



## DENTAL DISEASE IN CATS

DENTAL DISEASE IS A VERY COMMON PROBLEM IN BOTH YOUNG AND OLD CATS. IT IS THOUGHT THAT AS MANY AS 85% OF CATS AGED THREE YEARS AND OLDER HAVE SOME SORT OF DENTAL DISEASE. DENTAL DISEASE IN CATS IS COMMONLY ASSOCIATED WITH THE ACCUMULATION OF DENTAL PLAQUE (AS A RESULT OF BACTERIA IN THE MOUTH) AND TARTAR FORMATION. THIS CAN RESULT IN WHAT IS TERMED 'PERIODONTAL DISEASE' - DISEASE AFFECTING THE TEETH AND THE STRUCTURES AROUND THE TEETH THAT SUPPORT AND KEEP THEM HEALTHY.

### PLAQUE

PLAQUE IS A COMPLEX FILM OF BACTERIA THAT DEVELOPS ON THE SURFACE OF THE TEETH. INITIALLY THE PLAQUE LAYER IS NOT READILY VISIBLE, BUT IT CAN BE DEMONSTRATED BY USING A 'DISCLOSING SOLUTION' THAT STAINS THE PLAQUE FILM. AS THE PLAQUE LAYER GROWS AND BECOMES THICKER, IT CAN OFTEN BE SEEN AS A SOFT, GREY OR WHITE FILM ON THE TOOTH SURFACE.

PLAQUE IS IMPORTANT BECAUSE IT IS THE MOST COMMON UNDERLYING CAUSE OF DENTAL DISEASE. TAKING MEASURES TO HELP REDUCE DENTAL PLAQUE DEVELOPMENT IS THEREFORE AN IMPORTANT STEP IN TRYING TO PREVENT DENTAL DISEASE IN CATS. PLAQUE CAN BE REMOVED WITH BRUSHING WHICH HELPS TO KEEP THE GUMS HEALTHY.

### TARTAR

IF PLAQUE IS LEFT UNDISTURBED IT CAN BECOME HARDENED DUE TO DEPOSITION OF SUBSTANCES SUCH AS CALCIUM IN THE PLAQUE LAYER. HARD, CALCIFIED PLAQUE IS KNOWN AS DENTAL 'TARTAR' OR 'CALCULUS'.

TARTAR IS CLEARLY VISIBLE AND LOOKS LIKE A CREAM/YELLOW OR BROWN HARD DEPOSIT ON THE TOOTH SURFACE. IN SEVERE CASES A LARGE AMOUNT OF TARTAR CAN DEVELOP ON THE SURFACE OF THE TOOTH. TARTAR, BECAUSE IT IS SO HARD, CANNOT USUALLY BE REMOVED BY SIMPLE MEASURES SUCH AS BRUSHING THE TEETH. REMOVAL NEEDS TO BE DONE BY YOUR VET USING A TECHNIQUE CALLED DENTAL SCALING, WHICH IS PERFORMED UNDER GENERAL ANAESTHETIC.

DENTAL DISEASE CAN AFFECT CATS OF ANY AGE AND VARIES IN SEVERITY - SOME CATS DEVELOP SEVERE DISEASE AT A RELATIVELY YOUNG AGE. SEVERAL FACTORS AFFECT THE DEVELOPMENT OF DISEASE INCLUDING:

- TOOTH ALIGNMENT
- DIET
- INFECTIOUS DISEASES
- ORAL DENTAL CARE
- CHEMISTRY IN THE MOUTH - THE BACTERIA AND OTHER LOCAL CHANGES IN THE MOUTH.
- GENETICS - SOME CATS ARE PROBABLY GENETICALLY MORE PREDISPOSED TO DEVELOPING DENTAL DISEASE THAN OTHERS.

