

GPCA Health Committee Report

March 1999



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Scope of Survey

The first comprehensive survey of the health of Great Pyrenees was undertaken by the Great Pyrenees Club of America in 1988 with a study of 292 dogs over the age of eight. Two years later, the survey was expanded to include an additional 627 Pyrs of all ages and a report was made to the membership in 1991.

Although the survey continued, technical difficulties in entering and compiling the data prevented further work until 1997. At that time, the survey form was made available on the Internet, thus becoming easily available to Pyr owners without membership in a National or Regional Club.

At this time, 914 owners and breeders have reported on 1701 dogs. Surveys have come from every state in the US except North Dakota, and from Canada, Great Britain, Australia, New Zealand, Japan, Lithuania, Denmark and Sweden.

The map on the following page indicates the number of surveys reported from each state.

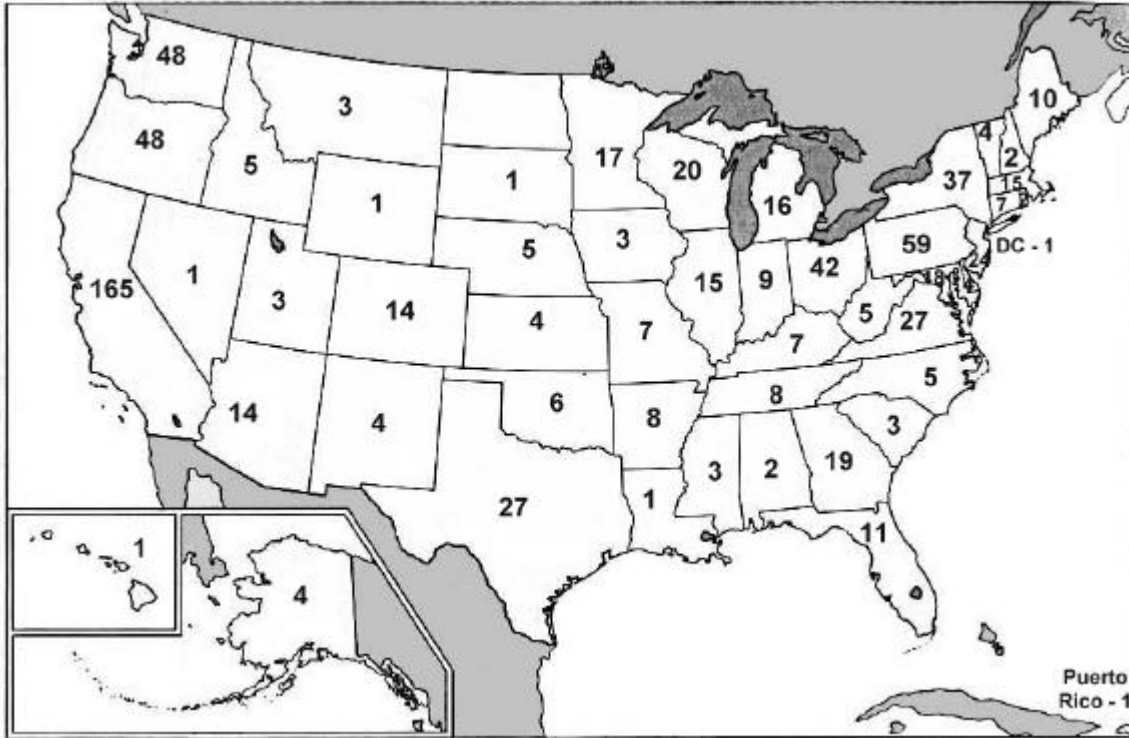
As before, the numbers here are presented as raw data. It is difficult to make complex statistical conclusions since the data is weighted in favor of breeders who cooperated fully with the survey and owners from Regional Clubs that encouraged participation. There is an Honor Roll Section of this report, honoring Owners and Breeders who submitted surveys on more than ten dogs. Some breeders may be surprised to find themselves on this list, but the dedication of their puppy-buyers is responsible for their appearing here. There is also an honor roll of dogs and bitches who are represented by ten or more offspring in the survey. As this number increases, it will increase the usefulness of the database to genetic researchers.

Some questions in the old survey were not covered in this one; they were issues, such as housing and feed, that either had little meaningful response or added little to the overall knowledge of the breed's health. Some new questions and medical conditions were added. The survey results are meant only as a guide to answer such general questions as "What is the average life span of the breed" and "What are the most commonly reported health problems" as well as to focus the attention of the Health Committee of the GPCA on conditions that might need supported research.

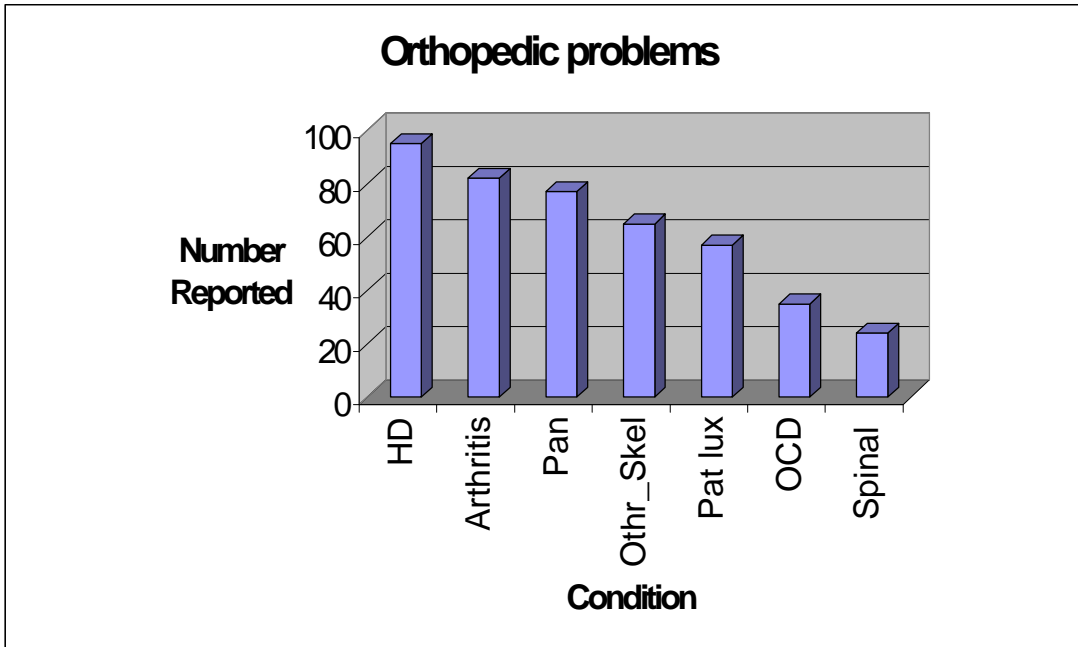
Unless otherwise noted, all percentages given are based on the total number of dogs in the survey.

