

Teeth, Ears, Eyes, Kidneys, Bladder

By Kent C. Roberts and
Irving Cashell

Dogs and cats depend on their teeth for survival. The teeth play a vital role in eating and protection from other animals.

Both dogs and cats have two sets of teeth over their life-time. The first or "baby teeth" are present at, or soon after, birth. These "baby teeth" are replaced at four to eight months of age by the adult or "permanent" set of teeth. Replacement is gradual and many owners don't realize that their pets are exchanging a small, sharp set of teeth for a larger, stronger set.

Occasionally one or more

of the "baby" or deciduous teeth—most often the long, sharp canine (corner) teeth—will be retained and interfere with the incoming adult teeth. These retained deciduous teeth need to be carefully removed to prevent defects in the location of the permanent teeth.

Bite Problems. Tooth and oral abnormalities are common in dogs and to a much lesser extent in cats. Some of the more common defects that cause bite problems are overcrowding of teeth, malocclusions (mismatched upper and lower teeth), shortened lower jaw (overshot), shortened upper jaw (undershot).

The most common oral infection in animals is periodontitis, which can result in damage to the gums and subsequent loss of teeth. It is a serious problem in dogs and cats and requires awareness and preventive measures by the pet owner.

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Cats and dogs depend on their teeth for survival. Their teeth play a vital role both in eating and in protection from other animals.

Symptoms of periodontal disease, often called pyorrhea, are bad breath; tartar accumulation; inflamed, receding gums; pus discharge around the teeth; and loose teeth.

Treatment of periodontal disease by a veterinarian in the early stages before the loss of teeth is very important.

A preventive oral hygiene program can be started and managed by the pet owner at home. This program should include diet (firm, dry foods are best for the prevention of plaque and tartar formation), chewing exercise (rawhide chews), and cleaning the teeth.

Where dogs and cats have severe periodontal problems

the teeth may be brushed daily with a soft infant toothbrush or a soft rag wrapped around the index finger. Baking soda is a suitable dentifrice. Detergent commercial tooth pastes are not recommended.

Root Canals. Treatment of disease of the tooth's internal (pulp) tissues is called endodontics. Discoloration of the tooth indicates damage to the pulp and devitalization. Root canal therapy and the use of drainage and antibiotics can save affected teeth.

The use of wire and appliances can reposition teeth and prevent serious dental problems if done in time.

Although relatively rare

in dogs and cats, cavities do occur, usually at the exposed surface of the tooth's root rather than on the enamel covered crown. Early treatment of dental cavities can prevent the loss of important teeth.

When teeth are damaged or decayed or loosened beyond repair, removal or extraction of the affected tooth or teeth is necessary. This is best done by a veterinarian using anesthesia to control pain.

Ear Problems

The ear performs an important function in animals, and any condition that interferes with that function should be treated effectively.

Microscopic parasites called mites can live in the dog or cat's ear, causing an irritation and inflammation of the sensitive membrane lining the ear. This irritation may cause the animal to shake its head and scratch at the ear vigorously.

Treatment for these mites involves thorough cleaning of the ear using an ear syringe and warm water, followed by application of soothing ear drops or ointment containing a drug to kill mites. Gentle massage of the ear following cleaning and treatment is often helpful. Treatment

should be repeated daily.

Infection. The ear may become infected with both bacterial and fungal agents, causing odor and discharge from the affected ear. Infection often goes hand in hand with ears damaged by mites, excessive wetness, foreign bodies and other chronic irritation of the ear lining.

Before effective treatment can be started, a culture of the ear may be needed to determine the cause of the ear inflammation. Bacterial and fungal infections would require different types of drugs to overcome infection. Cleaning prior to treatment helps the treatment to be more effective.

Hematoma. A soft swelling may appear on the inner surface of the ear flap, particularly in dogs with pendulous ears. This swelling is filled with blood and results when a small blood vessel ruptures between the skin and the ear cartilage. The rupture may occur when the animal shakes its head too vigorously.

This condition requires treatment by a veterinarian before the blood forms an organized clot, shrinks, and leaves a permanently disfigured ear.

Wounds of the ear flap or ear canal are common as a re-



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It's important to treat ear problems following the instructions of your veterinarian. Many problems involve cleaning the ear using a syringe and warm water, followed by application of ear drops or ointment. Gentle massage of the ear following cleaning and treatment often helps.

sult of barbed wire, sharp objects or bite wounds. These wounds need careful cleaning and treatment, and surgical repair by a veterinarian when necessary. Antibiotics locally and by injection may be indicated to prevent infection.

The first step in most ear problems is inflammation of the ear membranes, called otitis. Inflammation can affect the external ear, middle ear or inner ear. Treating this inflammation usually is not simple and should involve the services of a veterinarian

trained in treating animal problems.

Use of an otoscope for examining the ear canal, cultures to identify causative organisms, and the proper drugs to give effective results are all of great importance in diagnosing and successfully treating problems of the ear.

