“Don’t just do something: Stand there!”

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“Medicine is a science of uncertainty and an art of probability” – William Osler

For most of us, our veterinary education has trained us to act. We very much follow Winston Churchill’s motto of “Action this day”. Certainly our clients are very demanding that we act immediately. However, we rarely find the time to consider whether this is appropriate in all cases.

Let us start by considering 2 important realities:

1. Most disorders in most species are not immediately life threatening.
2. Most disorders in most species are self-limiting and will recover on their own.

If you review the most common signs why an animal is brought to a veterinarian in a first opinion veterinary practice, it is apparent that very few of them are immediately life threatening. Diarrhea, vomiting, coughing, itching and lameness are not typically fatal in the short term. That is not to say that the veterinarian and especially the client do not feel a sense of urgency to “just get things done!”. It is just that most times it is not the actual case that is providing the impetus for immediate action. Interestingly there are many cases where doing nothing (or simple symptomatic treatment) and monitoring the progression of the patient provides a great deal more information to allow a diagnosis.

The other important reality is that many of the cases seen in first opinion practice are self-limiting. Regardless of treatment most GI, respiratory and musculoskeletal disorders will resolve on their own regardless of how we treat them. Over the years most of us have developed “treatments” for a variety of common conditions which we swear by and are naturally very proud of; for most of us we don’t actually know if they truly work as they have never been actually evaluated in a controlled manner! The patients may simply be getting better on their own in spite of treatment.

Before progressing further I do want to stress that I am not proposing that we stop treating routine presenting signs. I am just suggesting that we need to be honest with ourselves about what we are doing and why. For example an animal with an acute musculoskeletal injury may be in pain which can be controlled with judicious use of NSAIDs while the body heals; however let us be clear that the NSAIDs themselves have minimal role in the healing.

Undoubtedly one of the key roles of the veterinarian is to determine the severity of the case presenting. While this is taught in school, it is a skill that can only truly be developed with experience; as you learn to balance the presenting signs with the history, age of the animal, appearance of the animal, physical examination etc. This “triage” process is perhaps the most important skill of the veterinarian and the one that is least likely to be replaced by an algorithm or Dr. Google.
The problem of diagnostic tests:

Every diagnostic test that we use from our physical examination, through medical imaging, blood work and so on has limitations. They are all prone to false positives and false negatives. For some tests that have been validated we may actually know the sensitivity and the specificity, or know that they are based on a normal distribution with 2 standard deviations to cover 95% of the population. However many of the things that we do, especially things that rely on our own skill have not been (nor can they be) validated (e.g. physical examination, reading a radiograph). This means that you can never be certain of a diagnosis you are always dealing with probabilities.

The real problem is that the value of a diagnostic test is actually dependent on the prevalence of the disease in the tested population. The positive and negative predictive value of a test is directly related to the likelihood of the animal having the disease. Tests generally perform best when the likelihood of disease is close to 50:50. The reality is that when you are almost certain of the presence or absence of a disease the results of the test are unlikely to add anything to your clinical opinion. A test will always perform best when you are truly unsure about the diagnosis.

The veterinarian remains the best (and in all likelihood the most expensive) diagnostic test available to you!

Do treatments work?

The final reality of any type of medicine is that many of the treatments that we use on a daily basis have not been rigorously tested in a true randomized controlled clinical trial. When we look back at how medicine was practiced in the past it is easy to be critical of the theories of the time. Bloodletting, tendon firing etc. were all once at the forefront of scientific theory. We need to maintain a healthy scepticism about the true effectiveness of the treatments we recommend. This is especially important because there is not a treatment available that is without risk. All interventions carry risk; how often do we here “let’s just treat them with “x” it won’t do any harm”?

Any attempt at treatment is a balance between risk and reward. In general we have to ask ourselves “is the likelihood of an adverse outcome less with the treatment than with no treatment”? Obviously a broken limb is painful and unstable; if nothing is done the pain will be severe and the injury to the limb will increase and likely not heal. A properly applied cast will stabilize the limb and promote healing, however there are risks of development of cast sores; on balance it is better to place the splint. With medical cases it can be less clear. The animal may have a mild upper respiratory tract infection. In all likelihood it will resolve on its own given time, but the client is pushing for antibiotics. Antibiotics will likely do little for the URT infection but their use there may be associated with a risk of clostridial enteritis. The risk in each case is unknown, the veterinarian has to make a judgement call based on all aspects of the case.

Conclusion:

All first opinion veterinarians have to make judgement calls without sufficient evidence. The diagnosis is typically uncertain and the absolute correct treatment is unknown in most cases. However, a veterinary education supplemented by experience and communication skills that allow you to explain the situation to the client typically results in a positive outcome. The hardest part to learn is to trust your education and your instincts!