We are fortunate to have a relatively healthy breed and it is the Committee's hope that breeders will continue to take responsibility to see that this remains so.

Source of Surveys by State



Orthopedic Problems



A total of 20% (n=351) dogs were presented with orthopedic problems; since many of those presented with multiple orthopedic problems, the total reported add up to 453.

| Condition | Number | Avg. Age diagnosed | Percent of all dogs | Youngest at diagnosis | Oldest at diagnosis | Median age of diagnosis |
|--------------------|--------|--------------------|---------------------|-----------------------|---------------------|-------------------------|
| *Hip Dysplasia | 98 | 1.88 | 5.76% | 0.3 | 9.0 | 2.0 |
| Arthritis | 86 | 7.6 | 5.06% | 0.5 | 13.0 | 8.0 |
| Panosteitis | 79 | 0.75 | 4.65% | 0.2 | 2.8 | 0.6 |
| *Other Skeletal | 68 | | 4.00% | | | |
| *Patellar luxation | 57 | 1.49 | 3.35% | 0.1 | 7.0 | 1.0 |
| Osteochondritis | 36 | 0.93 | 2.12% | 0.2 | 3.0 | 0.8 |
| *Spinal problems | 24 | 7.2 | 1.41% | 1.0 | 13.0 | 9.0 |

- Hip dysplasia was reported in 15% of all surveyed dogs **who were x-rayed**. Only 38% of the survey population reported having been x-rayed.
- Other Skeletal problems reported included such conditions as weak pasterns, popping hocks, unspecified gait problems, accidents and ligament damage.
- Patellar Luxation includes eight cases also reported as Anterior Cruciate injury, “football knee”, torn ligaments.
- Spinal Problems include six reported cases of Spinal mylopathy.

Eyes and Ears

Only 3% (n=51) of the dogs surveyed had had their eyes formally examined by a specialist. So it is uncertain whether the low percentage of reported problems is due to genuine lack of problems, or under-reporting.

Eye problems reported as “other” included single cases of retinal dysplasia, hyperplasia, progressive night blindness, Horner’s syndrome, keratitis, conjunctivitis, glaucoma, too much tearing, no tear production, microphthalmia. No PRA was reported.

EYES

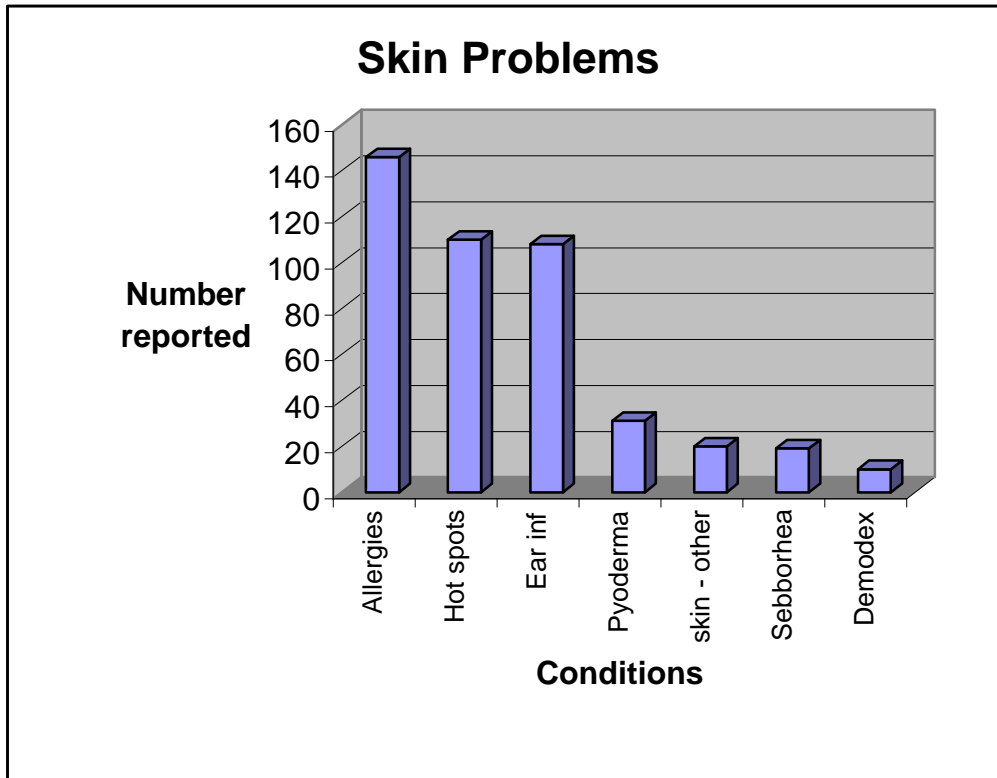
| Condition | Number reported | Avg Age at diagnosis | Percentage of total dogs | Youngest diagnosed | Oldest diagnosed | Median age at diagnosis |
|-------------------------------|-----------------|----------------------|--------------------------|--------------------|------------------|-------------------------|
| Ectropion | 3 | 0.4 | 0.18% | 0.2 | 0.5 | 0.4 |
| Persistent Pupillary Membrane | 8 | 0.2 | 0.47% | | | |
| Cataracts | 11 | 8.8 | 0.65% | 1.0 | 14.0 | 10.0 |
| Entropion | 25 | 1.3 | 1.47% | 0.2 | 3.5 | 1.0 |
| Eye-other | 38 | | 2.24% | | | |

EARS

| Condition | Number reported | Avg. Age at diagnosis | Percentage of total dogs | Youngest at diagnosis | Oldest at diagnosis | Median age diagnosed |
|------------------|-----------------|-----------------------|--------------------------|-----------------------|---------------------|----------------------|
| Deaf | 8 | | 0.47% | 0.1 | 15 | |
| Hearing Impaired | 25 | 9.9 | 1.47% | 7 | 14 | 9 |
| Ears - other | 56 | | 3.29% | | | |

Ear Problems reported as “other” included waxy buildup, infections, mites and yeast.