Eye Diseases

The eye is an extremely important organ to dogs and cats. Loss of vision is a serious handicap which limits their usefulness and abilities. Inju-



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Your veterinarian will also check your cat's and dog's eyes during routine exams. The eye—"the window of the body"—tells your veterinarian a lot about your pet's health. Eye injuries, unusual discharge or clouding of your pet's eyes warrants a trip to the veterinarian.

ries and diseases of the eye are common, particularly in dogs.

Eye injuries involve primarily the cornea and require prompt treatment to minimize eye damage. Prolapse (falling out) of the entire eyeball may occur in short-nosed breeds with protruding eyes. This is an emergency situation requiring veterinary care. Successful replacement can be accomplished if done in time and if the optic nerve isn't damaged. Keeping the injured eye moist and protected until treatment can be provided is important.

Foreign bodies such as weed seeds may enter the eye and work beneath the lids. Removal may require local anesthesia followed by eye medication.

Diagnosis of eye disease requires a thorough examina-

tion of the eye and may involve dilation of the pupil, ophthalmoscopic examination of the internal structures, measurement of intraocular pressure, corneal staining, a tear test and bacterial culture. Response of the pupil to light is a valuable diagnostic method of determining problems involving the neuroanatomy of the eye.

Conjunctivitis, inflammation of the membrane lining the inner surface of the eyelids, and keratitis, inflammation of the cornea, are common eye problems caused by a variety of irritants, infections and injury.

Dogs and cats have a third eyelid originating in the inner corner of the eye. This protective structure may become inflamed and may protrude over part of the cornea, particularly in cats. Inflam-

mation and enlargement of the gland of the third eyelid results in a condition in dogs called "cherry eye."

Dog Cataracts

The lens performs the same function as the lens in a camera; it focuses images on the retina of the eye. Dogs have cataracts which are a cloudy white opacity of the lens. Cataracts may be hereditary or non-hereditary and will cause blindness when fully developed (mature). Removal of the lens surgically is the only effective treatment.

Glaucoma is a serious eye disease involving an increase in pressure within the eyeball caused by a variety of problems with the production, transport and absorption of aqueous humor, the fluid within the eye.

Pressure may build up rapidly and cause irreversible damage to the retina and optic nerve within a matter of hours, so the onset of glaucoma is considered an emergency. Treatment must be prompt and specific to prevent eventual loss of vision in the affected eye.

Progressive retinal atrophy is a hereditary loss of retinal function in dogs which first manifests itself as night blindness. There is no effec-

tive treatment known for this insidious disease. Genetically it is a recessive trait with a great many carrier animals capable of transmitting the disease. Affected animals should not be used for breeding.

Abscesses occur behind the eyeball (post orbital) causing the eye to protrude from its socket. This painful condition is often associated with dental problems. Antibiotics and proper drainage are indicated.

Entropion, turning in of the eyelid margin, is a common problem in puppies and usually affects both eyes to varying degrees. Left untreated it may cause chronic keratitis and damage the cornea. Treatment consists of corrective surgery on the affected lids.

The eye is the window of the body and often presents indications of systemic disease upon careful examination. Examination of the eye and the diagnosis of eye disease is an important area of veterinary medicine.

Kidney Disease

The kidneys have a large function in eliminating waste produced by the living body and its organs. These are largely nitrogen containing by-

products from the body's use of protein. Another equally essential kidney function is the "intelligent" maintenance of normal levels of the chemicals of blood.

Blood, feeding constantly through kidney tissue, has a normal level of sugar. If the level rises above normal the kidney will "spill" it out into the urine and bring the level to normal. Other chemicals containing such elements as sodium and potassium, and of course water, have normal levels. Any excess is spilled into the urine and eliminated. The kidneys "know" just how much to keep and how much to eliminate.

Kidney disease of any kind becomes apparent when these functions are damaged. The pileup of waste compounds and the derangement of other blood chemicals cause *physical symptoms*. Nausea, lassitude, loss of appetite should lead to an examination by a veterinarian.

The kidneys may be damaged by viral or bacterial infections, chemical poisons or physical injuries. The latter includes pressure damage resulting from stoppages in the exit passages from the kidneys such as the bladder and urethra.

