

## Core Preconditioning Requirements for All Shelter Dogs

Dog Age Range	Pre-wean Puppy Younger than 6 weeks old	Post-wean Puppy 6 - 20 weeks old	Adolescent Canine 6 months - 2 years old	Adult Canine 2 - 8 years old	Senior Canine Older than 8 years old	When to Give
<b>Core Vaccines</b>	DO NOT VACCINATE	<ul style="list-style-type: none"> <li>DHPP or DA2PP</li> <li>Bordetella</li> <li>Rabies* (16+ weeks old)</li> </ul>	<ul style="list-style-type: none"> <li>DHPP or DA2PP</li> <li>Bordetella</li> <li>Rabies</li> </ul>	<ul style="list-style-type: none"> <li>DHPP or DA2PP</li> <li>Bordetella</li> <li>Rabies</li> </ul>	<ul style="list-style-type: none"> <li>DHPP or DA2PP</li> <li>Bordetella</li> <li>Rabies</li> </ul>	Ideally 2 weeks before transport or a minimum 3 - 5 days before transport
<b>Lab Tests</b>	<ul style="list-style-type: none"> <li>Fecal test</li> </ul>	<ul style="list-style-type: none"> <li>Fecal test</li> </ul>	<ul style="list-style-type: none"> <li>Fecal test</li> <li>Heartworm SNAP Test</li> </ul>	<ul style="list-style-type: none"> <li>Fecal test</li> <li>Heartworm SNAP Test</li> </ul>	<ul style="list-style-type: none"> <li>Fecal test</li> <li>Heartworm SNAP Test</li> </ul>	Minimum 7 - 10 days before transport <ul style="list-style-type: none"> <li>Fecal Recommended for all animals</li> <li><b>Fecal Required</b> for all dogs with diarrhea</li> </ul>
<b>Parasite Control</b>	<ul style="list-style-type: none"> <li>Hookworms &amp; Roundworms (2+ weeks old)</li> </ul>	<ul style="list-style-type: none"> <li>Hookworms &amp; Roundworms</li> <li>Fleas &amp; Ticks**</li> <li>Heartworms**</li> </ul>	<ul style="list-style-type: none"> <li>Hookworms &amp; Roundworms</li> <li>Fleas &amp; Ticks</li> <li>Heartworms***</li> </ul>	<ul style="list-style-type: none"> <li>Hookworms &amp; Roundworms</li> <li>Fleas &amp; Ticks</li> <li>Heartworms***</li> </ul>	<ul style="list-style-type: none"> <li>Hookworms &amp; Roundworms</li> <li>Fleas &amp; Ticks</li> <li>Heartworms***</li> </ul>	<ul style="list-style-type: none"> <li><b>Deworm</b> 7-10 days before transport or immediately when diagnosed</li> <li><b>Flea/tick</b> prevention 7-10 days before transport or immediately when parasites are seen</li> <li><b>HW***</b> prevention 7-10 days before transport</li> </ul>

\*Rabies VA Code [2VAC5-141-80] Pet animal entry requirements; exemptions: C. Any dog or cat older than four months [16 weeks] of age entering Virginia shall be currently vaccinated for rabies.

\*\*Refer to the manufacturer's packaging for recommended ages before giving puppies flea, tick, and heartworm prevention.

\*\*\*Only give heartworm prevention to Adolescent, Adult, and Senior dogs AFTER a negative Heartworm Test result or at the specific instruction of a veterinarian.

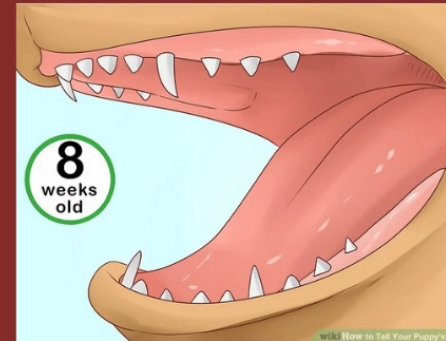
## Approximate Ages of Young Canines Using Teeth



### Pre-wean Puppy:

(<6 weeks)

Puppies up to **2 weeks old** are tiny, have no teeth, and have not opened their eyes yet. At this time, puppies do not move around very much and will stay close to their mother.



