

# HOW TO READ AND APPRAISE VETERINARY ARTICLES

**P**ractitioners and students of evidence-based veterinary medicine read articles; it's a vital step in the methodology. I organize techniques for reading scientific articles in three categories: science, medicine and veterinary medicine. Here are some favorites. These are freely available online unless otherwise noted and offer methods for reading and critically appraising articles with different levels of rigor.

## General Science Resources

The *Ask a Biologist* blog at Arizona State University presents the gross anatomy of a scientific article and dissects it. The anatomy portion identifies, labels and defines each article part. Then they dissect an article from *PLOS Biology*. The dissection provides explanations of each anatomic part and interpretation of the science. Visit <https://askabiologist.asu.edu/explore/anatomy-of-an-article>.

*Science* magazine's *Science Careers*, from the American Association for the Advancement of Science (AAAS), published both a tongue-in-cheek column authored by a graduate student and serious responses from a dozen scientists about how to read papers. Visit <https://www.sciencemag.org/careers/2016/03/how-seriously-read-scientific-paper>.

## Medically Related Resources

*BMJ (British Medical Journal)* provides several great resources at <https://www.bmj.com/about-bmj/resources-readers>.

The 10-part series *How to Read A Paper* by Dr. Trisha Greenhalgh, published in 1997, stands the test of time. It covers:

- Qualitative research
- Systematic reviews and meta-analyses
- Economic analyses
- Diagnostic and screening tests
- Drug trials
- Statistics for the non-statistician
- Statistics for the non-statistician II
- Assessing methodological quality
- Deciding what a paper is about
- The Medline index (Medline provides most information found in PubMed.)



**LIBRARIES**  
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By Heather K. Moberly  
Coordinator of Veterinary Services, Medical  
Sciences Library, Texas A&M University

If you would like a more in-depth treatment, consider *How to Read a Paper: The Basics of Evidence-Based Medicine*, by the same author. The 284-page book, now in its fifth edition, was published in 2014 and is highly recommended. The book is not freely available. The first chapter, "Why read papers at all?" is currently free at <https://www.wiley.com/en-us/How-to-Read-a-Paper%3A-The-Basics-of-Evidence-Based-Medicine%2C-5th-Edition-p-9781118800966>. It is well worth a read.

Two additional books, *Epidemiology for the Uninitiated* and *Statistics at Square One*, also are linked.

## Veterinary Medicine

As we move into looking at resources specific to veterinary medicine, reading and appraisal tend to be presented as a pair.

The article "How to Critically Appraise a Paper from Equine Veterinary Education" is available online although not yet assigned to a specific issue of the journal. Visit <https://onlinelibrary.wiley.com/doi/full/10.1111/eve.12896>.

If you prefer to watch a presentation, "How to Critically Appraise a Paper and How to Run a Journal Club" is a 46-minute slide cast (audio and slideshow) from EBVM Skills Day 2015. Visit <https://www.veterinaryevidence.org/index.php/ve/article/view/22>.

When you are working to answer a clinical question from a group of articles, using checklists can help to compare the papers. The Center for Evidence-Based

Veterinary Medicine at the University of Nottingham provides tools for reading articles at <https://www.nottingham.ac.uk/cevm/resources/our-resources.aspx>.

Available checklists for critical appraisal are standard questions, randomized controlled trial, cohort study, prognosis and case-control study.

*The Veterinary Evidence Handbook for Writing Knowledge Summaries* was written to assist those writing knowledge summaries for the *Veterinary Evidence* journal. It is useful for a variety of audiences and purposes. Related to this column, the appendixes provide toolkits for both identifying the study type in an article and the reading studies. Visit [https://www.veterinaryevidence.org/rcvskmod/ourdocuments/The\\_Veterinary\\_Evidence\\_Handbook\\_For\\_Writing\\_Knowledge\\_Summaries.pdf/](https://www.veterinaryevidence.org/rcvskmod/ourdocuments/The_Veterinary_Evidence_Handbook_For_Writing_Knowledge_Summaries.pdf/)

- Introduction to "levels of evidence" and study design
- What type of study is it?
- Clinical Trial Toolkit
- Cross Sectional Study Toolkit
- Case-Control Study Toolkit
- Cohort Study Toolkit
- Systematic Review Toolkit
- Qualitative Study Toolkit

Many of the species and specialty-specific resources are not freely available. If you are interested, you may want to seek the evidence-based veterinary medicine themed issues of the *Veterinary Clinics of North America: Exotics (2017)*, *Food Animal (2012)*, *Small Animal (2007)* and *Equine (2007)*. Species-specific journals, for example, *Equine Veterinary Education*, include articles and clinical evidence.

Remember that you can obtain copies of items that are not freely available through your local library. If you are a Texas veterinarian with no library services, register with the Texas A&M Medical Sciences Library to receive library benefits. [▶▶](#)

*Texas veterinarians may contact the Medical Sciences Library at Texas A&M University for assistance at no cost for reference service, literature searching and copies of articles, chapters and conference papers from our collection. Details can be found at <http://tamulibguides.com/bvetalum>.*