Skin Problems

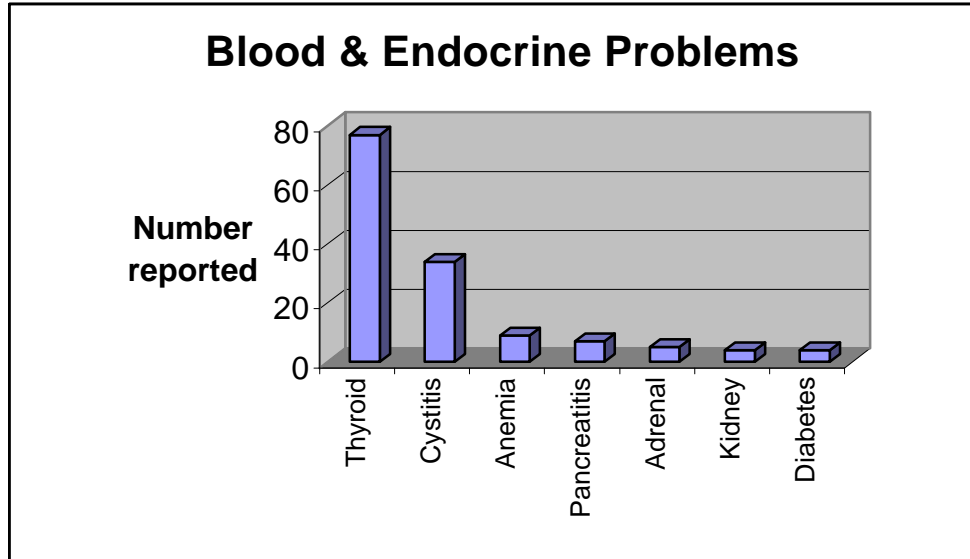


Nineteen percent (n=322) of the dogs in the survey were reported to have skin problems, with 85 of those dogs presenting multiple skin problems. This is down considerably from the previous report, which showed 33% of all Pyrs affected with skin problems. This may be due to the availability of easier-to-use flea repellants since most allergies reported were to fleas and grasses.

Hot spots and pyodermas (generalized staphylococcus infections) were most often reported in adolescent dogs, which gives some hope that either the allergy or the underlying cause might be outgrown at maturity.

| Condition | Number reported | Avg. Age at diagnosis | Percentage of total dogs | Youngest at diagnosis | Oldest at diagnosis | Median age diagnosed |
|----------------|-----------------|-----------------------|--------------------------|-----------------------|---------------------|----------------------|
| Allergies | 146 | | 8.59% | 0.4 | 7.0 | |
| Hot spots | 110 | 1.6 | 6.47% | 0.2 | 8 | 1 |
| Ear infections | 108 | | 6.35% | 0.4 | 10.0 | |
| Pyoderma | 31 | 1.5 | 1.82% | 0.2 | 8 | 1 |
| Skin - other | 20 | | 1.18% | | | |
| Seborrhea | 19 | | 1.12% | 0.8 | 13.0 | 3.0 |
| Demodex | 10 | | 0.59% | 0.1 | 8.0 | 0.5 |

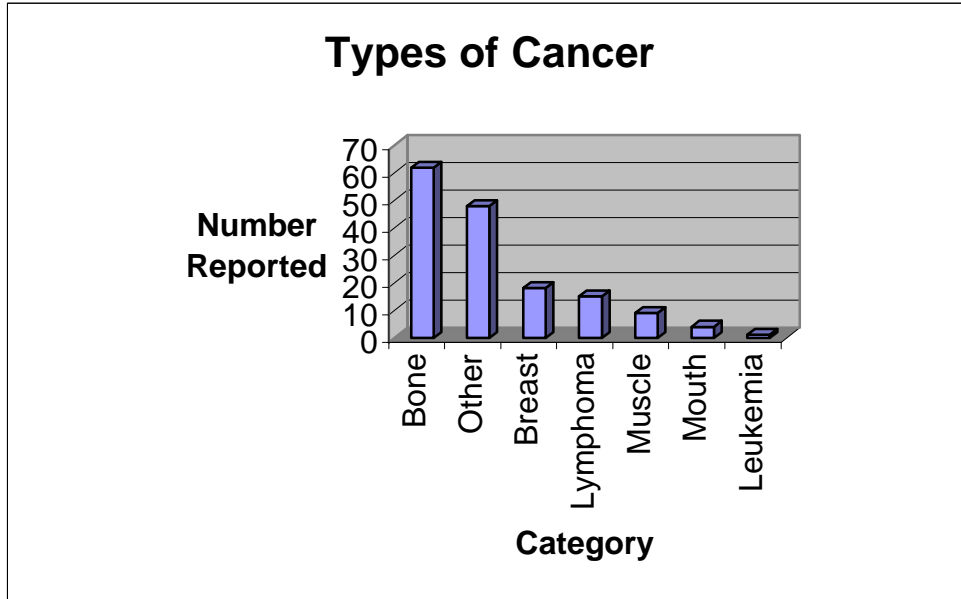
Endocrine System



A little more than eight percent of the dogs (n=142) were reported to have blood or endocrine systems problems. More than half of these (n=77) reported thyroid disorders, yet only three reported the results of Michigan Thyroid panels while ten and fourteen respectively reported numeric results for the T3 and T4 tests. This low incidence of reporting of tests must lead to questions about how the condition is being diagnosed.

