

1. Personal history

Name-

Susan E. Ladley, MD
(Formerly Susan E. O'Brien, MD)

Current Position-

Associate Professor
University of Colorado Dept PM&R
Medical Director of Brain Injury, Polytrauma and Stroke
Rocky Mountain Regional VA Medical Center
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2. Education

State University of New York at Buffalo 1988
BS in Physical Therapy, summa cum laude

University of Colorado Health Sciences Center 1994
School of Medicine
Medical Doctorate with Honors

RESIDENCY-

Saint Joseph Hospital, Denver, CO 1994 - 1995
Preliminary year in Internal Medicine

New England Medical Center
Department of Rehabilitation Medicine 1995 - 1996

University of Colorado Health Sciences Center
Department of Rehabilitation Medicine 1996 - 1998
Chief Resident 1997 - 1998

FELLOWSHIP-

Craig Hospital, Englewood, CO 1999
Neurotrauma Rehabilitation

3. Academic appointments

University of Colorado Denver School of Medicine
Department of Physical Medicine and Rehabilitation Associate Professor 2010- present
(Assistant Professor 2001-2009 and Clinical Faculty from 1998-2001)

4. Hospital, government or other professional positions

Eastern Colorado VA Medical Center 2001 – 2019, 2021- present

Denver Health Medical Center	2001 - 2021
University of Colorado Hospital	1998 – 2021
Craig Hospital	1999 - 2008
Swedish Medical Center	1999 - 2001
SCCI Hospital	1999 - 2001
Spalding Rehabilitation Hospital	1997 - 2001
Saint Anthony’s Medical Center	1997 - 2001
Mediplex Rehabilitation Hospital	1996 - 1998

5. Honors, special recognitions, and awards

Recognition of 25 years of Service as University of CO Faculty	2023
5280 Top Doctor Spinal Cord Injury Medicine	2021
Denver Health Compassionate Care Award for exceptional patient care	2021
5280 Top Doctor Physical Medicine and Rehabilitation	2020
Range of Motion Project Empowerment Through Mobility Partner	2016, 2019
Team Award for Denver Health clinical program development	2013
Team Award project for Denver Health Complex Discharges	2009
Clinical Performance Award from the DVAMC PM&R supervisors	2003
Alpha Omega Alpha	1994
Award for Excellence in Geriatrics	1994
Citation for Academic Excellence	1992
Highest Departmental Honors in Physical Therapy	1988

6. Membership in professional organizations

American Academy of Physical Medicine and Rehabilitation	1995 - present
Academy of Academic Psychiatrists	1995 - present
International Brain Injury Association	2014- present
Academy of Spinal Cord Injury Professionals	2001 - present
Brain Injury Alliance of Colorado	2001 - 2016

7. Major Committee and Service Responsibilities

Range of Motion Project Board of Directors	2023- present
PMR Residency Education Committee	2002- present
PMR Residency Clinical Competency Committee	2012- present
Denver Health Nielson SCI Grant Project & Steering Committees	2019- 2021
Denver Health Trauma Guidelines Committee	2019-2020
Facilitator- Denver Health Provider Communication Program	2018- 2021
Denver Health Limb Salvage Committee	2019- 2021
Associate Residency Director	2012- 2019
PMR Residency Denver Health Site Director	2019- 2021
PMR Faculty Promotion Committee	2013- 2017
PMR Residency Recruitment Committee	2005- 2019
CO Div Workers Comp TBI Treatment Guidelines Task Force	2017- 2018
Brain Injury Alliance of Colorado Board of Directors	2012- 2014
American Academy of PM&R CNS Council Advisory Group	2009- 2013
Brain Injury Association of Colorado Conference Committee	2004- 2007

8. Licensure and board certification

Colorado State Medical License	1996
Diplomate, American Board of Physical Medicine and Rehabilitation	1999
Certification in Subspecialty of Spinal Cord Injury Medicine, ABPMR	2002

Certification in Subspecialty of Brain Injury Medicine, ABPMR 2014
Level II Accreditation Colorado Division of Workers Compensation 2008

9. Review and referee work

Peer Reviewer for Journal of Spinal Cord Medicine 2004- 2018
Peer Reviewer for Journal of Patient Safety in Surgery 2014- 2016

10. Invited extramural lectures, presentations and visiting professorships

Rehabilitation Case Reviews- Limb Loss and Peripheral Nerve Injury 2019
8th Annual Denver Health / Yampa Valley Trauma Conference
Steamboat Springs, CO

What Every Trauma Provider Should Know About SCI 2019
Denver Health Trauma Lecture Series
Denver, CO

Optimizing Outcomes After Lower Limb Amputation 2019
Range of Motion Project Mobility Conference
Guatemala City, Guatemala

Denver Health Neurotrauma 2016
Craig Hospital Board Retreat
Vail, CO

Work Related Mild Traumatic Brain Injury 2015
Brain Injury Summit
Vail, CO

Assessment and Management of Acute Spinal Cord Injury 2014
Improving Outcomes, Saving Lives Critical Care Conference
Denver, CO

Mild Traumatic Brain Injury / Concussion 2014
CCMSI
Greenwood Village, CO

Management of Mild TBI 2014
Denver Health / Vail Valley Medical Trauma Series
Vail, CO

Management of Mild TBI in the Injured Worker 2014
American College of Occupational Medicine Conference
San Antonio, TX

Mild Traumatic Brain Injury Treatment Guidelines 2013-2015
Colorado Division of Workers Compensation Level II Reaccreditation Course
Denver, CO

Neurologic Impairment 2013- 2015
Colorado Division of Workers Compensation Level II Accreditation Course
Denver, CO

Mild Traumatic Brain Injury / Concussion 2013
Disability Management Employer Coalition
Denver, CO

Case Studies in Trauma- How the System Should Work- Rehabilitation 2012
Denver Health / Yampa Valley Medical Center Trauma Symposium

Steamboat Springs, CO	
Management of Mild Traumatic Brain Injury	2012
Pinnacol Assurance Provider Showcase Denver, CO	
Neurotrauma Rehabilitation Issues in the Critical Care Setting	2011
Improving Outcomes, Saving Lives Critical Care Conference Denver, CO	
Management of Mild Traumatic Brain Injury	2011
City of Denver Department of Risk Management Denver, CO	
Case Studies in Trauma- How the System Should Work- Rehabilitation	2011
Denver Health / Yampa Valley Medical Center Trauma Symposium Steamboat Springs, CO	
Management of Mild Traumatic Brain Injury	2011
Rocky Mountain Academy of Occupational & Environmental Medicine Conference Aurora, CO	
Muscle Disorders	2010
Doctors Demystify Upper Extremity Nerves Conference Denver, CO	
Numbness and Weakness/ Spasticity	2009
Doctors Demystify Upper Extremity Nerves Conference Denver, CO	
Blast Injuries	2005
Brain Injury Association of Colorado Conference Vail, CO	
TBI 101	2005
Aurora Mental Health education project sponsored by Colorado State Department of Health and Human Services Aurora, CO	
Rehabilitation Issues in Traumatic Brain Injury	2005
Central Colorado Chapter American Rehabilitation Nurses Conference Englewood, Colorado	
Current Trends in Multiple Sclerosis Care	2004
Caregiver's Symposium sponsored by the Rocky Mountain MS Center And National MS Society	
Overview of Selected Neurological Disorders	2003
Denver VA Regional Office Rating Board	
Evaluation for Driving Readiness after Brain Injury	2001
Spalding Community Foundation Driver Reintegration Symposium Arapahoe County, CO	
Spasticity Management	2001
Central Colorado Chapter American Rehabilitation Nurses Conference Englewood, Colorado	

11. Teaching record

- **Major presentations to house officers and hospital staff-**
 - Rehabilitation Issues in Brain Injury- VA SCI Center staff January 2023
 - Blast Injuries- PMR residents October 2022
 - Manual Muscle Testing – PMR residents annually 2001- 2023
 - Primary Care Initiative for SCI- QI conference PMR department May 2020

