

Helping People Help Pets

# Neonatal Kittens + Mamas and Nursing Kittens Care Guide



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## I. Neonatal Kittens Basics

**\*\*\* The two most important rules of Kitten Club: Kittens must be **WARM** and have **FULL BELLIES** at all times! \*\*\***

### The Basics

- Kittens must be kept in a safe and secure spot, and isolated from other pets (to prevent illness) for 7-10 days.
- Kittens must have access to a heating pad (on low setting) at all times.
- Do not give kittens baths unless absolutely necessary. If kittens get wet, they must be blown-dried until they are completely dry. Young kittens can very easily become hypothermic.
- As an alternative, use a hypoallergenic baby wipe to clean dirty kittens.
- You are required to keep track of kittens' weights, bowel movements, medications, and other health issues on your Daily Care Sheets.

## 2. Supplies

### Bottle Babies: Required Supplies

- Bottle kit with nipples
- Powdered KMR formula
- Electric heating pad that *does not* shut off automatically
  - Secure pet carrier for transportation
  - Digital scale (food or postal) that weighs in grams
  - Non-alcoholic baby wipes

### Bottle Babies: Optional Supplies

- Pedialyte (unflavored)

### Gruel/Syringe Gruel Babies: Required Supplies

- Electric heating pad that *does not* shut off automatically
- High quality canned kitten food
- Hard kitten food (kibble) — Royal Canin Mother & Babycat
- Secure pet carrier for transportation
- Empty room/bathroom to isolate kittens
- Digital scale (food or postal) that weighs in grams
- Shallow litter box & non-clumping litter
- Blender or food processor (*syringe gruel only*)

### Gruel/Syringe Gruel Babies: Optional Supplies

- Human baby food (chicken or turkey w/ no onions, garlic, or spices)
- NutriCal — nutritional supplement for weight gain

### Pregnant/Nursing Mom: Required Supplies

- High quality canned kitten food for mom and to wean babies
- Hard kitten food for mom and to wean babies — Royal Canine Mother & Babycat

### 3. Setting up a Habitat

#### **Bottle Babies:**

Any medium sized bin, tub, crate, or carrier that measures around 20"x15"x15" (the size of a regular cat carrier) makes a great habitat for un-weaned kittens. Something that's easy to clean is usually best (like a Rubbermaid storage bin).

Place the heating pad (set on low) flat on one side of the containment area, and make sure that there is room for kittens to move off the heating pad if they get too warm. Cover the bottom of the containment area with a blanket or towel. Feel free to place stuffed toys and plenty of soft fleecy things in the habitat for the kittens to snuggle with.

#### **Syringe Gruel & Gruel Babies:**

Once kittens can crawl out of their bin or ready to use a litter box, you can move them to a bigger space. Bathtubs are often great for this stage. Keep the heating pad available at all times, but still make sure that the kittens can move off of it. Place a small bowl of kibble, a saucer of gruel, and a stable, flat-bottomed cup of water in an accessible spot, away from their bedding.

Fill a very shallow litter box (a box top or baking tin is fine) with nonclumping litter, and place it in an accessible spot away from the food dishes.

At this point, the kittens will also want to play with toys! Feel free to give them plenty of plush dolls, balls, bells, etc. Just make sure there's nothing they could accidentally swallow or get tangled up in!

#### **Kittens Age 6 weeks and Up:**

At this age, kittens will likely begin door-dashing and trying to escape whatever enclosure they're confined to. If you would like to give them free run of your home, please do so with extreme caution. Kittens can and will get into everything. Never leave them unsupervised, particularly when there are other pets and/or roommates where you live! Also, remember that the more space they have, the harder they are to find.

Most importantly, especially once they are over ~4 weeks old, make sure you socialize your kittens as often as possible! This is crucial to their development – they need to learn to love humans!

Introduce them to friends, children, other cats, friendly dogs, etc., but always make sure they're in a controlled environment and are being closely supervised.

## 4. Stages of Kitten Development

A kitten is born both deaf and blind. The kitten's ears remain in the folded position that they were in while the kitten was in the womb, and the eyes are still sealed shut. Normally, a small bit of the umbilical cord will still be attached to the midsection of the kitten.

Newborn kittens are completely helpless and rely on their mother for all of their needs. In addition to nursing the kittens, the mother will also groom her kittens (this also stimulates the intestines to start functioning). Since the kittens cannot yet regulate their body temperature, they will stay close to their mother to keep them warm.

- **BIRTH:** kittens weigh approximately 90–100g at birth and should double their birth weight in about a week.
- **1-2 DAYS:** kittens will begin to hear muffled sounds.
- **3-5 DAYS:** the umbilical cord will dry and fall off.
- **7–10 DAYS:** the eyes will begin to open. Kittens are usually born with bluish eyes; they will stay blue until the kittens are about 6–7 weeks old, but true color won't settle in until the kittens are about three months old. If eyes seem to be pus-filled or sealed shut, seek medical care asap.
- **2 WEEKS:** kittens will start moving around, crawling, and standing more.
- **3.5 WEEKS:** the kitten's teeth will begin to break through the skin. The ears will also start to stand up around this time.
- **4 WEEKS:** kittens' teeth should be fully in. Once their incisors are in, kittens can eat kitten food and start using a litter box.
- **4–5 WEEKS:** kittens will start to gain weight rapidly around and will also start to play around this time.
- **6 WEEKS:** kittens are beginning to regulate their body temperature.

