

AUTUMN 2019

What a hot Summer! We are finally getting a reprieve and seeing some beautiful Autumn weather in the North East. We are hoping for some more meaningful rain in the next few months.

How Do Antibiotics Work?

Antibiotics are one of the most commonly prescribed medications for animals and humans, but there are many misconceptions about when they should be used and what they are capable of achieving.

Antibiotics are a group of drugs that act on bacteria to disrupt their normal function and essentially destroy them. They are used when there is a confirmed bacterial infection that is damaging the body and ideally when the type of bacteria has been identified so the most appropriate antibiotic can be used. One important thing to note is that antibiotics



will have no effect on viral infections as bacteria and viruses are very different pathogens. There are many different types of bacteria and their structure and function varies. As a result many different types of antibiotics have been created to target a specific weakness in a certain type of bacteria. This means that it is important to use the right antibiotic for the infection that exists because some antibiotics will have no effect on certain types of bacteria. There are general trends for what type of bacteria is involved in certain organ infections making an educated choice possible. However, the best course of action is to sample the infection and grow the bacteria on an agar plate so that it can be identified and then experiments done to determine which antibiotics kill the organism in the lab. This is called a culture and sensitivity test.

Bacteria surround and protect themselves with a tough cell wall. This cell wall is constantly being remodelled to allow bacteria to grow and divide. As an example of the function of an antibiotic, Penicillin acts to inhibit the linking of proteins that make up the cell wall. The bacterial cell has enzymes that break the links between proteins in the cell wall to allow expansion and remodelling. These continue to function, but in the absence of the enzyme that allows them to be linked back together (the enzyme that penicillin inhibits) the cell wall is damaged and fluid can rush into the bacterial cell which is then effectively burst and killed. Many antibiotics act on the bacterial cell wall, but the actual way they do this varies and the cell wall differs between certain types of bacteria making different methods of destroying it necessary.

So next time you or your pet is taking penicillin you will know that even though you can't see it the penicillin is disrupting the bacterial cell wall and helping kill off the bacteria causing the illness.

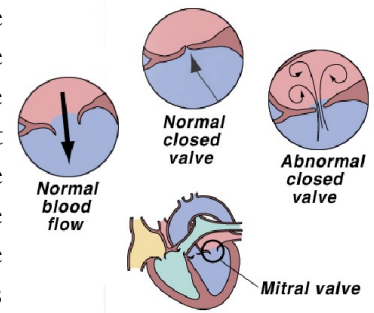
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Mitral Valve Associated Heart Disease

There are many different types of heart disease that can affect our pets, but the most common is mitral valve disease in small breed dogs. The mitral valve separates the left atrium from the left ventricle and is designed to prevent the backflow of blood when the heart beats. In normal operation when the heart beats all the blood is pushed forwards to provide oxygenated blood to the body's tissues. When the mitral valve is not operating properly most of the blood moves forwards, but some is squirted backwards into the atrium. The amount of blood that flows backwards is relative to how leaky the valve has become. In a clinical examination this blood squirting back through the valve



can be heard as an abnormal sound called a heart murmur. In mitral valve disease this murmur is heard on the left side of the chest. The presence of a murmur suggests some dysfunction in the valve and can be further investigated by chest x-rays and ultrasound of the heart. The big problem with a leaky valve is that the blood that is shot backwards ends up pooling in the tissues before the left side of the heart, namely the lungs. The increased blood pressure in this area leads to fluid leaking out from the bloodstream into the tissues of the lungs. This situation is called congestion and limits the ability of the blood to absorb oxygen from each breath the animal takes. As a result exercise tolerance can be limited. Coughing can also be a feature as the leaking fluid sits in the airways of the lungs too. Luckily left sided congestive heart disease due to mitral valve leakage is a disease that has been studied extensively and many medications are available to help dogs suffering this ailment. Unfortunately it cannot be cured but medications can dramatically improve a pet's quality of life and extend their life expectancy significantly. If your pet has suddenly had a reduction in their ability to exercise and especially if they have developed a cough please see your veterinarian for a check up.

NEWSLETTER MAILING LIST

We produce a 4 page newsletter every season to keep our clients informed about the goings on at Warby St Veterinary Hospital and Wangaratta Equine Services. We send the newsletter out with our statements each time it is printed, but also deliver it electronically by email. If you would like to receive the newsletter in your email inbox you can either email us your address at tim@warbyvet.com.au or fill out the slip below and return it to Warby St Vet Hospital in person or by snail mail.