- What Every Health Care Provider Should Know About SCI- Level 1 provider staff - Feb 2020
- Introduction to Gait Analysis- PMR residents 2020, 2014, 2013, 2007
- Challenges of SCI Management in the Acute Hospital Setting- Quality Improvement Conference for U of CO Dept PMR & DH Staff, 2014- 2019
- Return to Work after TBI- PMR residents- August 2019
- SCI 101- Speech Language Pathology staff- November 2018
- ASIA Evaluation- Denver Health Neurosurgery Staff- May 2018
- Stroke Rehabilitation- PMR residents October 2017
- Neuroanatomy- PMR residents October 2017
- Stroke Syndromes- PMR residents October 2017
- Consultation in Acute Brain Injury- PMR residents September 2017
- Introduction and Overview of TBI- PMR residents September 2017
- Caring for Spinal Cord Injury Patient- Palliative Care lecture Jan 2016
- Work related Mild TBI- PMR residents November 2014, May 2018
- Complications After Severe Limb Trauma- PMR Case Review 2009, 2014
- Topics in Management & Complications in SCI- Ortho Residents June 2014
- Hospital Management of Traumatic Brain Injury- DH Hospitalists Mar 2013
- Management of Mild Traumatic Brain Injury- PMR Residents Dec 2013
- Medical Complications of Spinal Cord Injury- Ortho Residents Nov 2013
- Spinal Cord Injury Overview- University of CO Orthopedic residents September 2011, 2013
- Concussion and Mild TBI: Short- and Long-Term Consequences and Management- Denver Health Trauma/Critical Care Outreach Lecture Jan 2011
- Management and Consultation in Traumatic Brain Injury- PMR residents, September 2015, October 2013, April 2012, November 2010, March 2009, October 2007 and November 2004
- Manual Therapeutics- PMR residents October 2008
- The Musculoskeletal System and Immobility- PMR residents 2007
- Blast Injuries- PMR Grand Rounds, May 2005
- Traumatic Brain Injury Rehabilitation- Neurology residents, 2004
- Clinical Correlates- Brain Injury and Neuroimaging- PMR residents, November 2004
- Acute rehabilitation of the Brain Injured Patient- PMR residents, April 2003 and November 2004
- Rehabilitation Issues in Multiple Sclerosis- PMR residents, 2003
- Knee examination and clinical correlates- PMR residents, 2002
- Fundamentals of Nerve Conduction Studies- PMR residents, 2001 and 2010
- **Major presentations to graduate students-**
 - Rehabilitation Issues in Brain Injury- Physical Therapy doctoral program 2004, 2010-2017
 - Medical Markers for Cognitive Disorders- VA Psychology Interns 2008-2013
 - Differential Diagnosis in Practice- Panelist on communication- Physical Therapy doctoral students February 2009
- **State ward/clinic attending duties-**
 - **Medical Director of Polytrauma, Brain Injury and Stroke-** IDT clinic, screening, design / delivery of interdisciplinary treatment plans, programmatic development and reporting to VA Polytrauma administration