## 5. Ageing Neonates

Kitten Age	Characteristics
Less than 3 days old	Eyes completely closed and wet umbilical cord still attached
Less than 5 days old	Eyes completely closed and dry umbilical cord still attached
Less than 7 days old	Eyes completely closed
Between 7 and 10 days	Eyes mostly closed or beginning to open, no umbilical cord attached
2–3 weeks old	Eyes completely open, no umbilical cord, “rounded” ear shape, no incisors
3½ –4½ weeks old	Eyes completely open, no umbilical cord, “pointed” ear shape, small incisors not all the way through
5–6 weeks old	Eyes completely open, no umbilical cord, “pointed” ear shape, incisors all the way through, weigh about 1½ lbs

## 6. Kitten Developmental Milestones

- Kittens typically weigh about 90-110 grams at birth; they should gain about 100g/week.
- Eyes open at 7-10 days (eyes will be blue until kittens are 6-7 weeks old).
- At about 2 weeks, they will start crawling around (can inch around as early as 4 days).
- At 3-4 weeks, they'll start to play with each other. The ears will start to stand up, and teeth will begin to come in.
- At 3-5 weeks, it's time to start the weaning process – kittens should be well on their way to eating independently and using the litter box.
- At 6 weeks they should get their first vaccinations from APA!, and go up on our website for pre-adoption.
- At 8-12 weeks, and/or whenever kittens have reached 2lbs (906g), they can be spayed or neutered, and go to their forever homes

## 7. Keeping Kittens Warm

A kitten's body temperature ranges from about 102°–104°F. Kittens under three weeks of age cannot regulate their own body temperatures—they have littermates and a mother to help them. It is crucial to keep the kittens' crates warm, dry, and draft-free.

If a kitten feels cool or cold, warm it immediately; never try to warm a kitten with your own body heat, as your body temperature is lower than that of a kitten and the kitten's body temperature could continue to fall. If its body temperature falls too low, a kitten can fade and may not survive.

- Place a heated snuggle disc in a snuggle cover, or cover it with a single layer of towel or blanket in the kittens' crate. Do not place the warmed disc directly on the metal crate—the metal will quickly draw the heat out of the disc.
- Snuggle discs are heated for 4–5 minutes in the microwave, based on microwave wattage, and will stay warm for hours. Heat them only when they are cool, as too much heating can deteriorate them.
- Snuggle discs should be freshly heated at each feeding.
- If a snuggle disc is not available, use a heating pad on a low setting. Be certain it is not a type of thermostat that automatically shuts off, or the kittens will lose their heat source.
- Be sure the crate is not in a draft and that air vents or fans are not blowing on the kittens. Cover the front of the crate with a cloth if necessary. There should be a small space in the crate where the kittens can go if they get too hot; the back of the crate is probably best. Take care, however, that the kittens cannot get too far away and that nothing obstructs their path to the heat.
- Check the bedding at each feeding to be sure it is dry; change if it is wet or damp since bedding can chill the kittens despite the heat source in the crate.
- If kittens are soiled, clean them gently, taking care to dry them with a towel thoroughly before returning them to their crate.
- If a kitten feels cold, determine if it is fading. If so, immediately begin the fading kitten protocol; see Section 8.

- If a kitten feels cold but is determined not to be fading, warm it immediately by wrapping the kitten in a towel, and then place the towel in a bin with a heating pad set on low.
- Never place a kitten directly on an uncovered snuggle disc or heating pad.
- If a kitten becomes chilled during feeding, warm it before continuing. Kittens might stop eating if they are cold.
- Food should be warm so that the kitten does not become chilled.
- Your body heat is lower than the kitten's, so never try to warm a kitten with your own body heat—it will not work, and the kitten's body temperature will plummet.

## 8. Stimulation for Urination and Defecation

By nature, mother cats lick the "back end" of their babies to stimulate the bowels and bladder on a regular basis.

- After each feeding, gently rub the kitten's genitalia and rectum with a baby wipe (alcohol-free, dye-free, fragrance-free) or a cotton ball or cotton pad (can dampen with warm water), using a front-to-back motion and very gentle pressure.
- Once the kitten has finished eliminating, stop rubbing. Overstimulation will irritate the area—watch for chafing.
- Kittens will almost always urinate during stimulation. They should defecate about once every 1–2 days.
- Make note of diarrhea if the kitten is not already being treated for it.
- Record the kitten's elimination on its Daily Care Sheet, noting anything abnormal.
- Look at the kitten's urine and feces and make sure they look normal.

Note any abnormalities on the kitten's chart and on the Feeder Board. Possible abnormalities include:

- Blood in the urine or feces
- Dark yellow or brownish yellow
- If the kitten has not defecated for 2–3 days and its belly is bloated
- Once kittens begin transitioning to solid food and independent eating, they no longer require that you stimulate them.

## 9. Feeding

Orphan kittens need to be bottle-fed until they are ready to be weaned and can eat on their own. It is imperative that all kittens are consuming enough food at each feeding to insure proper nutrition, hydration, and weight gain. Ideally, kittens are fed every 2–3 hours; they can make it about four hours overnight as long as they have been eating regularly throughout the day and have been gaining weight steadily. The only milk that is approved for use in the APA! nursery is Kitten Milk Replacement (KMR). We use a powder KMR mix that we make as needed. Open bags of KMR should be kept in the refrigerator before and after mixing.

Cow's milk and other types of milk replacements are not nutritious enough for our kittens and their use can lead to slow starvation or other detriment to the kittens. They also cause diarrhea, which is extremely dangerous for young kittens. Once a certain type of milk has been started for a group of kittens, it must be continued until they are weaned. Changing formula brands can cause major GI illness.

