

Brennen McKenzie

brennen@loyal.com

EDUCATION & AWARDS

University of Pennsylvania, School of Veterinary Medicine

Veterinariae Medicinae Doctoris

Honors: Magna Cum Laude, Dean's List, ACVR Excellence in Clinical Radiology Award, Morris Ziskind Public Health Prize, Excellence in Small Animal Clinics Award, Excellence in Clinical Laboratory Medicine Scholarship, Phi Zeta Veterinary Honor Society

London School of Hygiene & Tropical Medicine

University of London

Master of Science in Epidemiology

San Francisco State University

Master of Arts in Physiology and Behavioral Biology

University of California at Santa Cruz

Bachelor of Arts in English Literature and Biology

Honors: Honors in the English Literature Major, Honors in the Comprehensive Examination for the Biology Major

2023 VIN Veritas Award

"Honors those who serve truth and science with integrity and courage."

EXPERIENCE

Adobe Animal Hospital- Associate Veterinarian

Twenty-five years of small animal and exotic clinical practice, with skills including general medicine, emergency and critical care, soft-tissue surgery, abdominal and cardiac ultrasound, and endoscopy

Loyal- Director of Veterinary Medicine

Responsible for journal publications, continuing education for veterinarians, scientific communications, and support of research team for a biotechnology startup developing drugs to extend healthy lifespan in dogs

Western University of Health Sciences College of Veterinary Medicine-Clinical Preceptor

Training senior veterinary students in a 4-week general practice clinical rotation

Evidence-Based Veterinary Medicine Association

Past President

Veterinary Practice News Magazine

Columnist, Evidence-based Small Animal Medicine

SkeptVet

Founder and sole author of online educational resource for science-based pet care

FIRST AUTHOR JOURNAL PUBLICATIONS

McKenzie BA. Assessing frailty in senior dogs. Companion Animal. 2025;in press.

McKenzie BA. Immunosenescence and inflammaging in dogs and cats: A narrative review. J Vet Intern Med. 2025;39(4):e70159.

McKenzie, B., Peloquin, M., Graves, J.L. *et al.* Changes in insulin, adiponectin and lipid concentrations with age are associated with frailty and reduced quality of life in dogs. *Sci Rep.* 2025;15:5380.

McKenzie BA, Peloquin M, Tovar A, Graves JL, Ratcliff E, Tucker K, Vo K, Greenwood K, Halioua-Haubold CL, Juarez-Salinas D. Feeding dogs a high-fat diet induces metabolic changes similar to natural aging, including dyslipidemia, hyperinsulinemia, and peripheral insulin resistance. *Am J Vet Res.* 2024;15:1-11.

McKenzie BA. Do it yourself or send for help? Considering specialty referral from a general practitioner perspective. *J Amer Vet Med Assoc.* 2024;262(5):715-720.

McKenzie BA, Chen FL. Assessment and Management of Declining Physical Function in Aging Dogs. *Top Companion Anim Med.* 2022 Nov-Dec;51:100732.

McKenzie, BA, Lacroix-Fralish, ML, Chen, F. The phenotype of aging in the dog: How aging impacts the health and wellbeing of dogs and their caregivers. *J Amer Vet Med Assoc.* 2022;260(9):963-970.
<https://doi.org/10.2460/javma.22.02.0088>

McKenzie, BA. Comparative Veterinary Geroscience: Mechanism of molecular, cellular, and tissue aging in humans, laboratory animal models, and companion dogs and cats. *Amer J Vet Res.* 2022;83(6):
<https://doi.org/10.2460/ajvr.22.02.0027>.

McKenzie, BA, Chen, FL, Gruen, ME, Olby, NJ. Canine Geriatric Syndrome: A Framework for Advancing Research in Veterinary Geroscience. *Front Vet Sci.* 2022;21(9):853743. 10.3389/fvets.2022.853743

McKenzie, BA. Rational use of diagnostic and screening tests. *J Sm Anim Pract.* 2021;62(11):1016-21.