| Condition | Number reported | Avg. Age at diagnosis | Percentage of total dogs | Youngest at diagnosis | Oldest at diagnosis | Median age diagnosed |
|---------------|-----------------|-----------------------|--------------------------|-----------------------|---------------------|----------------------|
| Thyroid | 77 | 4.5 | 4.53% | 0.6 | 11.6 | 3.3 |
| Cystitis | 34 | 2.6 | 2.00% | 0.2 | 9.0 | 2.0 |
| Anemia | 9 | 4.7 | 0.53% | 0.4 | 8.0 | 6.0 |
| Pancreatitis | 7 | 4.0 | 0.41% | 0.2 | 7.0 | 4.8 |
| Adrenal | 5 | 3.0 | 0.29% | 3.0 | 5.0 | 3.8 |
| Kidney | 4 | 2.1 | 0.24% | 0.2 | 6.6 | 0.7 |
| Diabetes | 4 | 2.0 | 0.24% | 1.8 | 4.0 | 2.6 |
| Blood - other | 5 | | 0.29% | | | |
| VWD | 2 | 1.0 | 0.12% | 0.9 | 1.0 | 1.0 |
| AHA | 2 | | 0.12% | 3.0 | 4.6 | |
| Nephritis | 1 | | 0.06% | 5.0 | | |
| Hemophilia | 1 | | 0.06% | | | |
| Pituitary | 1 | | 0.06% | | 0.6 | |

Cancers



Cancer was reported in 8.24% of the dogs surveyed (n=136) with Bone Cancers leading the numbers. Fifty eight dogs (3.5% of all dogs) were reported to have had bone cancer, only eight of which were not situated in one of the legs. Front and rear legs were affected equally. Eighteen dogs had cancers reported in multiple organ systems.

Most of the cancers listed under “other” were of internal organs, including three hemangiosarcomas. Two brain tumors were diagnosed, three sarcomas of the eye or face, and three rectal melanomas. It is the opinion of the Health Committee that cancer is being under-reported and survey respondents should be encouraged to update their data at the time of the dog's death.

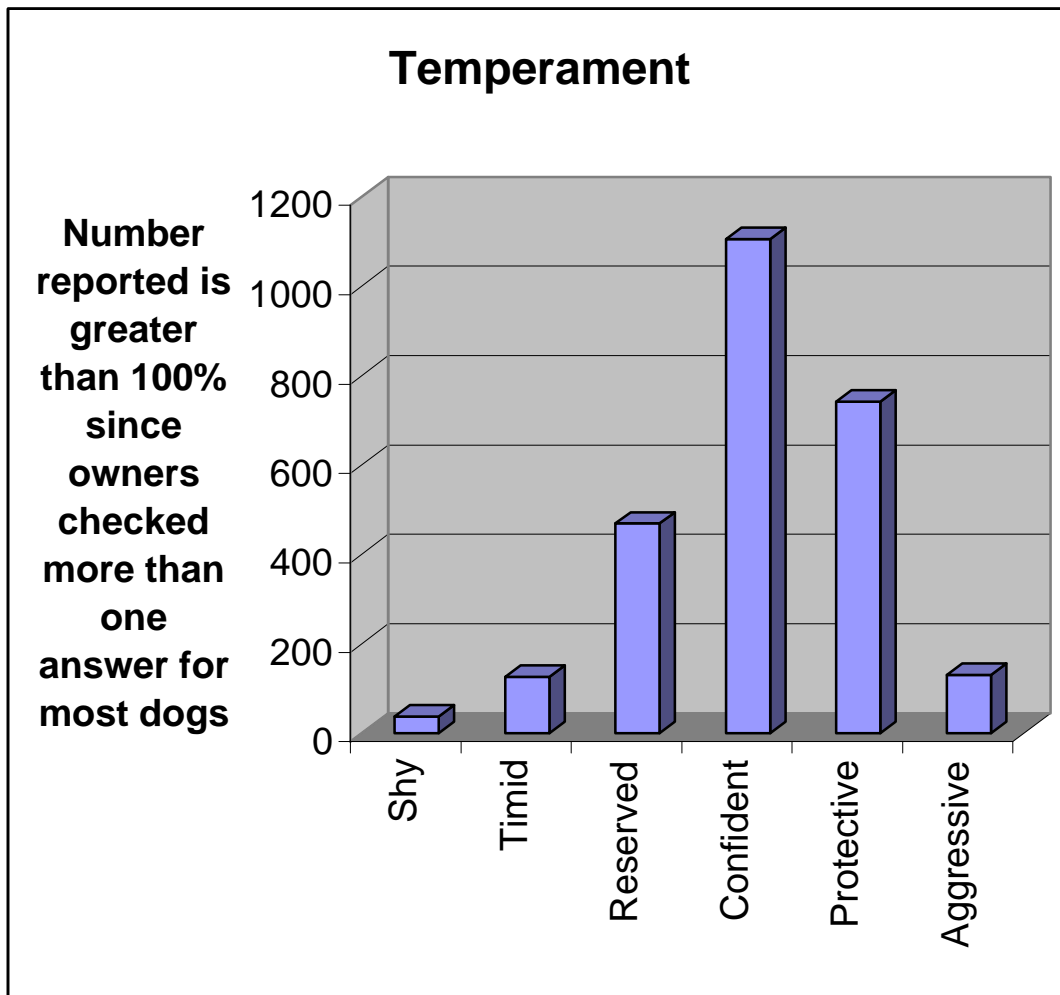
The 18 with Breast Cancer were all females, 16 had been bred, 15 were neutered at an average age of 6.25 yrs (min 4 - max 9); three remained unneutered at time of death.

| Condition | Number reported | Percentage of total dogs reported | Avg. Age at diagnosis | Youngest at diagnosis | Oldest at diagnosis | Median age diagnosed |
|-----------|-----------------|-----------------------------------|-----------------------|-----------------------|---------------------|----------------------|
| Bone | 58 | 3.52% | 6.9 | 0.1 | 12.0 | 7.0 |
| Other | 45 | 2.73% | 7.6 | 0.6 | 16.0 | 9.0 |
| Breast | 18 | 1.09% | 8.1 | 4.0 | 12.5 | 9.3 |
| Lymphoma | 14 | 0.85% | 5.3 | 2.0 | 10.6 | 4.8 |
| Muscle | 9 | 0.55% | 6.9 | 2.0 | 13.0 | 5.8 |
| Mouth | 4 | 0.24% | 7.4 | 3.0 | 12.5 | 7.5 |
| Leukemia | 1 | 0.06% | 5.1 | | | |

