

# Bottle Feeding Kittens

Adapted from Best Friends Animal Rescue for the Adams County Animal Shelter

This resource provides instructions for caring for bottle-feeding kittens (“bottle babies”) – very young kittens who have been abandoned or orphaned. It includes information on feeding, weaning, medical care, developmental milestones and more.

## Table of Contents

- 1.) Warmth and bedding
- 2.) Feeding
- 3.) Weaning
- 4.) Weight and hydration
- 5.) Elimination and litter box training
- 6.) A clean kitten is a happy kitten
- 7.) Medical care
- 8.) Kittens’ developmental milestones
- 9.) Loving care & Enrichment

## Warmth and bedding

For their safety, bottle babies should be kept in a cat carrier when you are not feeding or caring for them. The kittens must be kept warm. Use a heating pad designed and approved for pets (such as a K&H or Snugglesafe pet bed warmer), wrapped in two or three layers of towels. The top layer of bedding can also be a soft fleece blanket instead of a towel. Make sure the carrier is large enough for the kittens to have an area to move away from the heating pad if they are too warm. Kittens will need the heating pad until they are 3 to 4 weeks old.

Cover the carrier with a towel or blanket and keep it in a warm, draft-free room, securely away from other pets. Check the bedding several times a day

for messes. Bedding should be changed at least once a day, more often if the kittens soil the bedding.

A kitten's ideal body temperature is 100 to 102 degrees. A kitten who feels cold and is unresponsive should be warmed immediately. Never attempt to feed a cold kitten. Place the kitten on an approved heating pad safely wrapped in two or three layers of towels. Turn the kitten side to side every 5 minutes. To stimulate blood flow, you may, ever so gently, massage the kitten with hand-rubbing. If the kitten does not respond within 20 to 30 minutes, contact your medical staff immediately.

### **Feeding**

Do not feed cow's milk to kittens, as it does not have the proper nutrition for them. Cow's milk will also cause diarrhea, a possibly life-threatening condition for young kittens. Only feed your kittens an approved kitten formula. ACAS uses KMR, a powdered commercial formula. Dry KMR powder should be stored in the freezer and discarded after 6 months. The recipe for mixing KMR is below.

#### **KMR powdered formula**

Use 1 part formula to 2 parts water. A part is whatever you are using to measure with. For example, if you're using a tablespoon for measuring, this would mean 1 tablespoon of powdered KMR and 2 tablespoons of water. Refrigerate any leftover constituted formula and discard after 24 hours.

Formula that has been in the refrigerator must be warmed to just above room temperature. Place the bottle in a bowl of hot water for a few minutes. If mixing up fresh KMR powder formula, use warm water. Before feeding the kittens, always test the temperature of the formula by placing a few drops on your inner wrist to be sure it is not too hot. Always wash your hands well with soap and water before and after feeding the kittens. Bottles should be cleaned thoroughly before each use.

When bottle nipples are brand new, you will need to cut a hole in the top. Cut an X in the tip of the nipple using small, sharp scissors. Once the hole is made, test it by placing the nipple on a bottle of formula and turning the bottle upside down. The formula should drip slowly out of the hole. If the hole is too big, the kittens will ingest too much formula too fast; if it is too small, they will have to work harder to eat and won't eat as much as they should.

To prevent the possibility of spreading viruses between the kittens and other pets in your house, keep a "kitten gown" (a robe, sweatshirt, etc.) in the kittens' room to wear during feeding and handling of the kittens. You may also wear gloves if you wish, and remember to always wash your hands well before and after feeding your bottle babies.

Never feed a kitten on his back. The kitten should be on his stomach in a position similar to how he would lay next to his mother to nurse. You may try holding the kitten upright swaddled in a warm towel or have the kitten lay on a towel in your lap. Experiment with what position works best for you and the kitten.

Turn the bottle upside down and allow a drop of formula to come out. Place the bottle nipple in the kitten's mouth and gently move it back and forth, holding the bottle at a 45-degree angle to keep air from getting into the kitten's stomach. This movement should encourage the kitten to start eating. If at first you don't succeed, wait a few minutes and try again. Usually the kitten will latch on and begin to suckle. If the bottle appears to be collapsing, gently remove the nipple from the kitten's mouth and let more air return to the bottle.