## SOME FACTORS PREDISPOSING TO DENTAL DISEASE

### TOOTH ALIGNMENT

TEETH THAT ARE POSITIONED ABNORMALLY (MALIGNED) IN THE MOUTH ARE MORE LIKELY TO ACCUMULATE PLAQUE AND TARTAR THAN THOSE WHICH ARE CORRECTLY POSITIONED. THIS IS BECAUSE, WHEN MALIGNED, THE TEETH ARE NOT CLEANED BY THE NATURAL ABRASION THAT OCCURS WHEN FOOD IS EATEN AND CHEWED. REASONS FOR MISALIGNMENT INCLUDE:

- **BREED** - VERY SHORT NOSED BREEDS, OR VARIANTS IN BREEDS (E.G. PERSIANS, CHINCHILLAS, BRITISH AND EXOTIC SHORTHAIRES) ALMOST INVARIABLY HAVE ABNORMALLY POSITIONED TEETH, SOMETIMES SEVERELY SO. THEIR JAWBONES ARE OFTEN TOO SMALL TO ACCOMMODATE THE TEETH, RESULTING IN OVERCROWDING AND THE MISALIGNMENT OF TEETH.
- **DECIDUOUS TOOTH RETENTION** - IN SOME CATS, DECIDUOUS TEETH ('BABY TEETH' OR 'MILK TEETH') CAN BE RETAINED AFTER THE PERMANENT TEETH HAVE ERUPTED (GROWN THROUGH). IF THE ADULT TOOTH DOES NOT PUSH THE DECIDUOUS TOOTH OUT WHEN IT ERUPTS, THE ADULT TOOTH MAY GROW AT AN ABNORMAL ANGLE, RESULTING IN PERMANENT MISALIGNMENT.
- **TRAUMA OR CONGENITAL ABNORMALITIES** - SOMETIMES THE JAW OF A CAT MAY HAVE AN ABNORMAL SHAPE EITHER BECAUSE THE CAT HAS A CONGENITAL ABNORMALITY (AN ABNORMALITY PRESENT FROM BIRTH, SUCH AS AN UNDERSHOT OR OVERSHOT JAW), OR PERHAPS AS A RESULT OF TRAUMA (E.G. A HEALED, FRACTURED JAW). THESE CAN ALSO CAUSE TOOTH MISALIGNMENT.

### DIET

DIET IS THOUGHT TO PLAY A ROLE IN THE PROGRESSION OF SOME CATS WITH DENTAL DISEASE. IT IS POSSIBLE THAT FEEDING ONLY SOFT, WET FOODS PROVIDE LITTLE OR NO ABRASIVE ACTION AGAINST THE TEETH WHEN CHEWING, AND SO OFFERS LITTLE TO PREVENT PLAQUE FORMATION. INDEED THE FOOD ITSELF MAY ACCUMULATE ON OR AROUND THE TEETH AND ENCOURAGE BACTERIA AND PLAQUE FORMATION. DRY FOODS TEND TO ENCOURAGE CHEWING AND ARE MORE ABRASIVE. HOWEVER, THE RELATIONSHIP BETWEEN FOOD AND DENTAL DISEASE IS COMPLEX AND THE STRUCTURE OF THE SOLID CHUNKS OF FOOD IS PROBABLY MORE IMPORTANT THAN WHETHER THE FOOD IS WET (TINNED OR SACHET) OR DRY.

SOME SPECIAL DIETS ARE AVAILABLE FROM YOUR VET THAT ARE SPECIFICALLY AIMED AT HELPING TO PREVENT PLAQUE AND TARTAR FORMATION. THESE DIETS ARE DESIGNED WITH KIBBLE/BISCUIT OR WITH SPECIAL CHUNKS IN THE WET FOOD THAT INCREASE TOOTH PENETRATION AND PROVIDE A MORE ABRASIVE ACTION AGAINST THE TOOTH TO REDUCE TARTAR ACCUMULATION.

### INFECTIOUS DISEASE

SOME INFECTIOUS DISEASES ARE ASSOCIATED WITH GINGIVITIS AND YOUR VET MAY ADVISE SCREENING FOR FELINE IMMUNODEFICIENCY VIRUS (FIV) INFECTION, FELINE LEUKAEMIA VIRUS (FeLV) INFECTION AND FELINE CALICIVIRUS (FCV) INFECTION. FIV AND FeLV CAN CAUSE IMMUNOSUPPRESSION AND MAY PREDISPOSE TO PERIODONTAL DISEASE AND GINGIVITIS, WHEREAS PERSISTENT FCV IN THE MOUTH MAY ALSO BE ASSOCIATED WITH SOME CASES OF CHRONIC GINGIVITIS OR STOMATITIS (INFLAMMATION OF THE GUMS OR MOUTH).

# PERIODONTAL DISEASE

PERIODONTAL DISEASE MEANS ANY DISEASE AROUND THE OUTSIDE OF THE TOOTH. THE MOST COMMON TYPES OF DISEASE ARE:

**GINGIVITIS** - GINGIVITIS MEANS INFLAMMATION OF THE GINGIVA (GUM SURROUNDING THE TOOTH). GINGIVITIS IS EXTREMELY COMMON, FOUND IN CATS OF ALL AGES AND VARIES WIDELY IN SEVERITY.