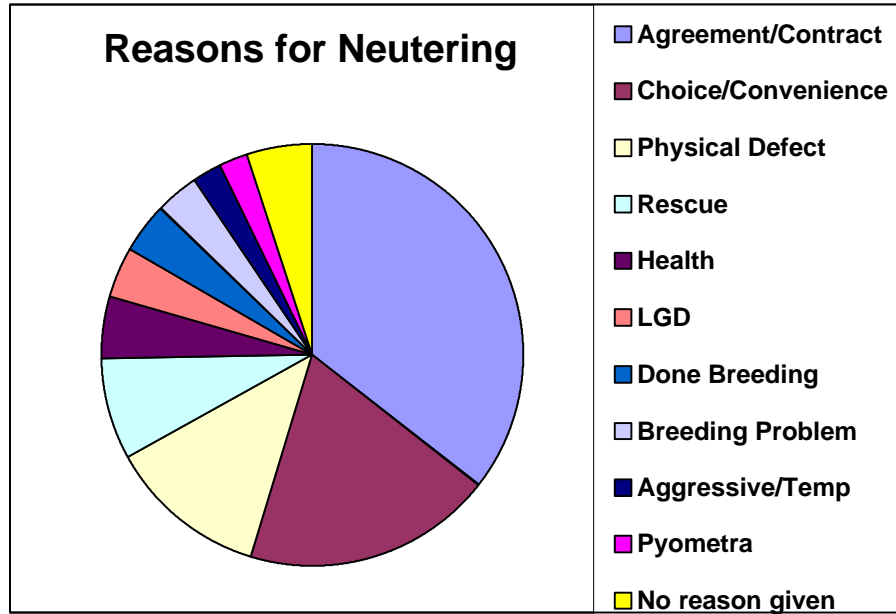
Temperament

The following graph illustrates the owners' evaluation of their dogs' temperaments. Since most respondents checked two or more of the possible answers, the total greatly exceeds the total number of dogs in the survey. It is of interest primarily as insight into the owners' opinions of their dogs.

Of dogs euthanized for temperament, 28 were described as "aggressive" in temperament.



Neutering

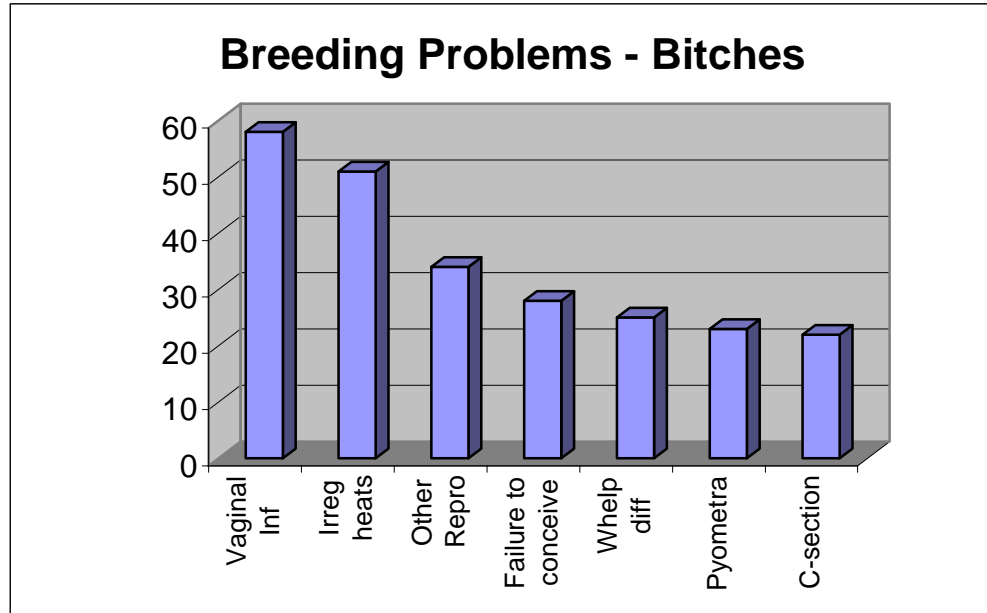


The percentage of dogs reported neutered has increased significantly in the decade since the first survey. Perhaps this is due to increased educational efforts by breed clubs, humane societies and even the AKC. It could also be due to the fact that more owners of family pets participated in this survey. In any case, 45% of the males and 54% of the females were reported to be neutered. This is an increase of 7% for the females, but more than doubled for the males.

As shown by both the chart above and table below more than half of all dogs neutered were done so either because the owner had a contract or agreement with the breeder, or felt doing so fit their personal philosophy or lifestyle. The average age at neutering was 2.5 years for females, 1.6 years for males. A few breeders are reporting "early neutering" of pups - 8-10 weeks of age - and have expressed satisfaction with this method.

| Reason for Neutering | Number | % of those neutered |
|----------------------|--------|---------------------|
| Agreement/Contract | 298 | 38.5% |
| Choice/Convenience | 148 | 19.1% |
| Physical Defect | 101 | 13.0% |
| Rescue | 64 | 8.3% |
| Health | 38 | 4.9% |
| LGD | 32 | 4.1% |
| Done Breeding | 29 | 3.7% |
| Breeding Problem | 28 | 3.6% |
| Aggressive/Temp | 19 | 2.5% |
| Pyometra | 17 | 2.2% |
| No reason given | 43 | |

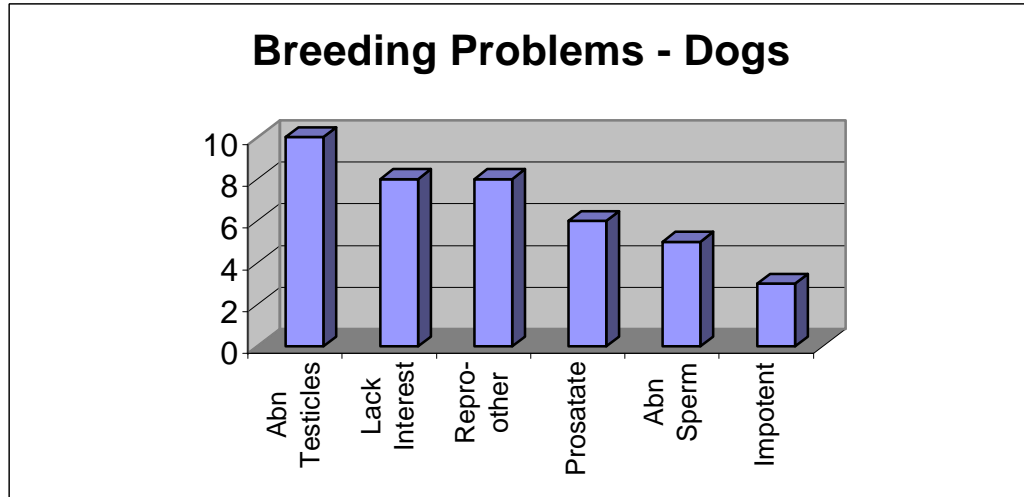
Reproductive Problems - Bitches



Twenty-one percent (n=188) of the bitches were reported to have reproductive problems. The seven most commonly reported problems are illustrated in the graph above. Owners of fifty bitches reported "irregular heats", but the time between heats varied from 5 months to a year, some reported the irregularities improved with age, others concluded that a spacing of other than six months between heats was "normal" for that particular bitch. Conditions reported as "other reproductive problems" included five vaginal strictures. Whelping difficulties included prolonged labor and uterine inertia.

