
NEONATAL GUIDE

BE DALLAS90.



VOLUNTEER • FOSTER • ADOPT • EDUCATE • DONATE



2019

DALLAS ANIMAL SERVICES

Table of Contents

Welcome to Dallas Animal Services Neonatal Program.....	2	Ideal Weights and Feeding Requirements Based on Age and Weight	18
Mission:.....	2	Puppy Bottle Feeding and Stomach Capacity Chart.....	18
Purpose:.....	2	Kitten Bottle Feeding and Stomach Capacity Chart.....	19
General Care for Neonatal Program	2	Weight Checks.....	20
Scheduling and Staffing Expectations	3	Transitioning from the Bottle.....	20
INTAKE PROTOCOLS.....	3	Slurry Mixture.....	21
Orphan Kitten(s).....	3	Teaching Neonates about Gruel.....	22
Mothers with Kittens.....	4	Transitioning to Solid Food	22
Appropriately Setting Up for Neonates.....	4	Additional Neonatal Information	22
Incubator Set Up.....	4	Stimulation for Urination and Defecation.....	22
Kennel Set Up - Kittens without Mom.....	5	Suckling	23
Kennel Set Up – Mothers and Babies.....	5	Fading Kitten/Puppy Syndrome	24
How to Age Neonates	6	Symptoms:	24
Puppies.....	10	Process	25
Managing Body Temperature of Neonates.....	11	Vaccination Schedule for Under 8 weeks.....	23
Heat Sources.....	11	How to Place a Vet Check	23
How to Properly Heat Up a Cold Neonate.....	12	Common Medical Terms and Conditions	26
Queens and Babies Protocol.....	12	Upper Respiratory Infection (URI).....	26
Problem Behaviors in Mothers.....	14	Fleas	26
Beginning Feeding Protocols.....	15	FeLV and FIV	27
Bottle Feeding Protocols.....	15	Panleukopenia	27
Milk Formula.....	15	Ear Mites	27
Kittens	16	Roundworms, Tapeworms, and Hookworms	28
Puppies.....	16	Coccidia and Giardia.....	28
Appropriate Bottle and Nipple Types/Sizes	17	Deceased Neonate in the Nursery	25
How to Bottle Feed	17	Supply List for Nursery.....	29
Using a Syringe to Supplement the Bottle	18	In Conclusion.....	29

Welcome to Dallas Animal Services Neonatal Program

Dallas Animal Services first started this life saving program in 2018. The Neonatal Program sees to the needs of thousands of orphaned kittens (ranging from just a newborn to under eight weeks of age) that would otherwise have limited to no opportunities for live outcome. While our nursery targets the young and orphaned neonates of Dallas, we also attend to the needs of pregnant and/or nursing moms.

The nursery operates 24/7. The day is divided into various shifts with paid feeders and volunteer feeders. Bottle babies must be fed every two to three hours; babies transitioning to gruel are fed every three to four hours; gruel babies (weaned and eating on their own) are fed every four to six hours. We ask when you sign up for a shift that you commit to the full shift – believe me, you won't run out of things to do!

Mission: To create a safe and enriching support system for homeless underage kittens and puppies found in our community and provide supportive care to nursing queens and their offspring.

Purpose: This Quality Control Guide will provide staff, fosters and volunteers the specific guidelines that Dallas Animal Services (DAS) puts forth for the behavioral, medical, and habitual well-being for the neonatal program.

General Care for Neonatal Program

All employees and volunteers must always follow established policies and procedures and must be able to work calmly and efficiently when the nursery is at full capacity. Employees are responsible for the following duties, including but not limited to:

- Feed kittens and cats according to feeding procedures and sanitation protocols
- Make accurate notes on kittens' records in Chameleon and on the communication board
- Follow medical protocols as necessary for neonates showing signs of illness
- Sanitize and Disinfect kennels (including but not limited to litter boxes) as needed and according to protocols
- Ensure the nursery supplies are fully stocked and cleaned in accordance with protocols
- Decontaminate rooms on an as-needed basis if not needed for feeding

Employees and Volunteers must be able to:

- Lift and carry up to 25 pounds
- Use food and supplies responsibly
- Bend and stoop to tend to all kittens in bottom kennels
- Climb a stepladder to reach kittens in upper kennels
- Be able to care for fading kittens and those that pass
- Work collaboratively with others
- Follow the established chain-of-command to solve problems if/when they arise

All Neonatal employees and volunteers work under the supervision of the Neonatal Program Supervisor and Crew Leader.

Scheduling and Staffing Expectations

Each staff member will be considered “In Training” for three days. The first two shifts will consist of shadowing the Nursery Supervisor, Crew Leader or designee to ensure all processes are fully understood. The third shift will be hands on with a supervisor, crew lead, or designee shadowing you.

Due to the necessity to ensure the best quality of care for such a critical population, the nursery must maintain a tightly controlled schedule.

- The nursery is run 24 hours. Employees are staffed for the entire day and overnight.
- All employees must give sufficient notice if they’re changing or cancelling a shift. A no call, no show for your shift could result in disciplinary action and/or termination from the nursery.
- If there is an urgent need to call into your shift less than 24 hours in advance, employees should call both the Nursery Supervisor and Crew Leader as soon as possible so a substitute can be found.
- An updated phone list will be posted in both of the Neonate rooms on the communication boards should an employee need to call into a Supervisor or Crew Leader during regular business hours. If after hours, contact the On-Call Manager for overnight.

INTAKE PROTOCOLS

Orphan kittens and Mother’s with kittens arrive at our shelter by two means: a call requesting Dallas Animal Services Field to pick up or by a citizen who found them in their area of Dallas who is leaving the animal(s) in our care.

Orphan Kitten(s)

1. Once the kitten is brought into the shelter from the front desk or from a field officer, they will be assigned an Animal ID number in Chameleon. The employee impounding the kittens will send an email to DASneonate@dallascityhall.com upon intake so that our Foster and Rescue Teams can begin networking the kittens to their appropriate groups.
2. They will then be brought to the medical staff to receive their intake exam.
 - a. The medical team should sex and properly age the kitten.
 - b. All neonate kittens will receive a microchip from the medical staff and [age appropriate vaccinations](#). See Page 14.
 - c. If kittens come in after hours for medical team (11am to 6:30pm), kittens will be taken directly to the nursery area.
 - i. Nursery Staff will have a sign posted on the kennel door stating “Need Intake Exam” when kittens arrive. Once kittens have been seen the next day, Medical Staff will reverse the sign to say, “Intake Exam Completed” & kittens can be moved into one of the regular kennels used in the nursery.
 - ii. If kittens have not been seen within 24-hours, notify Nursery Supervisor or Crew Leader so they can communicate with Medical Team.
3. The officer or runner will then take the kittens to the neonate nursery for nursery staff to put in their appropriate kennels.
 - a. If kittens are 2 weeks old or less, kittens will be placed into an available incubator.

- i. If no incubator is available, kittens must be placed in an appropriately set up kennel with a heating pad.
- b. If kittens are 2-4 weeks old, kittens will be placed in a kennel in the nursery trailer with a heat pad (preference) or snuggle disc (second choice) to regulate their body temperature.
 - i. Heating Pad is priority, snuggle disc should only be used as a temporary substitute until a heating pad can be found.
- c. If kittens are 4-8 weeks old and still under 2lbs, kittens will be placed in a kennel in the Pre-K room with a snuggle disc.
 - i. Kittens that come in on their own (singles) should be given a heating pad if available.

Mothers with Kittens

1. Once the kitten is brought into the shelter from the front desk or from a field officer, they will be assigned an Animal ID number in Chameleon. The employee impounding the kittens will send an email to DASneonate@dallascityhall.com upon intake so that our Foster and Rescue Teams can begin networking the kittens to their appropriate groups.
2. They will then be brought to the medical staff to receive their intake exam.
 - a. The medical team should sex and properly age the kitten on intake.
 - b. Mother and all neonate kittens will receive a microchip from the medical staff.
 - c. Mother will be given FVRCP vaccination, Capstar for fleas, and be tested for FIV.
 - d. Kittens will be given the [age appropriate vaccinations](#).
 - e. **If the family comes in after hours for medical team**, they will be taken directly to the nursery area.
 - i. Nursery Staff will have a sign posted on the kennel door stating “Need Intake Exam” when the family arrives.
 - ii. If the family has not been seen within 24-hours, notify Nursery Supervisor or Crew Leader so they can communicate with Medical Team.
3. The officer or runner will then take the family to the neonate nursery for nursery staff to put in their appropriate kennels.

Appropriately Setting Up for Neonates

Incubator Set Up

1. Ensure the incubator has been cleaned/disinfected prior to set up.
2. Turn on the incubator and set the thermostat to the appropriate temperature according to the kitten’s age. Use the guide below to set the appropriate temperature for the incubator.

KITTEN/PUPPY (0-3 weeks of age) INCUBATOR TEMPERATURE GUIDE

Age of Kitten or Puppy	Rectal Temperature	Surrounding Nest Temperature	Room Humidity
0-1 week	95-99°F	85-90°F	55-60%
2-3 weeks	97-100°F	79-84°F	55-60%

3. Place a layer of newspaper over the flooring of the incubator before placing either a blanket or towel down to cover the base of the incubator.

4. Place a rolled towel in the incubator to block the kittens from getting to the door of the incubator.



Kennel Set Up - Kittens without Mom

1. Ensure the kennel has been cleaned/disinfected prior to set up.
2. Start a heating source so that it is warm when the kittens are placed in the kennel.
 - a. Heating pads should be used for less than 3 weeks of age.
 - i. Plug in heating pad and place the heating level on high until pad is warm to the touch. Then lower heat level to medium. Place heat pad between the top and bottom of the folded blanket to prevent burns.
 - b. Snuggle discs should be used for over 4 weeks of age, with priority given to the neonates who do not have littermates.
 - i. Heat up uncovered snuggle disc in microwave for 3 minutes. Once heated, cover and tuck snuggle disc between the top and bottom of the folded blanket to prevent burns.
3. Line the bottom of the kennel with newspaper (no advertisement or slick newspaper) throughout kennel. Place one folded blanket for kittens to lay on. Roll up a second blanket long ways to create a small ring to curl up to.
 - c. Provide each kennel with a hide-away cardboard box and a clean source of bedding for to sleep in when they are too hot from heating pad
 - d. If kitten is 3 weeks or older, place a size-appropriate water bowl with fresh water for the kittens and place a litterbox with paper pellet litter in the kennel for kittens.
4. A kennel card will be hung on the outside of the kennel door with the kitten's ID numbers and descriptions.



Kennel Set Up – Mothers and Babies

1. Ensure the kennel has been clean/disinfected prior to set up.

2. Line the kennel with fresh newspaper – no advertisement or slick newspaper!
3. Place a clean blanket or towel to cover the flooring of the kennel.
4. Place a litterbox with paper pellet litter in the kennel for family.
 - a. If mother allows nursery staff to handle easily, staff may place another litterbox with a blanket or towel inside it for mother to nurse her kittens in.
 - b. If mother is still nervous or does not allow staff to handle her easily, staff may keep the mother in a hide box with the side door kept open for mother to come out and explore kennel.
5. Mother will need a water bowl at all times. If kittens are 3 weeks or older, place a size-appropriate water bowl with fresh water for both mother and kittens to be able to drink from.
 - a. Place a size-appropriate bowl for food. Mothers should always be fed both wet and dry kitten food, with food being available to them at all times.
 - i. Depending on the kittens age, kittens may start to be curious about solid foods as well. If this is the case, be sure to provide another feeding station for kittens to access food away from mother.
6. A kennel card will be hung on the outside of the kennel door with the mom and kitten's ID numbers and descriptions.



How to Age Neonates

At such a young age, it can be difficult to know exactly how old the animal in your care is. Even though the age range you're determining is very small in the scheme of things, it's even more critical at this age to determine how old the animal is so they can begin to get proper care and the right amount of nutrients

TEENY TINIES The tiniest, most vulnerable kittens require gentle and frequent care.

NEWBORN	1 WEEK	2 WEEKS
		
<ul style="list-style-type: none">• pink in color, umbilical cord attached, eyes closed• 97 degrees; can't regulate temp.	<ul style="list-style-type: none">• eyes closed, ears folded, no umbilical cord• eyes open at 8-12 days	<ul style="list-style-type: none">• eyes completely open, blue color• wobbly on their feet

Neonatal Kitten

Information and graphics for kitten aging is pulled from www.kittenlady.org/age.

Knowing a kittens age is the first step in knowing how to care for them, and how to anticipate the next milestones for development. Here is a video on aging Kittens:

https://www.youtube.com/watch?v=2_w-vOR0TuE

Newborn

- Newborn kittens will have their eyes closed, their ears folded, and their umbilical cord attached. Their nose and paws may appear pink in color. At this age, they cannot hear or see; they can only navigate the world around them through scent and through seeking warmth and comfort.
- At 0-1 days, the umbilical cord will be attached and wet.
- At 1-5 days, the umbilical cord will be attached and dry. Around 4-5 days of age the kitten will naturally lose the umbilical cord. Never attempt to remove it manually; allow it to fall off on its own.

Average newborn kitten weight: 50-150 grams

Newborn kitten care schedule: orphan newborns should be fed every 2 hours, including overnight. You may choose to [syringe feed](http://www.kittenlady.org/syringefeeding) (www.kittenlady.org/syringefeeding) at this age, or to [bottle feed](http://www.kittenlady.org/bottlefeeding) (www.kittenlady.org/bottlefeeding.) Newborns will also need to be [stimulated to both urinate and defecate](http://www.kittenlady.org/stimulating). (www.kittenlady.org/stimulating)

One Week

- One-week old kittens will have closed eyes, but no umbilical cord.
- Around 7 days, the ear canals will slowly begin to open.
- Around 8-12 days, the eyes will slowly begin to open. Never attempt to pry open a kitten's eyes; let them open naturally. All kittens will be born with baby blue eyes, which will change to their adult eye color as they age.
- By one week of age, the kitten should have doubled the birth weight.

Average one-week old kitten weight: 150-250 grams

One-week old kitten care schedule: orphans of this age should be [syringe feed](http://www.kittenlady.org/syringefeeding) (www.kittenlady.org/syringefeeding) or [bottle fed](http://www.kittenlady.org/bottlefeeding) (www.kittenlady.org/bottlefeeding) every 2-3 hours, including overnight. One-week old kittens will also need to be [stimulated to both urinate and defecate](http://www.kittenlady.org/stimulating). (www.kittenlady.org/stimulating)

Two Weeks

- At two weeks of age, kittens' eyes will be fully open and baby blue. Their vision will still be developing.
- The ear canals will be open, and the ears will be small and rounded, like a baby bear cub.
- Two-week-old kittens will be wobbly on their feet and attempting to develop coordination and movement.

Average two-week-old kitten weight: 250-350 grams

Two-week-old kitten care schedule: orphans of this age should be [bottle fed](http://www.kittenlady.org/bottlefeeding) (www.kittenlady.org/bottlefeeding) every 3-4 hours, including overnight. Two-week-old kittens will also need to be [stimulated to both urinate and defecate](http://www.kittenlady.org/stimulating). (www.kittenlady.org/stimulating)

TEENY WEANIES As kittens age, you'll help them reach important developmental milestones.

<p>3 WEEKS</p> 	<p>4 WEEKS</p> 	<p>5 WEEKS</p> 
<ul style="list-style-type: none"> • incisors emerging, ears unfolded • discovering litterbox 	<ul style="list-style-type: none"> • canines emerging • walking confidently & exploring their surroundings 	<ul style="list-style-type: none"> • premolars emerging • weaning slowly onto wet kitten food

Three Weeks

- At three weeks of age, a kitten's first teeth will begin to emerge. The tiny teeth at the front of the mouth, called the incisors, will start to come through the gums.
- Three-week-old kittens will have ears that point upwards, like a miniature cat.
- At this age, kittens will be walking, exploring their surroundings, and even beginning to explore the litter box.
- Three-week-old kittens still require a heat source, but they will be more active and may stray from it when not sleeping. The kitten's environment should be around 75 degrees at this time.
- At about 3 1/2 weeks, a kitten's teeth will begin to break through the skin. Around this time, kittens may begin to bite the nipple, may seem hungry yet not want to suckle, and will have a greatly increased appetite. This usually means they are ready to be weaned and begin eating on their own.

Average three-week-old kitten weight: 350-450 grams

Three-week-old kitten care schedule: orphans of this age should be [bottle fed](http://www.kittenlady.org/bottlefeeding) (www.kittenlady.org/bottlefeeding) every 4-6 hours, including overnight. Three-week-old kittens will be transitioning from needing to be stimulated, to learning how to use the litterbox. If you are beginning to add a litterbox – we use paper *NON-CLUMPING* litter. At this age, we begin to introduce a “Slurry Mixture” (Page 19) to prepare the kitten for [weaning onto wet food](http://kittenlady.org/weaning). (<http://kittenlady.org/weaning>)

Weaning is a sensitive time in a kitten's life and should be handled with care; provide supplemental feeding and ensure that the kitten is maintaining a healthy weight and body condition.

Four Weeks

- At four weeks of age, a kitten's teeth will continue to develop. The long teeth next to the incisors, called the canine teeth, will start to come through the gums.
 - Once a kitten's canines have come in, we can begin to introduce them to a more “gruel” mixture.
- Four-week-old kittens will be confidently exploring and developing more coordination that allows them to walk, run, and even begin to play.

- Continue providing a heat source for four-week-old kittens, although they will likely use it only when resting. The kitten's environment should stay comfortably warm and never colder than 70-75 degrees.

Average four-week-old kitten weight: 450-550 grams

Four-week-old kitten care schedule: orphans of this age should be [bottle fed](#) every 5 hours, including overnight. "Gruel" should be offered on a flat dish or shallow bowl and picked up when not eating or supervised. Four-week-old kittens will generally be [using the litter box](#).

Five Weeks

- At five weeks of age, a kitten's teeth will continue to develop. The premolars will start to emerge
- Kitten's should have a good foundation with [slurry mixture](#) (Page 19) and are now [being introduced](#) to more solid types of food.

Average five-week-old kitten weight: 550-650 grams

Five-week-old kitten care schedule: orphans of this age, if healthy, may be introduced to weaning. Kittens should receive this care every 5-6 hours. If weaned, food and water should be provided at all times.

BIG KIDS CLUB These social, independent, and coordinated kittens are almost ready for adoption.

<p>6 WEEKS</p> 	<p>7 WEEKS</p> 	<p>8 WEEKS</p> 
<ul style="list-style-type: none"> • molars emerging • coordinated; like a miniature cat 	<ul style="list-style-type: none"> • all milk (deciduous) teeth have emerged • transitioning into adult eye color 	<ul style="list-style-type: none"> • once 2 pounds, kittens can be spayed/neutered and placed in their forever home!

Six Weeks

- At six weeks of age, a kitten's teeth will reach their final stage of early development. The molars will start to emerge, and depending on the kitten's health and condition, they will be perfecting their [weaning onto wet food](http://kittenlady.org/weaning). (<http://kittenlady.org/weaning>)
- Kittens at this age are due for more boosters – see the [vaccination schedule on page 25](#).
- At six weeks the kitten is ready to begin to find their prospective homes on the Dallas Animal Services Website!

Average six-week-old kitten weight: 650-750 grams

Six-week-old kitten care schedule: Kittens should receive ample wet food if weaned. Provide access to water and food at all times.

Seven Weeks

- At seven weeks, kittens will have all their baby teeth. Most seven-week-old kittens will be [fully weaned](#) onto wet food.
- At this age, the adult eye color will begin to emerge. Kittens' eyes will change from baby blue to the eye color they will keep permanently. Kittens with grey, green, or yellow eyes are likely 7 weeks or older.

Average seven-week-old kitten weight: 750-850 grams

Seven-week-old kitten care schedule: Kittens should receive ample wet food if weaned. Provide access to water and food at all times.

Eight Weeks

- At eight weeks old, most kittens will be [eating independently](#).
- Kittens of this age will have their permanent adult eye color.
- Kittens who are 8 weeks and 2 pounds are able to be spayed/neutered and adopted into loving forever homes.

Average eight-week-old kitten weight: 850-950 grams

Eight-week-old kitten care schedule: Kittens should receive ample wet food. Provide access to water and food at all times.

Puppies

Newborn

- Newborn puppies will have their eyes closed, their ears closed, and their umbilical cord attached. At this age, they cannot hear or see; they can only navigate the world around them through scent and through seeking warmth and comfort.
- At 0-1 days, the umbilical cord will be attached and wet.
- At 1-5 days, the umbilical cord will be attached and dry. Around 4-5 days of age they will naturally lose the umbilical cord. Never attempt to remove it manually; allow it to fall off on its own.

The development stages transition very quick and the end of the first week they should be double (sometimes triple) their birth weight.

Average newborn puppy weight: heavy variation based on parent's size. Smaller sized dogs can be between 75g and 150g, medium sized between 150g and 300g, and larger sized dogs can be from 300g -800g.

Newborn puppy care schedule: orphan newborns should be fed every 2 hours, including overnight. You may choose to [syringe feed](#) at this age, or to [bottle feed](#). Newborns will also need to be [stimulated to go to both urinate and defecate](#).

One week – two weeks

- They cannot regulate their body temperature, nor can they eliminate without their mother's stimulation.
- Puppies' eyes will be fully open or opening. Vision will still be developing.
- Puppy teeth will begin coming in slowly,
- The ear canals will be open, and the ears will be small and rounded, like a baby bear cub.
- Puppies will start to move around more, but are going to be wobbly on their feet while attempting to develop coordination and movement.

Average two-week-old puppy weight: By now, puppies should be doubled in weight from their first week.

One to Two-week-old puppy care schedule: orphans of this age should be [bottle fed](#) every 3-4 hours, including overnight. These puppies will also need to be [stimulated to both urinate and defecate](#).

Three – Four weeks

- Puppies will start to move around more but are going to be wobbly on their feet while attempting to develop coordination and movement.
 - Puppies begin to crawl at around day 18 and can usually stand at around day 21.
- Eyes are opening now, and the puppies are beginning to hear sounds.

- Play begins with their siblings and they begin to investigate and explore.
- Sharp puppy teeth are starting to come in now, which means it is time to [begin weaning](#).

Average three to four-week-old puppy weight: By now, puppies should be doubled in weight from their first week.

Three to four-week-old puppy care schedule: Orphans of this age should be **bottle fed** every 4-6 hours, and you can begin to introduce a [slurry mixture](#) near four weeks including overnight. These puppies will also need to be [stimulated to both urinate and defecate](#).

Managing Body Temperature of Neonates

A kitten's body temperature ranges from about 102°–104°F and a puppy between 97°-101°. Neonates under three weeks of age cannot regulate their own body temperatures and rely on littermates and/or their mother to keep them at this temperature. Additional heat sources are imperative to raising motherless animals. It is crucial to keep neonatal animals warm, dry, and draft-free. Never try to warm solely with your own body heat, as your body temperature is lower than a puppy or kitten's natural temperature and their body temperature could continue to fall. If the body temperature falls too low, they can fade and may not survive.

Heat Sources

The following are types of heat sources that can be used to raise and/or stabilize the body temperature for neonatal puppies and/or kittens.

Rice socks

- A sock filled with rice that is warmed in the microwave can be used to keep babies warm, but it will only stay warm for up to an hour. Rice socks can easily get overheated and must be checked carefully before they are placed in a carrier, so they do not burn the kittens.

Heating pads

- Most heating pads come with an automatic timer to shut off. However, we prefer the heating pads that do not come with an automatic shut off feature. [See this style here](#). They can be used on low to give permanent heat to moms and/or babies. Using a heating pad with an automatic shut off can cause the kittens can suffer a serious loss of body temperature, which can lead to fading.
- Never place a kitten directly on an uncovered heating pad, this can cause burns.

Snuggle discs

- Snuggle discs are round flat discs that can be heated for 4–5 minutes in the microwave and will stay warm for hours. [You can find them here](#).
 - Heat them only when they are cool, as too much heating can deteriorate them.
- We prefer Snuggle discs for animals who need a heat source but can't easily be near an outlet.
- Discs need to be fully cooled before being reheated in the microwave.
- Never place a kitten directly on an uncovered snuggle disc.

Note: DAS' Snuggle discs and heating pads are the property of the nursery and should never be taken out of the nursery by volunteers, staff, or fosters. We cannot give these away due to the necessity of them in our facility.

Fosters will need to provide their own heat source for the animals in their care. If someone needs to keep kittens warm during transport, they can take a rice sock (which does not need to be returned to the nursery) if there is one available.

How to Properly Heat Up a Cold Neonate

If a kitten or puppy feels cool or cold, begin to warm it immediately following the steps below outlined in Austin Pets Alive!'s document "Managing Body Temperature of Kittens." This protocol will work for both species:

1. 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 warm disc directly on the metal crate—the metal will quickly draw the heat out of the disc
 - a. Snuggle discs should be freshly heated at each feeding
2. 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
3. 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
4. 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
5. Check the bedding at each feeding to be sure it is dry; change if it is wet. or damp bedding can chill the kittens despite the heat source in the crate
6. If kittens are soiled, clean them gently, taking care to dry them with a towel thoroughly before returning them to their crate
7. If a kitten feels cold, determine if it is fading. If so, immediately begin the [fading kitten protocol](#)
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
9. Never place a kitten directly on an uncovered snuggle disc or heating pad
10. If a kitten becomes chilled during feeding, warm it before continuing. Kittens might stop eating if they are cold
11. Food should be warm so that the kitten does not become chilled

DO NOT ATTEMPT TO FEED A NEONATE THAT IS UNDER TEMPERATURE! WARM THE KITTEN FIRST, THEN FEED!

Queens and Babies Protocol

(Information pulled from Austin Animal Center)

For the first few weeks of life, mom should do everything necessary. After that, you can start sharing some of the care duties with her, if she is willing! Below is an explanation of the normal care a mom gives to her babies, with an approximate timeline, so you will know what behaviors to expect. All moms are slightly different, with some being more attentive moms than others, but if a mom fails to care for her babies in any of these important functions, let us know as soon as possible so they can all be evaluated by medical staff.

Feeding

Make sure mom has access to plenty of species appropriate wet and dry kitten/puppy food as nursing mothers need to eat a high-quality formula food. If she is a picky eater, do not hesitate to try feeding her another flavor of DAS approved food. Do not give cow's milk, despite popular belief - it is impossible for animals to digest and often causes serious stomach upset. Her calorie intake needs to remain very high to maintain nursing her babies. Make sure she always has access to fresh water.

Eliminating

For Cats, ideally the litter box will be as far away from the food and water as possible. The litter box should be filled only with paper pellet litter. Litterboxes should be scooped at least 2 times a day and dumped out daily. Once the kittens start using the litter box, you will likely need to add low-sided boxes that are easy for the kittens to get in and out of, and clean more frequently – wet can food tray cardboard boxes work great for this!

For dogs, you will need to provide frequent bathroom breaks for mom – more at least 5-10 a day. She is taking a lot of things into her system and will need to urinate/defecate more than usual. We highly recommend placing puppy pads around the area, and sectioning off mom + babies for as few messes to clean up as possible.

Nursing

Babies begin to nurse 1-2 hours after birth. Though born with their eyes closed, they can find their mother by her warmth, and she should make this easier by lying near them on her side. The nursing/suckling relationship occurs over 3 stages. In the beginning, mom initiates each nursing episode, waking the babies by licking them and then encircling them with her body. After a little searching, they quickly latch on. The second stage occurs after the second or third week, when the eyes and ears are functioning, and they can interact with the mother both inside and outside the nest. At this stage, the babies also initiate some of the nursing episodes. The mother generally cooperates by lying down and taking up the nursing position. In the third stage, starting at about 5 weeks postpartum, the babies initiate virtually all nursing. The mother becomes gradually more evasive and uncooperative. Near the end of this stage, the mother begins to wean her babies by becoming less and less available. In wild, this is the time when the mom would begin to provide them with fresh killed prey. You can help in the weaning process by encouraging the babies to eat canned, and later dry food.

Grooming

Offspring receive a lot of grooming and licking from their mothers during their first 2-4 weeks. This anogenital grooming stimulates elimination, and the fecal matter and urine are consumed by the mom. This is effective in keeping the nest and babies clean. Later, as the young can leave the nest area, the anogenital licking subsides, and the young deposit feces and urine nearby.

Handling

Some mothers come in a bit more stressed and agitated due to the change in their environment. Proceed slowly with any adult you do not know - let her come to you, pet her only as much as she is comfortable with, stop petting at the first signs of discomfort. These signs may include: swishing/stiff tail, ears laid back or to the sides, head jerk towards your hand or the area which you were petting her, tensing up, cranky overdrawn meow/growling, moving away, hissing (cats), or growling. Always take extra precautions when handling an upset mother. Remember: part of being a "good mom" is protecting her babies.

1. Move very slowly around the mom and the nest. Speak in a soft, reassuring voice, and try not to react if mom cat hisses or growls.
2. All mothers who are stressed should have a hide box or x-pen provided to them in their kennels/enclosures with a small side door open for them to go in and out of. Some mothers do much better once away from their babies
3. Gently encourage mother to move to the other side of her enclosure or to go into the side door of the hide box.
4. Once Mom has been taken care of, allow for her to head back into her room with her babies.

Problem Behaviors in Mothers

Maternal aggression towards people

Occasionally, mother cats have strong protective instincts against humans as well. They may hiss, growl, or strike out if you approach the litter. DO NOT correct the mom by spraying her with water or other types of correction. Remember, she is acting out of an instinct to protect her young, and if you act in a threatening manner, she will also escalate her behavior.

Maternal aggression towards other animals

Aggressive behavior towards cats or dogs is very common in moms, as they are trying to protect their young. Do not introduce mothers to other animals, even if they have shown friendly behavior before. This can be very stressful and offers no advantages. Please block any avenues they may have for seeing other cats or dogs. If for some reason, the mom sees another animal and is upset, cover up the kennel door with a blanket or towel so she cannot see the source of her anxiety. Do not attempt to comfort or reassure the mom or babies. Come back in 20 minutes or so to check on them.

Maternal neglect

About 8% of kittens die from inadequate maternal care. The deaths are usually due to hypothermia if puppy/kitten strays away and is not retrieved, or improper/inadequate nursing at birth and after. Maternal neglect has several causes: some seem to lack maternal instincts. In some cases, it is nature's way: if they have birth defects or otherwise weak at birth, the mom may ignore them, or as discussed below, cannibalize them. In many cases, it seems that environmental stress plays a role, and thus it is very important that the environment be kept quiet, calm and with few visits. Except to feed, clean, weigh and check in on the babies a few times throughout the day, moms should primarily be left alone the first 2 weeks postpartum.

You will need to watch daily for signs that a mother is neglecting her young, especially in the first few weeks.

- The mother spends all her time away from the kittens
- She does not groom or nurse them frequently
- The kittens/puppies cry, and she seems not to respond

Be prepared to start [supplementing feeding](#) if mother is not feeding her young enough.

Cannibalism

Some mothers may cannibalize one or more of their kittens. This does not appear to be a reflection of inexperience in mother cats. It may result from anxiety brought on by too much human interference, or the stresses of other cats or dogs in the immediate environment. There can also be evolutionary causes for

cannibalism, such as if the kitten has some (sometimes not obvious) defect. Maternal neglect and cannibalism are quite rare, and often occur in the first few days after birth.

Beginning Feeding Protocols

Kittens will be fed on a rotation starting from the first kennel and continuing down the line. Any new litters that are brought into the nursery will be added into the next rotation. Remember that your kittens must be warm before they can begin to eat.

1. Identify the litter needing to be fed. Feed only one litter at a time.
 - a. Change gloves and aprons between litters.
2. Weigh the kittens as you place them on the kitchen scale, recording the weights in the animal record in the database. If the kitten is moving around too much, you can place a large metal bowl on the kitchen scale. Turn the scale on after you have placed the bowl on the scale. Place the kitten in the bowl and this will help to get an accurate weight for the kitten.
3. Each older neonate/litter will be given 1 hour each to eat before staff are required to pick up non-consumed food and dispose of the food in the trash. If the kittens have not eaten the food, then proceed with syringe feeding the kittens.
4. The kittens may bite the edge of the bowl or the syringe. Sometimes it takes several meals before they catch on. If a kitten doesn't seem interested in eating, try gently opening the kitten's mouth and rubbing a little of the food on its tongue or teeth.
 - Be patient; the feeding process takes time.
 - If kittens are eating on their own, then you will want to check their weights to make sure they are gaining or losing weight. If the kittens are losing weight or not eating enough by themselves, supplement them with syringe-feeding and return them to their crate after they have consumed the appropriate amount.
5. Be sure to check kittens over now to make sure there is no gruel left on them – if so, make sure to clean them off with a warm wet napkin – start with the face, paws, then bottom when cleaning off kittens. If kittens are extremely dirty kittens may need a bath.
6. Sanitize the food preparation area, change your apron and gloves, and wash your hands before moving on to the next litter.

Bottle Feeding Protocols

If an animal comes in without a mother or if the mother is not providing enough nutrients or milk, you will need to begin bottle feeding. It is important to first establish the approximate age of the animal, as it will alert you to how much the animal will need to consume at each feeding to ensure proper nutrition, hydration, and weight gain. Orphaned neonates will need to be bottle-fed until they are ready to be weaned and can eat on their own.

Milk Formula

DAS uses is PetAg Kitten Milk Replacement (KMR) for Kittens and Esbilac® Puppy Milk Replacer. Each species will have a specific formula that is formulated to their developmental needs. You can use either liquid or powder, but we prefer the powder mix to control the ratio amount. Opened cans of KMR or Esbilac® should be kept in the refrigerator before and after mixing, and they need to be labeled with the date when opened.

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

Kittens

KMR is mixed in graduating ratios of water to KMR to ease the kitten's transition from its mother to bottle-feeding. This is done to prevent diarrhea, which commonly occurs whenever there is a change to a neonate's diet. [Here is a video of how to properly mix the formula and prep the bottle.](#)

- First four feedings are at a ratio of 8:1, water to KMR
- Second four feedings are at a ratio of 4:1, water to KMR
- Remaining feedings are at a ratio of 2:1, water to KMR

KMR clumps badly and clumps can clog a bottle's nipple and prevent the kitten from getting its food. Mix the KMR thoroughly with warm water using the electric tea kettle; use the protein shaker to assist with breaking up clumps. If you strain the KMR, be sure to break up the clumps and stir the powder back into the KMR mixture so the nutritional value is not depleted.

After mixing, store KMR in a covered container in the refrigerator. Label the container with the ratio of water to KMR and the date and time it was mixed. Try not to mix more KMR than can be used in a day's time; it will spoil and should be thrown out after 48 hours. Do not leave mixed KMR out while feeding, as bacteria can grow quickly. Put it back in the refrigerator after you have filled the bottles. Do not refill a bottle with KMR that was mixed on a different day/time. If there are no clean bottles, thoroughly rinse the bottle and nipple before re-using it for the same litter.

Puppies

The preferred formula brand for feeding neonatal puppies is Esbilac® or GNC formula. They can be found at almost any pet store and provide the best amount of nutrients for your growing puppy (aside from mom!)

Whichever your brand, powder formula is mixed at a 3:1 ratio (water: formula), regardless of the instructions on the box. Puppies can develop gas and bloating easily, and this ratio is typically the best for ensuring that the correct nutrients are received while eliminating bloat. However, if you are already giving formula to the label's instructions and find the puppies are not uncomfortable or having difficulty eating, there is no reason to adjust.

[Here is a video of how to properly mix the formula and prep the bottle.](#)

Esbilac® clumps badly and clumps can clog a bottle's nipple and prevent the puppies from getting its food. Mix thoroughly with warm water; strain if necessary. If you strain, be sure to break up the clumps and stir the powder back into the mixture so the nutritional value is not depleted. After mixing, store in a covered container in the refrigerator. Label the container with the date and time it was mixed. Try not to mix more formula than can be used in a day's time; it will spoil and should be thrown out after 48 hours.

Do not leave mixed formula out while feeding, as bacteria can grow quickly. Put it back in the refrigerator after you have filled the bottles.

Appropriate Bottle and Nipple Types/Sizes

The age and size of the neonate is what will help guide you in selecting the appropriate bottles and nipples. At the beginning stages, most neonates will only eat a small amount of formula mixture during their feedings. As they begin to grow, puppies and kittens can begin to consume a drastic difference in amount of formula and will need bottles with correct nipples that can supply these demands.

Kitten needs will mostly be met with supplies in [this nursing kit](#) or similar items.

- a. The long, thin nipples are for young kittens up to 6–7 days old; the short, round nipples are for kittens over 6 days old.
 - i. As a rule, if the kitten’s eyes are still closed, it can use the long nipple; if the kitten’s eyes are open, it should use the short.

Just an FYI - This particular nursing kit does not come with pre-made holes in the nipples. If you are not comfortable making the holes yourself, we recommend checking out the “Miracle Nipple” which comes with pre-made holes.

Puppies can use a variety depending on size. [This nursing kit](#) should be satisfactory for newborn to small breed puppies. For larger breed mixes, We prefer a newborn baby bottle with a newborn first flow or slow flow. We also use Large Miracle Nipples. As the puppy gets older, you will need to adjust your nipple flow (and potentially bottle size) to match what the puppy needs. Typically, a large puppy will need a faster flowing nipple every two weeks, depending on size and beginning nipple flow.

How to Bottle Feed

Feeding neonates is like riding a bike. It can take a little practice to get used to it, but it’s easy to pick it back up again. A visual is always helpful, so we recommend the following videos:

- <http://www.kittenlady.org/bottlefeeding>,
- <https://www.youtube.com/watch?v=cWf8g9zZ4SU>
- <https://www.youtube.com/watch?v=QXlaolFEXjY>

Before feeding, you **must always weigh your neonates** to see how many ounces they are consuming. Knowing how much the neonate has eaten will allow you to see if the animal is developing properly.

1. To begin, you can have the animal lying on their stomach or sitting upright, **but NEVER laid on its back like a human baby**. This can cause the milk to go down into the lungs (known as aspiration) which can cause severe complications.
2. Make sure you have the appropriate nipple/bottle combination.
3. Open the mouth gently with the tip of your finger or nipple tip and slip in the bottle nipple.
 - a. Once your neonate gets the hang of it, it will search out the nipple on its own.
4. To keep air from getting into the stomach, hold the bottle at a 45-degree angle and keep a light pull on the bottle. They should be allowed to suckle at their own pace.
5. If a neonate refuses to take the nipple or won't suckle:

- a. try rubbing its forehead or stroking its back; this replicates a mother's cleaning and can effectively stimulate the neonate to nurse.
 - b. Move the nipple around in the mouth
 - c. Lightly tap or squeeze the bottle to allow a small drop to fall out.
 - i. DO NOT FORCE FORMULA DOWN THEIR THROAT.
6. When they have had enough formula, they will usually unlatch from the nipple on its own and the tummy will be very rounded, almost pear-shaped.
7. Some neonates will struggle with taking the bottle at first. This is normal, but it does mean that you will need to ensure they receive their daily nutrients in another way. The next step would be [syringe feeding](#), listed below.

If milk ever comes out of an animal's nose, it is aspirating. Puppies and Kittens are pretty good at clearing milk from their lungs on their own. Set them down and allow it to begin breathing normally, which should take a few seconds. If this does not help, hold them upright, turn their head towards the ground with their butt in the air. You can also lightly tap repeatedly on their side flank on the rib cage, near where the shoulder meets the back. If the neonate is consistently aspirating or milk forms in its nose every time it suckles to the bottle, the nipple flow might be too strong.

Using a Syringe to Supplement the Bottle

Sometimes you'll have neonates who might not either be latching easily to the bottle or might not be getting a consistent caloric intake. If this is the case, you will need to supplement bottle feeding with a syringe.

[This video is a great visual for how to appropriately syringe feed.](#)

https://www.youtube.com/watch?time_continue=148&v=1dH0uyboY2U

In addition, we like this advice from Austin Pets Alive!'s "Feeding Neonatal Kittens (Bottle Babies)" document:

1. Weigh the kitten so that you know how much it needs to consume
2. Fill a clean 1cc/1mL syringe with warmed KMR (or slurry depending on stage of development)
3. Push a few drops into the kitten's mouth. Wait for the kitten to swallow, and then repeat this until the kitten has consumed a sufficient amount
 - a. Kittens should consume a minimum of 5g per 100g of body weight. Consult the [Maddie's Fund Bottle Feeding and Stomach Capacity](#) charts for help with calculations
 - b. It can seem like you are giving a lot of formula, but the kitten may not be swallowing much of what you are feeding it
 - c. Be patient—syringe-feeding can take a while. The only accurate way to determine if a kitten is eating enough is to weigh the kitten, then feed it, then weigh it. Always weigh, feed, weigh.
4. Be sure to gently clean any KMR off the kitten's fur and face. Dried KMR can cause sores and hair loss

Ideal Weights and Feeding Requirements Based on Age and Weight

Puppy Bottle Feeding and Stomach Capacity Chart

Puppy Weight (lbs, oz)	Puppy Weight (grams)	Daily Caloric Requirement*	Amount of Formula Per Day (ml)**	Amount Per Feeding (ml)*	Approximate Number of Feedings Per Day***
2 oz	57 g	11 kcal	13 ml	2 ml	6
4 oz	113 g	23 kcal	25 ml	5 ml	6

6 oz	170 g	34 kcal	38 ml	7 ml	6
8 oz	227 g	45 kcal	50 ml	9 ml	6
10 oz	284 g	57 kcal	63 ml	11 ml	6
12 oz	340 g	68 kcal	76 ml	14 ml	6
14 oz	397 g	79 kcal	88 ml	16 ml	6
oz (1 lb)	454 g	91 kcal	101 ml	18 ml	6
2 lb	907 g	181 kcal	202 ml	36 ml	6
3 lb	1,361 g	272 kcal	302 ml	54 ml	6
4 lb	1,814 g	363 kcal	40ml	73 ml	6
5 lb	2,268 g	454 kcal	50ml	91 ml	6
6 lb	2,722 g	544 kcal	605 ml	109 ml	6
7 lb	3,175 g	635 kcal	706 ml	127 ml	6
8 lb	3,629 g	726 kcal	80ml	145 ml	6

Kitten Bottle Feeding and Stomach Capacity Chart

Estimated Kitten Age (weeks)	Kitten Weight (lbs, oz)	Kitten Weight (grams)	Daily Caloric Requirement*	Amount of Formula Per Day (ml)**	Amount Per Feeding (ml)*	Approximate Number of Feedings Per Day***
< 1 week	2 oz	57 g	11 kcal	15 ml	2 ml	7
	3 oz	85 g	17 kcal	23 ml	3 ml	7
	4 oz	113 g	23 kcal	31 ml	5 ml	7
1 week	5 oz	142 g	28 kcal	38 ml	6 ml	7
	6 oz	170 g	34 kcal	46 ml	7 ml	7
	7 oz	198 g	40 kcal	54 ml	8 ml	7
	8 oz	227 g	45 kcal	61 ml	9 ml	7
2 weeks	9 oz	255 g	51 kcal	69 ml	10 ml	7
	10 oz	283 g	57 kcal	77 ml	11 ml	7
	11 oz	312 g	62 kcal	84 ml	12 ml	6-7
3 weeks ⁺	12 oz	340 g	68 kcal	92 ml	14 ml	6-7
	13 oz	369 g	74 kcal	100 ml	15 ml	6
	14 oz	397 g	79 kcal	107 ml	16 ml	5
	15 oz	425 g	85 kcal	115 ml	17 ml	5
4 weeks ⁺	16 oz (1 lb)	454 g	91 kcal	123 ml	18 ml	5
	1 lb, 1 oz	482 g	96 kcal	130 ml	19 ml	4
	1 lb, 2 oz	510 g	102 kcal	138 ml	20 ml	4

	1 lb, 3 oz	539 g	108 kcal	146 ml	22 ml	4
5 weeks ⁺	1 lb, 4 oz	567 g	113 kcal	153 ml	23 ml	4

* The daily caloric requirement was calculated using 20 kcal/100 g body weight and the amount per feeding using 4 ml/100 g body weight. The energy requirement is ~ 20-26 kcal/100g body weight daily and the maximum comfortable stomach capacity is ~ 4 ml/100 g body weight.¹

** Concentration 0.9 kcal/ml. Most commercial puppy milk replacers in the US provide less than 1 kcal/ml, acting to increase the volume of milk required to meet caloric needs. This can be problematic in terms of the number and size of feedings given relative to stomach capacity and more likely to result in gastrointestinal disturbances. This may also account for why bottle-fed puppies grow slower than puppies that nurse off a mother.

*** As the puppy is adjusting well to the milk and the feeding volume, you may be able to increase the volume fed to help reduce the number of feedings per day. Be aware that exceeding the stomach capacity (amount per feeding) may put the puppy at risk of aspiration, vomiting, diarrhea, and gas build-up in the stomach and intestines.

Puppies at that are between 3 ½ -5 weeks of age are usually eating some solid food, decreasing the amount of milk replacer required to meet daily caloric requirements. This may result in less frequent milk feedings.

¹ Lawler, D. F. "Neonatal and pediatric care of the puppy and kitten." *Theriogenology*, vol. 70, no.3, 2008, pp. 384-392.



Maddie's Fund

6150 Stoneridge Mall Road, Suite 125 | Pleasanton, CA 94588 925.310.5450 | MaddiesFund.org

Weight Checks

This chart shows how often nursery staff should be checking the weights everyone in the nursery.

Color	Kitten & Food Stage	# of Weight Checks/Day
Purple	Bottle Baby (0 – 3 Weeks)	8 times per day (before/after meal)
Green	Slurry/Gruel Baby (3 – 6 Weeks)	6 times per day (before/after meal)
Pink	Mom & Kittens (all ages)	1 time a day
Orange	6 Week – 8 Week Kitten	1 time a day

Transitioning from the Bottle

At about 3 ½ weeks, your neonate should be ready to begin the transition to gruel. Some obvious signs that your kitten or puppy is ready to transition are:

- Excessively chewing on the bottle, but not really eating or suckling
- Whining or vocalizing when they are drinking
- Appears hungry, but is not eating when bottle is presented
-

In the nursery setting, we transition to gruel around this time due to the necessity to wean animals quickly for faster placement and lifesaving opportunities.

There are several ways to transition your neonates from formula to a gruel mixture. Gruel, like formula, has several different types of consistencies and ratios depending on the age and development stage of the neonate. Since small kittens can be so sensitive to changes in diet, we begin a transitional phase from formula to gruel referred to as "Slurry." This can also be followed for young puppies who are struggling with the transition, but typically a young puppy can move directly from the bottle to a gruel mixture.

Slurry Mixture

Once you begin to see teeth poke out of your neonate's gums (around 3 weeks) you can begin transitioning them to a slurry mixture of their species appropriate formula and water.

Information pulled from <http://www.kittenlady.org/weaning>. **This can be referred to for both species and provides a helpful video on how to make the mixture.**

"Slurry is a mix of formula and wet food, which is used to help transition the kitten from one food to the other. You may begin by just introducing a small teaspoon of wet food mixed with the formula, which allows the kitten to acclimate to the new proteins and flavors. As the kitten becomes more comfortable eating meat, you'll begin increasing the ratio so that there is more wet food present at each feeding.

Every kitten is different, so use your judgment to determine the best way to introduce this new food to the kitten. Some kittens benefit from having the wet food blended with formula in a smoothie shaker, and then fed to them in a bottle so that they can discover wet food in a format they can understand. Other kittens may be able to eat successfully from a tongue depressor, or from your finger. Eventually, the kitten will slowly learn how to lap the slurry from a dish.

Tip: Be mindful to always supplement with bottle feeding throughout this process! **If you're not sure that a kitten is getting a full meal with the slurry, complete the feeding by giving her a bottle.** There's no such thing as "tough love" for kittens, and if she isn't understanding how to eat yet, you'll still need to supplement to make sure she's staying healthy and well fed."

Ingredients:

As noted above, the transition to slurry has several stages and ratios that it will utilize based on how far along your neonate is in the process of transition. There is not an exact measure to this process, but we like to start with the following mixture and adjust quantities based on neonatal needs:

1. KMR 2:1 (2 TBSP or 30ml water: 1 TBSP or 15ml formula) OR Esbilac 3:1 (1 TBSP or 15ml formula: 2 tablespoons or 30ml water)
2. (¼) 5-ounce can or (½) 3-ounce can of species/age appropriate food

Mix all the items above in a small blender or a protein shake blender bottle. Blend together until smooth with an applesauce-like consistency. You might need to move the mixture around with a spoon to make sure everything is blended well. Keep refrigerated when not in use and heat to a mild temperature when reusing. Use within 48 hours of mixing.

Teaching Neonates about Gruel

Start by adding 2 cans of wet food with 1 can full of water ratio into a mini blender or blender bottle. Blend the food in blender until you get a slurry/applesauce consistency to make it easy to eat or syringe feed. Label container with the date and time the gruel was made NOT given. All gruel that is not used should be placed in the fridge immediately.

Place a small flat paper dish of warmed gruel and a small bowl of water in the kennel and let them “discover” it. Some will take to it right away, others not so much, but they will be curious. If this is their first time to experience gruel, they are not going to know what to do with it, so be patient and allow them to get used to it. You can also help the process by placing a small amount on your finger and let them lick at it.

Weaned kittens need to be fed every 4–5 hours to ensure their blood sugar stays up. They can go 6–8 hours overnight, but not during the day.

Transitioning to Solid Food

Once the kitten is about 6–7 weeks old and confidently eating gruel on their own, it's time to begin to teach them about dry food. Begin by offering a small amount of wet food on a shallow plate that is easy for the kitten to reach easily. While learning to eat dry food, for a few days you should leave our small dishes of both gruel and a mixture of dry/wet food as they make the transition. Once you are confident they can eat the dry kibble in the mixture, you can begin placing out plates of only solid food.

Be sure you're feeding a high-quality dry food formulated specifically for your species of neonate and monitor to ensure that there are no concerning changes in weight, behavior, or condition.

Additional Neonatal Information

Stimulation for Urination and Defecation

As we have mentioned MULTIPLE times, we love the Kitten Lady's videos. See www.kittenlady.org/stimulating. 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 moist towel or a cotton ball or cotton pad (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 in the database, noting anything abnormal. Look at the kitten's urine and feces and make sure they look normal. Note any abnormalities in the kitten's record and contact your nursery management. 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 stimulating.

Suckling

It is natural for kittens to suckle on each other or on your fingers, even after they're finished eating. This is harmless unless you notice that this activity is causing irritation to other kittens' fur or skin.

It is a good idea to check each kitten's genitals to ensure that the suckling activity is not causing problems such as redness, irritation, sores, swelling, penis hanging out, etc. If you see any issues, contact nursery management right away for a solution.

Excessive suckling can cause scar tissue to form over a male kitten's penis, which can ultimately require surgery to correct; it can also cause hair loss and sore spots at the site of the suckling.

Vaccination Schedule for Under 8 weeks

Intake

Neonate animals will receive a Microchip from medical.

fleas.

Two weeks

Neonate will get prescription of Marquis paste and Pyrantel for 3 days.

Six weeks

Neonate will receive second round of species- specific vaccines
 Kittens – FVCR
 Puppies – DA2PP vaccine

Four weeks

Neonate will receive their first round of species-specific vaccines
 Kittens – FVRCP
 Puppies - DA2PP Vaccine/Bordetella
 Neonates are now eligible for Capstar for

Eight weeks

Neonates will receive final round of species-specific vaccines
 Kittens – FVCR
 Puppies - DA2PP Vaccine

How to Place a Vet Check

A "Vet Check" in Chameleon Shelter Database is how we alert the medical team to needs of a neonatal in the nursery.

All vet checks must be placed in the animal's medical history.

Start by opening the Animal ID window and click on the medical logo.



Visit type will always be “VET CHECK”, Condition should be “UNKNOWN” until Medical Staff has changed this over, and the review date must always be the same date you are placing the vet check in. You can do this by easily pressing F5 when your cursor is in the highlighted section.

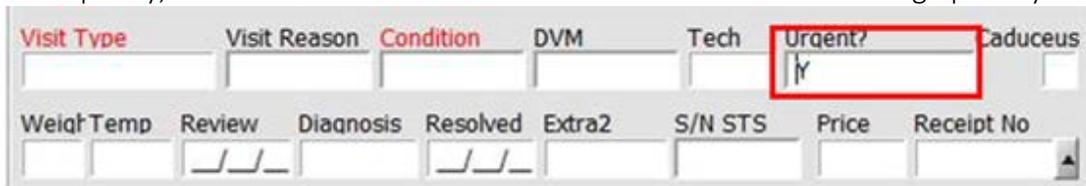


Under templates, you will select “VET CHECK.” Be sure to fill out the staff name with your name, place a brief description of the symptoms you are seeing, and for how long the animal has been displaying those symptoms.



Any animal with a medical concern should have a standard vet check entered describing the illness/injury as they typically do on the Caduceus screen.

If the animal is under three weeks of age or is suspected to have Parvo/Panleuk and needs to be seen by the clinic quickly, the “URGENT?” Box should be filled with a Y to indicate high priority.



Fading Kitten/Puppy Syndrome

This information is a protocol from Austin Pets Alive!, but we use it as a guide for how to handle any Neonate that is “fading.”

Fading Kitten/Puppy Syndrome is a life-threatening emergency in which a kitten/puppy, sometimes one that was previously healthy, “crashes” and begins to fade. This can occur with kittens/puppies who have a mother as well as those who do not, so watch for mother cats/dogs pushing away a kitten/puppy and not caring for it. If not dealt with immediately, **this can result in death**. There is no clear cause or reason for this condition. It has been linked to birth defects, environmental stress, and infectious disease. Early detection and treatment are imperative; but even with tube feeding, re-hydration and monitoring many of these animals will still die.

Symptoms:

- Low body temperature; the kitten feels cool or cold to the touch
- Extreme lethargy; not getting up, unable to stand, not responding when pet, can’t hold head up
- Gaspings for breath; mouth-breathing

- Meowing, crying out

When a kitten is fading, two things are happening: hypothermia (being too cold) and hypoglycemia (not enough blood sugar). You must get the kitten's body temperature up and raise its blood sugar or it will die.

TAKE IMMEDIATE ACTION!

Process

1. Get them warm.
 - a. Immediately wrap the kitten up in a towel like a burrito leaving only their face exposed. 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 or check on them. Every time you take them out you will make them cold again, even if it is only for a second.**
 - b. Wrap a heating pad set 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.
 - c. The kitten's body cannot warm itself with only a towel; **you must apply extra heat.** Your own body heat won't work because it is lower than what a kitten should be.
2. As soon as the kitten is warmed, you will need to work on raising its blood sugar
 - a. Put some sugar, honey, or Karo Syrup in warm water at a 1:1 ratio.
 - b. Put solution in a non- needle tipped syringe and give the kitten three drops every three minutes.
 - i. If the kitten is not swallowing, try rubbing some Karo or sugar-water on its gums and tongue.
 - ii. Be sure you are administering the sugar every three minutes and not longer.
 - c. Whatever the sugar source may be, take care not to contaminate anything by double-dipping syringes.

It may seem like you are not doing enough to help the kitten, but this is the only treatment for a fading kitten. There is not anything other than the steps above that the medical team can, or will, do for a fading kitten. Be sure to let the Nursery Team know that the kitten was fading and make clear notes about the episode in Chameleon. If the kitten passes, alert your supervisor as quickly as possible.

Keep in mind, it can sometimes take hours for them to come out of it and start acting normally again. Know that even with all the love and attention and perfect treatment for fading kittens, some of them still won't make it.

Deceased Neonate in the Nursery

Unfortunately, not everyone will make it with a positive outcome while in the Neonatal Nursery. Should you find a deceased neonate in the room, remain calm and follow these steps:

1. Notify all neonatal staff & management by emailing the distribution list email **DASneonate@dallascityhall.com** as soon as you see the kitten or puppy is deceased.
2. While wearing gloves and an apron, place the animal(s) in a plastic hide box.
3. Take the animals into the Lab area of the shelter and place them in a wall kennel. Be sure to leave a copy of the animal's kennel card on the kennel with a note stating, "Do not dispose."
4. Nursery Supervisor or Crew Leader will come to the Lab area to confirm the animal has passed.

If the animal was thriving and doing well before passing, Nursery Supervisor or Crew Leader will get with Medical Staff to request a necropsy to be done.

If animal was not thriving before passing, Nursery Supervisor or Crew Leader will then move the animal into the freezer.

Common Medical Terms and Conditions

Neonates are an extremely fragile population and you will see various types of medical concerns when working in the nursery or when taking home to foster care. If you see any symptoms of the below described, enter a Vet Check in the database describing the symptoms and email the Nursery Crew Leader and Supervisor of symptoms.

If kitten's symptoms are immediately life threatening, then the Nursery Crew Leader or Supervisor will address the medical concern immediately with the medical staff and/or managers.

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. URI's are common in shelter cats. Common symptoms include sneezing, runny nose and/or eyes, fever, and loss of appetite. URI's 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. URI's are very contagious to other cats and kittens through direct contact and can also be airborne. Feeders should be especially diligent about sanitation protocols when tending to sick kittens and should wash their hands after handling kittens with URI's.

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 animal, fleas are not particularly serious, but young babies do not have that much blood and they are virtually defenseless; they do not groom themselves yet, so they are not scratching. Young animals can easily get anemia from a flea infestation, which can be life-threatening.

- Flea treatments that are meant for older cats or dogs can kill a kitten/puppy, so if you find fleas or flea dirt on kittens or puppies of any age, we'll need to get them off! Since most flea treatments are too strong, we give warm dawn baths.
 - <https://www.youtube.com/watch?v=BcDqHFAf0aU>
 - In addition to the water being warm, it's extremely important to provide immediate warmth after fully drying off your kitten/puppy. Not doing so can cause their temperature to drop, which can lead to a [fading animal](#).
- Flea prevention that is specifically for one species can cause severe injury and/or death if used as a supplement for the other species. Only use Flea/tick prevention for the species and weight/age range listed.

- 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.

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 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. FeLV and FIV+ kittens and cats are adoptable.

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. Once kittens are suspected or confirmed of having Panleuk, they are put into quarantine or placed with a specialized foster home for treatment. Due to the ease of transmission and the high number of potential fatalities from this disease, kittens with this disease must be isolated and brought to management immediately.

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 or foster team member 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—sometimes it can be a result of a change in diet—but all diarrhea should be reported to the Nursery Manager for evaluation.

Ringworm

Contrary to its name, Ringworm is not a worm at all but a fungus – a lot like “Athlete's Foot.” In fact, most ringworm is the exact same fungus as “Athlete's Foot.” When this fungus grows anywhere other than the bottom of the foot, it is called ringworm. The fungi live on the surface of the skin and in the hair follicles.

Appearance

The usual symptom is a round hairless lesion. However, the characteristic "ring" that we see on humans doesn't always appear as a ring on animals. This lesion will grow in size and often become irregular in shape. Ringworm is commonly found on the face, ears, tail and paws. The lesions are scaly, and the skin may be reddened. The spots may or may not be itchy.



Transmission

Transmission can happen by direct contact with another infected animal or person. It can be passed from cats to dogs and vice versa and from pets to humans and from humans to pets. A ringworm infection in a person typically occurs after a person has pet an infected or carrier cat, but it can also occur after simply handling items that were used by an infected cat.

Can Humans catch Ringworm from Animals?

Yes, humans can contract ringworm by handling an animal with the condition or sharing a living area with them. Immune compromised individuals, such as the elderly and very young, are more prone to contracting ringworm.

Ringworm Diagnosis and Treatment

If you see ANY hair loss on an animal in the nursery, please immediately inform your nursery supervisor and place a “Vet Check” to alert the medical team. Follow Ringworm protocols as dictated by nursery management.

Supply List for Nursery

In order to provide the best care for neonatal, our nursery must be continuously stocked with the following items:

- Kennel cards
- Heating pads/rice socks/snuggle discs
- Digital kitchen scales
- Microchip scanners
- Clean Blankets & Towels
- Disposable gloves and aprons
- Litterboxes – cardboard & plastic
- Paper pellet litter
- Newspaper – non-slick & no advertisements
- Fluids – saline
- KMR (Kitten Milk Replacement)
- Esbilac
- Blender / protein shaker
- Napkins
- Syringes with needle – 1mL, 3mL, 5mL
- Syringes with no needle – 1mL, 3mL, 5mL & 10mL
- Bottles and Nipple replacements
- Bottle brushes/sponge scrubbers
- Dry kitten food
- Wet kitten food
- Disinfectant spray bottles
- Paper towels
- Bowls of varying depth
- Trash bags
- Surgical Tape/Masking Tape
- Velcro multicolored id bands

In Conclusion...

Stuff happens – please be flexible and go with the flow. The kittens are ALWAYS the priority, but they are happily unaware of our policies, our procedures, our routines, and our general likes and dislikes. It's really kind of cute sometimes, albeit frustrating. We are a team and we help one another. We all started at the beginning, so please ask for help if something seems confusing or just not right. Take a deep breath and ask for help if you need it. Understand that most things flow quite nicely; but sometimes it can be overwhelming. Before long, you'll be the one helping the newcomers.

- The three P's (pee, poop, and puke) will touch you. Yes, they are gross and may stink; but you will get used to it when see the incredible difference you make saving these sweet little kittens!
- It is OK to talk to the babies; they seem to like it. It is also OK to do their side of the conversation.
- We have policies and procedures in place for good reasons, but we are open to suggestions. If you have a suggestion, please communicate with the Neonatal Program Supervisor or Crew Lead.
- Take the time to love the babies – they deserve your affection and you deserve theirs.
-

Laugh and have fun – this is a richly rewarding experience. Thank you for choosing to be a part of Dallas Animal Services' Neonatal Kitten Program!