Allow the kitten to suckle at his own pace. If a kitten refuses to suckle, try stroking the kitten's back or gently rubbing her on her forehead. This stroking is similar to momma cat's cleaning and it may stimulate the kitten to nurse. If this doesn't work, try rubbing some Karo Syrup on the kitten's lips. If the kitten still doesn't want to nurse, contact your medical staff immediately.

Do not attempt to feed a kitten who is chilled because it can have serious health consequences. Try warming the kitten as described above. If you are unable to warm the kitten, contact your medical staff immediately.

A kitten should eat about 8 milliliters (mls) of formula per ounce of body weight per day. For example, a kitten who weighs 4 ounces should eat about 32 mls of formula per day. To determine how much to give at each feeding, divide the total amount of formula per day by the number of feedings. For example, if you're going to feed 32 mls per day and do 7 feedings per day (approximately every three hours), that would mean giving 4.5 mls per feeding.

Nursing bottles are marked with measurements, so it's easy to know how much you're feeding the kittens. Please note that some bottles use ml for measurement, some use cubic centimeters (cc). They are the same: 1 cc = 1 ml.

Using a kitchen or small postal scale, weigh the kittens daily to calculate the amount of formula they need. Keep a log listing daily weights and amount of formula consumed at each feeding.

Newborn kittens, up to 1 week old, should be fed every 2-3 hours; by 2 weeks old, every 3-4 hours. Once they are 3 weeks old, they can be fed every 4 to 6 hours. Continue to follow the rule of 8 mls of formula per ounce of body weight per day, as described above, to determine the amount of food the kitten should be eating.

If you are feeding multiple kittens, feed the first kitten until he stops nursing, then begin feeding the next kitten, and so on. Once you have fed all the kittens, feed the first kitten again and repeat with all the kittens. Usually one to three nursing turns will suffice. When a kitten stops nursing, he/she has had enough. Do not overfeed the kittens because it can cause loose stools and diarrhea. A well-fed kitten's belly should be round, but not hard and distended. Smaller or weaker kittens may eat less per feeding and will need to be fed more often.

Kittens need to be burped, just like human babies. Lay the kitten on his stomach, on your shoulder or in your lap, and very gently pat his back until you hear a little burp. You may need to burp a couple times per feeding. Young kittens may suckle on each other. This is a normal thing, but make sure they aren't damaging the fur or skin of the littermate they are suckling on. If the suckling is causing problems, you should separate the kittens.

## **Weaning**

Weaning may begin at 3 ½ to 4 weeks of age. Start by offering the kittens formula on a spoon. Once they are lapping off the spoon, try putting some formula in a saucer. As they master lapping up the formula out of the saucer, you can gradually add a small amount of canned food to the formula in the saucer, making a gruel. Increase the amount of canned food slowly, adding more food and less formula. Some kittens catch on right away, others may take a few days. To be sure the kittens are getting enough food, you may need to continue bottle feeding them a few times a day, until they are eating well on their own. Be sure to feed them what they need to be full, but don't overfeed them.

Monitor the kittens' stools to make sure they are tolerating and digesting the gruel mix well. If the kittens have loose stools, reduce the amount of canned food and increase the formula until their systems have adjusted. As the kittens adjust to the gruel mix and you are adding more canned food to their diet, you can also add more water to the formula mix. If you are using KMR formula, add an extra measure of water when preparing the formula. Instead of 1 part formula to 2 parts water, mix 1 part formula to 3 or 4 parts water. For the Hoskins formula, you may add an extra ounce of water to the recipe.

As the kittens eat more food and less formula, you will need to have a bowl of fresh water available to them at all times to keep them well hydrated. At this time, you may also add dry food to their diet. Add some of the watered-down formula mix to the dry food to entice the kittens to eat it. Gradually reduce the formula and let them eat the food dry. Again, keep watch on the

kittens' stools to make sure they are tolerating the food well. If diarrhea or constipation persists with the change in diet, contact your medical staff.

### **Weight and hydration**

Weigh your kittens daily, preferably at the same time each day, using a kitchen or postal scale. Kittens should gain about ½ ounce every day or 3 to 4 ounces per week. By 8 weeks, most kittens weigh about 2 pounds. Enter their daily weights in the logbook. If the kittens are not gaining weight or are losing weight, contact your medical staff right away.

A well-fed kitten should be properly hydrated. To test a kitten's hydration, pull up on the skin at the scruff of the neck. The skin should bounce back easily. If it doesn't bounce back, or goes back down slowly, the kitten may be dehydrated. If the kitten appears dehydrated, contact your medical staff.