| Condition | Number reported | Avg. Age at diagnosis | Percent of total dogs | Youngest at diagnosis | Oldest at diagnosis | Median age diagnosed |
|---------------------|-----------------|-----------------------|-----------------------|-----------------------|---------------------|----------------------|
| Vaginal Infection | 58 | 2.5 | 6.43% | 0.1 | 11.0 | 2.0 |
| Irregular heats | 51 | | 5.65% | 1.0 | 14.0 | |
| Other Repro | 34 | | 3.77% | | | |
| Failure to conceive | 28 | | 3.10% | 2.0 | 7.0 | |
| Whelp difficulties | 25 | 5.2 | 2.77% | 2.0 | 9.0 | 4.5 |
| Pyometra | 23 | 5.1 | 2.55% | 1.5 | 12.6 | 4.0 |
| C-section | 22 | | 2.44% | 1.0 | 2.0 | |
| Mastitis | 17 | 3.4 | 1.88% | 1.0 | 6.0 | 3.0 |
| Fetal death | 15 | | 1.66% | 2.0 | 9.0 | |
| Refused male | 12 | | 1.33% | 2.0 | 6.0 | |
| Fading pups | 11 | | 1.22% | 2.0 | 5.0 | |

Reproductive Problems - Dogs



In contrast to the females, reproductive problems were reported on only 5.68% of the males. Most of the abnormal testicles were mon- or crypt-orchids. Five of the eight males reported with "other problems" had trouble servicing bitches with vaginal strictures. In addition to the above chart, one dog was reported sterile and one with a genital infection, type unspecified.

| Condition | Number reported | Percent of total dogs | Youngest at diagnosis | Oldest at diagnosis |
|--------------------|-----------------|-----------------------|-----------------------|---------------------|
| Abnormal Testicles | 10 | 1.25% | 2.0 | 8.0 |
| Lack Interest | 8 | 1.00% | 3.0 | 9.0 |
| Repro-other | 8 | 1.00% | 3.0 | |
| Prostate | 6 | 0.75% | 3.0 | 9.0 |
| Abnormal Sperm | 5 | 0.63% | 0.5 | 3.0 |
| Impotent | 3 | 0.38% | 1.4 | |
| Sterile | 1 | 0.13% | 2.0 | 11.0 |
| Genital infection | 1 | 0.13% | | |

Breeding

Twenty-six percent of all bitches (n=225) and sixteen percent of all males (n=121) in the survey were bred. The females produced 368 litters, for an average of 1.6 litters each; males produced 362 litters, for an average of 3.1 litters each. Litter sizes were not given. Seven females have five or more litters (maximum 7); seven males had ten or more litters (maximum 20.)

| Sex | Number bred | Number x-rayed | OFA or GDC Certified | % of those bred, certified |
|--------|-------------|----------------|----------------------|----------------------------|
| Male | 225 | 181 | 121 | 66.8% |
| Female | 121 | 96 | 64 | 66.6% |

Every effort was made to match published records from the Orthopedic Foundation for Animals (OFA) and Institute for Genetic Disease Control in Dogs (GDC) with reported surveys. Even where the owner had failed to include the certification number, it has been added to the GPCA Health Database. There was insufficient data on PennHip to use.

Bloat

Bloat is not a common occurrence in the breed with only 1.65% (n=28) dogs reporting bloat. Ages ranged from one to nine; half the owners did not respond to the question of how often the bloat occurred. Of those that did, all but one dog reported either one or two episodes of bloat. One owner reported fifteen episodes. Fifty percent (n=14) of the owners reported that the bloat episode ended in the death of the dog.

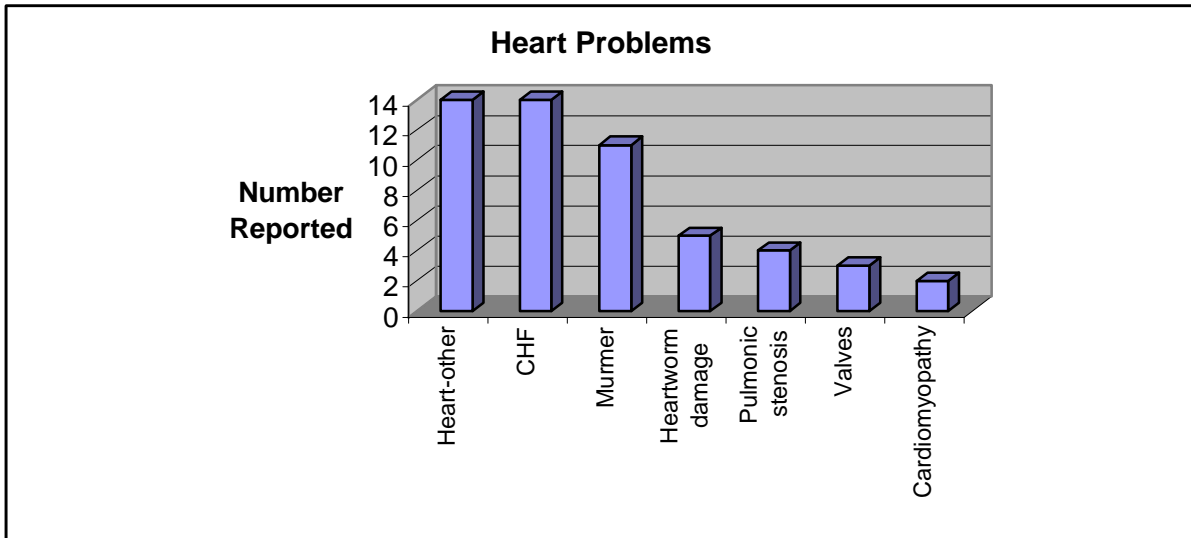
Epilepsy

Epilepsy was a bit more common with 2.71% (n=46) of the dogs surveying having had one or more episodes in their lifetime. Ages ranged from six months to 14 years; only ten reporting having a diagnosis although most were on medication at some time in their life for this condition.

