kinesiopathologic Model and Low Back Pain. In: Hodges PW, Cholewicki J, van Dieen JH and Herbert R , eds. *Spinal Control: The Rehabilitation of Back Pain.* Edinburgh: Elsevier Churchill Livingstone; 2012:89-97.