### Post-wean Puppy:

(6 - 20 weeks)

By **8 weeks old**, puppies should have all 28 of their baby teeth. They are very sharp and as the puppy continues to grow, the teeth will seem too small for their mouth before starting to fall out.



### Pre-wean Puppy:

(<6 weeks)

Between **3 - 4 weeks old**, the four pointy canine teeth will start to grow in. They are the first to show in the puppy's mouth. The tiny front teeth (the incisors in between the canines) will be the next to grow in.



### Post-wean Puppy:

Around **4 months (16 weeks old)**, the front teeth will fall out first, followed by the back teeth. This means the front teeth will also start growing in first.

### Adolescent Canine:

At **6 months old**, puppies should have their adult canine teeth.

- During this time, adult teeth might start growing before the baby teeth fall out (seen in the photo with double canines).



### Pre-wean Puppy:

(<6 weeks)

The tiny front incisors will grow in between the canine teeth around **5 weeks** of age. Then the teeth right behind each of the canine teeth will start to grow in when the puppy is about **6 weeks old**.



### Adolescent Canine:

(6 months - 2 years)

All adult teeth should be visible and fully grown in between **8 - 12 months** of age. They will still be pearly white.

- Be mindful and use good judgement; not all dogs will let you examine their teeth.

## Approximate Ages of Adult Canines Using Physical Characteristics

### Adolescent Canine 6 months - 2 years old

Adolescent dogs are somewhat similar to human teenagers as they are becoming more physically and emotionally mature. During this stage, they are no longer puppies, but not quite adults yet either.

- **Will have all adult teeth and the teeth should still be white**
- **When the animal is clean and healthy, the coat should be shiny**
- **Depending on the breed, dogs may still be growing and filling out during this stage**



### Adult Canine 2 - 8 years old

Identifying the exact age of an adult canine can be very difficult, which is why the age gap within this stage is so large. Once an animal reaches adulthood, they have typically reached their physical and emotional maturity.

- **After 2 years old, dogs may start to develop tartar and yellowing on their teeth**
- **As adults age, their coats can start to grey and become course or rough. This typically starts around the muzzle when the animal is about 5 years old**

### Senior Canine 8 years or older

Again, similar to humans, senior dogs will typically show more significant signs of aging once they become eight years old and older.

- **Elderly dogs are more likely to show signs of wear, staining, and heavy tartar build up on their teeth**
- **Grey hairs may be more common around the animal's face or along the body**
- **An elderly dog's face will often start to "sink" and appear thinner**
- **Cloudy eyes & cataracts are often a strong indication of a dog's old age**