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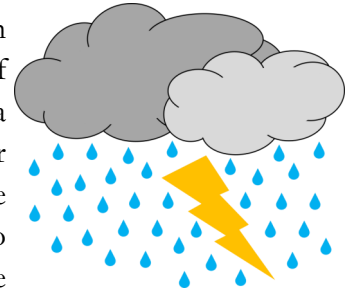
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Thunderstorm Phobia

We have had our fair share of thunderstorms over the summer and early autumn this year. Unfortunately many dogs do not like the sounds and experiences of thunder and lightning. Their reaction can vary from agitation or fear through to a full blown phobia where they can become a danger to themselves because of their actions. If your dog is afraid or severely afraid in thunderstorms it is best to provide them shelter and comfort during these events as a lack of supervision often leads to injuries in the backyard as they try to get away from the noise and lightning. There are also commercially available “thunder shirts” which anxious dogs can wear during thunderstorms and other anxiety triggering events. These shirts provide some compression that helps calm them. If your dog is having a lot of difficulty with thunderstorm phobia then medications can be used to help reduce their anxiety. It is important to note that the past use of the tranquiliser acepromazine (small yellow tablets) is no longer recommended as although dogs look sedate and calm they are still quite aware and afraid in their minds. There are some newer anti-anxiety medications that can be quite useful with this phobia. These medicines are prescription medications and as a result can only be prescribed after a consultation to examine your pet and discuss their behaviour. Medications are best used when a storm is approaching before too much anxiety has developed. Therefore being prepared prior to thunderstorms is important.



Arthritis

With the cooler nights lately, we are seeing an influx of pets showing signs of arthritis. Dogs may present with intermittent lameness or stiffness which is worse after sleep or rest, especially after a cold night. Often they will at least partly warm out of it as the day progresses. In more advanced cases owners may notice loss of muscle of the limbs or back. Cats with arthritis show more subtle signs: Owners may notice them becoming less active, not wanting to jump, hiding away more, becoming irritable, or grooming themselves less.

Arthritis (also known as osteoarthritis or degenerative joint disease) is a progressive degeneration of the joints with loss of the protective cartilage, changes in the bone, thickening of the connective tissue around the joint, inflammation and pain. It can be age related, or a result of trauma or poor joint alignment. 60% of dogs and 22% of cats have evidence of arthritis on x-rays. This percentage increases with age.

Arthritis is incurable and worsens with time. However, there are steps which can be taken to slow the progression of joint damage and provide relief of pain. In mild cases, we tend to recommend first trying chondroprotectants, otherwise known as joint supplements. The oral forms include glucosamine, chondroitin or green lipped muscle. The injectable forms (such as cartrophen) provide a faster and longer-lasting effect. The injections are given once a week for four weeks running and generally provide improvement for at least three months.

In moderate cases, we recommend a combination of chondroprotectants and oral non-steroidal anti-inflammatories (NSAIDs). NSAIDs (such as meloxicam) are very effective at relieving pain and inflammation, and can make a big difference in the quality of life for pets with arthritis. In severe cases there may be too little cartilage remaining in the affected joints for chondroprotectants to have an effect. In these pets we generally use a combination of NSAIDs and other analgesic drugs.

Weight control is an important part of arthritis management as excess body weight increases the stress on joints. There are low energy prescription diets available which can help with weight loss. Low impact exercise such as walking and swimming can also be very helpful, both with weight loss and to improve joint mobility and strengthen muscles.

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Socialisation of Puppies

Getting a new puppy is an exciting time. While it is important to ensure your puppy has the correct preventative healthcare such as vaccination and parasite treatment, it is also very important to take steps to positively socialise them with other animals and people, and to expose them to as many situations and places as possible while they are young. This is best done during the critical socialisation period for dogs which lasts from 3 to 16 weeks of age where social learning is much quicker and easier. Puppies' experiences during this critical period can influence and shape their behaviour well into adulthood.

To help with this, most veterinary clinics run puppy pre-school classes. These are generally weekly one hour evening classes for a month. The aims of these classes are to:

- Provide positive socialization with dogs and people in a safe controlled environment.
- Help owners understand normal puppy behavior, development and care.
- Help produce a well-mannered, well behaved puppy.
- Make trips to the veterinary clinic more enjoyable for you and your dog.
- Promote responsible pet ownership.
- Help develop a relationship between you and your pet based on mutual love, trust and understanding.

Contact us for more information on puppy classes if you have a new puppy.

Stringhalt

During droughts, and in the period after a drought breaks, are when we commonly see cases of stringhalt in horses. Stringhalt is when horses show a prolonged, exaggerated hindlimb flexion (a characteristic gait where the hind leg jerks sharply upwards) during forward or backward movement.

We don't completely understand the cause of stringhalt, but it is thought to be due to a plant-derived neurotoxin, and is associated with poor quality, drought affected pastures and the presence of *Hypochoeris radicata* (known as Flatweed or False Dandelion). It will commonly affect multiple animals in the same paddock at the same time. It happens more often in mature horses, particularly those that are taller. A stringhalt type gait affecting only a single hindlimb can also occur following injury to the hock region.



Flatweed flowers and leaves

Most cases of stringhalt recover spontaneously once they are removed from the causative pasture. However, some horses with stringhalt have a prolonged recovery, some taking several years, and the occasional one never recovers completely. Horses with prolonged symptoms are suspected to be cases where the toxic insult has been prolonged, causing sometimes permanent changes to the nerves and muscles of the hindlimbs.

There are a number of treatments which have been attempted in horses with stringhalt, including various medications, supplements, and even surgery. However, the effectiveness of these treatments is unknown since controlled trials have never been performed, and the spontaneous recovery of the majority of cases makes any response to treatment difficult to interpret.

The most important treatment of a horse with stringhalt is to remove it from the inciting pasture immediately, and feed hay instead. The sooner this can be done, the more likely and swift recovery is going to be.