

William Todd Penberthy, Ph. D.

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Winter Park, Florida, USA

SUMMARY

With over 10 years of CME writing, a doctorate in biochemistry with training in developmental biology, and experience directing a drug discovery laboratory with a fortune 500 company before switching to writing, my scientific experience has been invaluable to my current career, enabling me to gain an understanding of various therapeutic areas and effectively communicate biomedical science in manuscripts, CME grants/course design, abstracts, slide decks, and more.

Therapeutic areas include:

- Oncology
- Neurology (multiple sclerosis, other neurodegenerative diseases, epilepsy)
- Cardiology
- Rare diseases
- Nephrology

CAREER HISTORY

- 2012 to Current: Principal writer CMEScribe LLC
- Jan 2010-Oct 2012: Research Professor, University of Central Florida
- Dec 2004-Dec 2009: Research Professor, University of Cincinnati
- 2000-2004: Post-doctoral fellow, UCLA
- 1999-2000: Post-doctoral fellow, Tufts New England Medical Center

EDUCATION

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

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August 28th, 2023

EXPERIENCE

- CME needs Assessment grants: small cell lung cancer (funded), all types of breast cancer (multiple funded), desmoid tumors (funded), multiple sclerosis (funded), HNCC, cervical cancer, heart failure, chronic kidney disease, non-invasive prenatal testing with next generation sequencing, IgA nephropathy, idiopathic hypersomnia, Huntington's disease, diabetes, systemic lupus erythematosus, pediatric multiple sclerosis, schizophrenia, insomnia disorders, generalized tonic-clonic seizures, cystic fibrosis, & more
- Published or submitted: *JACC: Cardiovascular Interventions*, *Nature Immunology*, *JAMA*, *BMJ Open*, *Epilepsia*, *Journal of Managed Care Specialty Pharmacy*, *Clinical Nutrition*, *Antimicrobial Agents and Chemotherapy*, *Biomaterials*, *Nanomedicine*, *Current Pharmaceutical Design*, *Current Drug Metabolism*, *J. of Inherited Metabolic Diseases*, *EPMA J.*, *Nutritional Metabolism*, and more
- Conference abstracts: > 70
- News pieces with an interview with scientists just published in in *Science* and *Nature* family of journals especially *Science Translational Medicine*: > 90
- Slide decks, course design, course handouts, KoL identification/interaction
- Peer-reviewed biomedical manuscripts, reviews, pharmacist guidelines, and meta-analysis:
 - Clinical trial studies
 - Basic science (animal disease models & toxicology)
 - Meta-analysis with statistics
 - Evidence based health technology assessments of emerging technologies
- 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.
- Book chapters in dermatology and nutrition: 5
- 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/>).
- Scientific Advisor for [Aspen Laser Systems](#), 2021- 2023 published meta-analysis & case study using high-powered 30-watt 810nm laser photobiomodulation to effectively reverse prosopagnosia and eliminate seizures in a patient (published 2022).

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EXPERIENCE CONTINUED

- White papers focused on high-throughput instrumentation platform assays towards optimal, accurate, and most reliable measures of HbA1c and androstenedione.
- 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
- Invited presentations: Mayo Clinic, Cleveland Clinic, panel participant (PARP1 inhibitors for glioblastoma), etc.

SELECT PUBLICATIONS ≤4 YEARS (more upon request)

- 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, randomized, 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.
- **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.

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- **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.
- 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.
- Traver, David, Barry H. Paw, Kenneth D. Poss, **W. Todd Penberthy**, Shuo Lin, and Leonard I. Zon (2003). Transplantation and *in vivo* Imaging of Multi-lineage Engraftment in Zebrafish Bloodless Mutants. *Nature Immunology*. 4:1238-1246.