# Analyzing the Most Common Signs of Illness in Relation to Pre-transport Recommendations for Shelter Canines

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## RESULTS

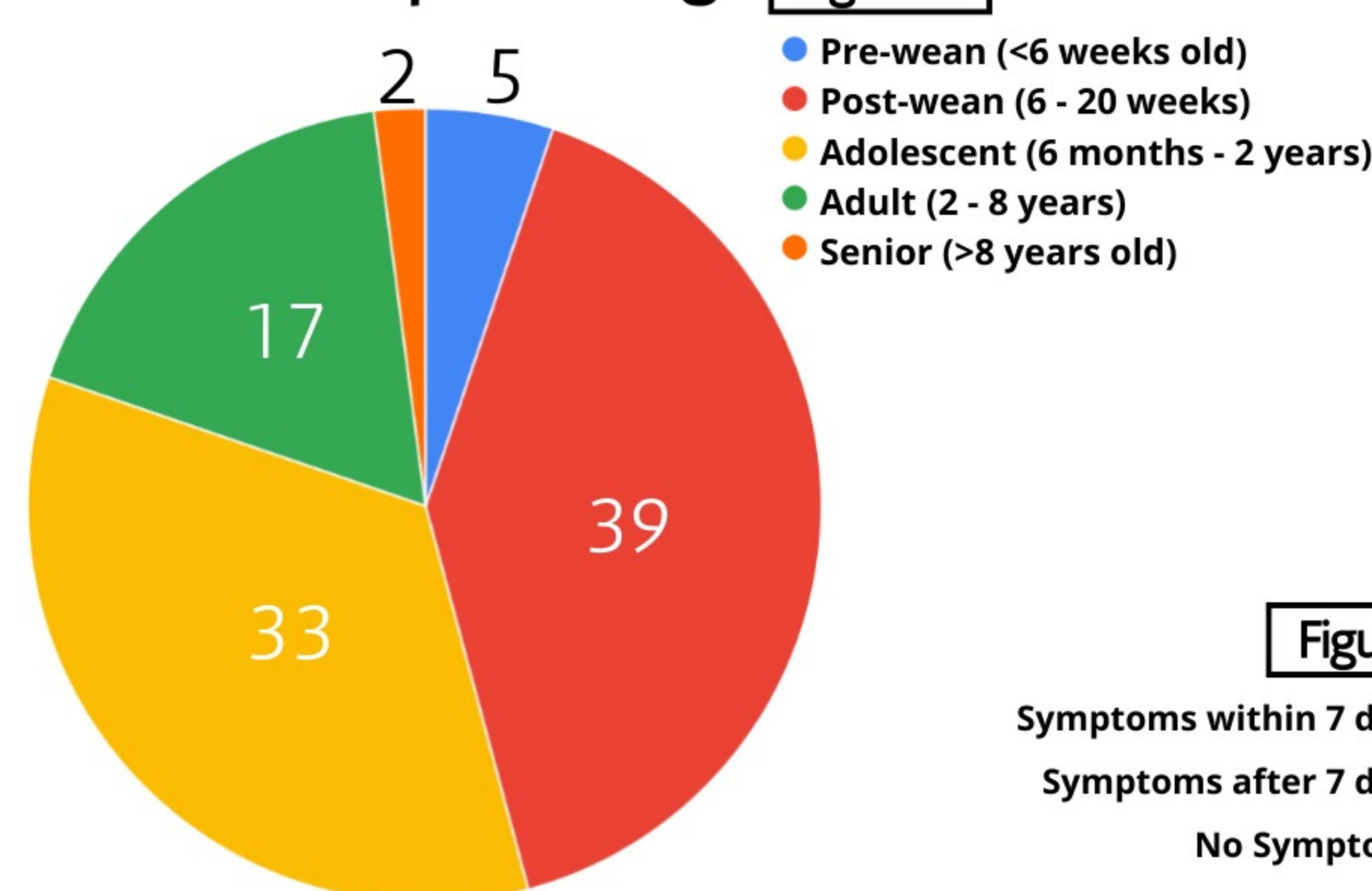
### 96 Medical Records

were analyzed for dogs transferred to MHF between March 2020 - January 2022