McKenzie, BA. Overdiagnosis. *J Amer Vet Med Assoc.* 2016;249(8):884-889.

McKenzie, BA. Evidence-based veterinary medicine: What is it and why does it matter? *Equine Vet Edu.* 2014;26(9):451-452.

McKenzie, BA. Veterinary clinical decision-making: cognitive biases, external constraints, and strategies for improvement. *J Amer Vet Med Assoc.* 2014;244(3):271-276.

McKenzie, BA. Is complementary and alternative medicine compatible with evidence-based medicine? *J Amer Vet Med Assoc.* 2012;241(4):421-6.

McKenzie, BA. Evaluating the benefits and risks of neutering dogs and cats. *CAB Reviews: Persp in Agricul, Vet Sci, Nutr, Nat Res.* 2010;5(45).

McKenzie, BA. What's the Evidence? Glucosamine and chondroitin for canine osteoarthritis. *J Amer Vet Med Assoc.* 2010;237(12):1382-3.

CONTRIBUTING AUTHOR JOURNAL PUBLICATIONS

Graves JL, McKenzie BA, Koch Z, Naka A, Spofford N and Morrison J (2023) Body weight, gonadectomy, and other risk factors for diagnosis of osteoarthritis in companion dogs. *Front Vet Sci* 10:1275964.

Chen FL, Ullal TV, Graves JI, Ratcliff ER, Naka A, McKenzie BA, Carttar TA, Super KM, Austriaco J, Weber SY, LaCroix-Fralish ML, Vaughn J. Evaluating instruments for assessing healthspan: a multi-center cross-sectional study on health-related quality of life (HRQL) and frailty in the companion dog. *Geroscience.* 2023 Feb 13.

Stull JW, Shelby J, Bonnett B, Block G, Budsberg S, Dean R, Dicks M, Forsgren B, Golab G, Hamil J, Kass PH, King L, Lund E, Maddux M, Mcfarland JM, Mckenzie B, Moyer M, Olson P, Wittman T. Broadening

access to veterinary care: Barriers and next steps to providing a spectrum of effective healthcare to our patients. *J Amer Vet Med Assoc.* 2018;253(11):1386-89.

OTHER PUBLICATIONS

McKenzie, BA. Overdiagnosis. In: Stephens T, Clutton RE, Taylor P, Murphy K, eds. *Veterinary Controversies and Ethical Dilemmas: Provocative Reflections on Clinical Practice*. 1st ed. CRC Press; 2025.

McKenzie, BA. What are general practitioners good for? In: Stephens T, Clutton RE, Taylor P, Murphy K, eds. *Veterinary Controversies and Ethical Dilemmas: Provocative Reflections on Clinical Practice*. 1st ed. CRC Press; 2025.

McKenzie, BA. An approach to ethical conflicts in veterinary practice. In: Stephens T, Clutton RE, Taylor P, Murphy K, eds. *Veterinary Controversies and Ethical Dilemmas: Provocative Reflections on Clinical Practice*. 1st ed. CRC Press; 2025

McKenzie, BA. *Placebos for Pets? The Truth about Alternative Medicine in Animals*. London, England: Ockham Publishing; 2019.

McKenzie, BA. Evidence-based Medicine. In: *Pet-specific Care for the Veterinary Team*. Ackerman, L. ed. John Wiley & Sons, Inc.; June, 2020.

McKenzie, BA. (2012). The popularity of alternative medicine is exaggerated. In: Zott LM. 3d. *Alternative Medicine (Opposing Viewpoints)* (pp.90-7). Detroit: Greenhaven Press. Adapted from "How Popular is Acupuncture?" ScienceBasedMedicine.org, March 25, 2011.

McKenzie, BA. (2012). Protecting public health is the responsibility of the government. In: Engdahl, S. ed. *Alternative Therapies (Current Controversies)* (pp.130-7). Farmington Hills: Greenhaven Press. Adapted from "CAM and the Law, Part I: Introduction to the Issues," ScienceBasedMedicine.org, November 9, 2010.

