

Greater Swiss Mountain Dog Club of America Breed Health Survey 2000 & 2001

**GSMDCA Health Committee
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Coloring Conditions

Table 6 shows the frequency of coloring conditions that do not meet the AKC standard for Swissys. Three of the blue-coated Swissys also had blue eyes. Because some question the overall health and temperament of Swissys with nonstandard coloring, we did some additional analyses. Compared to the 1.6 average for Swissys with standard coloring, the mean number of health conditions for the blue-eyed Swissys was 2.2, for the blue-coated Swissys was 1.7, and for the red-coated Swissys was 1.4. These differences were not statistically significant. Compared to a median age of death of 82 months for Swissys with standard coloring, 3 blue-eyed Swissys died at the ages of 52, 65, and 116 months. There were no deaths among blue-coated Swissys and only one death (at the age of 33 months) for a red-coated Swissy. The Swissys with nonstandard coloring had very few reported temperament problems.

Table 5. Twenty Most Common Diseases/Conditions			
Disease/Condition	Overall Frequency	Overall Percent	Comment
Distichiasis (extra lashes)	164	19.4	
Licking episodes	146	17.3	See relationship to bloat and prophylactic gastropexy, Table 7.
Urinary incontinence	93	11.0	Higher percent in females (20.0%), particularly the oldest quarter of females (34.7%), Table 12.
Umbilical hernia	81	9.6	
Pica	77	9.1	Based on comments included by respondents, some reported cases may represent expected chewing as a puppy rather than clinical pica.
Hip dysplasia	77	9.1	More prevalent among Swissys with hip radiographs (15.7%) and older Swissys. Table 8. Compare with 19.4% hip dysplasia for Swissys in the OFA data base.
Cystitis	68	8.0	More prevalent among females (13.1%), Table 12.
Seizures without a cause (idiopathic epilepsy + fly snapping)	50	5.9	Also a leading cause of death (Tables 2 and 3). Prevalence is 4.6% if fly-snapping behavior is not included.
Osteochondritis dissecans	46	5.4	More prevalent among Swissys with shoulder radiographs (15.3%), Table 8.
Food allergies	46	5.4	
Irritable/inflammatory bowel syndrome	43	5.1	
Gastric dilatation-volvulus (bloat)	45	5.3	Also a leading cause of death (Tables 2 and 3). More prevalent in older Swissys (Table 6). Also, see relationship to licking episodes and prophylactic gastropexy, Table 7.
Panosteitis	40	4.7	
Skin allergies	39	4.6	
Elbow dysplasia	37	4.4	More prevalent among Swissys with radiographs (9.6%), Table 8. Compare with 12.5% elbow dysplasia for Swissys in the OFA data base.
Splenic torsion	37	4.4	Also a leading cause of death (Tables 2 and 3). More prevalent in older Swissys (Table 6). Prevalence rates not stable across survey (Appendix B).
Cataracts	36	4.3	More prevalent in older Swissys, Table 9.
Crooked tail	31	3.7	
Chronic ear infections	28	3.3	Prevalence rates not stable across survey (Appendix B).
Entropion	24	2.8	

Congenital Conditions

Table 6 also shows the prevalence of the congenital conditions of umbilical hernia and cleft palate. Umbilical hernias were fairly common, at 9.6% of all Swissys. Ten other congenital conditions were identified: 3 congenital foot deformities, 2 inguinal hernias, 2 hypoplastic soft palates, 1 “short” soft palate that may be another hypoplastic soft palate, 1 diaphragmatic hernia, and 1 congenital eye deformity.

Gastrointestinal Conditions

Table 6 also shows the prevalence of gastrointestinal conditions. We recoded two of the gastrointestinal variables based on our analysis of the narrative comments. First, we noted that some respondents indicated that their Swissy had frequent licking episodes, but that they would not characterize them as the “violent licking episodes” included on the survey. To capture this phenomenon, we renamed the condition “licking episodes” and included those with a narrative comment related to licking episodes. However, it should be noted that it is not clear whether all owners who checked “licking episodes” are referring to the same phenomenon. Second, there were several respondents who noted that their Swissy had “inflammatory” but not “irritable” bowel syndrome. We renamed this condition “irritable/inflammatory bowel syndrome” and included those with a narrative comment related to inflammatory bowel syndrome.

Several gastrointestinal conditions are quite prevalent among Swissys: licking episodes (17.3%), pica (9.1%), bloat (5.3%), irritable/inflammatory bowel syndrome (5.1%), and splenic torsion (4.4%). Bloat, irritable/inflammatory bowel syndrome, and splenic torsion were more prevalent in older Swissys ($p = .000$, $.032$, and $.000$, respectively).

