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Fund

Upper Respiratory Infection in Kittens and Cats

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Thank you for joining us to learn about upper respiratory infection in kittens and cats. This program was developed with the help of several veterinary professionals with many years of experience caring for kittens and cats with upper respiratory infection.

Learning Goals

- To give foster caregivers an overview of upper respiratory infection, otherwise known as URI, in kittens and cats
- To inform foster caregivers about the consequences of URI in kittens and cats
- To teach foster caregivers how to identify URI symptoms in kittens and cats and when to seek veterinary attention
- To educate foster caregivers on how to care for kittens and cats with URI



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Upper Respiratory Infection in Kittens and Cats

The learning goals for this class are...

To give foster caregivers an overview of upper respiratory infection, otherwise known as URI, in kittens and cats...

To inform foster caregivers about the consequences of URI in kittens and cats...

To teach foster caregivers how to identify URI symptoms in kittens and cats and when to seek veterinary attention... and

To educate foster caregivers on how to care for kittens and cats with URI

Overview of URI in Kittens and Cats

- Similar to the common cold in people, but not transmitted between kittens/cats and people
- Primary causes: herpesvirus and calicivirus, often complicated by secondary bacterial infections
- More susceptible:
 - Orphaned kittens
 - Kittens 4 weeks old or younger
 - Kittens and cats with FeLV or FIV
 - Geriatric cats



Photo courtesy of Cat Adoption Team, Sherwood, OR



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Upper Respiratory Infection in Kittens and Cats

Upper respiratory infections (again, URIs) are infections of the upper airways including the nose and eyes. It is similar to the common cold in people, but people cannot get a URI from a kitten or a cat, nor can a kitten or cat get one from a human.

The primary causes of URIs are herpesvirus and calicivirus. These viral infections are often complicated by secondary bacterial infections.

Orphaned kittens are particularly susceptible to viruses that cause URI because they don't have immunity from nursing their mother's milk, and because they are under stress from being orphaned.

Younger kittens are also more susceptible. Kittens with URI that are 2-3 weeks old often do not survive, compared to kittens that are 4-6 weeks or older.

Immunocompromised kittens and cats with feline leukemia virus or feline immunodeficiency virus and geriatric cats are also more susceptible, and they often have more severe URI's.

For this reason, extra precautions should be taken to reduce exposure to URI with orphaned kittens, kittens younger than 4 weeks, immunocompromised kittens and cats, and geriatric cats.

Symptoms of URI in Kittens and Cats

- Varying degrees of symptoms in eyes, nose, mouth/throat
- Not eating/nursing
- Lethargy (weakness, lack of energy)
- Fever or low body temperature



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Upper Respiratory Infection in Kittens and Cats

URIs can cause varying degrees of symptoms in the eyes, nose, and mouth/throat. Sneezing, nasal discharge, eye discharge, and congestion are almost always seen. Kittens and cats who are very sick may stop eating. Younger kittens may stop nursing. Kittens and cats may also become lethargic, which means weakness and lack of energy. They may develop fevers, or they may have low body temperatures. URI can even progress to bacteria spreading into a kitten's bloodstream, which can lead to Fading Kitten Syndrome and death in a kitten 4 weeks old or younger.

How Kittens and Cats Get URI

- From other cats (direct contact)
 - Through eye, nose, and mouth secretions
 - Even cats that appear healthy can shed viruses
- Not via airborne contact
- Through contamination
 - Hands and clothing of people
 - Surfaces and bedding
 - Fur



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Kittens and cats get URI from other kittens and cats in the environment, via direct contact. The eye, nose, and mouth secretions of one kitten or cat can get smeared onto another. Even cats that appear to be healthy and free of signs of illness can still be shedding viruses. A high percentage of domesticated cats have been infected by these viruses when they were themselves young, with or without actually getting sick from the infection. These cats can periodically shed these viruses through eye, nose, and mouth secretions, especially during times of stress. This puts other vulnerable kittens and cats at risk.

It is important to note that in kittens and cats, URI is not spread via airborne transmission. So although a kitten's or cat's sneeze can travel as far as four feet, those sneeze droplets in the air are not going to spread URI.

URI is also spread through contamination of people's hands and clothing, of surfaces and bedding, and of fur. If someone handles a cat or a kitten who is shedding herpesvirus or calicivirus and then goes to play with a healthy kitten or cat, that healthy kitten or cat is most likely going to get sick. Cats or kittens who are shedding viruses through nasal discharge can contaminate counters, walls, and bedding by sneezing on them. Cats or kittens who lick their fur to groom themselves contaminate their own fur through their saliva that contains viruses. They then shed this contaminated fur into the environment. This makes it very important for people to wash their hands and change their clothing in between handling different kittens and cats, and to regularly clean and disinfect the environment that kittens and cats are housed in.

Regardless of the method by which a kitten or cat is exposed, it takes less than a week for the virus to "incubate" inside the body before signs of illness are seen.

Monitoring Kittens and Cats for URI

Kitten and Cat URI Scoring Chart

Guidelines for Use of Emergency Care:
 Any Score of 4 (Emergency) often is not made emergency referrals come immediately.
 Any Score of 3 (Severe) often is not made emergency referrals come within 12-24 hours.
 Any Score of 2 (Moderate) often is not made emergency referrals come within 2-3 days.
 All scores are a **PROB** Continue to monitor kitten or cat in veterinary care in needed time.

Symptom	1 (Mild)	2 (Moderate)	3 (Severe)	4 (Emergency)
Respiration	Increased or noisy nasal sounds	Trapped or noisy nasal sounds on walls	Constant, lots of noisy nasal sounds	
Open Mouth Breathing	Clear liquid foam in a building from nose	Clear liquid building in nose, or small amount of clear mucus or other material discharge	Large amount of foamy or clear mucus or other material discharge	
Congestion, Difficult or Labored Breathing	Occasional slight raspy breathing (barely audible)	Wet, raspy breathing when you close to kitten or cat	Wet, raspy breathing can be across the room	Open mouth breathing, gasping for air, and/or abdomen moving more than chest
Abdomen Moving More Than Chest	High pitched, no breathing	Wet, raspy breathing	Wet, raspy breathing, or much wetter than the rest of the body	
Eye Discharge	Clear and watery	Small amount of thicker discharge or other material discharge	Large amount of thicker discharge or other material discharge	
Eye Swelling	Occasional squinting or excessive blinking	Constant squinting or excessive blinking	Wet, swollen eye or other face	
Central Nervous System Signs	Head tilted, squint on corner	Squint on corner	Wet, swollen eye or other face, or other signs of central nervous system signs	Head tilted, or other signs of central nervous system signs, that last for 24 hours or more
Other Signs	Wet, sticky nasal mucus or other mucus, or other signs of central nervous system signs	Wet, sticky nasal mucus or other mucus, or other signs of central nervous system signs	Wet, sticky nasal mucus or other mucus, or other signs of central nervous system signs	Wet, sticky nasal mucus or other mucus, or other signs of central nervous system signs



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Upper Respiratory Infection in Kittens and Cats

As a foster caregiver, you need to understand how to identify URI symptoms and you should closely monitor your foster kittens and cats for these symptoms. Please refer to the Maddie's Kitten and Cat URI Scoring Chart. You can find a link to this chart in the Resources tab at the top right of your screen. It has a list of symptoms and each symptom has severity scores. For example, congestion and difficult or labored breathing is on there, and for that symptom there are 4 levels of severity. We go from Mild, a score of 1, where there is occasional slight raspy breathing, to Moderate, a score of 2, to Severe, a score of 3, and then finally we get to a score of 4 which is an emergency and is a kitten or cat who has open mouth breathing, is gasping for air, and/or whose abdomen is moving more than the chest in an effort to breathe. Later in this presentation, we will be walking you through each symptom and the severity scores in detail.