**MILD GINGIVITIS** - IS VERY COMMON IN CATS OF ALL AGES. IT CAN OCCUR AS QUICKLY AS 48 HOURS AFTER CLEANING WHEN PLAQUE FORMATION MAY HAVE BEGUN. MILD GINGIVITIS DOES NOT EFFECT THE TOOTH ROOT AND HOME CARE OF THE TEETH MAY EASILY REVERSE MOST CASES.

**MODERATE GINGIVITIS** - IS ALSO VERY COMMON. IF PLAQUE ACCUMULATES ON THE TEETH THE GINGIVA WILL BECOME MORE INFLAMED AS TIME PROGRESSES. SOMETIMES GUM RECESSION CAN BE SEEN AT THIS STAGE. GINGIVAL "POCKETS" MAY ALSO BE EVIDENT, WHICH IS WHERE THE GUM HAS STARTED TO SEPARATE FROM THE TOOTH, PROVIDING A PERFECT SITE FOR FOOD, BACTERIA, PLAQUE AND TARTAR TO FORM. IF CALCULUS HASN'T ALREADY FORMED, MANY CASES OF MODERATE GINGIVITIS MAY ALSO BE REVERSED WITH REGULAR DAILY HOME CARE. HOWEVER, GINGIVAL POCKET FORMATION IS DIFFICULT TO REVERSE.

**SEVERE GINGIVITIS** - CAN BE VERY PAINFUL FOR A CAT. THE CAT MAY SHOW SIGNS OF HYPERSALIVATION (DROOLING), HALITOSIS, PAWING AT THE MOUTH, DIFFICULTY EATING AND SOMETIMES BLEEDING FROM THE MOUTH. SEVERE GINGIVITIS IS COMMON IN CATS THAT HAVE A LOT OF PLAQUE AND CALCULUS ON THEIR TEETH. GUM RECESSION IS ALSO COMMON, BUT MAY NOT ALWAYS BE OBVIOUS SINCE THE GUMS ARE SO INFLAMED. GINGIVAL POCKETS CAN BE SEEN AND ARE USUALLY DEEPER THAN THOSE FOUND WITH MODERATE GINGIVITIS. SEVERE GINGIVITIS CANNOT USUALLY BE REVERSED WITH BRUSHING, AND OFTEN THE MOUTHS ARE TOO SORE TO BRUSH. THE CAT WILL USUALLY REQUIRE A GENERAL ANAESTHETIC TO CARRY OUT A SCALE AND POLISH OF THE TEETH. IF THERE IS A SEVERE DEGREE OF GUM RECESSION EXPOSING THE TOOTH ROOT THEN THE TOOTH MAY NEED TO BE EXTRACTED. REGULAR BRUSHING IS STRONGLY ADVISED AFTERWARDS TO PREVENT THE DISEASE FROM RECURRING.

CATS OF AROUND FIVE MONTHS OF AGE QUITE COMMONLY DEVELOP GINGIVITIS AND YOU MAY NOTICE AN OBVIOUS SMELL TO YOUR CATS BREATH. THIS IS USUALLY DUE TO PERMANENT TEETH ERUPTING THROUGH THE GUMS AND LOSS OF DECIDUOUS TEETH CAUSING GUM DISTURBANCE AND INFLAMMATION. YOU MAY EVEN FIND A TOOTH LYING ON THE FLOOR AT HOME! THIS IS COMPLETELY NORMAL AND WILL NORMALLY TAKE 4-6 WEEKS TO SETTLE DOWN. HOWEVER, IF THE CAT IS SHOWING ANY SIGNS OF DISCOMFORT THEN IT SHOULD BE EXAMINED BY A VET.

## PERIODONTITIS

PERIODONTITIS IS A GUM DISEASE THAT IS VERY ADVANCED AND MORE COMMONLY FOUND IN OLDER CATS. THE GUMS ARE USUALLY VERY INFLAMED AND OFTEN RECESSED. LARGE AMOUNTS OF CALCULUS ARE USUALLY PRESENT ON THE TEETH. THE LIGAMENTS SURROUNDING AND SUPPORTING THE TOOTH ARE ALSO DISEASED AND HAVE USUALLY BEGUN TO BREAK DOWN EXPOSING THE TOOTH ROOT AND CAUSING THE TOOTH TO BE VERY UNSTABLE. BACTERIAL INFECTION IS COMMON AND OFTEN PUS CAN BE SEEN SURROUNDING THE TOOTH. AT THIS STAGE THE TOOTH IS SO DISEASED THAT EXTRACTION IS THE ONLY TREATMENT OPTION.