## Neonatal Foster Program — Feeding Guidelines

Feeding stage	Age range	Weight range	Feeding frequency
Bottle babies	0 to ~4 weeks	90 to 400 grams	Every 2-3 hours or 4-5 hours overnight
Syringe gruel	3 to ~6 weeks	300 to 700 grams	Every 4-6 hours or 6-8 hours overnight
Gruel/Kibble	5 weeks and up	700 grams and up	Every 4-6 hours or 8-10 hours overnight

The most important thing to remember when caring for kittens is to **WEIGH, WEIGH, WEIGH!** The *vast majority* of kittens who pass away in foster care do so *because they were not weighed as consistently as we require.*

Making sure your kittens are getting enough to eat is your most important duty as a foster! So, below are in-depth instructions on how to feed kittens according to their age and size, as well as info on issues to look out for during each stage of your kittens' growth.



### Bottle Babies

#### How to make formula:

Feed PetAg KMR® powdered formula from bottle and/or oral syringe. Mix 2 parts water to 1 part powdered formula (unless otherwise advised). Shake well to dissolve lumps! Store mixed formula in the fridge up to 48 hrs. All kittens must eat **5% of their body weight** at each feeding. All kittens **must be weighed** before and after feeding!

#### Feeding instructions:

- Formula should be fed warm, preferably with kitten wrapped up in towel or blanket.
- Feed kitten upright or on belly in a **prone** position, **NOT** on his/her back like a human infant!
- Gather kittens' feeding charts and some warm towels.
- Bottle-feed the kitten first. Some kittens take a while to latch on, so be patient! If kitten does not gain its 5% via the bottle, proceed w/ syringe feeding. **Only use 1mL syringe.**
- Watch for formula coming out of kitten's nose or a rasping "wet" cough. This is called **ASPIRATION** – it means the kitten has ingested formula into her lungs and is in danger of "drowning". If one of your kittens is aspirating, you need to do two things:
  - Immediately seek medical care/start antibiotics.
  - Once no more formula is coming out of kitten's nose, **continue feeding.**
- Weigh kitten periodically throughout feeding process – the kitten is only done eating when she has gained her 5%.
- Thoroughly clean off any formula on kitten's fur and dry kitten off. (Formula will stick and is very hard to remove if it dries and is also painful for the kitten!)

- Weigh and record after-food weight!
- After each meal, **stimulate kitten** w/ cotton ball or non-alcoholic baby wipe to help with urine/stool bowel movement. The kitten will not always have to go, but it is *crucial* that this step is performed after every feeding. *Failure to stimulate orphan kittens can lead to serious.*

## Syringe Gruelies

**Bottle babies should be switched to syringe gruel when they reach 3.5-4 weeks old** (when their canine teeth begin to grow in). Instead of KMR, kittens will now eat **premium** (only available at pet stores) canned kitten food mixed w/ water and blended to a smooth paste.

It is important to note that the syringe gruel phase is, essentially, nothing more than a layover between nursing (formula or mama's milk) and weaning (eating independently). So, at this stage, you should make sure your kittens always have access to kibble, gruel, (canned food w/ water), and a **bowl of water**, as eventually they will decide to go it on their own!

Until that magical day, though, you will need to step in! Remember that just because you see your kittens eating on their own, this does not mean that they're eating *enough* independently to maintain their health. Too often, fosters assume that because they've witnessed their kittens eating kibble or gruel from a bowl, those kittens don't need to be syringe fed anymore. ***This is not the case – and failure to follow the steps outlined above can lead to serious illness and/or death of kittens.***

### *How to make syringe gruel:*

You will need a **blender**. Blend approximately one can of food with 1/3 to 1/2 can water (double, triple, etc as needed). Your syringe gruel should be about the consistency of a milkshake, and you should be able to easily draw it up into a syringe.

Again, kittens must eat **5% of their body weight** at each feeding. Kittens **must be weighed** before and after feeding.

### **Feeding instructions:**

- First, give your kitten the opportunity to eat independently! Offer kitten warmed up gruel and kibble in separate plates or shallow bowls. If kitten shows no interest after awhile, proceed with syringe feeding.
- With syringe in your dominant hand, use your non-dominant index finger and thumb to grip the kitten's head at her temples. Tilt kitten's head back at about a 45-degree angle, using your palm to gently force kitten into a seated position.
- Draw warmed syringe gruel (microwave to a bit above lukewarm temp – no more than 5-10 seconds) into 10mL syringe.



- Insert syringe into **side** of kitten’s mouth. *Do not put syringe directly in front of kitten’s mouth* (even if she tries to position herself this way!) as kitten could very easily choke.
- Slowly plunge syringe gruel into kitten’s mouth, removing the syringe every few seconds to allow her to swallow.
- Weigh kitten periodically throughout feeding process – the kitten is only done eating when she has gained her 5%!
- Always thoroughly clean off any gruel on the kitten’s fur. Dry kitten off well.

## Gruelies

This is the last stage of kitten rearing – rejoice! When your kittens begin eating enough gruel and kibble on their own to **gain weight consistently every day**, you’re well on your way to throwing those syringes out! Don’t get too excited yet, though – your kittens will still need to be syringe fed if they’re not able to eat 5% of their bodyweight on their own. The switch from syringe gruel to gruel/kibble is not a magical “aha!” moment on your kitten’s part – it’s a process you’ll both need to work through very thoughtfully!



Once you see that your kittens are gaining around 5% of their bodyweight on a daily basis, for at least 5 days, you can begin to weigh them twice a day, instead of every time they eat. **NEVER go more than 24 hours without weighing your kittens – weight loss is the number one reason kittens pass away in foster care!**

## Kitten Weight Gain

### kitten weight and feeding chart

AGE	WEIGHT	AMOUNT PER FEEDING	SCHEDULE
0-1 week	50-150 grams	2-6 ml	Every 2 hours
1-2 weeks	150-250 grams	6-10 ml	Every 2-3 hours
2-3 weeks	250-350 grams	10-14 ml	Every 3-4 hours
3-4 weeks	350-450 grams	14-18 ml	Every 4-5 hours
4-5 weeks	450-550 grams	18-22 ml	Every 5-6 hours
5-8 weeks	550-850 grams	(weaning; offer ample wet food)	Every 6 hours

## Feeding Guidelines

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## 10. Fading Kitten Syndrome

You are **not** receiving this handout because Fading Kitten Syndrome is a common occurrence, but rather because if you ever encounter this condition, **YOU** will need to act **IMMEDIATELY**. The worst thing you can do for a fading kitten is to take him/her to your vet – most kittens will not survive the car ride. **YOU** are this kitten's best chance at making it.

Fading Kitten Syndrome is a life-threatening emergency in which a kitten “crashes” and begins to fade away. Kittens under 3 weeks old and/or kittens who are, or were recently sick, are most susceptible to FKS. Oftentimes, it occurs in kittens who have been eating poorly, and losing, or, not gaining, weight. This is why it is **VITAL** that you weigh your kittens every time they're fed. *Although it is rare, FKS can also occur in healthy kittens at any age.*

### Symptoms of FKS:

- Extreme lethargy — unable to stand or hold head up, not responding when touched
- Body feels cool to the touch (not just insides of ears – all over)
- Panting or gasping for breath
- Meowing/crying out in distress

**If you see these symptoms, it is crucial that you take the following steps NOW:**

### Step 1: GET KITTEN WARM

Grab your heating pad and a towel. Place the towel over the heating pad, and place kitten on top of towel. Roll heating pad up to create a “kitten burrito” – like you're swaddling an infant. Leave the kitten's face exposed, and do not remove kitten from the burrito even if he/she struggles and cries to get out! Make sure the heating pad is still on the **low** setting.

\* If you don't have a heating pad, (fosters are now *required* to have a heating pad) you can either:

- Keep your dryer running full of towels. Grab a new hot one every 5 minutes and wrap it around the “burrito” towel. After 5 minutes, trade that towel out for a new hot one.

Don't remove the "burrito" towel.

- Fill 2 socks full of rice, tie the ends so it doesn't spill out. Throw them in the microwave for 3 minutes. Keep them next to the kitten on the outside of the burrito towel. Every 30 minutes reheat one sock and leave the other next to the kitten so she doesn't cool off.

### **Step 2: GET KITTEN'S BLOOD SUGAR UP**

Grab a small bowl and fill it with either corn syrup (Karo, etc), or sugar water. The more sugar content, the better. Make sure you have your syringe handy. Warm the contents up in the microwave for a few seconds until the liquid is a bit above room temperature. You will administer this sugar water (with the syringe) to the kitten while he/she is in the burrito. **Give the kitten about 1 drop every 3 minutes.**

### **Step 3: CALL MEDICAL TECHNICIANS**

#### **Prognosis**

We generally have a high success rate with these kittens if you follow the above steps! The process can take hours, so be prepared to administer the steps outlined above for anywhere from one to three to even five hours.

**We DO NOT recommend you rush your foster kitten to the vet for many reasons:**

You have the motivation to sit right there with them and make them your top priority. A vet clinic has multiple patients who need help and won't be able to give your kitten the 100% undivided attention you can give them.

Your kitten will continue to be cold/hypoglycemic on the way to the vet, in the waiting room, and in the hospital while they try to determine what is wrong, etc. Most kittens won't last long enough for them to begin treatment.

Dr. Jefferson at APA! created these protocols based on what would be done if she saw these patients in her clinic. Most clinics would do the same thing – try to keep the kitten warm and get their blood sugar up. There isn't much else you can do.

Keep in mind that it can sometimes take hours for them to come out of this state and start acting normally again. Don't give up! Once they do come out of it, make sure you contact the med techs to discuss what could have possibly caused them to fade in the first place, and make sure we have the kitten on all the right medical treatments for any illnesses they have that may have caused it.

Unfortunately, even if you've employed all of the steps outlined above to a tee, some kittens just won't make it. Cats get pregnant very easily, and have A LOT of kittens, specifically because they are so fragile. If a kitten passes in your care, don't blame yourself — these kittens would have had about a 0% chance of surviving if it wasn't for you. Send us an email if your kitten has passed and focus on taking the best care of his/her littermates.

Thank you for everything you do, fosters!

## 11. Common Household Hazards for Kittens

Even the most experienced fosters sometimes overlook household hazards. The following is a list of things that we have seen cause injury to kittens.

- **Rocking chairs** - keep out of the kittens' area
- **Reclining chairs** - kittens can easily crawl inside
- **Toilets** - keep lids closed at all times
- **Bathtubs**- keep water drained at all times
- **Doors** - make sure that kittens are not behind doors that are being opened
- **Exits** - keep unscreened doors and windows closed at all times when not in use
- **Outdoors** - do NOT allow kittens to go outside, NO EXCEPTIONS!
- **Other cats** - can sometimes be asymptomatic carriers of viruses that are more harmful to kittens, or can be too aggressive with kittens
- **Dogs** - all dogs (but especially large dogs) can easily injure a kitten, often accidentally
- **Washers and dryers** - kittens can crawl inside of the machines unnoticed or get stuck behind them
- **Other appliances** - make sure that kittens cannot crawl behind or under refrigerators, ovens, etc.
- **Holes** - make sure any holes in drywall or cabinetry are plugged or blocked
- **Small objects** - rubber bands, strings, paperclips, and other small objects can be accidentally ingested
- **Chemicals** - make sure they are put away
- **House plants** - many are poisonous to cats, make sure they are out of reach
- **Electrical cords** - can be sprayed with bitter apple, covered with tape or "cord covers" to prevent chewing

In the unfortunate event that one of your kittens has died, for any reason, please **contact us right away**. Please do not be embarrassed or afraid to reach out – these things happen. Kittens are fragile creatures, and unfortunately some of them are just not equipped to make it in this world.