Guidelines for Need of Veterinary Care

- **Any Score of 4 (emergency):** Kitten or cat needs emergency veterinary care immediately
- **Any Score of 3 (severe):** Unless improving, kitten or cat needs veterinary care within 12-24 hours
- **Any Score of 2 (moderate):** Unless improving, kitten or cat needs veterinary care within 1-2 days
- **All scores are 1 (mild):** Continue to monitor kitten or cat, no veterinary care is needed now.



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Upper Respiratory Infection in Kittens and Cats

These scores on the Maddie's Kitten and Cat URI Scoring Chart are going to help you figure out how urgent it is to seek veterinary care for your foster kitten and cat. But please keep in mind that this chart is only a guideline. It is always better to be safe than sorry where your foster kittens and cats are concerned.

Any Score of 4 means that your foster kitten or cat needs emergency veterinary care immediately...

Any Severe Score of 3 means that unless your foster kitten or cat starts to improve, he or she needs veterinary care within the next 12-24 hours...

Any Moderate Score of 2 means that unless your foster kitten or cat starts to improve, he or she needs veterinary care within the next 1-2 days...

If all the scores are Mild at 1, this means that you should continue to monitor your foster kitten or cat, and that no veterinary care is needed now.

Sneezing

- **Mild (1)** – Infrequent, no sneeze marks on walls
- **Moderate (2)** - Frequent, some sneeze marks on walls
- **Severe (3)** - Constant, lots of sneeze marks on walls



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Upper Respiratory Infection in Kittens and Cats

Let's go through each symptom on the Maddie's Kitten and Cat URI Scoring Chart and what to look for when assigning each symptom a severity score. For sneezing, A mild score of 1 is when there is infrequent sneezing and no sneeze marks on the walls....

A moderate score of 2 is when there is frequent sneezing, and there are some sneeze marks on the walls...

Sneeze marks are droplets of nasal discharge that are left on vertical surfaces like walls and doors. They can be harder to see when the nasal discharge is clear, so be sure to look closely to see them.

A severe score of 3 is when there is constant sneezing and there are lots of sneeze marks on the walls

Nasal Discharge

- **Mild (1)** - Clear liquid that is not bubbling from nose
- **Moderate (2)** – Clear liquid bubbling from nose, or small amount of thicker cloudy or yellow mucous discharge
- **Severe (3)** – Large amount of yellow or green mucous discharge that is plugging up the nose, or blood-tinged discharge



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Nasal Discharge is the next symptom on the chart.

A mild score of 1 is when there is clear liquid that is not bubbling from the nose...

A moderate score of 2 is when there is clear liquid bubbling from the nose, or a small amount of thicker cloudy or yellow mucous discharge...

A severe score of 3 is when there is a large amount of yellow or green mucous discharge that is plugging up the nose, or blood-tinged discharge. Blood-tinged nasal discharge can happen in kittens and cats that are sneezing so much that their noses become very irritated.

Congestion, Difficult or Labored Breathing

- **Mild (1)** - Occasional slight raspy breathing (barely audible)
- **Moderate (2)** - Raspy breathing (can only hear up close to kitten or cat)
- **Severe (3)** - Very raspy breathing (can hear across the room)
- **Emergency (4)** - Open mouth breathing, gasping for air, and/or abdomen moving more than chest while breathing



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Congestion and Difficult or Labored Breathing is our first symptom on the chart that has an emergency score.

A mild score of 1 is when there is occasional slight raspy breathing that is barely audible...

A moderate score of 2 is when there is raspy breathing that you can only hear when you are up close to your foster kitten or cat...

A severe score of 3 is when your foster kitten or cat has very raspy breathing that can be heard across the room...

It is an emergency, a score of 4, when your foster kitten or cat is open mouth breathing, is gasping for air, and/or when your kitten's or cat's abdomen is moving more than his or her chest in an effort to breathe.

Here is a short video that shows congestion and difficulty breathing.

Conjunctivitis

- **Mild (1)** - Slight redness, no swelling
- **Moderate (2)** - Redness, some swelling
- **Severe (3)** - Redness, so much swelling that the eye is barely visible



Photo courtesy of Cat Adoption Team, Sherwood, OR



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Conjunctivitis is a swelling and redness of the white part of the eyes and the inner part of the eyelids...