The median age of death for Swissys that had had bloat or splenic torsion was 112 and 110 months, respectively.

Pica was more prevalent in younger Swissys ($p = .020$). Since pica was defined on the survey as “eats non-food items often” it may be that the high prevalence overall and the higher prevalence among younger Swissys represents typical chewing as a puppy rather than true clinical pica.

Condition		Total	1-24 mos	25-43 mos	44-64 mos	65-157 mos
		n = 846	n = 213	n = 203	n = 215	n = 215
Coloring: Blue Eyes	Frequency	17	7	4	4	2
	Percent	2.0	3.3	2.0	1.9	0.9
Coloring: Blue Coat	Frequency	12	3	6	3	0
	Percent	1.4	1.4	3.0	1.4	0.0
Coloring: Red Coat	Frequency	14	4	5	1	4
	Percent	1.7	1.9	2.5	0.5	1.9
Congenital: Umbilical Hernia	Frequency	81	17	21	20	23
	Percent	9.6	8.0	10.3	9.3	10.7
Congenital: Cleft Palate	Frequency	4	0	2	1	1
	Percent	0.5	0.0	1.0	0.5	0.5
GI: Irritable/Inflam Bowel Syndrome	Frequency	43	5	8	18	12
	Percent	5.1	2.3	3.9	8.4	5.6
GI: Intussuception	Frequency	3	1	0	2	0
	Percent	0.4	0.5	0.0	0.9	0.0
GI: Bloat	Frequency	45	7	5	5	26
	Percent	5.3	3.3	2.5	2.3	12.1
GI: Splenic Torsion	Frequency	37	1	1	9	26
	Percent	4.4	0.5	0.5	4.2	12.1
GI: Megaesophagus	Frequency	4	1	1	0	2
	Percent	0.5	0.5	0.5	0.0	0.9
GI: Licking Episodes	Frequency	146	31	39	39	37
	Percent	17.3	14.6	19.2	18.1	17.2
GI: Pica	Frequency	77	26	25	13	13
	Percent	9.1	12.2	12.3	6.0	6.0

Forty-five entries listed “other” gastrointestinal conditions: frequent vomiting (26 Swissys),

sensitive stomach (7), enlarged or inflamed spleen (3), excessive gas (3), loose stools (3) and one each enzymatic disorder, poor appetite, and pyloric stenosis.

Prophylactic gastropexy is an elective procedure thought to decrease the incidence of bloat. In our sample, 87 Swissys had undergone prophylactic gastropexy. Of these, 70 were females (15.8% of the females) and 17 were males (4.2% of the males). Furthermore, of the 70 females who had undergone prophylactic gastropexy, almost all (61) had also been spayed. Though the timing of the spaying and gastropexy were not determined in this survey, our data seem to support the known practice of having a prophylactic gastropexy performed at the time of the spaying surgery. We explored several relationships between prophylactic gastropexy, bloat, deaths from bloat, and two possibly related conditions—splenic torsion and licking episodes.

Table 7 shows that the prevalence of bloat was approximately the same for Swissys undergoing prophylactic gastropexy as for those who had not undergone the procedure. In addition, 16% of Swissys who bloated without prophylactic gastropexy died from bloat, while no Swissys who bloated with prophylactic gastropexy died from bloat. We cannot draw strong conclusions about the benefit of prophylactic gastropexy from these data because the numbers are too small, the simple relationship between the two conditions does not account for variables such as age and risk for bloat, and the numbers do not represent lifetime bloat statistics. Owners considering prophylactic gastropexy should consult their veterinarians and published research for more definitive information about the benefits and risks of prophylactic gastropexy.

Splenic torsion and licking episodes were significantly more likely to be present in Swissys with prophylactic gastropexy than for those who had not undergone the procedure ($p = .000$ and $.001$, respectively). Although it is impossible to determine cause and effect from survey data, it seems plausible that Swissys with licking episodes are viewed as “at risk” for bloat and are therefore more likely to undergo prophylactic gastropexy than Swissys without licking episodes. It also seems likely that some Swissys with splenic torsion have a prophylactic gastropexy performed at

		Prophylactic Gastropexy n = 87	No Prophylactic Gastropexy n = 759	Total n = 846
Bloat	Frequency	5	40	45
	Percent	5.7	5.3	5.3
Splenic Torsion	Frequency	12	25	37
	Percent	13.8	3.3	4.4
Licking Episodes	Frequency	26	120	146
	Percent	29.9	15.8	17.3
		Bloated with Prophylactic Gastropexy n = 5	Bloated without Prophylactic Gastropexy n = 38	Total n = 45
Died of Bloat	Frequency	0	6	6
	Percent	0.0%	15.0 %	13.3%
Did Not Die of Bloat	Frequency	5	34	39
	Percent	100.0%	85.0%	86.7%

the time the torsed spleen is removed.