### **Elimination and litter box training**

Young kittens cannot eliminate on their own. A momma cat will clean her kittens, stimulating them to urinate and have a bowel movement. As their human caregiver, you now have the honor of performing this duty. After each feeding, use a warm, moist cotton ball, tissue or soft cloth to gently rub and clean the kitten's lower belly, genital and anal area. The kitten should begin eliminating within a minute. Kittens should urinate after each feeding and have a bowel movement one to four times a day. Do not continue to rub the kitten for more than a minute or so, since this could irritate their delicate skin. Gently wash the kitten after she is done eliminating using a clean, damp, soft cloth. Record the kittens' elimination type and frequency in the logbook.

When they are between 3 and 4 weeks of age, kittens can be introduced to the litter box. Use a small cardboard box or plastic litter box with just enough clay litter to cover the bottom. Don't use clumping litter. Adding a used cotton ball (from when you helped them urinate) to the box will help them get the idea of what to do next. Put the kittens in the box, allowing them to get the feel for the litter. Natural instinct will generally prevail and

the kittens will begin investigating, scratching, and, within a few days, using the box.

### **A clean kitten is a happy kitten**

After feeding, clean any formula, urine, feces or other messes off the kitten using a clean, soft, warm, damp cloth. This action simulates how the momma cat would clean the kittens. If more cleaning is required, you may use a wetter washcloth dipped in warm water to loosen up caked-on messes in the kitten's fur. Do not use soap or pet shampoo directly on the kitten. If you must use a shampoo to clean the kitten, add one or two drops of Dawn dish detergent to a cup of warm water, then use the cloth dipped in this mixture to clean the kitten. Rinse the cleaned area with another cloth dipped in clear, warm water. Gently dry the kitten with a soft towel. Do not allow the kitten to become chilled. Once the kitten is clean and dry, place her back in the carrier on the covered heating pad, which should be covered in clean layers of bedding.

Kittens' ears should be clean and dirt-free. If the ears are dirty, gently clean the area with a Q-tip; you may need to dampen it in warm water. Do not use ear-cleaning solution because it could be harmful to the kitten. Only clean the outer area of the inside ear, just the part that you can see; do not push the Q-tip down into the ear. If the ears are extremely dirty or you see signs of ear mites (specks that look like coffee grounds), contact your medical staff about treatment options.

Kittens may have some discharge in or around their eyes. To cleanse the area, gently wipe around the eye with a warm, damp, soft cloth. If the discharge continues, is cloudy, or the eyes are gooped shut, clean the eyes as directed above, then contact your medical staff for treatment options. Do not use soap around your kittens' eyes.

All kitten bedding should be washed separately from other household laundry using detergent and  $\frac{3}{4}$  cup of bleach per load. To clean carriers and litter boxes used for the kittens, use a mixture of  $\frac{1}{4}$  cup of bleach per gallon

of water. You may add a tablespoon of laundry soap to the wash water. Do not use any cleaning agents that contain ammonia or are not approved to mix with bleach, since it could cause hazardous fumes. Be sure the carrier and/or litter boxes are completely dry and free of bleach fumes before putting them back with the kittens.

### **Medical care**

Do not medicate kittens without approval and instruction from a staff member first. The foster coordinator or veterinary staff should be consulted for kittens showing any of the following symptoms:

Diarrhea

Constipation

Straining to urinate, or not urinating

Vomiting

Upper respiratory symptoms: goopy/watery eyes, runny nose, constant sneezing, coughing, wheezing or labored breathing

Not eating

Lethargy

Change in attitude or behavior

Hair loss

Anything you are worried or concerned about

### **Kittens' developmental milestones**

Kittens weigh about 2 to 4 ounces at birth. They are blind, deaf and totally dependent on the mother cat for survival. Some developmental milestones:

At 7 to 10 days, their eyes start to open. Kittens' eyes are fully open by 20 days. Their eyes stay blue until they are 6 to 7 weeks old.

They begin crawling at 16 to 20 days.

They will begin to play with each other at 3 to 4 weeks.

By 3 to 4 weeks, solid food can be introduced, their first juvenile teeth are cut, and litter box training begins.



At 4-5 weeks, kittens can receive their first set of vaccines.

At 6 weeks, kittens are well-coordinated, running and climbing and full of mischief.

At 6-7 weeks, kittens should receive their second round of vaccines (two weeks from first vaccinations)

Kittens are ready for spay/neuter surgery at 8 weeks old.

