



ORPHANED PUPPIES

Raising an orphaned litter is a time consuming although rewarding experience. Neonates are very fragile and despite all the care and attention, losses can be inevitable. It is worth bearing this in mind at the outset so that although strong bonding is likely to occur, you are more prepared for sudden loss should it unfortunately occur. Remember we are more than happy to help, assist and guide as necessary.

What problems am I likely to encounter?

Several critical problems must be addressed in caring for orphaned puppies. Among these are chilling, dehydration, and hypoglycaemia (low blood sugar). These problems are interrelated and may often exist at the same time. Close observation and prompt attention if any of these problems develop are essential to survival. Needless to say proper feeding of the orphaned puppy is extremely important.

Chilling

Chilling in newborn puppies can lead to significant mortality. A puppy will dissipate far more body heat per kilogram of body weight than an adult dog. The normal newborn puppy depends upon radiant heat from its mother to help maintain its body temperature. In the absence of the mother, various methods of providing heat, such as incubators, heat lamps, or hot water bottles can be used.

Rectal temperatures in a normal newborn puppy range from 35-37.2°C for the first week, 36.1-37.7°C for the second and third weeks, and reach the normal temperature of an adult 37.7-38.9°C by the fourth week.

When the rectal temperature drops below 34.4°C, the accompanying metabolic alterations are life-threatening. Therefore, immediate action is necessary to provide the warmth the puppy needs to survive. A healthy newborn can usually survive chilling if warmed slowly.

During the first four days of its life, the orphaned puppy should be maintained in an environmental temperature of 29.4-32.2°C. The temperature may gradually be decreased to 26.7°C by the seventh to tenth day and to 22.2°C by the end of the fourth week. If the litter is large, the temperature need not be as high. As puppies huddle together, their body heat provides additional warmth.

Caution: Too rapid warming of a chilled puppy may result in its death.

Dehydration

The lack of regular liquid intake or the exposure of the puppy to a low humidity environment can easily result in dehydration. The inefficiency of the digestion and metabolism of a chilled puppy may also lead to dehydration and other changes such as those discussed in this paper.

Experienced breeders can detect dehydration by the sense of touch. Two signs of dehydration are the loss of elasticity in the skin and dry and sticky mucous membranes (gums) in the mouth.

An environmental relative humidity of 55 to 65% is adequate to prevent drying of the skin in a normal newborn puppy. However, a relative humidity of 85 to 90% is more effective in maintaining puppies if they are small and weak. One method of maintaining the humidity is to put a damp towel or dampened cotton wool near to the puppy in its container. Remember the bitch is continuously licking the puppy and herself and creates a fairly humid, immediate environment. Her breast area is also additionally naturally moist while she is suckling her puppies.

Hypoglycaemia (low blood sugar)

Signs of hypoglycaemia (abnormal decrease of sugar in the blood) are severe depression, muscle twitching and sometimes convulsions. If a puppy shows signs of hypoglycaemia, a few drops of sugar solution on the tongue can be life saving. Again if in doubt, please contact us.

What do I feed my orphaned puppy?

Total nutrition for the newborn orphans must be supplied by a milk replacer until the puppies are about three weeks of age. At this age, the puppies are ready to start nibbling moistened solid food.

Preferred diets:

1. A commercial puppy milk replacer, e.g. Animalac or Divetelac.
2. For short-term emergencies:
 - 1 cup of milk
 - 1 tablespoon corn oil
 - 1 pinch of salt
 - 3 egg yolks (no whites)
 - Blend mixture uniformly

or Evaporated milk made up double strength

Is the temperature of the food important?

Since the newborn may have trouble generating enough heat to maintain its body temperature, the milk replacer should be warmed to 35-37.8°C for the best results. The milk replacer should be about the same temperature as the skin on your forearm or slightly warmer. As the puppies grow older, the milk replacer can be fed at room temperature.

How do I feed my puppy?

1. **Spoon feeding** is slow, requires great patience and can be dangerous. It is not to be recommended. Each spoonful must be slowly "poured" into the puppy's mouth to prevent liquids from entering the lungs. The puppy's head must not be elevated, or the lungs may fill with fluids. Newborn puppies usually do not have a well-developed gag reflex to signal this.

2. **Dropper feeding** is marginally easier than spoon feeding but can result in the puppy ingesting air which can cause colic.
3. **Feeding bottles** made for puppies can be used quite successfully in most situations. There are two types, the open ended feeder with the flow of milk controlled by the finger over the open opposite end. The size of the hole in the nipple is critical . If it is too large and milk is dripping from it, this could drown the puppy. If it is too small the puppy will be discouraged from suckling. The apertures can be enlarged by using a hot needle and puncturing the nipple several times or alternatively a slit can be made with a razor blade. When the puppy stops suckling the small slit closes and thus drowning is prevented.

The other type of feeder is the closed ended feeder which has a nipple on either end. The larger nipple is squeezed in order to force milk through the teat at the other end which has the appropriate holes made in it. Again the rate at which the food is delivered is critical and should be checked carefully.
4. **Tube feeding** (gavage) is the easiest, cleanest and most efficient method of hand feeding. However, it requires proper equipment and skilled technique to prevent putting milk replacer into the puppy's lungs. If bottle feeding is not successful, we will supply the equipment and demonstrate the proper technique. This is not a difficult procedure, so do not hesitate to ask about it if you feel it is needed.

When and how much do I feed?

Commercial milk replacers have directions on their labels for proper amounts to feed. It is necessary for the puppy's weight to be obtained properly in ounces or grams. Electronic kitchen scales or postal scales are useful for this purpose. The amounts on the labels are based on the puppy being fed only the milk replacer. The amounts given are also for a 24 hour period. That quantity should be divided by the number of feedings per 24 hours. Four meals, equally spaced during a 24 hour period, are ample for feeding a puppy when adequate nutrients are provided. Six or more feedings may be necessary if the puppy is small or weak. Hand feeding can generally be ended by the third week and certainly by the fourth. By this time the puppy should be able to eat from a dish.

How do I get the puppy to urinate and defaecate?

The puppy's genital area must be stimulated after feeding to cause urination and defaecation. The genital area should be massaged with a moist cloth or cotton wool to stimulate action. This cleaning should continue during the first two weeks. If this procedure is not followed, the puppy may become constipated.

When does the puppy start to eat from a bowl?

As soon as the puppy's eyes have opened at 14-16 days , it is worthwhile starting the weaning process. First place the milk replacer in a flat dish and either dip the puppy's nose into it or smear some round its mouth with your finger. By three weeks the puppy can start to eat food from the dish along with the milk replacer. A gruel can be made by thoroughly mixing a puppy food (canned or dry) with the milk replacer to reach the consistency of a thick milk shake. The mixture should

not be too thick at first or the puppy will not consume very much. As the consumption of food increases, the amount of milk replacer can be gradually decreased.

By four to four and a-half weeks, the orphaned puppy can consume enough moistened solid food to meet its needs.

It is better to avoid starting a puppy on a baby food regimen. This creates extra work and can also create a finicky eater. Many such foods will not meet the nutritional needs of a growing puppy.

Should my puppy be treated for worms?

We routinely treat puppies for worms from 2-3 weeks of age. Weekly or fortnightly wormings should be carried out until the first vaccinations at 6-8 weeks. It is then worth consulting the veterinary surgeon regarding future worming programmes.

When is the first vaccination given?

The first vaccination is normally given to puppies at 6-8 weeks of age. However, if your puppy did not nurse from its mother during the first 2-3 days after birth, there may be no protective immunity passed on to it. In that case, the veterinary surgeon may advise earlier or more frequent vaccinations to complete the programme.