We also did a crosstabulation of licking episodes and bloat. Overall, about 17% of Swissys had licking episodes and approximately 5% of Swissys had bloated. However, among the subset of Swissys who had bloated, almost 42% had licking episodes and among the subset of Swissys

who had licking episodes, approximately 12% had bloated. These findings were statistically significant ($p = .000$), providing preliminary support for the hypothesized relationship among the two conditions.

Furthermore, we did a crosstabulation of splenic torsion and bloat. Overall, about 4% of Swissys had splenic torsion and approximately 5% of Swissys had bloated. However, among the subset of Swissys who had bloated, about 22% had splenic torsion and among the subset of Swissys who had splenic torsion, about 27% had bloated. These findings were statistically significant ($p = .000$), providing preliminary support for a possible relationship between the two conditions. Further study of the possible relationships among licking episodes, bloat, and splenic torsion is needed.

Orthopedic Conditions

Table 8 shows the results for the orthopedic conditions. For hip dysplasia, osteochondritis dissecans, and elbow dysplasia, two prevalence rates are given: one for the overall sample and one for each of the subsets that had undergone hip, shoulder, or elbow radiographs, respectively. The rates of all three conditions were consistently higher for Swissys who had radiographs.

There were significant differences across age groups for hip dysplasia ($p = .000$), anterior cruciate ligament tears ($p = .044$), and osteochondritis dissecans (OCD) ($p = .005$). Higher proportions of older Swissys were reported to have hip dysplasia and anterior cruciate ligament tears and higher proportions of younger Swissys were diagnosed with OCD. The high prevalence (47.8%) of OCD among the youngest Swissys who had had shoulder radiographs could indicate a recent increase in prevalence within the breed, but is likely explained by the fact that young Swissys are unlikely to have their shoulders radiographed unless they are symptomatic. All of the patterns seen across age groups need to be interpreted conservatively since the age at onset of the conditions was not collected.

We tested for an association between hip and elbow dysplasia among the 358 Swissys with radiographs of both hips and elbows. Twenty percent of Swissys with hip dysplasia also had elbow dysplasia and 29.0% of Swissys with elbow dysplasia also had hip dysplasia, indicating a significant association between the two conditions ($p = .008$).

Thirty-two entries listed other orthopedic conditions, including: spondylosis (17 entries), spinal arthritis (8), fracture (2), tendinitis (2), and one entry each for hemivertebra, limb growth abnormality, and persistent open fontanel.

Neurologic Conditions

Table 9 shows the prevalence of neurologic conditions. The questionnaire had three separate listings for different types of seizure activity: seizures of known cause, seizures without a cause (parenthetically defined as idiopathic epilepsy), and “fly-snapping” behavior. The prevalence of seizures without a cause increased across age groups ($p = .003$), with quite low prevalence in the youngest Swissys, lending support to the common belief that idiopathic epilepsy is rarely expressed before the age of 2 years.

The prevalence of seizures without a cause was 4.6% (39 Swissys) and of fly-snapping behavior was 1.9% (16 Swissys). Five of the respondents who checked “fly-snapping behavior” also checked “seizures without a cause.” Because some consider fly-snapping behavior to be a form of idiopathic epilepsy, we also calculated the prevalence of dogs with either seizures without a cause and/or fly-snapping behavior: 5.9% (50 Swissys). As noted previously, one of the most common causes of death was epilepsy (5 Swissys) or unspecified seizures (3 Swissys) and the median age at death for Swissys with epilepsy was 45 months (3 years, 9 months).

Because some have hypothesized that licking episodes may be a neurologic rather than gastrointestinal phenomenon, we looked for—but did not find—an association between licking episodes and seizures without a cause.

Respondents listed 7 different causes for “seizures of known cause”: toxin, ketamine reaction, heartworm medication, attack by other dog, brain tumor, gag-related, and hypoglycemia. Four other neurologic conditions were identified, one each of cervical radiculopathy, stroke, viral encephalopathy, and myelopathy.

Eye and Ear Conditions

Table 9 shows the prevalence of eye and ear conditions. Distichiasis (extra lashes) was noted for almost 20% of Swissys and entropion was noted for almost 3%. The prevalence of cataracts increased with age ($p = .000$). Sixteen other eye and ear conditions were identified: allergic conjunctivitis (eye allergies) (3), eye lid cyst/tumor (2), benign eye lesion (2), and one each of blind eye, perforated cornea, recessed eye, micropapilla, malaligned eyes, eye infection, Horner’s syndrome, keratoconjunctivitis sicca, and deafness.