# HIP SCORING IN CLUMBER SPANIELS: A report on the first 100.

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## Introduction

Hip dysplasia was first reported in the dog in 1935, the year tha I was born, though I doubt if that has any significance. It started to gain prominence during the 1950's in USA and schemes to identify and combat it were started in Sweden during the late 1950's. An abortive an ill conceived scheme was begun by the GSD League in Britain in 1961 and the BVA/KC scheme started in 1965 with the American OFA scheme starting year or two later. Under the BVA/KC scheme dogs were assessed as Normal (Certificate), Near Normal(Breeders letter) or Failure. The aim was rea to identify normal/near normal dogs and hence submission of obvious failures was discouraged. About 350-450 dogs of all breeds were submitte annually, a relatively minor part of the total population. Essentially t BVA/KC scheme failed through lack of support. In 1978 the GSD breed got the BVA to introduce a new scoring scheme in which dogs were assessed on 9 radiographic features of the hip with each feature scoring from 0 (ide to 6 (worst). With nine features and two hips a dog could score 9 x 2 x or 108 maximum (later reduced to 106 as one item was maximised at 5). A single hip could score from 0 to 53 and hips are best described by right and left thus 5/6 rather than 11. The scheme succeeded and quickly was wanted by other breeds. A few breeds collaborated and in late 1983 the ol BVA/KC scheme was abandoned and all breeds used 'scoring'. Since then w are averaging over 8,000 dogs of all breeds annually with about 75% of a submissions stemming from the GSD, Golden Retriever, Labrador Retriever and Rottweiler. To 3.9.1987 almost 28,500 dogs have been assessed from all breeds. We have assessed 96 rather than 100 Clumbers but it seems a useful time to report in view of the Clumber Symposium for which this paper is produced.

## Numbers seen

A total of 96 Clumbers have been hip scored covering dogs born between 1977 and 1986. In view of annual rrgistrations around 200 this is not a high percentage of available dogs. The scored stock represent the progeny of 57 matings(repeat litters counting as one mating) and are the progeny of thirty different sires. This represents a mean of 3.2 progeny per sire and 1.68 progeny per mating.

Data by sire are shown in Table 1

Table 1 Number of progeny by sire/mating

| No. per sire | No. of sires | Total No. progeny | No. different dams | progeny per mating |
|---|---|---|---|---|
| 1 | 7 | 7 | 7 | 1.00 |
| 2 | 7 | 14 | 11 | 1.27 |
| 3 | 5 | 15 | 11 | 1.36 |
| 4 | 4 | 16 | 11 | 1.45 |
| 5 | 3 | 15 | 7 | 2.14 |
| 6 | 1 | 6 | 3 | 2.00 |
| 7 | 1 | 7 | 1 | 7.00 |
| 8 | 2 | 16 | 6 | 2.67 |
| Totals | 30 | 96 | 57 | 1.68 |

## Effect of sex

The 96 animals comprised 37 males(38.5%) and 59 females(61.5%) which is close to the 1/3 to 2/3 ratio seen in most breeds. The males had a mean score of 40.45 and the females 39.75 with an overall mean of 40.02 the second highest of any breed, beaten only by the Otterhound.

## Cooperating affixes

Dogs are ranked by the affix borne, regardless of who submitted the animal. Thus a kennel may be represented without the owner of the affix actually supporting the scheme but by having buyers submit their stock. In Table 2 are shown those affixes for which at least two scored dogs have been recorded. Hopefully more will be represented in future lists. It must be remembered that breeders breed on differing scales and high numbers scored may represent large numbers of registrations or great insistence upon scoring stock.

Table 2 Submissions by affix[a]

| No. scored | Affix |
|---|---|
| 16 | Leybel |
| 9 | Venaticus |
| 8 | Raycroft, Trevabyn |
| 7 | Darnacan |
| 5 | Marshmarks |
| 4 | Belcrum |
| 3 | Anchorfield, Glyncroft, Scarsdale |
| 2 | Davigdor, Frastan, Wickbourne |

[a] Where a dog has two affixes it is recorded only under the origin

Old BVA/KC grades

All dogs scored were assessed under the old three category system and for purposes of comparison these results are shown in Table 3. It ca be seen that some 92% of the breed would be technically failures under the old BVA/KC scheme which illustrates the disadvantage of that scheme, especially if breeders are advised only to breed from normal dogs. Only some 2% of this sample were actually normal and clearly no breed can exist if only 2% of the stock are bred from.

Table 3 Old BVA/KC scheme results

| Category | Males | | Females | | Both | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| Certificate | 1 | 2.70 | 1 | 1.69 | 2 | 2.08 |
| Letter | 2 | 5.41 | 4 | 6.78 | 6 | 6.25 |
| Failure | 34 | 91.89 | 54 | 91.53 | 88 | 91.67 |

Year of Birth and age effects

One might expect age at X-ray to influence score in that older dogs might be expected to score higher. The evidence for this is unclear in this limited sample. