

William Todd Penberthy, Ph. D.

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SUMMARY

With a PhD in Biochemistry followed by post-doctoral training (1998-2003; Tufts New England Medical Center, Medical College of Georgia, & UCLA), I specialize in medical and scientific writing and communications over the past 9 years focused on medical writing for the biomedical and pharmaceutical industry (since 2012); I have over 16 years' experience in the biomedical sciences.

I have been the principal writer for a variety of research topics and for studies across many therapeutic areas. These projects have included: needs assessments; CME course development (including grant applications, Q&A with data accumulation and slide sets), interviews with key opinion leaders, scientific manuscripts, medical technology directory reports, abstracts, grant writing (federal and private funding), medical / scientific conference coverage, clinical overviews, CSRs, IBs, and patient narratives.

As a researcher, I previously established and directed drug discovery collaborations with industry, collaborated with clinicians and researchers, directed a core facility, mentored graduate students, and trained laboratory technicians. I have also been a panel member for drug development, been an invited speaker at research hospitals and at national/international meetings, taught college- and graduate-level courses, and have been an invited journal reviewer as well as primary author of scientifically reviewed manuscripts and textbook chapters for the medical community.

Therapeutic areas (prioritized): Oncology, CNS (multiple sclerosis/epilepsy), Neurology, Nephrology Bone / Osteoporosis, Dermatology, Diabetes, Endocrinology, Hematology, Immunology, Cardiovascular Disease, Rare Diseases, Respiratory, Rheumatology

Scientific research: Autoimmune Diseases, Biomarkers, Cardiovascular, CNS, Drug Discovery, Hematology, Immunology, Metabolism, Neurology, Nutrition, Oncology

EDUCATION

- Ph. D., Biochemistry, University of Tennessee, Memphis, TN
- B.S., Biology, University of Central Florida, Orlando, FL

CAREER HISTORY

From 2012 to Current: Principal writer CMEScribe LLC

Provide scientific and medical writing consulting services to clients.

- Needs Assessments: heart failure, multiple sclerosis, chronic kidney disease, non-invasive prenatal testing with next generation sequencing, breast cancer, IgA nephropathy, idiopathic hypersomnia, Huntington's disease, diabetes, systemic lupus erythematosus, pediatric multiple sclerosis, schizophrenia, insomnia disorders, generalized tonic-clonic seizures, cystic fibrosis, & more
- CME course development, faculty planning guides, CME credit grant applications, Q&A with data accumulation, slide sets (PowerPoint, Keynote)
- PeerView Institute, Pharmacy Times, Medical Logix, MedPage, Clene Nanomedicine, RedHill Pharmaceuticals, and more
- Manuscript research, writing, and submission for multiple biotech companies developing therapeutics for multiple indications including COVID-19, epilepsy, amyotrophic lateral sclerosis, multiple sclerosis, infectious disease, nutrition, and Parkinson's Disease
- Review for pharmacists, scientific publication, poster, and response letters to reviewers describing studies of administration of a intranasal benzodiazepine for treating patients with cluster seizures. Prior to this approval a rectal gel was the only option and of course this is not possible for the patient to administer and not easy for a care giver either.
- White papers focused on highest-throughput with highest-quality instrumentation platform assays towards optimal, accurate, and most reliable measures of HbA1c and androstenedione.
- Systematic review with meta-analysis just published in the *Journal of Lasers in Medical Sciences*, 2022; Another meta-analysis on topic has been completed. The accepted paper identified 21 RCTs meeting inclusion criteria for involving 1064nm wavelength high-powered (>1.0W) lasers used in photobiomodulation and analysis was performed using Cohen's *d* effect size calculations as a means of quantifying efficacy for these devices.
- Scientific Advisor for [Aspen Laser Systems](#), 2021-
- Case study using high-powered 30-watt 810nm laser photobiomodulation to effectively reverse prosopagnosia and eliminate seizures in a patient; published 2022.
- Clinical study reports, clinical evaluation report, and investigator brochures
- Regular contributor to *BioWorld* for >3 years ongoing
- Medical technology directory reports: Comprehensive reviews focused on cutting edge medical technologies for practice, budgetary and policy decisions. Subscription only (see <https://www.hayesinc.com/hayes/publications/medical-technology-directory/>).

CAREER HISTORY CONTINUED

- Textbook chapters:
 - Present Knowledge in Nutrition, Niacin and Biotin, 10th and 11th eds.; 2020 & 2012
 - Biochemical, Physiological, and Molecular Aspects of Human Nutrition, Niacin, Riboflavin, and Thiamin, 3rd and 4th eds.; 2019 & 2012
- Professional manuscript, abstract, grant writing for both private and federal funding
- Conference coverage: AAP 2018; ADA 2018; WAC 2018 (AAAAI/WAO); ASM Microbe 2017; ENDO 2017; AAES 2017; HFS 2016; ITC 2015; World Congress on Breast Healthcare 2015; IBD 2020 (2014); ACP 2014; NAMCP 2014; SCAI 2013; CMSC/ACTRIMS 2013
- Physician clinical overviews: Raynaud's phenomena, B-cell lymphoma, Carcinoid, Desmoid tumors, Hyperleukocytosis in malignancy, Malignant brain tumors in children
- Patient narratives

From Jan, 2010-Oct, 2012, Research Professor, University of Central Florida, Orlando, FL

From Dec, 2004-Dec, 2009, Research Professor, University of Cincinnati, Cincinnati, OH

From Aug, 1999 to Nov, 2003, Post-doctoral Fellow, UCLA (Los Angeles, CA) and Tufts University (Boston, MA)

PROFESSIONAL ORGANIZATIONS

- American Medical Writers Association (AMWA)
- American Association for the Advancement of Science (AAAS)
- Global Alliance of Publication Professionals (GAPP)

GRANTS & HONORS

- 2010 Gates Award: Reawakening Retrocyclin as a Potential AIDS Therapeutic
- 2009 Invited speaker, Mayo Clinic Dept. of Anesthesiology, host Dr. Eduardo Nunes Chini
- 2009 Grant reviewer, National Science Foundation
- 2008 Invited speaker, 4th Annual Metabolic Diseases World Summit, Boston, MA.
- 2008 Invited participant, Case Western Univ. School of Medicine, Transdisciplinary Research on Energetics and Cancer (TREC)

SELECTED PUBLICATIONS ≥ 2007

- Hedaya R, Lubar J. [Reversal of Acquired Prosopagnosia Using Quantitative Electroencephalography-Guided Laser Therapy](#). *Photobiomodul Photomed Laser Surg* 2022.
- Penberthy, W. Todd and Charles Vorwaller. (2022) [Utilization of the 1064 nm Wavelength in Photobiomodulation: A Systematic Review and Meta-Analysis](#). *Journal of Lasers in Medical Sciences*.12:e86-.
- Vucic S, Kiernan MC, Menon P, Huynh W, Rynders A, Ho KS, et al. [Study protocol of RESCUE-ALS: A Phase 2, randomised, double-blind, placebo-controlled study in early symptomatic amyotrophic lateral sclerosis patients to assess bioenergetic catalysis with CNM-Au8 as a mechanism to slow disease progression](#). *BMJ Open* 2021;11:e041479..
- Submissions: *JAMA*, *Epilepsia*, *Journal of Managed Care Specialty Pharmacy*, *Clinical Nutrition*, *Antimicrobial Agents and Chemotherapy*, *Biomaterials*, *BMJ Open*, and *Nanomedicine*, (2020-2022)
- Penberthy, W. Todd and James B. Kirkland. Niacin (2020) in Present Knowledge in Nutrition. 11th ed., Elsevier, St. Louis, Mo. Edited by Diane Birt and Allison Worden.
- Penberthy, W. Todd, Mahrou Sadri and Janos Zempleni. Biotin (2020) in Present Knowledge in Nutrition. 11th ed., Elsevier, St. Louis, Mo. Edited by Diane Birt and Allison Worden.
- Penberthy, W. Todd. Niacin, Riboflavin, and Thiamine (2019) in Biochemical, Physiological, and Molecular Aspects of Human Nutrition. 4th ed., Elsevier, St. Louis, Mo. Edited by Marie A. Caudill and Martha H. Stipanuk
- Hu, L, K. Ibrahim, M. Stucki, M. Frapolli, N. Shahbeck, F. A. Chaudhry, B. Gorg, D. Haussinger, W. Todd Penberthy, T. Ben-Omran, and J. Haberle (2015). [Secondary NAD+ Deficiency in the Inherited Defect of Glutamine Synthase](#). *Journal of Inherited Metabolic Disease*. 38(6):1075-83..
- W. Todd Penberthy & Robert Smith (2015). The Vitamin Cure for Arthritis. A book for laypersons about nutritional approaches to treating arthritis. p1-237.
- Penberthy, W. Todd and James B. Kirkland. Niacin (2012) in Present Knowledge in Nutrition. 10th ed., Elsevier, St. Louis, Mo. Edited by Diane Birt.
- Penberthy, W. Todd. Niacin, Riboflavin, and Thiamine (2012) in Biochemical, Physiological, and Molecular Aspects of Human Nutrition. 3rd ed., Elsevier, St. Louis, Mo. Edited by John W. Erdman and Ian Macdonald.
- Penberthy, W. Todd, Soumya C. Chari, Amy Cole, Alexander Cole (2010). [Retrocyclins and Activity against HIV-1](#). *Cellular and Molecular Life Sciences* 68(13): 2231-2242.
- Babak Baban, W. Todd Penberthy & Mahmood S. Mozaffari (2010). [The Potential Role of Indoleamine 2,3 Dioxygenase \(IDO\) as a Predictive and Therapeutic Target for Diabetes Treatment: a Mythical Truth](#); *EPMA Journal* 1:46–55.