Treatment is based on re-

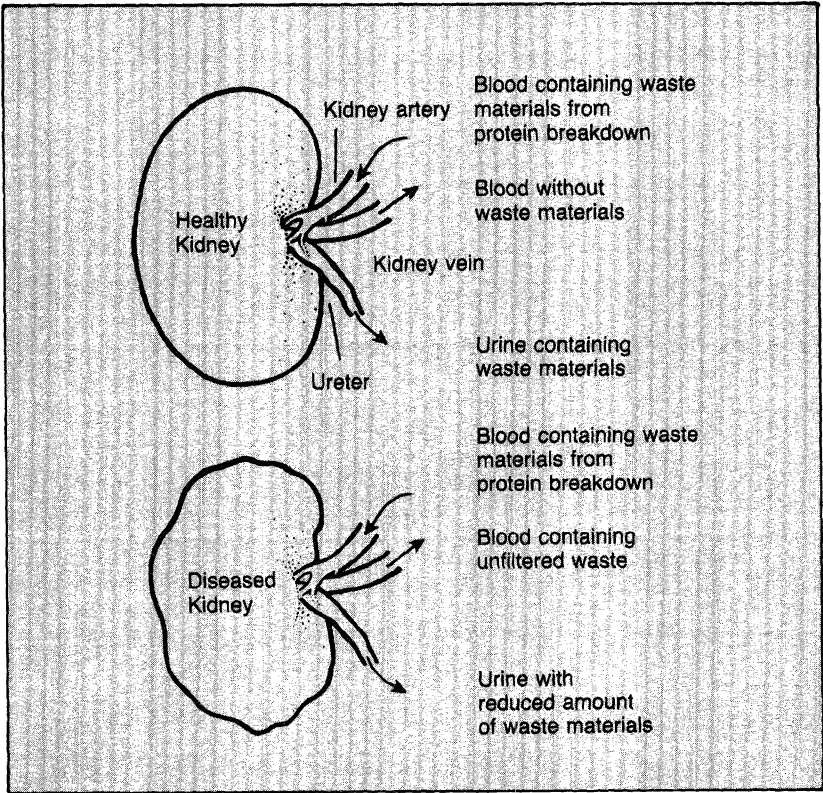
moving the cause and by reestablishing full flow of urine with fluids by mouth or by injection. Survival after severe damage is possible, but when only one fourth to one third of the kidney tissue remains life becomes precarious.

Urinary Bladder

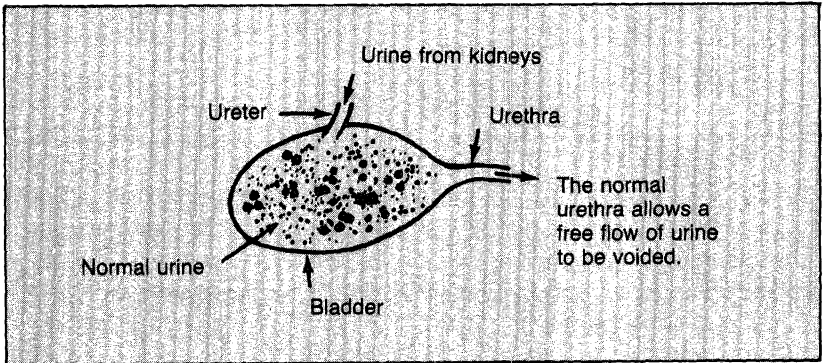
Problems involving the urinary bladder are common in dogs and cats. They include inflammation, infection, tumors and stones (calculi) affecting the bladder. These problems can cause all degrees of illness and discomfort from mild to life threatening.

Inflammation of the urinary bladder is called cystitis and is a very common problem in both dogs and cats. It may or may not be associated with infection of the bladder. Cystitis is an almost invariable component of infections, tumors and calculi of the bladder. The main signs of cystitis are more frequent urination than normal, and blood in the urine.

Cystitis tends to be a chronic condition and has a tendency to recur in affected animals. It predisposes the bladder to infection, and treatment often involves the use of urinary antibacterial drugs. Medication to make the urine more acid is of value to con-



The hard-working kidney functions 24 hours per day and is responsible for the "intelligent" maintenance of normal levels of chemicals of the blood and elimination of waste materials.



Normal bladder.

trol cystitis due to infection by creating less favorable conditions for most bacteria.

In dogs, bladder "stones" (calculi, uroliths) frequently occur as the result of urinary tract infections, alkaline urine and genetic factors. The makeup of these stones includes a variety of inorganic compounds such as struvite, urate, cystine, silica and calcium oxalate. These compounds precipitate out of the urine which is supersaturated with them. Alkaline urine seems to increase the rate of precipitation.

Diagnosis of bladder stones in dogs is by clinical signs of cystitis, palpation of the urinary bladder and x rays of the posterior abdomen. Treatment is surgical removal of the stones using general anesthesia and an abdominal operation. Some stones can be removed nonsurgically with the use of a special diet available commercially.

In cats, the most common urinary problem is feline urologic syndrome (FUS). It includes a range of conditions from mild cystitis to blockage of the urethra, uremic poisoning and death. The exact cause of FUS is not known but would seem to be a combination of factors including diet, reduced water consump-

tion, and possibly a virus.

Cats with cystitis as a result of crystals ("sand") in the bladder are in no danger but may urinate frequently and pass blood-tinged urine.

Cats with enough material in the bladder to block the urethra (invariably males) need prompt, emergency treatment to prevent uremic poisoning as a result of the backup of toxic waste products into the bloodstream. Male cats with a blocked urethra are restless and uncomfortable as indicated by frequent howls of pain. A greatly enlarged urinary bladder can be felt in the posterior abdomen.

Surgical relief is available for male cats suffering repeated attacks of FUS blockage. Long term medical treatment for any cat with FUS offers the best hope for control or cure of this disease.

In both dogs and cats, tumors of the lining of the urinary bladder are not rare and can be both malignant and benign. At least five general types are recognized. Tumors of the bladder wall also may occur. Blood in the urine (hematuria) is the most common sign of bladder tumors.

Diagnosis of tumors is by x rays and surgical biopsy. Treatment is by surgical removal when possible.