- **Denver Health Rehabilitation Clinic**- serving the outpatient rehabilitation needs of those with long term disability from trauma, amputation and neurologic disease 2007-2009, 2013- 2021
- **Electromyography**- 8 to 14 hours per week, 300-400 studies annually, including complex peripheral nerve injury evaluations, 2001-2023
- **Spasticity Clinic**- outpatient injection procedures, 4 hours per month, 2001-2006, 2 hours per month 2015- present
- **Occupational Medicine** clinic addressing outpatient rehabilitation needs post catastrophic injury and MTBI 18 hours per month 2007-2017
- **Inpatient PMR consultation**- 50 weeks per year 2001-present with bedside teaching of upper-level residents. **Denver Health (2006-2021)** Follow acute trauma patients from ICU until discharge. My practice focuses on improving the acute care of neurotrauma patients. **Denver VA (2001-2006, 2022-present)** General rehabilitation population - efficient and considered triage of referrals from multiple sources. Acted as a resource to internal departments, active duty and private referral entities. High number of amputees- anticipating and optimizing function after definitive surgery.
- **Preceptor for DH Consult Liaison Psychiatry Fellowship**- 2017- 2021
- **Preceptor for Primary Care Resident Neurology Elective**- 2019-2021
- **Medical director for the Denver VA Traumatic Brain Injury Clinic**- comprehensive team evaluation and treatment of >300 individuals with sub-acute to chronic brain injury, >10 hours per month, 2001- 2006
- **Medical director for the ECHCS Denver VA Multiple Sclerosis multidisciplinary clinic**- comprehensive longitudinal outpatient care of >200 individuals disabled by this progressive disease- >24 hours per month, 2001-2006
- **Orthotics clinic** prescription of braces in complicated cases- 8 hours per month at Denver VA 2001- 2006
- **Neurologic Rehabilitation VA Clinic**- serving the outpatient rehabilitation needs of the neurologically disabled, 8 hours per month, 2001-2006
- **Key administrative positions-**
 - Medical Director of RMR VA Polytrauma, Brain Injury and Stroke 2022-present
 - Denver Health Residency Site Director for PMR 2019-2021
 - Associate Residency Director for PMR 2012- 2019
 - Coordinator for PMR Didactic curriculum 2009- 2019
 - Denver Health Trauma Guidelines subcommittee chair for neurotrauma 2019
 - Course director for PMR didactics in Traumatic Brain Injury Rehabilitation, 6- 10 hours, 2001- 2009, 2013, 2017- present
 - Course director for 6-8-hour Manual Muscle Testing course for PMR residents, yearly 2001- present
 - Course director for PMR didactics in Modalities- 2005, 2007, 2008, 2018-2021
 - Course director for Stroke Rehabilitation, 6 hours, 2017
 - Course director for Occupational Medicine course for PMR residents 3 hours 2014, 2018
 - Course director for 10 hours PMR didactics in Spinal Cord Injury Rehabilitation 2010, 2012, 2013, 2014
 - Course director for 4 hours Spinal Cord Injury didactics for Orthopedic training program 2011-2014

- o Course director for 2 hours PMR didactics in Geriatrics and Oncology rehabilitation- 2013

12. Research

Independent Safety Monitor for University of CO study: "Transfemoral Osseointegrated Prosthesis Limb-Load Symmetry Training"

Co-Principal Investigators: Cory Christiansen PT, PhD; Brecca Gaffney PhD

Safety Officer for University of Colorado multi-center study: "Improving Health Self-Management Using Walking Biobehavioral Intervention for People with Dysvascular Lower Limb Amputation"

Principal Investigator: Cory Christiansen PT, PhD

Safety officer for University of Colorado multi-center study: "Optimizing Physical Activity Outcomes after Total Knee Arthroplasty" PI- Cory Christiansen PT, PhD

Data collection completed 2023

Co-investigator for University of Colorado multi-center study: "Activity and Function after Lower Limb Amputation" PI- Cory Christiansen PT, PhD. Data collection complete 2018.

Principal Investigator for Denver Health in two multi-center Phase II clinical trials for the treatment of acute spinal cord injury:

-Asubio Pharmaceuticals- ASBI 603 study- Enrollment completed January 2015, data analyzed.

-Acorda Therapeutics MAGNIFY study- Enrollment complete October 2014

13. Grant support

Primary Care for Individuals with Spinal Cord Injury

Role: Expert consultant to project

Funding Source: Nielsen Foundation

Traumatic Brain Injury and Post Traumatic Stress Disorder- Exploration of a Potential Combination Syndrome

Role: Co- investigator

Principal investigator: Lisa Brenner, PhD

Time and amount: <5% effort. 50 K Grant

Funding source: Colorado Brain Injury Trust fund. 7/05- 7/07.

Northern California Traumatic Brain Injury Model System of Care

Project: Impact of Post Traumatic Seizures

Principal Investigators: Tamara Bushnik PhD, Thao Duong, MD and Jeffrey Englander MD of Santa Clara Valley Medical Center

Role: Site director- responsible for COMIRB approval and supervision of data collection

Time and amount: <2% donated. Total direct costs of multi center project \$365K.

Funding source: Department of Education, National Institute on Disability and Rehabilitation Research (#H133A020524)

Rocky Mountain Regional Traumatic Brain Injury Model System

Role: Denver Health liaison / clinical coordinator

Co-project directors are Gale Whiteneck PhD and Cynthia Harrison-Felix PhD of Craig Hospital.

Time and amount: in kind.