<p>Kittens age 0-4 weeks</p>		<p><b>BB Formula:</b> PetAg KMR® powder formula mixed 2:1 (2 parts water to 1 part powder). Serve warm.</p> <p>Each kitten should take in 5cc (or 5 grams) for every 100 grams of body weight <b>at every feeding.</b></p> <p>The nursery sells formula for \$20 per pound. Bottle and nipple sets are \$5.</p>
<p>Kittens age 3-8 weeks (once canine teeth have begun to come in)</p>		<p><b>Syringe gruel</b> = canned food blended to milkshake-like consistency and warmed.</p> <p><b>Gruel</b> = canned food mixed to applesauce-like consistency and served warm on a plate.</p> <p>Any brand of premium <b>kitten</b> food is fine, but we recommend Nutro as it's high quality and cost effective!</p>
		<p><b>Kibble:</b> Once your kittens have their canines, have kibble available at all times, along with a bowl of water.</p> <p>Royal Canin Babycat is what we feed kittens at the nursery as it's highly palatable and the extra-small kibble size is ideal for weaning kittens.</p> <p>Again, any brand of <i>premium</i> kitten kibble will do.</p>
<p>Supplements for syringe gruel &amp; gruel kittens</p>		<p><b>Baby food:</b> Mix ~tablespoon of baby food with gruel or kibble for finicky eaters! Also useful for encouraging new gruelies to eat on their own. Buy <b>plain baby food</b> with no spices. Ingredients should <b>only</b> be turkey/chicken and turkey/chicken broth.</p> <p><b>Tomlyn Nutri-Cal:</b> Great for underweight kittens. Follow instructions on bottle and add appropriate amount to syringe gruel or gruel.</p>

*Pro-tip: Adding a bit of plain canned pumpkin (not pumpkin pie filling!) to gruel or syringe gruel can help with minor diarrhea/loose stool MAKE SURE YOU'RE WEIGHING YOUR KITTENS!*

# Minimum Feeding Requirements for Kittens Based on Weight

(5g food per 100g body weight/1g per 20g body weight)

Weight of Kitten Before Feeding	Weight of Kitten After Feeding	Amount of Food Consumed
60	63	3
80	84	4
100	105	5
120	126	6
140	147	7
160	168	8
180	189	9
200	210	10
220	231	11
240	252	12
260	273	13
280	294	14
300	315	15
320	336	16
340	357	17
360	378	18
380	399	19
400	420	20
420	441	21
440	462	22
460	483	23
480	504	24
500	525	25
520	546	26
540	567	27
560	588	28
580	609	29
600	630	30
620	651	31
640	672	32
660	693	33
680	714	34
700	735	35

1 **Feed bottle babies as much as they will take on their own from the bottle; syringe feed when they do not eat enough on their own.**

1 **When bottle babies have been syringe fed previously, try to bottle feed them first, then syringe feed if they won't eat from the bottle.**

1 **When gruel kittens have been syringe fed previously, see if they will eat on their own in a bin. If not, then syringe feed them. Be sure to chart their weights accurately.**

1 **If gruel kittens lose weight from previous feedings but have been eating on their own, syringe feed the required amount. Be sure to accurately record beginning and ending weights.**

1 **If the kitten eats on its own in a bin, be sure to record the beginning and ending weights accurately.**

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1 **WEIGH ~ FEED ~ WEIGH**

## 12. Pregnant or nursing mamas

### Pregnant Cat Guidelines

Thank you so much for fostering a pregnant cat! This can be one of the most memorable, educational experiences that you'll ever have. Please read on to find an outline of what to expect during mama cat's pregnancy and what you need to do to prepare for her delivery.

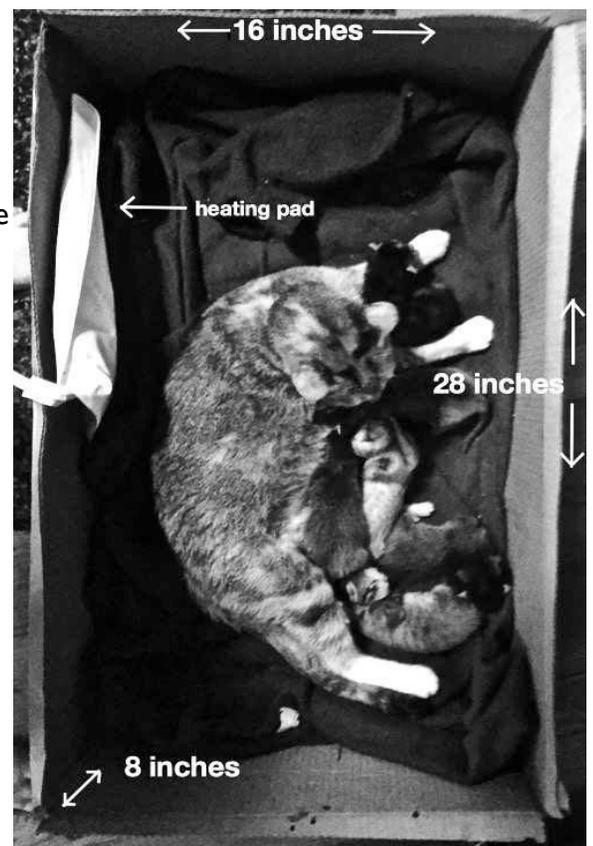
#### Required supplies for pregnant/nursing moms:

- A box or tub large enough for mama to lie down and stretch out, such as an under-the-bed plastic storage tote. Mama should be able to get in and out easily, but kittens should not be able to get out.
- Electric heating pad that does not shut off automatically
- High quality canned **kitten food** for mom (and to wean babies)
- Hard **kitten food** (kibble) for mom (and to wean babies) — we recommend Royal Canin Babycat
- Bottle kit with nipples in case kittens need supplementary feeding
- Powdered KMR formula in case kittens need supplementary feeding
- Empty room/bathroom to isolate mom and kittens
- Digital scale (food or postal) that weighs in grams
- Litter box and non-clumping litter
- Secure pet carrier for transportation

#### Preparation for birth of kittens:

The gestation period for cats is between 9 and 10 weeks. A couple of weeks before your cat is due to deliver, you need to prepare a “nesting box” – a safe and secure place for mama to deliver and care for her kittens. Mama cat should be isolated in a quiet area to get used to her surroundings for awhile so she feels safe and secure for the birth. During the couple weeks leading up to her kittens' birth, mama cat might exhibit some strange and/or uncharacteristic behaviors – some cats may become extremely affectionate, while others might become aggressive or fearful. Just remember that mama's hormones are raging during this time, so any out of the ordinary behavior is generally no cause for concern.

Pregnant cats should eat up to 4 times their normal amount of food and should be eating **kitten food** for the duration of their pregnancy and while nursing kittens.



### **Setting up a nesting box:**

- There are many options for nesting boxes. You'll need a box that's wide enough to accommodate a heating pad on one side, while leaving room for mama to nurse on the other side without lying on the heating pad.
- Line a box with blankets or towels. The box should be high enough off the ground so that mama can get in and out easily, but her kittens cannot – 8-12 inches tall or somewhere around this height is ideal.

You can offer more than one option with blankets in one corner and a box in another area.

- You can also place mama cat with her nesting box in a bathroom or small room with some light.
- You can even put the box in a bathtub, if using a bathroom, but be sure to cover the drain.
- Have heating pad only under blankets on one side of the box – your mama cat may be too warm if she has no other place to cool off.

*Note:* Your mama cat may ignore the box until it's time for labor. If this is the case, just put her in it when the kittens are coming. She'll usually take to it just fine!

### **Medical Emergencies to watch out for leading up to labor:**

- **Any vaginal bleeding** during pregnancy is not normal and suggests that she is having a miscarriage. If this is occurring late in pregnancy (the 8th week) she may be delivering the litter prematurely and a cesarean section is likely necessary.
- **Greenish, foul-smelling discharge** can be a sign of a uterine infection – if you see this seek Medical Care immediately!!

**\*\*\*Please note that if either of these two things occurs around the time of mama's due date, it is likely just an indication that labor is imminent – usually within 24 hours! \*\*\***

### **Labor**

Several hours (and perhaps a whole day) of restlessness, grooming, nesting, pacing, panting, and crying indicates that labor has begun. Mama cat may purr during labor and when feeding her new kittens. When labor begins, there will be some brownish fluids, and a small amount of blood. Babies can be born head first or feet first (breach), and will be delivered in a thin amniotic sack, which usually breaks during birth.

As soon as the kitten emerges from mama's birth canal, she should immediately bite/pierce the sack, and begin cleaning the kitten to encourage him/her to breathe. **If she does not do this, you will need to step in and break the sack, as the kitten is at risk of suffocating within seconds.** Wipe away the mucus and amniotic casing from the kitten's mouth and nose – once you do this, the kitten should cry out! At this point, the kitten is still

attached to the placenta, which will be passed within a few minutes. Once the placenta is passed, the mother will bite the umbilical cord to cut it. Sometimes mama can take awhile to bite the cord, especially if other kittens are already out and nursing, so feel free to help her by tying the cord with string/floss and cutting it with a pair of sterile scissors. Usually, the mother will then eat the placenta.

Kittens are usually born every 10 minutes to 1 hour. **If mama is having contractions for longer than 2 hours** in between kittens, this could mean that a baby is stuck in the birth canal, which can be deadly for mama and all remaining kittens in utero. **If this happens, you need to call the appropriate emergency number immediately**, as mama will likely need an emergency C-section!

Some mama cats prefer to give birth in a dark, quiet place, far away from human contact, while others prefer to have their human right beside them, giving them pets and soothing them through this difficult process! She will generally let you know what she'd like – just pay attention to her body language and such.

*\*\* If any kitten is stillborn, remove it from the nesting box as soon as possible. (This is very common.*

Once kittens are born and mama is nursing, she may like some food, which can be placed near her head, so she can eat without disrupting the kittens.

#### **Medical Emergencies during/immediately following delivery:**

- If at any point you see a **red protruding membrane (like an earthworm)** from the kitten's belly, this is actually its intestine & is a medical emergency
- **Dystocia** – Intense contractions for 60 minutes without a birth
- **Retained Placenta** – if the placenta is not passed, it can cause infection

#### **Caring for New Mom & Kittens**

Kittens generally **weigh between 80-120 grams** when they're born. Any kitten born **smaller than 70 grams** is at serious risk of fading away and will likely need to be supplemented with KMR and kept on a heating pad, separate from its littermates, until he/she weighs about the same as his/her littermates.

It is *not uncommon for the smallest kitten (runt) to pass away shortly after birth* – this is just nature running its course. There's often not much we can do. Oftentimes mama will set this runt aside from her healthy kittens to allow it to pass peacefully, so she can care for her kittens who are thriving. If a kitten is born weighing under 65 grams, there is often not much we can do – remember that this is the reason cats have so many kittens – some are just not fit to make it in this world.

It is possible that the new mother will want to move her kittens frequently. This is okay, as long as there is always a heating pad for the kittens to get to and the area is somewhat sequestered and free of hazards. More than likely, she is doing this in an effort to keep her babies safe. You can set up a few clean places with bedding ahead of time so the mom has safe

options if she does move them.

### **Weigh newborn kittens twice a day – this is mandatory!**

If the mom seems protective or is moving her babies, wait until the day after they are born to weigh them. If she is comfortable with you there, place the scale right next to her while you weigh the babies. You should be seeing an average weight gain of 10 grams per day. If the weights stay steady for more than a day or you see a drop in weight, please alert the neonatal or medical teams immediately! Even a small amount of weight loss in a kitten under one week old can be deadly, so please don't hesitate to reach out!

## **13. Medical**

### **RINGWORM, FLEAS, AND PARASITES**

#### **Ringworm**

Ringworm is a fungal infection affecting the skin, hair, and occasionally nails of animals and people. It is in the same family as athlete's foot and is not a life-threatening condition at all; in fact, it does not affect the health or well-being of animals or people. Three species of ringworm fungus most commonly affects cats and dogs.

The species that affect cats and dogs can be passed between these two species, as well as passed to humans. Ringworm in an individual cat is a nuisance, but ringworm in an animal shelter can lead to almost unmanageable outbreaks, thousands of dollars in diagnostic and medical costs, spreading among adopters and staff, and an intolerable blow to shelter status in the community. It is vital to have a consistent and effective strategy in place to prevent and manage this problem.

When kittens in the nursery have ringworm, it should be noted on their crate and on the Feeder Board so that feeders know to take extra precautions. Feeders can get ringworm from nursery cats and can also pass it to their pets at home. If the following established procedures are followed, however, the risk of doing so is minimized.

#### **Risk factors**

- Animals of any age are susceptible to ringworm, but animals less than one year old and geriatric animals have the highest risk. Cats have a greater risk than dogs.
- Animals with compromised immune systems and conditions such as FIV, FeLV, pregnancy and lactation, malnutrition, cancer, and stress, or those on anti-inflammatory drugs, can have a higher risk.
- Animals with preexisting conditions that compromise grooming, and those with external parasites such as fleas, are at an increased risk.

#### **How is ringworm spread?**

Ringworm is most often spread through contact with an infected animal or a contaminated environment and therefore can be a serious problem in a shelter. Ringworm is very durable in the environment, and if left untreated, it can persist for months in carriers, furniture, carpets, dust, and so on; it can also infect animals housed in a contaminated environment.

Ringworm can be spread readily through grooming implements, contaminated toys and bedding, or by humans' clothing and hands. It can be found on the hair of animals from a contaminated environment even when the animal itself is not showing any symptoms. In nature, the incubation period for ringworm is between 4 days and 4 weeks. Close contact with the infected animal or its bedding is usually required for transmission.

### **Signs and treatment**

- Irregularly shaped areas of fur loss; the skin in these areas can appear rough and scaly, and the bald patch is often round
- Full-body dipping or spot treatment with a lime sulfur dip is effective, but it takes time to eradicate the fungus
  - When dipping kittens, make sure that they do not get chilled
  - Kittens under the age of six weeks should not be dipped
- Medication is sometimes used but not on very young cats, as it has a very damaging effect on the liver
- Gloves may be worn with the understanding that they do not prevent the spread of ringworm.

### **Fleas**

Fleas are bloodsucking parasites and, as with ringworm, a flea infestation is a nuisance in a single animal but can be devastating in a shelter. On a mature cat, fleas are not particularly serious, but young kittens do not have that much blood and they are virtually defenseless; they do not groom themselves yet, so they are not scratching. Young kittens can easily get anemia from a flea infestation, which can be life-threatening.

- Flea treatments that are meant for older cats can kill a kitten, so if you find fleas or flea dirt on kittens of any age, alert nursery management so the correct treatment can be administered.
- Over-the-counter flea treatments are not used in the nursery because they are not effective and are much more toxic than what our veterinarians use.

### **Ticks**

We rarely see ticks on our kittens or mother cats. If you think you see ticks, alert nursery management for further evaluation and treatment.

### **Ear Mites**

Ear mites are tiny parasites that live in the ear canal. If you see a dark brown discharge (which can look like dirt or coffee grounds) in a kitten's ears, it is probably ear mites.

- If you see dirt in a kitten's ears, alert nursery management so it can be evaluated and treated.
- Do not clean a kitten's ears without first checking with nursery management. A kitten's ear canal can easily be damaged by the improper use of cotton swabs.
- Ear mites can be passed from one kitten to another, and transmission usually requires direct contact.

### **Roundworms, Tapeworms, and Hookworms**

Worms affect a cat's digestive system and are very common in kittens. You can sometimes see worms in or around a kitten's rectum; you may see a long worm or what looks like rice protruding from its anus. Indications of worms are a large belly, diarrhea, and an inability to gain weight even when eating well. If you see signs of worms, alert nursery management.

There are various medications given to the kitten, depending on the type of worm, that easily take care of the problem. Worms can be passed through the feces to other animals.

### **Coccidia and Giardia**

Coccidia and Giardia are very common. They are protozoa that invade a kitten's digestive system and cause diarrhea. These are highly transmissible and can be spread through feces. These parasites are easily treated with oral medications.