Immune Deficiency

Although 2% (n=34) of the dogs were reported with immune deficiency, only nine individuals had the deficiency confirmed by testing. Other cases were anecdotal, postulated from symptoms or autopsy.

Heart Problems

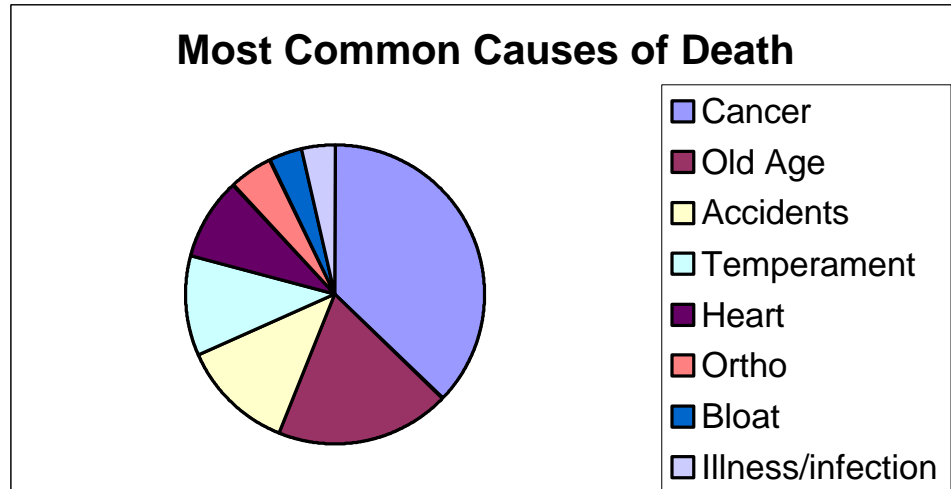


For a large breed, Great Pyrenees have remarkably few heart problems reported with only 3.12% of the surveys citing heart problems. Conditions included as "Heart - Other" were single cases each of hole in the heart, heavy breathing, heart on "wrong side", two cases of enlarged heart, two tumors, two "heart attacks" and the remaining five "undiagnosed". There were three reported cases of Pulmonic stenosis, but no aortic stenosis. With one exception, the Congestive Heart Failure (CHF) affected dogs over the age of 7.

Heartworm damage is reported separately as it is a preventable illness. Two of the five cases of cardiomyopathy were reported in 1991 and only three since then.

| Condition | Number Reported | Avg Age Diagnoses | Percent of Total dogs | Youngest at diagnosis | Oldest at diagnosis | Median age diagnosed |
|-------------------|-----------------|-------------------|-----------------------|-----------------------|---------------------|----------------------|
| Heart-other | 14 | 4.7 | 0.82% | 1.5 | 13.3 | 3.0 |
| CHF | 14 | 8.8 | 0.82% | 1.3 | 12.0 | 9.3 |
| Murmur | 11 | 4.5 | 0.65% | 2.2 | 9.0 | 4.0 |
| Heartworm damage | 5 | | 0.29% | | | |
| Pulmonic stenosis | 3 | | 0.18% | | | |
| Valves | 3 | | 0.18% | 2.0 | 7.0 | |
| Cardiomyopathy | 5 | | 0.29% | 1.5 | 2.0 | |

Cause of Death



| Cause of death | Number | Avg. Age | % of all deaths | Min. Age | Max Age | Median Age |
|--------------------|--------|----------|-----------------|----------|---------|------------|
| Cancer | 142 | 7.11 | 31.63% | 0.5 | 16 | 7 |
| Old Age | 72 | 12.2 | 16.04% | 9.4 | 15.6 | 12 |
| Accidents | 47 | 4.99 | 10.47% | 0.9 | 13 | 4.55 |
| Temperament | 41 | 3.95 | 9.13% | 1 | 10 | 3.25 |
| Heart | 34 | 7.35 | 7.57% | 0.2 | 12 | 8 |
| Orthopedic prob | 18 | 4.80 | 4.01% | 0.3 | 10.8 | 2.6 |
| Bloat | 14 | 7.30 | 3.12% | 4 | 12.9 | 6.2 |
| Illness/infection | 14 | 5.51 | 3.12% | | | 5 |
| Unknown/Not stated | 13 | 4.50 | 2.90% | 3 | 10 | 4.25 |
| Birth Defect | 10 | 0.60 | 2.23% | 0 | 3 | 0.2 |
| Epilepsy | 10 | 3.36 | 2.23% | 0.7 | 8 | 2.8 |
| Spinal Mylopathy | 6 | 8.96 | 1.34% | 9.3 | 11.9 | 10 |
| Parvovirus | 5 | 0.70 | 1.11% | 9 | 11.9 | 0.7 |
| Addisons Disease | 5 | 2.97 | 1.11% | 1.5 | 6.5 | 1.95 |
| Kidney Failure | 4 | | 0.89% | 0.5 | 11.40 | |
| Skin Problem | 4 | | 0.89% | 3 | | 11.6 |
| Heat Stroke | 3 | | 0.67% | 3 | 8.00 | |
| Pancreas | 2 | | 0.45% | 8 | 9.00 | |
| Pyometra | 2 | | 0.45% | 9 | 11.00 | |
| Aneurysm | 1 | | 0.22% | 1 | | |
| Anesthetic | 1 | | 0.22% | 1 | | |
| Blind | 1 | | 0.22% | 3 | | |
| Diabetes | 1 | | 0.22% | 2.8 | | |
| Hypothyroid | 1 | | 0.22% | 5.5 | | |
| Liver Failure | 1 | | 0.22% | 8.8 | | |
| Megaesophagus | 1 | | 0.22% | 1.5 | | |
| Myasthenia Gravis | 1 | | 0.22% | 5 | | |

The most common cause of death is still cancer. The next is old age, whether from natural causes or euthanasia to spare an old dog more pain. Accidents are still a major killer of young dogs, as is euthanasia for reasons of unstable temperament. Most of the dogs euthanized for temperamental problems were described as "aggressive" although self-destructiveness, extreme shyness and chasing livestock were also given as reasons for euthanasia.