Funding source: Department of Education, National Institute on Disability and Rehabilitation Research, 2007-12. Total direct costs of multi site project \$427K

Immediate and prolonged effects of a 10-week non-fatiguing maximal effort exercise protocol on strength in deconditioned men and women with multiple sclerosis: A multi-center study

Principal Investigator: Michael Kuchera, DO

Role: Site director, responsible for COMIRB approval, consent, data collection and supervision of project execution.

Time and amount: <5% effort. Total direct costs of multi center project \$1640K.

Funding source: United States Department of Defense DASW01-02-C-0045 March 2003- June 2005.

14. Bibliography

Papers Published in Peer Reviewed Journals:

1. Lisa A. Brenner, PhD; Jeanne E. Dize-Lewis, PhD; Sarah K. Bartles, MA; Susan E. O'Brien, MD; Matthew Godleski, MD; Marilyn Selinger, PhD
The Long-Term Impact and Rehabilitation of Pediatric Traumatic Brain Injury: A 50 Year Follow Up Case Study. *J Head Trauma Rehabil* 22:1 56-64, 2007.
2. Lisa A. Brenner, PhD, ABPP, Susan Ladley-O'Brien, MD, Beeta Homaifar, PhD, Christopher M. Filley, MD, James P. Kelly, MD, Jeri E.F. Harwood, PhD, Lawrence E. Adler, MD
An Exploratory Study of Neuroimaging, Neurologic, and Neuropsychological Findings in Veterans with Traumatic Brain Injury and/or Posttraumatic Stress Disorder. *Military Medicine* 174, 4:347, 2009.
3. Bahraini, Nazanin, PhD, Lisa A. Brenner, PhD, ABPP, Beeta Homaifar, PhD, Susan Ladley-O'Brien, MD, Christopher M. Filley, MD, James P. Kelly, MD, Jeri E.F. Harwood, PhD, Lawrence E. Adler, MD. Utility of the Trauma Symptom Inventory for the Assessment of Posttraumatic Stress Symptoms in Veterans with a History of Psychological Trauma and/or Brain Injury. *Military Medicine* 174, 10:1005-9, 2009.
4. Stephanie A. Kolakowsky-Hayner, Jerry Wright, Jeffrey Englander, Thao Duong, Susan Ladley-O'Brien. Impact of late post-traumatic seizures on physical health and functioning for individuals with brain injury within the community *Brain Injury* May 2013, Vol. 27, No. 5: 578-586.

Textbook Contributions:

5. Encyclopedia of Clinical Neuropsychology. Editors: Nathan Zasler, Jeffrey Kreutzer, John DeLuca, and Bruce Caplan- **contributor** of six entries to the Medical Evaluation section. Springer 2011 (2018 Second edition in press)

6. The Essential Brain Injury Guide. Edition 5.0 Editors: Kolakowsky-Hayner, Reyst and Abashian- **author** of Post Traumatic Seizures section in Medical Complications Chapter. Brain Injury Association of America 2016.

Abstracts:

7. Kuchera ML, Dombroski RT, Vardy T, Thomas F, **O'Brien S**, Yagnik P, Wenzel K, Stoll S, Stouch S, Wallin MT.

Immediate and prolonged effects of a 10-week non-fatiguing maximal effort exercise protocol on strength in deconditioned men and women with multiple sclerosis: A multi-center study (abstract), JAOA 107(8):342, (Aug 2007).

8. Kuchera ML, Dombroski RT, Vardy T, Thomas F, **O'Brien S**, Yagnik P, Wenzel K, Stoll S, Stouch S, Wallin MT.

Immediate and prolonged effects of a 10-week maximal effort exercise (with valsalva) protocol on cognition in men and women with multiple sclerosis: A multi-center study (abstract), JAOA 107(8):341-342, (Aug 2007).

9. Naber, J, Ladley SE.

Pilot Program of Community-Based Rehabilitation for People with Amputation in a Central American Country. International Society Physical Rehabilitation Medicine presentation March 2020.

Clinical Care Guidelines:

10. Colorado Division of Worker's Compensation Traumatic Brain Injury Clinical Care Guidelines. 2018

11. Denver Health Clinical Care Guidelines for Spinal Cord Injury Care- 2020.

12. Denver Health Clinical Care Guidelines for Traumatic Brain Injury Care- 2020