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## JUVENILE CANINE DENTISTRY

### Introduction:

Congratulations on your new puppy. Like most clients with a brand new puppy, you want to do all the right things so that you will have a healthy, happy and well-mannered pet. You will be seeing a lot of your veterinarian over the next several months to ensure that your pet is properly immunized, is free of internal and external parasites, is getting the right food, is growing properly, is being trained properly and so on.

One area that requires close monitoring is the growth and development of the mouth and teeth. This is an area of the body where things can change very rapidly and if a problem goes unnoticed for some time, there may be permanent damage.

Puppies are usually eight to twelve weeks old when they are taken to their new homes. By this age, they should have a full set of primary or deciduous (baby, milk) teeth. Each quadrant of the mouth should have three incisors at the front, one long, sharp canine tooth and then three premolar teeth behind the canines.

Most of the permanent or adult teeth start as buds forming at the root tip of the deciduous teeth, so if a deciduous tooth fails to develop by twelve weeks of age, likely the permanent tooth that should follow will not develop either.

Starting around three months of age, the developing permanent incisors should be erupting, and as they do, they should cause resorption of the roots of the deciduous incisors. Therefore, the deciduous teeth become loose and fall out. This exfoliation of the deciduous teeth often goes unnoticed by the owners as the tiny

crowns of the baby teeth are lost in toys or are swallowed. Next, the permanent canines start to erupt between four and five months of age, followed by the premolars and the molars. All the permanent teeth should have erupted by six months of age in most dogs. Giant breeds sometimes develop more slowly.

If everything went according to the plan, by seven or eight months of age, all deciduous teeth will be gone, all permanent teeth will have erupted into the correct position and there will be no swelling or inflammation of the gums. Unfortunately, things do not always go according to the plan.

### Persistent Deciduous Teeth:

A common problem, particularly in small breeds, is persistence of deciduous teeth, especially the canines. The exact mechanisms for this are rather complex, but it is enough to know that it is usually an inherited problem in which the permanent tooth erupts beside the deciduous and so does not cause the deciduous root to resorb. Now we have two teeth occupying a space that was designed for just one tooth. This over-crowding can lead to serious and painful orthodontic problems such as lower canine teeth biting into the roof of the mouth.

Another problem with retained deciduous teeth is that the permanent and deciduous teeth are often so close together that there is no gum tissue between them to keep out infection. Therefore, debris and bacteria have easy access to the tooth sockets and deep-seated periodontal disease rapidly develops.

The rule to follow is that there should never be a deciduous tooth and its permanent replacement

visible in the mouth at the same time. If the permanent has broken through the gum and the deciduous tooth is still in place, the deciduous tooth should be extracted immediately. This will then allow the permanent to erupt into its desired location without crowding and with a healthy collar of protective gum tissue.

Waiting until it is time for your puppy to be neutered is a bad idea. By then, the permanent tooth has erupted considerably and will likely be in the wrong place. Also, there may already be deep-seated periodontal disease by then.

It is considered by many to be unacceptable to perform an extraction at the same time as a sterile surgical procedure. During extraction, bacteria in the mouth will have direct access to the blood stream. These bacteria can then travel to all parts of the body, including the other surgical site, where they may colonize the traumatized tissues and suture materials, leading to post-operative infection. It is safer for the animal and provides a better chance for normal development if retained deciduous teeth are extracted as soon as they are noticed.

Many puppies are given their final puppy vaccine at four months of age and then are not seen by their veterinarian again until neutering at six months of age. Therefore, it will be your job to check the mouth at least weekly to ensure that deciduous teeth are falling out properly, as the permanents erupt.

### **Fractured Deciduous Teeth:**

Another common problem in puppies is fracture of deciduous teeth, especially the canines. As you will find out (if you haven't already) puppies do a lot of chewing. Therefore, it is not surprising that these delicate teeth are prone to damage. When a deciduous tooth is broken, there is almost always exposure of the pulp of the tooth. Pulp is the soft tissue inside the tooth, which contains many blood vessels and nerves.

Once exposed to oral bacteria, the pulp becomes infected and inflamed, causing considerable pain to the pet. After a time (several days) the pulp starts to die and the pain subsides. Now the tooth is full of dead pulp and bacteria. The bacteria and their toxic waste products leak out through the root tip and cause infection and

inflammation around the root tip. That in itself is bad enough, but remember that the permanent tooth is trying to develop right beside the tip of the root of that dead deciduous tooth. The result can be a permanently deformed permanent tooth.

Another factor to keep in mind is that a growing puppy is learning all the time. If there is an ongoing source of dental pain, the puppy may grow up being wary of anyone handling its mouth and head. This can lead to behavior problems later in life.

As with retained deciduous teeth, the best thing to do is have a fractured deciduous tooth extracted as soon as it is noticed. Early treatment gives the best chance for the prevention of permanent dental and behavioral problems.

### **Interceptive Orthodontics:**

Some puppies develop orthodontic problems early in life. The most obvious problems are when the lower jaw is either too long or too short. This can lead to deciduous teeth biting in to oral soft tissues, causing pain. Also, abnormal dental interlocks can prevent proper growth of the jaws so the short jaw is prevented from "catching up". Early intervention through Interceptive Orthodontics is the treatment of choice. This usually involves extraction of some deciduous teeth to remove the source of oral trauma and to allow unhindered jaw development. Many severely affected puppies will also have problems when the permanent teeth erupt and will require further dental work in their first year of life.

### **Conclusion:**

The main lesson from all of this is to be observant of your puppy's mouth and teeth and to seek veterinary advice as soon as a problem or question arises. Waiting does no good and can do much harm.