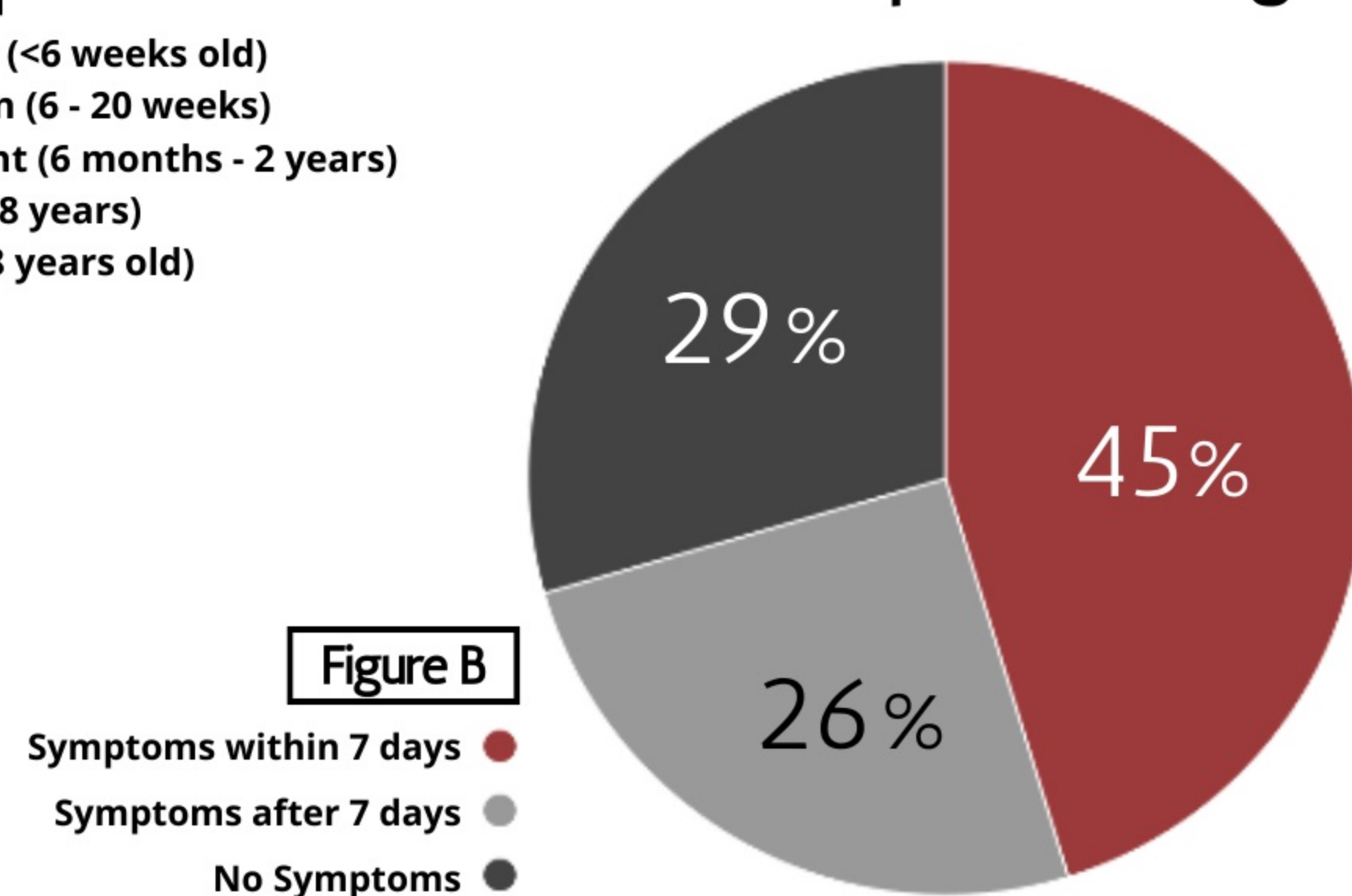
Most common signs and disease conditions:

- Gastrointestinal (diarrhea & vomiting) [Fig. D]
- Respiratory (coughing & sneezing) [Fig. E]
- Heartworm disease [Fig. F]
- Parasite infection (endo & ectoparasites) [Fig. G]

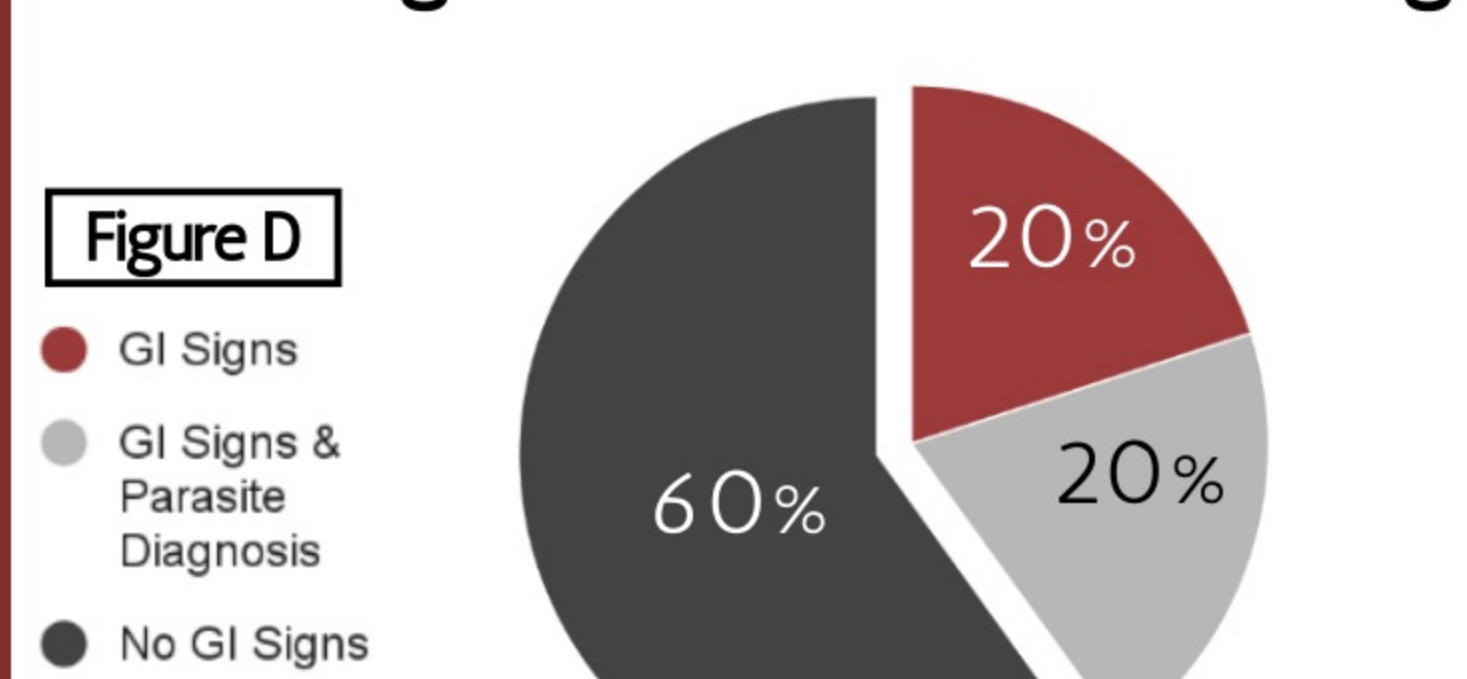
Age Range Distribution of All Transported Dogs



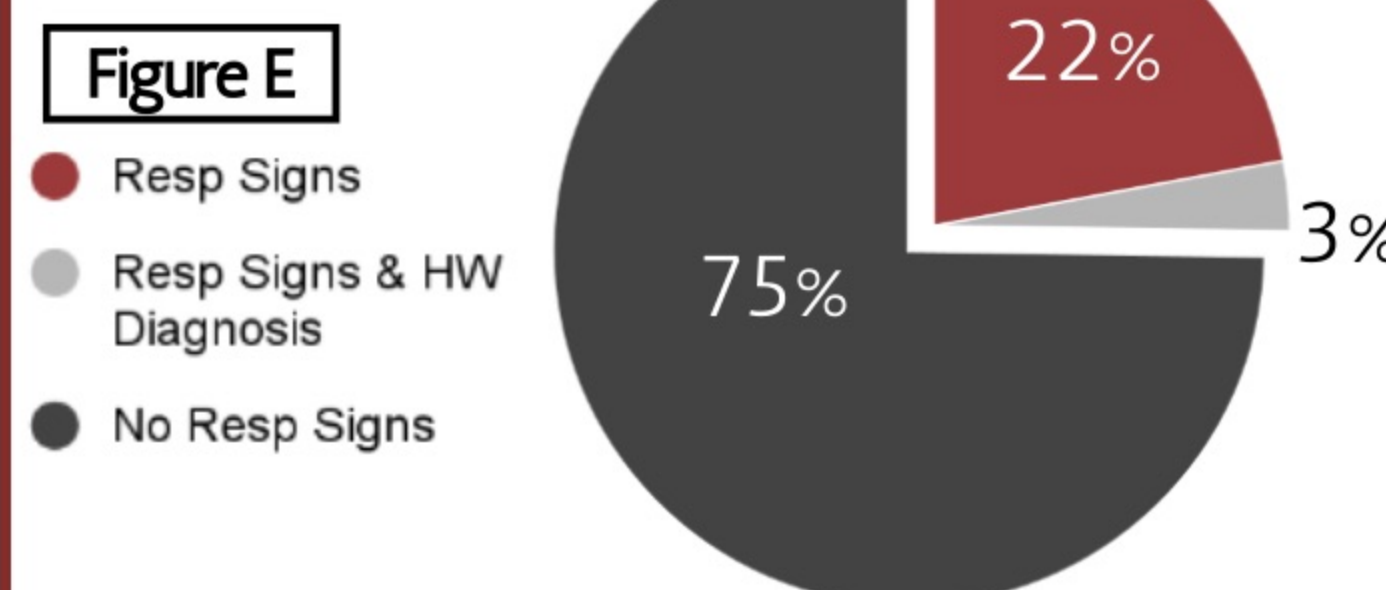
Symptom Onset Post-Transport in All Dogs



