Introduction: Evidence-based, Problem-oriented Medicine

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Soon after graduating from veterinary school, it was easy to become the local expert in exotic animal medicine because few other veterinarians in southeast Minnesota really cared to treat these companion animal species. My fascination with avian and exotic animals was a personal motivation, and I was further encouraged by clients who needed professional medical advice for their pets. So I began a journey to learn everything possible about these wonderful animals. I soon realized that the quantity of basic natural history, husbandry, anatomy, physiology, behavior, pharmacology, medicine, and technical information was overwhelming. I discovered that no matter how much was learned, I still needed to make important decisions without evidentiary support. Although this was exciting, there was also a realization that a willingness to examine the species, a fervent desire to learn, and a strong constitution for making decisions in the face of insufficient evidence did not make me an "expert." Therefore, advanced training was the next rational step toward confidence and comfort of treating avian/exotic patients.

During my residency and graduate studies I learned how to better use computerized search systems, to obtain and assess scientific articles, to effectively practice problem-oriented medicine, and to critically evaluate my own knowledge and thoughts. I learned that no matter how much evidence is available on a subject, not everybody will agree how to use the information when solving clinical problems. I learned that people often depend on rhetorical techniques to justify their actions, especially when evidence either does not support or flatly disproves the person's opinion. I discovered that even revered experts will sometimes argue vehemently to support conclusions they have drawn from unsystematically recorded personal experiences, even when scientific evidence refutes their views. I observed that in emerging veterinary disciplines like avian/exotic animal medicine, the one who argues with the most confidence can impel the field, that we veterinarians are human, and that humans are biased. With these experiences, I began to see the intrinsic value of scientific data and how it can be used as evidence to support clinical decisions. I learned to do my best to base my decisions on the best-available evidence, thereby ensuring I provided clients with optimum service and patients with quality care.

After my advanced training, I worked as a relief veterinarian for a few years. During this time I encountered an array of different methods that veterinarians used to practice medicine, and recognized that I needed to maintain problem-oriented veterinary medical records (POVMR) so that the next veterinarian reading the patient's chart had a clear understanding of my medical thought process. One of the most reassuring discoveries I made was that one does not need prior experience to solve new problems, because by integrating new knowledge into the basic POVMR method, clinical success can be achieved through identifying knowledge gaps, seeking new information, and assessing available evidence.

As veterinarians, we have traditionally focused our efforts on learning just in case the information may be needed at a later date. We attend continuing education seminars, read journals, and listen to drug company representatives in an effort to keep abreast of the latest medical practices. Moreover, with the overwhelming abundance of information it behooves us not only to expand our medical knowledge, but to obtain relevant evidence at the moment it is needed. This may free us from feeling overwhelmed in the Information Age, and it also offers an opportunity to provide the best-available veterinary service and care to our clients and patients. Of course, especially in nascent fields like exotic animal medicine, "current best" can be quite mediocre, which should motivate

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us to demand evidence from observational studies, randomized and controlled clinical trials, and systematic reviews.

This issue of the *Journal of Exotic Pet Medicine* contains a collection of articles from exotic animal practitioners who practice what I am preaching. Drs. Jennifer Graham and Jörg Mayer, both humble teachers and leaders in this field, offer unabashed descriptions of how they go about solving difficult clinical problems in the face of insufficient evidence. Dr. James Wellehan not only practices and teaches evidence-based, problem-oriented medicine, but also uses some of the most advanced research techniques to provide us with a scientific basis from which to practice. He presents his perspective on how to use published research evidence in reptile practice. Dr. Lisa Tell has trained many of today's top exotic animal practitioners, and in her articles she discusses clinical guidance during the management of two cases.

I hope this issue will dispel some myths about problem-oriented, evidence-based medicine and demonstrate how to make it work in everyday practice, especially your hospital. I believe the utilization of evidence-based avian/exotic animal medicine motivates veterinarians to demand science because it brings current veterinary medical practice deficiencies to light. Consequently, no matter how good the science becomes, the art of integrating the best research evidence with our clinical expertise, our patient's needs, and our client's circumstances will always keep the practice of exotic animal medicine just as stimulating and engaging as ever.