## STOMATITIS

STOMATITIS MEANS INFLAMMATION OF THE ORAL CAVITY (INSIDE THE MOUTH). CATS CAN SUFFER FROM A CONDITION KNOWN AS LYMPHOCYTIC PLASMACYTIC GINGIVA-STOMATITIS COMPLEX (LPGC) OR CHRONIC GINGIVA-STOMATITIS. IN THIS DISEASE, NOT ONLY DO THE GINGIVA BECOME INFLAMED, BUT THIS EXTENDS TO AFFECT OTHER AREAS OF THE MOUTH AS WELL, PARTICULARLY AT THE BACK OF THE MOUTH (THE AREA CALLED THE 'FACES' OR THE 'GLOSSOPALATINE FOLDS').

THE EXACT CAUSE OF THIS DISEASE IS STILL UNKNOWN. SOME CASES ARE ASSOCIATED WITH PERSISTENT FCV INFECTION, AND FIV INFECTION MAY PREDISPOSE TO THIS. HOWEVER, WHILE DENTAL PLAQUE AND SOME CALCULUS MAY BE PRESENT, THE AMOUNT OF INFLAMMATION IS QUITE DISPROPORTIONATE. IT IS THOUGHT THAT SOME IMMUNE DYSREGULATION IS INVOLVED IN THE DISEASE WHERE THE CAT'S IMMUNE SYSTEM MAY BE RESPONDING TOO AGGRESSIVELY TO THE PRESENCE OF BACTERIA OR OTHER INFECTIOUS AGENTS IN THE MOUTH.

THIS IS AN EXTREMELY PAINFUL DISEASE AND CATS WILL OFTEN HAVE DIFFICULTY EATING, HYPERSALIVATE (DROOL), PAW AT THE MOUTH AND SHOW OTHER SIGNS OF MOUTH PAIN. THEY MAY LOSE WEIGHT AS A RESULT OF THEIR REDUCED APPETITE.

VARIOUS TREATMENTS MAY BE USED INCLUDING INITIAL SCALING AND CLEANING OF THE TEETH, FOLLOW-UP HOME CARE, ANTIBIOTICS AND ANTI-INFLAMMATORIES. THE RESPONSE TO THERAPY IS VARIABLE AND MANY CATS NEED CORTICOSTEROIDS TO CONTROL THE INFLAMMATION AND SOMETIMES OTHER MORE POTENT ANTI-INFLAMMATORY OR IMMUNOSUPPRESSIVE DRUGS. IN SOME VERY SEVERELY AFFECTED CATS, EXTRACTION OF ALL OF THE CHEEK TEETH IS HELPFUL - THIS MAY BE BECAUSE IT REMOVES THE SITE OF PERSISTENT BACTERIA IN THE MOUTH.

## **FELINE RESORPTIVE LESIONS (FRLs)**

FELINE RESORPTIVE LESIONS (FRLs) ARE COMMON IN BOTH YOUNG AND OLD CATS. IT HAS BEEN ESTIMATED THAT MORE THAN 70% OF CATS OVER FIVE YEARS HAVE AT LEAST ONE FRL. A FRL IS AN EROSION IN THE TOOTH, COMMONLY FORMED AROUND THE GUM LINE (THE NECK OF THE TOOTH) BUT CAN ALSO BE FOUND BELOW THE GUM LINE IN SOME CATS. THE CAUSE OF FRLs IS UNKNOWN BUT CELLS CALLED ODONTOCLASTS (WHICH BREAK DOWN THE SUBSTANCE OF THE TOOTH) ARE FOUND IN THE EROSIONS.

WHEN EXAMINING A CAT'S MOUTH A FRL CAN BE DIFFICULT TO IDENTIFY (AND YOUR VET WILL OFTEN NEED TO PROBE THE TEETH UNDER AN ANAESTHETIC TO IDENTIFY THEM), BUT THEY APPEAR AS A SMALL AMOUNT OF GUM GROWING OUT OF THE TOOTH. IN FACT THE GUM IS INFLAMED DUE TO THE CAVITY, AND REACTS BY 'FILLING IN' THE HOLE IN THE TOOTH.

FRLs CAN BE DIAGNOSED BY DENTAL X-RAYS OR BY PROBING THE TEETH UNDER GENERAL ANAESTHESIA. FRLs ARE EXTREMELY SENSITIVE AND CATS WILL OFTEN EXHIBIT SIGNS OF PAIN ASSOCIATED WITH THEM. IF FRLs ARE LEFT THEY CAUSE GRADUAL EROSION OF THE TOOTH TO THE POINT WHERE THE CROWN WILL FRACTURE OFF LEAVING THE ROOT BEHIND. THE CAVITIES PRODUCED BY FRLs ARE NOT DUE TO DECAY LIKE HUMAN AND CANINE DENTAL CAVITIES, THEREFORE FILLING THEM IS UNSUCCESSFUL AND AFFECTED TEETH NEED TO BE REMOVED.

## **FRACTURES**

FRACTURED TEETH NEED TO BE ASSESSED INDIVIDUALLY BEFORE DECIDING IF EXTRACTION IS NECESSARY. AS A GENERAL RULE, TEETH THAT HAVE FRACTURED THROUGH TO THE DENTINE OR PULP CAVITY (AFFECTING THE NERVE AND BLOOD SUPPLY) ARE LIKELY TO NEED EXTRACTION AS THE TOOTH WILL BE PAINFUL AND IT WILL BE AT RISK OF DEVELOPING AN INFECTION AND TOOTH ROOT ABSCESS.

IF ONLY THE TIP OF A CROWN IS FRACTURED, AND THE DENTINE OR PULP CAVITY ARE NOT EXPOSED THEN THE TOOTH MAY NOT NEED TO BE EXTRACTED. HOWEVER, THE ENAMEL COVERING A CAT'S TOOTH IS SO THIN THAT THE MAJORITY OF FRACTURED TEETH WILL ALMOST CERTAINLY HAVE TO BE REMOVED. A PROBE CAN BE USED TO ASSESS IF THE TOOTH NEEDS EXTRACTING. SIGNS SUCH AS PAWING AT THE MOUTH, HYPERSALIVATION AND FAVOURING ONE SIDE OF THE MOUTH WHEN EATING MAY BE SEEN IN CATS WITH A FRACTURED TOOTH.

## CLEANING AND EXTRACTING TEETH IN CATS

UNDERSTANDABLY ANIMALS WILL NOT SIT STILL AND ALLOW DENTAL WORK TO BE DONE, SO THIS SHOULD ALWAYS BE CARRIED OUT UNDER A GENERAL ANAESTHETIC. ALTHOUGH ANAESTHETISING A CAT CAN BE WORRYING, THE LONGER THE TEETH ARE LEFT, THE LONGER THE ANAESTHETIC AND PROCEDURE WILL TAKE BECAUSE THE DISEASE WILL HAVE PROGRESSED. MEASURES CAN BE TAKEN TO REDUCE THE RISK OF AN ANAESTHETIC SUCH AS BLOOD TESTS, AND IN OLDER CATS, INTRAVENOUS FLUID THERAPY CAN BE GIVEN TO HELP SUPPORT THE CIRCULATION THROUGHOUT THE ANAESTHETIC. IF YOU ARE WORRIED ABOUT YOUR CAT UNDERGOING AN ANAESTHETIC THEN YOU SHOULD DISCUSS YOUR CONCERNS WITH YOUR VET.

### FREQUENCY OF EXAMINATION

CATS SHOULD IDEALLY HAVE THEIR TEETH EXAMINED BY A VET AT LEAST ONCE EVERY 12 MONTHS, AND CATS THAT HAVE HAD DENTAL PROBLEMS BEFORE ONCE EVERY 3-6 MONTHS DEPENDING ON THEIR CONDITION. GENERALLY, THE SOONER THE PROBLEM IS IDENTIFIED, THE EASIER AND QUICKER IT IS TO TREAT. EVEN IF THE CAT'S MOUTH IS BEING EXAMINED EVERY DAY, DENTAL DISEASE WILL DEVELOP AND GRADUALLY PROGRESS. CATS WILL QUITE OFTEN NOT SHOW CLINICAL SIGNS UNTIL THE DISEASE IS ADVANCED BY WHICH TIME MANY TEETH MAY NEED TO BE EXTRACTED.

