



Cleft Palate Repair in Puppies

Cleft Palate

A cleft palate is an opening between the mouth (oral cavity) and the nose (nasal cavity) that occurs when the tissues separating these two cavities do not grow together properly. This birth defect can occur in the lip ("primary cleft palate", "cleft lip", or "harelip") or along the roof of the mouth ("secondary cleft palate"). Within the mouth, the cleft can extend along the bony portion (hard palate), the flexible portion that is used in swallowing (soft palate), or both.

"Cleft palates can vary greatly in the placement and size of the opening."

The problem lies in that due to these openings, puppies cannot make a suction which is necessary for normal nursing, and secondly, it does allow anything entering the mouth to potentially pass into the nasal passages and sinuses-of main concern is liquids or moistened foods. These will subject the pup/dog to sinusitis and possibly pneumonia.

If the cleft palate is severe enough that "a good portion of the palate is missing", length isn't an issue, but width is. If not only the full length of the palate is open, (looks like a line down the whole roof of the mouth) but also a lot of the width of the palate is missing, then euthanasia is recommended. Please don't allow these pups to starve to death, that is what happens since they cannot make a suction to nurse adequately.

As mentioned above, mother nature has a way of helping these guys if we just intervene in the early portion of their lives. The only issue a cleft-(not repaired) has through the course of a normal life is the restriction to "dry food" and plain water.

Dry food they normally swallow whole or almost whole and the plain water is necessary of course and is beneficial in another way. Water up through the cleft "rinses" the nasal passages of anything

that may have found its way up through the cleft. Amazingly after a few drinks of water they get so water up their nose doesn't bother them!

Once out of little puppyhood and are on dry food and plain water if they get into things that they shouldn't they will have an odorous nasal discharge for a few days, which if allowed to drink plenty of water from a floor level bowl, the rinsing will normally take care of the issue without further treatment.

Symptoms:

Animals with secondary cleft palates within the mouth will sneeze and snort because food and saliva will pass through the gap into the nose. Nasal discharge from the food may occur during or after nursing or eating and may become continuous if infection is present. Animals may cough and gag when they drink water, particularly if the soft palate is affected. Because eating is difficult, the animals may not grow well, and they are at risk for pneumonia because of accidental inhalation of food and liquids. Affected animals may also have trouble breathing and exercising because of fluid or infection in their noses.

Risk Factors:

Purebred dogs and cats have a higher incidence of cleft palate, and brachycephalic breeds, with their short stubby faces, are most commonly affected. Cleft palates may occur more commonly in Boston terriers, Pekingese, bulldogs, miniature schnauzers, beagles, cocker spaniels, dachshunds, and Siamese cats. Although heredity is considered the primary cause of this problem, nutritional deficiencies, viruses, and poisons that affect the mother during pregnancy may also increase the risk of cleft palates in developing puppies and kittens.

Diagnosis:

- We recommend all breeders or anyone delivering a litter check each pup after birth. The clefts, at least the most obvious ones, are the ones that run the length of the palate. They look like a dark line down the middle of the roof of the mouth.
- If one wants to feel if there is a cleft, using a little finger, with palm side up, run your finger on the roof of the mouth. If it feels like there is an upward indentation in the palate the pup likely has a cleft.
- If you are unable to look, or don't see anything abnormal, or are not sure of what you are feeling, or seeing, it is very easy actually to tell if the pup has any cleft just using your finger. If the pup is able to make a good suction on your finger then he or she likely does not have a cleft. I'm not talking about a "gum grip" on your finger while you are checking. Most pups have great gum grips, but that doesn't help with suction.
- Even if no cleft is seen or felt, do watch the pups for nursing ability and weight gain.
- Many cleft pups will look like they are nursing, but they are actually just going through the motions trying to nurse. They likely are not getting any or much milk. They will however get a belly, a round look as a nursing pup does. That belly is an air belly, so that is where

daily weights are important. On a healthy, non cleft pup there should be weight gain every day.

- There will be some cleft pups that when trying to nurse will tend to "chew or mouth" the nipple, Remember they don't know how to nurse. Have found that is what others think also. They just are not able to make a suction,so do check for a cleft.
- If a pup is not gaining or is losing weight, suspect a cleft and intervene. The earlier one intervenes with the pup, the better they do. Have your vet check the pup and if you don't have the ability, time or desire to put in the time (roughly 4 weeks of feedings-syringe or tube) to raise a cleft, please euthanize instead of letting them starve to death-that takes a couple to several days, terrible days at that. They require dietary intervention since they cannot nurse, or nurse adequately
- Chest X-rays are useful in newborn puppies to assess for pneumonia.

Surgery:

Secondary cleft palates require surgical treatment to prevent chronic nasal and lung infections and to help the animal receive adequate nutrition. The thick soft tissue ("mucosa") covering the remainder of the hard palate can be rotated or rolled inward and sutured in place to cover the hole Alternatively, flaps from the inner surface of the lip or from skin on the cheek or forehead can be used.

The surgery is difficult on very young animals and, with growth, the cleft in hard palates may become smaller, so puppies are kittens are often fed with feeding tubes until they reach **3-4 months of age**. Owners can learn how to pass a stomach tube, or the veterinarian can place an "esophageal" feeding tube through the side of the neck so that blenderized diets can be fed easily.

Potential Complications of Surgery:

Because the surgery is performed in young, underweight animals with breathing problems, anesthesia and surgery recovery can be risky. Many animals have swelling of the soft palate after the surgery, which can cause snoring and difficulty eating, but this usually resolves. Soft palates that is still too short after surgery may result in continued coughing and gagging.

Puppies and kittens with cleft palates tend rub their surgical sites with their tongues and to pick up things with their mouths that put pressure on the repair. Therefore, it is not uncommon for small areas of the cleft to break open, resulting in more nasal discharge and sneezing. Pawing at the nose or mouth may also damage the surgery site. Also, growth of the upper jaw may cause the parts of the cleft repair to become thin and open up. These openings ("oronasal fistulae") can be closed 4-6 weeks after the original surgery.

Aftercare:

Antibiotics are given to animals with pneumonia or nasal infections. Elizabethan collars are left on for 1-2 weeks to stop pets from rubbing their faces. Animals with cleft hard palates are fed soft, blenderized foods by mouth or through a feeding tube for 2-4 weeks after surgery, and should not be given hard food or toys for at least a month. Animals that have clefts limited to the soft palate are fed canned food for two weeks before their diets are changed.

Prevention and Prognosis:

Animals that are born with cleft palates should not be bred, and their parents should not be bred if they are one of the predisposed breeds. Prognosis is excellent for pets with small clefts. When more than half of the hard palate is affected, surgery is much more difficult and more complications are expected.