### **Loving care and Enrichment**

Physical and emotional contact with you is extremely important for the growing, developing kitten. Early cuddling and gentle petting of kittens helps them to bond well with humans, allowing them to grow up feeling safe and secure with their human family. Playing with the kittens with a variety of toys will stimulate their minds and help them develop good motor skills. Always use toys that are safe for kittens, and supervise closely when playing with any toys that could be ingested (string, toys with stuffing, etc.) Toilet paper rolls are a fun, low cost, and safe toy for kittens.

You can help your kitten develop motor and cognitive skills by providing enrichment in the kitten's habitat. By 6 weeks of age, your kittens are ready to explore a more complex environment. You can offer them hiding spaces and elevated surfaces using cardboard boxes (make sure the boxes are low enough that kittens won't get hurt if they fall off!).

## **Quick feeding guide**

We will provide you with very detailed training regarding feeding before you take your foster kittens home. But here's a brief summary of the feeding protocol for kittens up to eight weeks old:

### **Week 1: Bottle-feeding**

Food type: Milk replacement formula

Frequency: Every 2–3 hours (8–12 times per day)

Amount: 3–4 cc per feeding, approximately 3–6 g per kitten

### **Week 2: Bottle-feeding**

Food type: Milk replacement formula

Frequency: Every 3 hours (8 times per day)

Amount: 5–6 cc per feeding, approximately 8–15 g per kitten

### **Week 3: Bottle-feeding**

Food type: Milk replacement formula

Frequency: Every 4 hours (6 times per day)

Amount: 13–17 cc per feeding, approximately 10–20 g per kitten

### **Week 4: Weaning stage**

Food type: Milk replacement formula, gruel, kitten kibble and water

Frequency: Kibble, water and gruel should be available to kittens at all times; bottle-feed every 8 hours (3 times per day)

Amount: 13–17 cc per feeding with the bottle; will vary depending on how much gruel the kitten eats

### **Weeks 5–8: Solid food**

Food type: Dry kitten food, wet kitten food and water

Frequency: Available at all times

You will need to offer fresh wet food 2 to 3 times daily.

## Fading Kitten Protocol

Fading Kitten Syndrome is a life threatening emergency in which a kitten, sometimes one that was previously healthy, “crashes” and begins to fade away.

### **Symptoms:**

- Low Body Temperature – the kitten feels cool or cold to the touch
- Extreme Lethargy - not getting up, unable to stand, not responding to touching/petting
- Gasping for breath
- Meowing/Crying out

### **Cause:**

- Hypothermia (being too cold)
- Hypoglycemia (not enough blood sugar)

**When this happens, it is vital that you take these steps immediately!**

### **Step 1**

#### **Get them warm:**

- Create a “burrito” towel. Immediately wrap the kitten up in a towel like a burrito leaving their face exposed only. Their whole body, tail, ears, and paws should be in the towel, only nose and mouth exposed. Do not take the kitten out of the towel to adjust them, check on them, etc. Every time you take them out you will make them cold again, even if it is only for a second.
- Wrap a heating pad turned on \*low\* around the burrito towel (to avoid burns) as an extra source of heat. Secure it around the towel so it stays in place.

### **Step 2**

#### **Get their blood sugar up:**

Once you get the heat on them --

- Get a bowl or Tupperware and a few tablespoons sugar in hot water.
- Stir it up so you get a sugar water solution - as strong as possible while still pretty runny.
- Using a syringe or your finger give 3 drops every 3 minutes into the

mouth. If they aren't swallowing, try not to get it down their throat, try to get it on the tongue or gums.

- Set an egg timer, or use the stopwatch on your cell phone to make sure you are doing it at least every 3 minutes. Every 5 minutes or 10 minutes will not work, it must be every 3 minutes.

### **Step 3**

#### **Notify us on the foster phone:**

At 720-515-3834. Keep kitten with you and continue sugar every 3 minutes. We won't have any extra advice for you that isn't in this handout, but we do want to be made aware of what is going on.

**It can take hours for kittens in this condition to improve. Once they have shown marked improvement, they can return to their normal activities, but you should continue to monitor them for any reoccurrences.**

*Keep in mind that even with love, attention and treatment, some kittens still won't make it. Try not to blame yourself during this difficult time. Any foster kitten that you have cared for was given a second chance at life BECAUSE of YOU! The Survival Rate with your care far surpasses the survival rate in nature.*