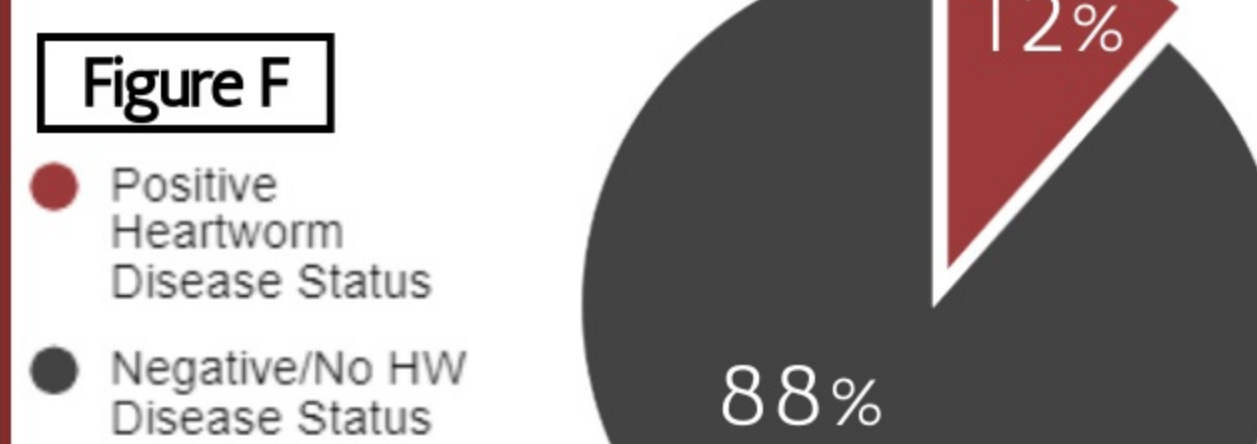
Disease Signs & Conditions in All Dogs



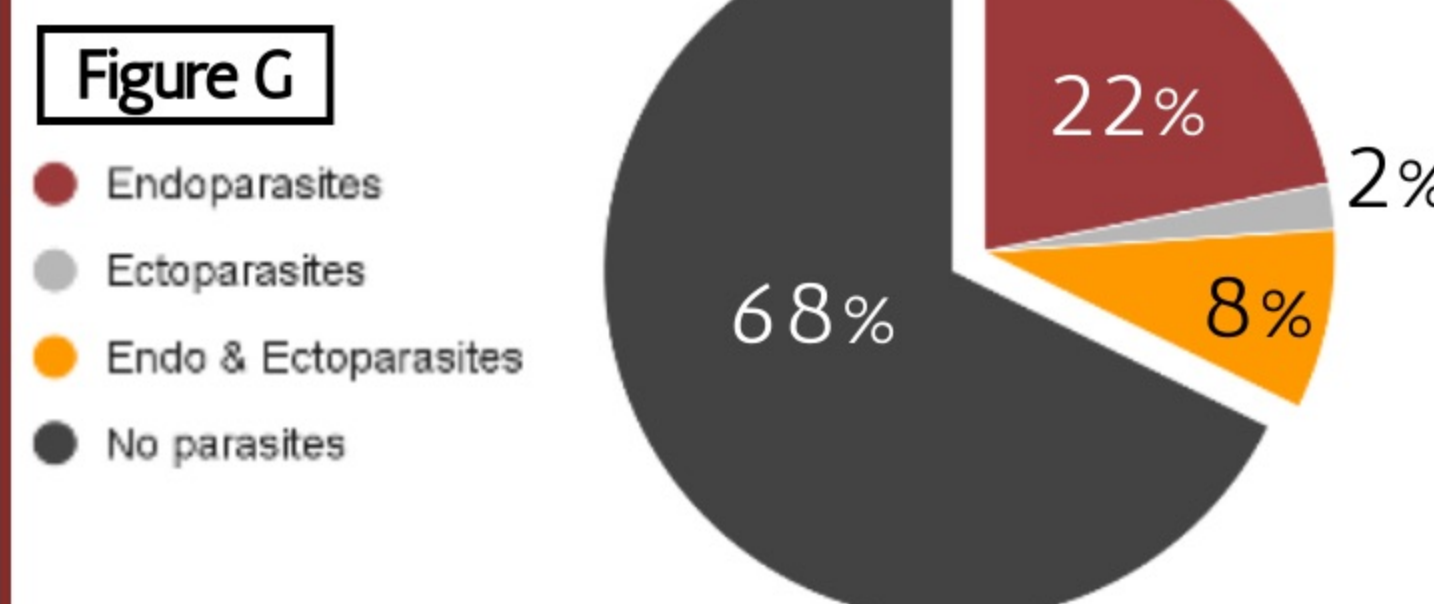
40% of the population exhibited signs of GI illness and precisely half with GI illness were found to also have parasites.