CONFERENCE PRESENTATIONS

AVMA, Washington, D.C., July, 2025

1. Dog longevity 101: Aging fundamentals that every vet should know
2. Dog longevity 201: Apply what we know about aging to improve senior dog care
3. Dog longevity 301: The ultimate deep dive into extending healthy lifespan covering metabolic health and clinical lab monitoring

ACVIM, Louisville, KY, June, 2025

1. The role of evidence-based medicine in fostering spectrum of care
2. EBVM 25 years on: Where are we now, and where are we headed

Western Veterinary Conference, Las Vegas, NV, March, 2025

1. Looking under the hood: how metabolic dysfunction impairs health in aging dogs
2. A new look at old labs: Familiar lab values as potential indicators of unhealthy aging
3. FDA, XCA, RXE: What does the alphabet soup of conditional drug approval mean for veterinarians?
4. Spectrum of Care: Revolutionary idea, same old thing, or empty buzzword?
5. Choosing Wisely: Things to stop doing in your practice (maybe)
6. Does it work? Does it matter? An evidence-based approach to osteoarthritis therapies

VMX, Orlando, January, 2025

1. Looking under the hood: how metabolic dysfunction impairs health in aging dogs
2. A new look at old labs: Familiar lab values as potential indicators of unhealthy aging

Fetch, Long Beach, December, 2024

1. Looking under the hood: how metabolic dysfunction impairs health in aging dogs

2. A new look at old labs: Familiar lab values as potential indicators of unhealthy aging
3. FDA, XCA, RXE: What Does the Alphabet Soup of Conditional Drug Approval Mean for Veterinarians?

PacVet, San Francisco, June, 2024

1. Spectrum of Care: Revolutionary Idea, Same Old Thing, or Empty Buzzword?
2. Age of Endarkenment? Medical Mistrust and Misinformation and What Vets Can Do About It
3. Choosing Wisely: Things to Stop Doing in Your Practice (Maybe)
4. Too Much Medicine? The Allure of Overdiagnosis
5. Evidence-Based Veterinary Medicine in the Trenches: Practical EBVM for the Busy GP
6. Extending Lifespan and Health Span with Nutrition: Science Vs. Speculation

AVMA Forum, Austin, June, 2024

1. Risk factors for Osteoarthritis in Dogs
2. How You Can Help Aging Dogs Today & Tomorrow

ACVIM Forum, Live Virtual Program, June, 2024

1. Quantifying Frailty: Novel Clinical Metrology Instruments in Canine Geriatrics

Western Veterinary Conference, Las Vegas, February, 2024

1. Understanding and Measuring Frailty in Geriatric Dogs and Cats
2. Age of Endarkenment: Medical Misinformation & What vets Can Do About It
3. Extending Lifespan with Nutrition: Science & Speculation
4. Do It Yourself or Call for Help? Specialty Referral from a GP Perspective

Fetch, Long Beach, December, 2023

1. Measuring Frailty in Dogs and Cats
2. Let's Talk about Aging: What Can We Do About It in Dogs & Cats? (panel discussion)
3. Aging and Nutrition: Can Diet Extend Lifespan & Healthspan?

CVDL, León, México, September, 2023

1. Clinical Decision Making
2. Aging in Dogs and Cats
3. Overdiagnosis
4. Measuring Frailty in Dogs and Cats
5. Evidence-based Palliative & Hospice Care: Can We Get There?

