



Left: Dr. Celeste Guaraglia (right) greets a feline dentistry patient who is under the care of fourth-year veterinary student Melissa Brophy.

Center: Dr. Frank Verstraete, chief of the Veterinary Medical Teaching Hospital (VMTH) Dentistry and Oral Surgery Service, with fourth-year veterinary student Amy Brown, evaluates a patient's radiographs to determine appropriate treatment.

Right: Every tooth is carefully examined—for plaque, calculus, gingivitis and mobility—and charted before cleaning or treatment begins.



A canine patient gets a full set of dental x-rays. Each patient has a dedicated anesthetist (right) who constantly monitors heart rate, breathing and anesthesia level throughout the entire examination and cleaning.

Home Dental Care for Cats and Home Dental Care for Dogs are two in a series of educational videos that help VMTH clients and all pet owners to provide specialized care for their animals.

The videos (also available on CD-ROM for Macintosh or PC platforms) are \$15. For more information: www.calv.vetmed.ucdavis.edu (from the home page choose "products," under "product category" choose "videos," under "subject category" choose "dentistry"), (530) 752-1324, svmacadprog@ucdavis.edu.



February is National Pet Dental Health Month, sponsored by the American Veterinary Medical Association, the American Veterinary Dental Society and Hill's Pet Nutrition, Inc., to promote pet dental health and increase awareness of the importance of pet dental health care.

COMPANION ANIMAL

Dentistry

& ORAL SURGERY

- a enamel
- b dentine
- c pulp chamber
- d gum line
- e gingiva (gum)
- f bone
- g root canal

PREVENTING PERIODONTAL DISEASE

Periodontal disease affects the tissues surrounding the teeth of an estimated 80 percent of dogs and 70 percent of cats over 3 years of age.

Periodontal disease begins with plaque—salivary proteins and bacteria build up on tooth surfaces. If not brushed away, the bacteria begin to irritate the gum causing gingivitis, an inflammatory response of the soft tissue. Plaque eventually hardens into tartar (calculus), which provides a rough surface for even more plaque to accumulate. As inflammation of the gum continues, bad breath becomes noticeable, and bone around the roots of teeth begins to deteriorate. This stage is called periodontitis—a disease of the bone rather than the teeth. As the bone tissue is destroyed, teeth may become loose or fall out.

There are even more serious consequences of an unhealthy mouth than tooth loss. Bone destruction caused by periodontal disease can weaken the jawbone until it is easily fractured, particularly in small dog breeds, and bacteria present in the mouth of an animal with periodontal disease can spread through the body and infect vital organs such as the heart, lungs, kidneys and liver.

Now for the good news—*periodontal disease is completely preventable!*

Plaque is less likely to build up on teeth that are kept clean. By brushing your pet's teeth every day and scheduling regular examinations with your veterinarian, you can provide your companion with a lifetime of fresh breath, clean teeth, healthy gums, strong jawbones and general good health.

BRUSHING

Tooth brushing is the easiest way to remove and prevent the buildup of plaque. Most animals, particularly young ones, can learn to accept gentle brushing, and the experience can be enjoyable for both you and your pet. Brushing must be done every day to effectively remove plaque, which not only prevents, but also reverses inflammation in the gingiva (the gums surrounding teeth) and restores the gums to health.

A soft-bristled toothbrush and pet toothpaste, which comes in flavors such as malt, poultry and seafood, are best for removing plaque from your cat's or

dog's teeth. Pet toothpaste rubbed into bristles helps the animal to accept the toothbrush, but it's the action of brushing, best at a 45 degree angle to the tooth at the gum line, that is most important. Human toothpaste should never be used—pets may resist mint flavoring; if any of the paste is swallowed, the foaming agents can upset the stomach; and, since dogs and cats rarely get "caries" or cavities, fluoride is unnecessary and can be toxic. Because dog and cat teeth are not as closely spaced together as those of humans, flossing is also unnecessary.

While brushing does not take the place of professional dental examinations, a close look at your pet's mouth on a regular basis may allow you to detect serious problems early, and may reduce the need for periodontal treatments under anesthesia.

DIETS AND CHEWS

In addition to daily tooth brushing, feeding diets specially formulated for oral care, and providing your pet with "chews" and safe chew toys can help to prevent plaque from accumulating and hardening into calculus. Dry foods formulated for oral scrubbing to remove plaque, and chews formulated to promote gingival health, are available on the market under various product names. Chews are generally given separately from food, but have the same effect.

Studies by VMTH Dentistry and Oral Surgery Service lecturer Dr. Cecilia Görrel showed that dental hygiene chews given six days per week for 21 months reduced the accumulation of dental deposits, reduced malodor (bad breath), and helped to maintain periodontal health for longer intervals between professional intervention.

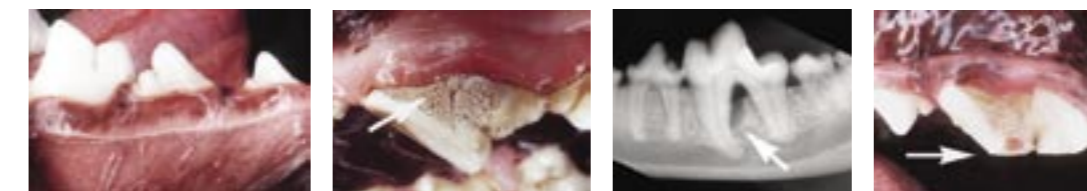


Once diet and chew products have been tested and shown, according to scientific standards, to reduce plaque and calculus, they are entitled to display the Veterinary Oral Health Council (VOHC) seal of approval on the package.

PROFESSIONAL EXAMINATION AND CLEANING

Routine oral examinations by your veterinarian include checking for bleeding, foul odor, chipped teeth and tumors. Once calculus forms, teeth need to be cleaned professionally.

Periodontal treatment includes sonic or ultrasonic scaling above and below the gum line. Calculus removal procedures do require that an animal "hold still." Therefore, in order to clean the teeth and treat periodontal disease, animals are placed under anesthesia. To minimize risks, your veterinarian may recommend that blood and other tests be performed first, to reveal problems that are not obvious upon physical examination of the dog or cat. Dental x-rays are an important tool in determining the degree of



Left to right: healthy teeth and gums; tooth with calculus and severe gingivitis; X-ray showing bone loss due to periodontal disease; and fractured tooth.

FRACTURES AND OTHER RISKS

Tooth fractures, a very common problem in dogs, frequently go unnoticed. They can be caused by trauma (such as fights, kicks, or being hit by a car) or biting on hard objects (such as dry bones and very hard plastic chew toys). Fractures expose the pulp, which in turn leads to tooth root abscess. The recommended therapy for tooth fracture is root canal treatment—following radiographs and sterile preparation, the root canal is cleaned using tiny specialized files, the canal filled with an inert material made from latex, and the tooth exterior restored.

Dr. Verstraete and his colleagues carried out the first study to document the success rate of root canal treatment in dogs. In 2002 they reported that in 94 percent of 127 VMTH root canal cases, the tooth was saved—the success rate is similar in humans.

TIPS ON SELECTING CHEW TOYS FOR DOGS

- Chew toys that are either too soft or too hard should be avoided. If portions can be bitten off, or the toy breaks apart, swallowed pieces can block the airways or obstruct the intestine.
- Chewing on heavy plastic toys; hard, dry bones; rocks; or dried cow hooves can break teeth, and dogs may actually swallow a dried hoof wall, risking intestinal blockage.
- The surface material of tennis balls is abrasive and wears teeth down—soft rubber balls make better toys for play or exercise.



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