25% of the population exhibited signs of Resp illness with a small number of dogs (n=3; 3%) also diagnosed with heartworm disease.



12% of the population tested positive for heartworm disease



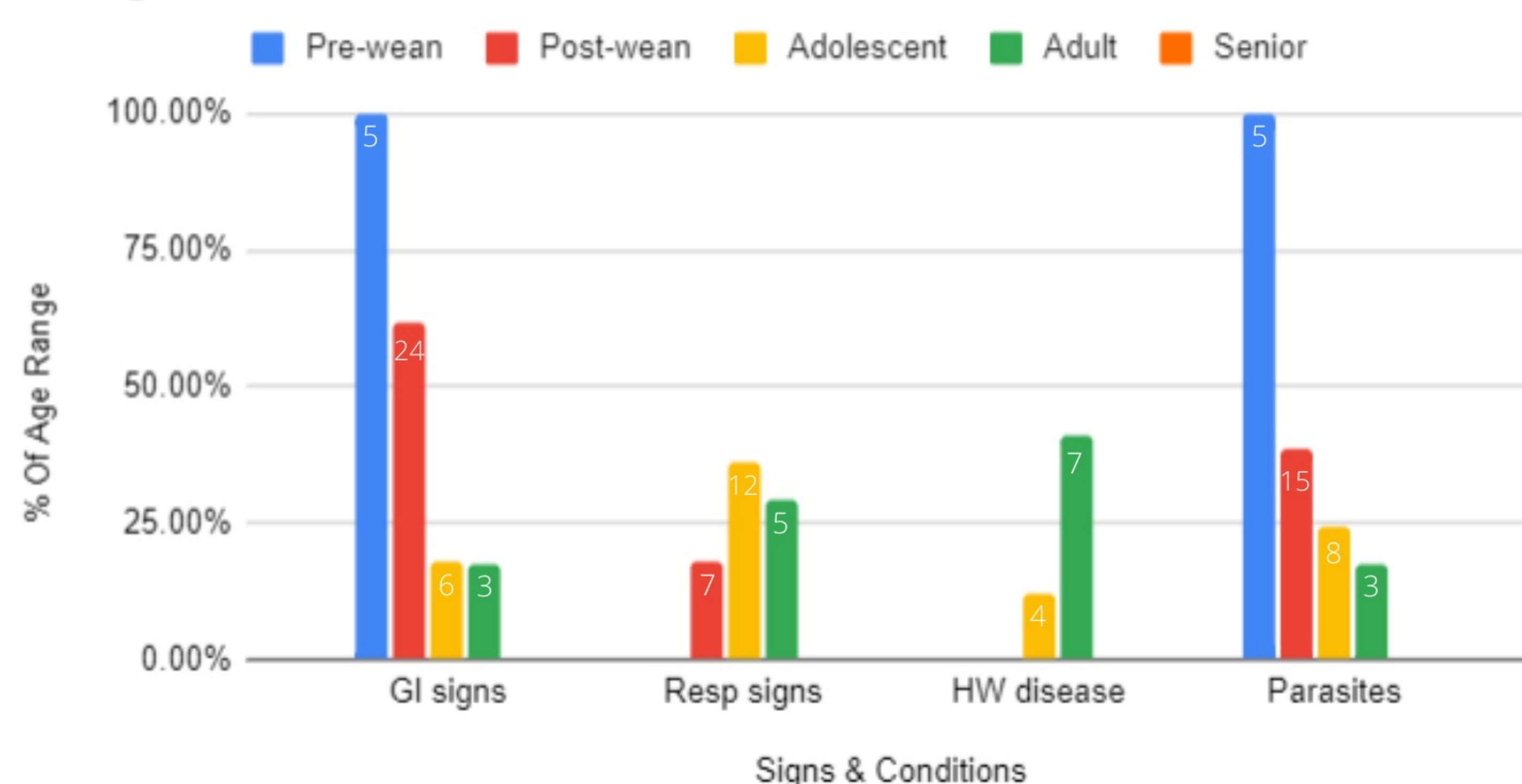
32% of the total population was found to have ectoparasites, endoparasites, or both.