SELECTED PUBLICATIONS ≥ 2007 CONTINUED

- Penberthy, W. Todd (2009). [Nicotinic Acid-Mediated Activation of Both Membrane and Nuclear Receptors Towards Therapeutic Glucocorticoid Mimetics for Potential Treatment of Multiple Sclerosis](#); *PPAR Research* 853707-.
- Penberthy, W. Todd (guest executive editor) *Current Pharmaceutical Design*, 2009. Developed theme, coordinated authors / reviewers, and provided oversight to completion. Theme: NAD Biology in Disease.
- Penberthy, W. Todd & Tsunoda, I. (2009). [The Importance of NAD in Multiple Sclerosis](#). *Current Pharmaceutical Design*. 2009; 15(1): 64-99.
- Penberthy, W. Todd (2009). [Nicotinamide Biology and Disease](#). *Current Pharmaceutical Design*;15(1): 1-2.
- Jones KS, Alimov AP, Rilo HL, Jandacek RJ, Woollett LA, Penberthy WT. [A high throughput live transparent animal bioassay to identify non-toxic small molecules or genes that regulate vertebrate fat metabolism for obesity drug development](#). *Nutr Metab (Lond)* 2008;5:23.
- Penberthy WT. [Pharmacological targeting of IDO-mediated tolerance for treating autoimmune disease](#). *Curr Drug Metab* 2007;8:245–66.

GRANTS & HONORS CONTINUED

- 2008 Invited Participant Discussion: PARP-1 Inhibitors for Glioma, Breast, & Ovarian Cancer
- 2005 R21. Secondhand Smoke and Cardiovascular Disease in Zebrafish, R21ES01817
- 2008 Executive Editor, *Current Pharmaceutical Design*: Nicotinamide Adenine Dinucleotide Biology and Disease
- 2008 Nominated Honorary Editorial Board of The Journal of International Tryptophan Research
- 2007 Nominated to Marquis Who's Who in America
- 2004-2007 Biomedical Research Technology Transfer Award BRTT. \$120,000/yr
- 2004-2007 Genome Science Millennium Fund
- 2000-2003 F32, Individual National Research Service Award. Neuronal and Hematopoietic Gene Regulation of GATA-2. NIH F32HD401940.
- 1999-2000 Post-doctoral Training Grant. Pathobiology of Digestive Diseases. NIH NIDDK DK07542.

PRESENTATIONS & MEETINGS

- Invited presentation, Mayo Clinic, May 2009, “NAD-Centric Pharmacologic Approaches & Obesity/ COPD Animal Modeling Using Zebrafish”
- Invited presentation and Travel Award, 4th Annual Metabolic Diseases World Summit, Boston, MA 2008: “A high throughput live transparent animal bioassay to identify non-toxic small molecules or genes that regulate vertebrate fat metabolism for obesity drug development”
- Invited panelist, PARP-1 inhibitors for use in melanoma, ovarian cancer, and glioma; Panel Intelligence, LLC
- Invited speaker, Case Western TREC Retreat 2008, “NAD Pharmacotherapeutics: Zebrafish-based Small Molecule Studies of Lipid Metabolism with Implications for Cancer and Multiple Sclerosis”
- Invited presentation and Travel Award, PARP 2008, Tucson, AZ
- Invited speaker, Dept. of Human Nutrition at Ohio State University: “The Zebrafish Genetic Model Organism for Studying Nutrient Function,” Oct. 2007, Columbus, OH
- Third Annual Ohio Valley Affiliates for Life Sciences, March 7-8, 2007
- Jones, Kevin S., W. Todd Penberthy. 2006. Poster: “NAD Precursors Prevent Chemically-Elicited Neurodegeneration in Zebrafish Larvae.” East Coast PARP Meeting 2006, Quebec City, Quebec, Canada.
- 7th International Conference on Zebrafish Development and Genetics, June 14-16, 2006, Madison, WI
- Lin, Shuo and W. Todd Penberthy. 2005. Poster: “Whole-animal Chromatin Immunoprecipitation Using Zebrafish Embryos”. Strategic Conference of Zebrafish Investigators. Principle investigators only and by invitation, Bar Harbor, ME
- W. Todd Penberthy, Jason R. Jessen, Zhongan Yang, & Shuo Lin. 2002. Oral Presentation: “A Role for BarH1 in the Regulation of GATA-2 Neural Expression”. The 6th International Conference on Zebrafish Development and Genetics, Madison, WI

INVITED JOURNAL REVIEWER

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| • Diabetes | • PPAR Research | • Development |
| • Developmental Dynamics | • Immunology Letters | • Molecular Biology Reports |
| • Antiviral Research | • Brain Research Bulletin | • Schizophrenia Research |
| • Journal of Nutrition | • Nucleic Acid Research | • Mutation Research |