A mild score of 1 is slight redness, and no swelling...

A moderate score of 2 is redness, and some swelling...

A severe score of 3 is redness, and so much swelling that the eye is barely visible...

This photo is a good example of what would be a severe score of 3. There is quite a bit of swelling.

Eye Discharge

- **Mild (1)** – Clear and runny
- **Moderate (2)** – Small amount of thicker cloudy to yellow mucous discharge
- **Severe (3)** – Large amount of yellow or green mucous discharge, eye(s) may be crusted shut



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Upper Respiratory Infection in Kittens and Cats

Eye Discharge is seen with conjunctivitis.

A mild score of 1 is eye discharge that is clear and runny...

A moderate score of 2 is a small amount of thicker cloudy to yellow mucous discharge...

A severe score if 3 is when there is a large amount of yellow or green mucous discharge, and the eye(s) may be crusted shut.

Eye Squinting or Excessive Eye Blinking

- **Mild (1)** - Occasional squinting or excessive blinking
- **Moderate (2)** - Constant squinting or excessive blinking
- **Severe (3)** - Eye closed most or all the time



Photo courtesy of Cat Adoption Team, Sherwood, OR



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Upper Respiratory Infection in Kittens and Cats

Eye Squinting or Excessive Eye Blinking is seen with conjunctivitis or with corneal ulcers..

A mild score of 1 is when there is occasional eye squinting or excessive eye blinking...

A moderate score of 2 is when there is constant eye squinting or excessive eye blinking...

A severe score of 3 is when the eye is closed most or all the time...

This photo shows a kitten that probably has a score of 2 depending on how much eye squinting and excessive eye blinking is happening.

Corneal Ulcers

- **Mild (1)** - Barely visible spot on cornea
- **Moderate (2)** - Spot on cornea
- **Severe (3)** - Very easily seen spot on cornea, may have blood vessels growing toward it
- **Emergency (4)** – Ruptured cornea (eye suddenly decreases in size, fluid leaks out of eye, eye is very painful)

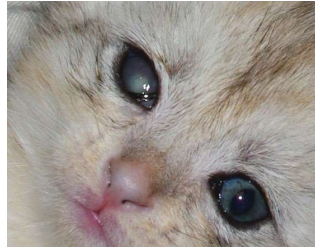


Photo courtesy of Cat Adoption Team, Sherwood, OR



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Upper Respiratory Infection in Kittens and Cats

Corneal Ulcers are sores on the surface of the clear part of the eye. These are usually caused by herpesvirus or by a scratch on the kitten's or cat's eye, and they can get progressively worse very quickly.

A mild score of 1 is when there is a barely visible spot on the cornea....

A moderate score of 2 is when there is a spot on the cornea...

A severe score of 3 is when there is a very easily seen spot on the cornea, and it may have blood vessels growing toward it...

An emergency score of 4 is when there is a ruptured cornea. The eye suddenly decreases in size, fluid leaks out of the eye, and the eye is very painful.

These two photos here show severe ulcers. The photo on the top shows a very easily seen white spot on the cornea. The photo on the bottom shows how severe a corneal ulcer can become when left untreated. This kitten in the photo on the bottom ended up having to have that eye removed. This is also a good example of a cornea that is at high risk for rupture. The eye is very enlarged and bulging out.

Oral Ulcers or Nasal Ulcers

- **Mild (1)** - Barely visible small and/or flat sore(s), minimal redness. With oral ulcers, no drooling noted.
- **Moderate (2)** - Visible larger and/or deeper sore(s), moderate redness. With oral ulcers, may also see occasional drooling.
- **Severe (3)** - Very easily seen large deep sore(s) that may be blood tinged. With oral ulcers, may also see lots of drooling, refusal to eat.



Photo credit: Cat Adoption Team, Sherwood, OR



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Oral Ulcers are sores on the inside of the mouth, including the tongue. Nasal Ulcers are sores on the outside of and/or the inside of the nose.