Fig. A: Most dogs (n=89; 93%) transferred to MHF are between 6 weeks and 8 years of age.

Fig. B: A total of 71% (n=68) dogs showed signs of illness after arriving at MHF.

Fig. C: 100% of Pre-wean (n=5), 61% (n=24) of Post-wean, 18% (n=6) of Adolescent, and 18% (n=3) of Adult Canines showed signs of GI illness. 18% (n=7) of Post-wean, 36% (n=12) of Adolescent, and 29% (n=5) Adult Canines showed signs of Resp illness. 12% (n=4) of Adolescent and 41% (n=7) Adults were diagnosed with heartworm disease. 100% (n=5) Pre-wean, 38% (n=15) of Post-wean, 24% (n=8) of Adolescent, and 18% (n=3) of Adult Canines were diagnosed with parasites.

Figure C: Prevalence of Disease Signs & Conditions Across Canine Age Ranges



## ANALYSIS

(Fig. A) Most dogs (93%) transferred to MHF are between 6 weeks and 8 years of age. A total of 5 (5%) dogs were Pre-wean, 39 (41%) were Post-wean, 33 (34%) were Adolescent, 17 (18%) were Adult, and 2 (2%) were Senior Canines. Due to low population representation, disease signs and conditions for Pre-wean Puppies and Senior canines may be skewed.

(Fig. B) While it is possible that dogs are catching and transmitting disease at MHF, the number of dogs that became sick within one week at MHF (45%) suggests that a majority of transferred dogs are becoming infected with disease while in their shelter of origin or during transport. Standard preconditioning may help to lower the likelihood of illness. This also support the need for quarantine periods before and after dogs are transported.

(Fig. C) Results support the need for consistent monitoring, control and treatment of parasites in all ages of canines. The necessity for heartworm testing in animals over the age of 6 months is also supported by results, as Adolescent and Adult canines showed the highest prevalence of heartworm disease (also see Figure F).

(Fig. D) Gastrointestinal signs of illness can be related to any number of conditions like infectious diseases, parasite infection, and stress. Monitoring, treating, and preventing parasites may help to reduce incidences of GI illness, because according to records, half of all GI cases also had parasites.

(Fig. E) Very few dogs (3%) with respiratory signs also had heartworms, which may explain symptoms like coughing. This means that the remaining 22% of dogs were likely true cases of respiratory illness which is often highly contagious and can spread through the air. This reinforces the importance of vaccination against common respiratory pathogens as well as quarantine periods both before and after transport.

(Fig. F) Heartworm disease is an "Adult Dog Disease." More specifically, it is not a disease in puppies because of the heartworm lifecycle. Any dog, no matter their age, will not test positive for heartworms until 6 months after they are bitten by an infected mosquito. This is because heartworms take 6 months to mature once they infect a dog.

(Fig. G) Parasites were found to affect transporting dogs of all ages and were found to correlate with half of all cases of GI illness. Worms also have the potential to transmit illness to human handlers. This combination of risks continues to support the need for consistent monitoring, treatment, and prevention for both endoparasites (internal) and ectoparasites (external).