ACVIM Forum, Pittsburgh, PA, June, 2023

1. Effects of Nutritional Interventions on Aging

Western Veterinary Conference, Las Vegas, NV, February, 2023

1. Evidence-based Small Animal Geriatric Medicine
2. Choosing Wisely: 10 Things to Stop Doing in Your Practice (Maybe)

Southwest Veterinary Symposium, Ft. Worth, TX, September, 2022

1. Masterclass-Canine Aging Biology

Fetch Conference, Kansas City, MO, August, 2022

1. Aging in the Dog: Foundations of Canine Geriatric Medicine

Australian Veterinary Association Annual Conference, Broadbeach, QLD, Australia, May, 2022

1. EBVM and the role of the GP vet
2. Too much medicine? The allure of overdiagnosis

Western Veterinary Conference, Las Vegas, NV, March, 2018

1. Confused about Cannabis? A Look at the Evidence for Medical Marijuana in Pets

2. Ove, OVH, OMG! A Pragmatic Review of Neutering Options
3. Thinking about Testing: How to make Rational Choices about Using Diagnostic Tests
4. Placebos in Pets

American College of Veterinary Internal Medicine Forum, National Harbor, MD, June, 2017

1. Overdiagnosis: Don't Just Do Something, Stand There!
2. Reporting Quality and Risk of Bias in Veterinary Clinical Trials: A Systematic Review

Western Veterinary Conference, Las Vegas, NV, March, 2016

1. Don't Just Do Something, Stand There! The Perils of Overdiagnosis and Overtreatment.
2. The Laser Craze: What Is the Evidence for Low-level Laser Therapy?
3. Be All You Can Be: What Is Clinical Audit and How Can It Help You?
4. What You Know that Ain't So: Common Myths in Small Animal Practice 2016 Edition

Society for Theriogenology Annual Conference, San Antonio, TX, August, 2015

1. Principles of Evidence-based Medicine

Western Veterinary Conference, Las Vegas, NV, February, 2015

1. EBVM in the Trenches: Pragmatic Strategies for Implementing EBVM in General practice
2. Can We Trust the Scientific Literature in Veterinary Medicine?
3. What You Know that Ain't Necessarily So: An Evidence-based Exploration of Common Beliefs & Practices in Veterinary Medicine

EBVM 2014: 1st International Evidence-based Veterinary Medicine Network Conference, Windsor, U.K., October, 2014

1. EBVM in the Trenches: Pragmatic Strategies for Implementing EBVM in General Practice
2. Potential sources of bias in the veterinary literature: A systematic review of factors associated with reported positive treatment effects in published veterinary clinical trials.

Western Veterinary Conference, Las Vegas, NV, February, 2014

1. What is Evidence-Based Veterinary Medicine & Why Do We Need It?
2. Myths & Misconceptions About Evidence-Based Veterinary Medicine
3. The Future of Evidence-Based Veterinary Medicine: Challenges & Opportunities
4. Alternative Medicine and Evidence-Based Medicine: Are They Compatible?

American Board of Veterinary Practitioners Symposium, Phoenix, AZ, October, 2013

1. Myths & Misconceptions About Evidence-Based Veterinary Medicine
2. The Future of Evidence-Based Veterinary Medicine: Challenges & Opportunities
3. Clinical Decision Making: How We Do It & How We Can Improve It
4. Alternative Medicine and Evidence-Based Medicine: Are They Compatible?

The Sceptical Vet: Eminence or Evidence? An open symposium hosted by the Royal College of Veterinary Surgeons Charitable Trust, London, England, October, 2012.

1. Evidence-based Veterinary Medicine: A Global Perspective.

American Veterinary Medical Association Annual Conference, San Diego, CA, August, 2012

1. Can Complementary and Alternative Medicine be Evidence-based Medicine?
2. Inside the Issues Debate: Which is Better, Clinical Experience or Clinical Trials?

The Science Behind Alternative Medicine in Animal Health, 29th Annual Frank W. Jordan Seminar, School of Veterinary Medicine, Kansas State University, April, 2012

1. Science Works: Where We Go Wrong and how Evidence-based Medicine Can Set Us Right.
2. What is Complementary and Alternative Medicine and How Do We Evaluate It?
3. Applying a Science-based Approach to Evaluating Specific Alternative Therapies