For both oral and nasal ulcers, a mild score of 1 is when there are barely visible small and/or flat sore(s), with minimal redness. With oral ulcers, no drooling is noted...

For both oral and nasal ulcers, a moderate score of 2 is when there are visible larger and/or deeper sore(s), with moderate redness. With oral ulcers, you may also see occasional drooling...

For both oral and nasal ulcers, a severe score of 3 is when they are very easily seen large deep sore(s) that may be blood tinged. With oral ulcers, you may also see lots of drooling, and refusal to eat due to mouth pain.

This photo shows both oral and nasal ulcers with a severity score of 3. Look at how deep the sores are and you can also see that they are blood tinged.

Lethargy

- **Mild (1)** - Not as active as usual
- **Moderate (2)** - Not active, sleeping more than usual
- **Severe (3)** - Sleeping excessively, limited movement, disinterest in surroundings
- **Emergency (4)** - Barely moving, difficulty holding head up, lying flat out, and/or not responsive



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Lethargy is weakness of lack of energy. Kittens and cats can become lethargic from the URI itself. They are sick and they don't feel good. They can also become lethargic from being dehydrated and/or having low blood sugar from not eating or not nursing.

A mild score of 1 is when your foster kitten or cat is not as active as usual...

A moderate score of 2 is when your foster kitten or cat is not active, and is sleeping more than usual...

A severe score of 3 is when your foster kitten or cat is sleeping excessively, has limited movement, and has disinterest in his/her surroundings...

An emergency score of 4 is when your foster kitten or cat is barely moving, has difficulty holding his/her head up, is lying flat out, and/or is not responsive

Body Temperature

- **Mild (1) - 0.5 degrees higher or lower than normal**
- **Moderate (2) - 1 degree higher or lower than normal**
- **Severe (3) – 1.5 degrees higher or lower than normal**
- **Emergency (4) - at least 2 degrees higher or lower than normal**

- **Normal Body Temperature**
 - 0-1 week old: 95-99°F
 - 2-3 weeks old: 97-100°F
 - 4 weeks old: 99-101°F
 - >4 weeks old: 100.5-102.5°F



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Upper Respiratory Infection in Kittens and Cats

A kitten's normal body temperature varies by age. Kittens cannot regulate their own body temperature at a very early age. They rely on us or on their mothers to keep them warm.

Kittens who are 0-1 week old have normal body temperatures of 95-99° F. Kittens who are 2-3 weeks old have a normal body temperature of 97-100° F. Kittens who are 4 weeks old have a normal body temperature of 99-101° F.

Kittens and cats who are 4 weeks or older have a normal body temperature of 100.5-102.5° F

This makes it very challenging to try to determine if a foster kitten 4 weeks or younger has a fever or has a low body temperature. When in doubt, don't hesitate to contact your foster coordinator.

A very rough guideline for scoring for the purposes of this URI chart is...

A mild score of 1 is 0.5 degrees higher or lower than what has been normal for your kitten or cat.

A moderate score of 2 is 1 degree higher or lower than what has been normal for your kitten or cat

A severe score of 3 is 1.5 degrees higher or lower than what has been normal for your kitten or cat

An emergency score of 4 is when the temperature is at least 2 degrees higher or lower than what has been normal for your kitten or cat.

Appetite

- **Mild (1)** - Slightly decreased appetite
- **Moderate (2)** -Significantly decreased (eating or nursing 50% less than normal)
- **Severe (3)** - Not eating and/or not nursing and is 4 weeks of age or older
- **Emergency (4)** - Not eating and/or not nursing and is younger than 4 weeks



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Upper Respiratory Infection in Kittens and Cats

Many kittens and cats with URI will not want to eat because they don't feel good, and because they are so congested that they cannot smell their food. A kitten or cat who is very congested is also going to have trouble breathing while nursing or eating at the same time. They may also have a poor appetite due to the pain caused by sore throats or oral and nasal ulcers.