Of the 34 dogs for whom cause of death was described as "heart problem" or "heart attack", only seven had the diagnosis confirmed by autopsy.

Dogs euthanized for orthopedic problems suffered from hip dysplasia, luxated patellas, arthritis and spinal pain.

Consistent with the procedure in the last GPCA Health Survey Report, the average and median ages at death were calculated after removing from the equation all dogs that died of accidents, those who died or were euthanized within eight weeks of birth and those euthanized for temperament reasons.

| | Average age at death | Median age of death |
|-------------------|----------------------|---------------------|
| Adjusted as above | 7.39 yrs | 10 yrs |
| Intact males | 7.39 yrs | 8 yrs |
| Neutered males | 7.4 yrs | 8 yrs |
| Intact Females | 7.7 yrs | 9 yrs |
| Neutered Females | 9.3 yrs | 10 yrs |

The above numbers appears a little lower than those in the last survey. However, it is believed that the data in the last survey was skewed in favor of older dogs, as one-third of the total at that time was represented by dogs who were deliberately selected for longevity - i.e. having survived in good health to eight years of age or older.

Owners appeared very satisfied with their dogs' state of health, since 66% reported their dogs to be in "Excellent" health; 29% reported their dogs to be in "Average" health and only 5% considered their dogs to be in "Poor" health. This is consistent with the last survey.

Honor Roll: Owners & Breeders

The following owners and breeders are each responsible for submitting surveys for more than ten dogs. If you are a breeder, and don't remember submitting these surveys, rest assured that your puppy buyers are interested enough in the health of the breed to do part of your job for you. The list is in alphabetical order.

Adamson, Carol
Boyd, Jean
Burstow, Brenda
Conley, Karen & Doug
Coombs, Nancy & Whit
Cooper, Judith Bankus
De la Cruz, Catherine
Feller, Mary Ann
Floyd, Michael
Gibert, Sue and Jan
Kenniger, Greg & MaryAnn
King, Sue
Knox, Dwayne & Fay
Lee, Kathy & Jean Pero
Liles, Frank & Kathy
Preston, Sue
Princehouse, Patricia
Smith, C. Seaver
Teems, JoAnne
Thrall, Mike & Cindy
Trowbridge, Kim & Lee
Weisser, Linda
Woods, Kerry Kern
Yeager, Carolyn

Special Thanks to the Heart of Ohio Rescue for completing surveys on so many dogs they handled.

Honor Roll of Sires and Dams

The following dogs and bitches are represented by ten or more offspring in the GPCA Health database.

Dogs

Ch Euzkotar Hell or Highwater
Ch Euzkotar Ibn Ibn Koshare
Ch Euzkotar Reymaree Van Halen
Ch Karolaska Kaskabar Euzkotar
Ch Karolaska Ramboyant
Ch Kaskadian Shaniko
Ch Kaskadian Skookumchuk Kid
Ch Pompier Euzkotar Born to Win
Pompier Euzkotar Lydian
Ch Pyr Haven Monsieur Montagne
Ch Rivergroves For Your Eyes Only
Ch Sami du Domaine de Nardesca
Ch Silver Creek at the Circus
Soliel Masquerade Rasquel

Bitches

Ban Sas La Panda Dulce
Calypso de la Brise
Euzkotar Io
Ch Euzkotar One at Stonybrook
Ch Euzkotar Sunmont Mistry
Glen Moors Wynn Dixie
Lazy Acres December Dawn CD
Oroblanco Belle de Pompier, CDX
Passereau de la Brise
Patoune du Grand Baou
Ch Pompier Euzkotar Fancy Lovin
Pompier Mother of All
Ch Stonybrook Ms Heaven Can Wait
Ch Tip'N Chip The Rose

Comparison Charts

The following table presents a comparison of data from the 1991 and 1999 survey reports.

| Condition | 1991 | 1999 | Diff |
|------------------------------|----------|--------|-----------|
| Arthritis | 5% | 5% | 0% |
| Hip Dysplasia | 5% | 6% | +1% |
| Panosteitis | 3% | 5% | +2% |
| Spinal Problems | 2% | 1% | -1% |
| Patellar Luxation | 2% | 3% | +1% |
| Osteochondritis dessicans | 2% | 2% | 0% |
| Skin problems & allergies | 33% | 19% | -14% |
| All Cancers | 9% | 8% | -1% |
| Bone | 4% | 4% | 0% |
| Breast | 2% | 1% | -1% |
| Lymphoma | 1% | 1% | 0% |
| Other | 1% | 3% | +2% |
| Avg Age of onset of Cancers | 6.8 | 6.7 | -0.1 yr |
| Heart Problems | 3% | 3% | 0% |
| Neutered Males | 25% | 45% | +20% |
| Neutered Females | 47% | 54% | +7% |
| Reproductive Problems: Bitch | 31% | 21% | -10% |
| Females Bred | 32% | 26% | -6% |
| Males Bred | 22% | 16% | -6% |
| Life Span: Males | 8.3 yrs | 8yrs | ** |
| Life Span: Intact Females | 10 yrs | 9 yrs | See Notes |
| Life Span: Neutered Females | 10.4 yrs | 10 yrs | Below |

Note about life span: the 1991 survey was heavy weighted with dogs from the Longevity Survey who were 8 years of age or older at the time. Almost thirty percent of the dogs represented were already past the age of 8 when surveyed. Therefore, a meaningful comparison between the two surveys in this case may not be possible.

On the other hand, allergies show a marked drop - perhaps because of the widespread use of modern flea repellants and insect-growth regulators. The greater percentage of neutered dogs, and the lower percentage of dogs bred, may well be due to the response of more non-club-affiliated Pyr owners than were represented eight years ago.

The numbers in this report are as accurate as a small group of volunteers can make them. The real credit for the existence of this report goes to the owners of the dogs represented, who took the time to fill out a survey and to contribute to our further knowledge of *The Most Beautiful Dogs in the World*.