Parasites can cause digestive problems as well as diarrhea for the kitten. Diarrhea can be dangerous for a kitten and should be treated as soon as it shows up. Not all diarrhea is related to illness or infection.

## **HEALTH & MEDICAL**

Neonates do not have fully developed immune systems and are susceptible to many illnesses and parasites, some of which they get from their mother at birth. Kittens need proper care and attention to ensure they grow up happy and healthy.

- Aspiration (milk coming out of nose during feeding)
- Sneezing
- Coughing
- Eye and/or nasal discharge
- Wheezing; difficulty breathing
- Diarrhea
- Vomiting
- Straining to urinate or defecate
- Bleeding from any part of the body
- Abnormal twitches
- Walking in circles; walking into things
- Loss or decrease of appetite
- Steadily losing weight
- Change in attitude or behavior
- Lethargic or depressed
- Head slumped in food or water bowl
- Any unusual behavior

### **Common Health Issues**

#### **Upper Respiratory Infection (URI)**

The term "upper respiratory infection" is used to refer to any illness that affects a cat's upper respiratory system; it is basically a kitty cold. URIs are common in shelter cats.

Common symptoms include sneezing, runny nose and/or eyes, fever, and loss of appetite.

URIs are treated with antibiotics. If kittens are having difficulty breathing, they may also need to be nebulized. Be certain to keep kittens warm until they have recovered from a URI.

URIs are very contagious to other cats and kittens through direct contact and can also be airborne. Be especially diligent about sanitation protocols when tending to sick kittens and should wash their hands after handling kittens with URIs.

## **FeLV and FIV**

Feline leukemia virus (FeLV) suppresses the immune system and can cause cancer or other serious illnesses in susceptible cats. FeLV is fatal and the life expectancy of a mature, infected cat is 2–4 years; most FeLV+ kittens do not survive to maturity. FeLV is transmitted through saliva and nasal secretions, as well as through urine, feces, and milk from infected cats. The virus can also be transferred through a bite wound, mutual grooming, shared use of litter boxes and feeding dishes, sexual contact, and from a mother cat to her kittens while in utero or during birth. FeLV+ cats and kittens are not housed in the Neonatal Ward.

Young kittens testing positive for FeLV are tested again when they are a little older to confirm the results of the first test, which commonly gives a false positive as antibodies from the mother can be detected in the kitten. FeLV does not survive long outside of the cat's body, probably less than a few hours, so carefully adhering to established protocols should limit the possibility of transmission.

Feline Immunodeficiency Virus (FIV) is a virus that can cause a multitude of health problems in cats due to reduced immune system function; it is also known as feline AIDS. FIV is contagious, but only to other cats—people cannot get AIDS from their cats. Most cats with FIV live a normal life despite the virus and can live well with other cats as long as there is no aggressive fighting. Cats living indoors in a stable social structure have little chance of passing the disease to other household cats. Transmission occurs most commonly through deep bite wounds; less commonly, it is transmitted by an infected mother cat during birth or through sexual contact

## **Calicivirus**

Calicivirus, also known as “calici,” is a viral infection that can occur in cats and kittens that are not vaccinated or are newly vaccinated. Calici is spread between cats through direct contact with eyes and noses, or through contact with contaminated objects that an infected cat has sneezed on or otherwise been in contact with, such as carriers, feeding dishes, and even food. Humans that have come in contact with an infected cat or kitten could potentially pass the virus through contact with other cats.

The virus can have multiple forms, the most common being an upper respiratory tract form. Other forms include the joint form, which can cause fever and swelling of the joints, and the mutant virulent form, which can cause URI signs and ulcers on the face, among other symptoms.

Due to the ease of transmission of this virus, cats and kittens with calici should be immediately quarantined in a separate area from healthy cats. Those who treat the affected

cats and kittens must follow strict sanitation protocols to ensure that the virus is not spread.

### **Panleukopenia**

Panleukopenia, also known as “panleuk,” is a viral infection that most commonly affects kittens and young cats. It is transmitted through direct contact with saliva, vomit, and feces. An infected mother cat can also transmit panleuk to her kittens at birth. Left untreated, it is almost always fatal.

This illness can be frustrating and difficult to deal with because the virus is very durable, can survive in the environment for up to a year, and is highly transmissible. This means that other unvaccinated cats can become infected with panleukopenia simply by coming into contact with places where an infected cat has been.

Testing for panleukopenia is not routinely done during intake since the test will not show

positive until the virus is shedding. The test also does not have a high accuracy rate, and if the mother cat has been vaccinated, then the kittens will test positive. Vaccinated cats and kittens will sometimes have a false positive from the Parvo test. Symptoms of panleuk include vomiting, diarrhea, loss of appetite, and lethargy. Symptoms can take 3–10 days to present once a kitten has been infected

### **Nebulizing**

When kittens contract respiratory infections or any other illness that causes trouble breathing, a nebulizer is placed in their crate to administer a medicated mist they inhale, much like people using a humidifier. Kittens that need to be nebulized will be easier to feed if they are nebulized first.

### **Eye infections**

Eye infections are quite common with kittens—sometimes a kitty cold can move into the kitten’s eyes, and some kittens come to the nursery with eye ailments. These are usually treated easily with medicated eye drops or ointment.

### **Vaccinations**

Most pet owners are used to having their kittens begin vaccinations around eight weeks of age, when the immunity a kitten gets from its mother starts to wear off. Since kittens living in a shelter do not have a mother, they have a different schedule for vaccinations so they are protected from contagions coming into the nursery.