A mild score of 1 is when your foster kitten or cat has slightly decreased appetite

A moderate score of 2 is when your foster kitten or cat has a significantly decreased appetite, and is eating or nursing 50% less than normal

A severe score of 3 is when your foster kitten or cat is not eating and/or not nursing and is 4 weeks of age or older

An emergency score of 4 is a foster kitten who is not eating and/or not nursing and is younger than 4 weeks. These kittens can become dehydrated very quickly, and their blood sugar can drop to such dangerously low levels that they begin to have seizures.

Age of Kitten or Cat with URI

- **Mild (1)** - 6-8 weeks
- **Moderate (2)** - 4-5 weeks
- **Severe (3)** - Younger than 4 weeks



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Upper Respiratory Infection in Kittens and Cats

The urgency of seeking veterinary care varies with the age of the kitten or cat with URI symptoms. Remember that very young kittens are more susceptible to URI than older kittens. For this reason they need earlier intervention.

A kitten who is 6-8 weeks gets a mild score of 1...

A kitten who is 4-5 weeks gets a moderate score of 2...

A kitten who is younger than 4 weeks gets a severe score of 3...

How To Care for Kitten or Cat with URI

- Keep nose and eye areas clean
 - Soft damp cotton square
 - Go slow and be gentle
- Humidify environment
 - Steam from shower
 - Warm vaporizer or humidifier
- White corn syrup
 - If kitten is lethargic or not eating
- Medications
 - By mouth, applied into eyes



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Upper Respiratory Infection in Kittens and Cats

There are some things you should know about how to care for your kitten or cat when he or she is sick with a URI.

- You should keep your kitten's or cat's nose and eye areas clean. You can gently clean the nose and eyes by wiping them with a soft cotton square moistened with warm water. Do not try and rush this process because rushing may result in being too rough. The tissue is inflamed and tender and gentleness is needed, or you will do more harm than good.

- Humidifying the environment can help a congested kitten or cat breathe better. You can put your kitten or cat in a small bathroom and close the door while you take a hot shower. The steam from the hot shower will be beneficial. Or you can use a vaporizer or humidifier in a closed small bathroom. Just be sure that the vaporizer or humidifier gives off warm moisture and not a cool mist. You do not want your foster kitten or cat to become chilled. Also avoid adding Vick's VaporRub or similar products into the vaporizer or humidifier.

- If your foster kitten is 12 weeks old or younger and is not eating/nursing and/or seems lethargic, you should rub a white corn syrup on your kitten's gums with a cotton swab. This will help keep your kitten's blood sugar up. If you do not have white corn syrup, maple syrup may be used.

- If medications have been prescribed for your foster kitten or cat, be sure that you give these as directed. Most kittens and cats with URI end up needing antibiotics given by mouth and antibiotic eye ointment.

Recovery Time in Kittens and Cats with URI

- Mild: 7-10 days
- Moderate: 2-3 weeks
- Severe: 3 or more weeks, depends on secondary complications



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Recovery time in kittens and cats with URI varies by the severity of the URI that they had...

- For mild infections, the kitten or cat may only take a week to 10 days to recover...
- For moderate infections, the kitten or cat may take 2-3 weeks or so to recover...
- For more severe infections, the recovery will depend on any secondary complications and can take 3 or more weeks to recover...

Conclusion

- URI very common in kittens and cats, varies in symptoms and severity
- Early intervention important- know when veterinary care needed



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Conclusion: URI is very common in kittens and cats. Just like in people with the common cold, kittens and cats with URI can vary in symptoms and in severity. As a foster caregiver, it is helpful for you to be able to identify URI symptoms in your foster kittens and cats and to know when veterinary attention is needed. Early intervention in care can help prevent worsening of symptoms and expedite your foster kitten's or cat's recovery. Don't forget to keep a copy of the Maddie's Kitten and Cat URI Scoring Chart readily available to refer to as needed. You can find a link to this chart in the Resources tab at the top right of your screen.

Thank you for fostering!!!

And special thanks to Dr. Susan Krebsbach for her review



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Thank you for watching and thank you for fostering!! You are making a huge difference in the lives of foster kittens and cats. We wish you and your foster kittens and cats all the best!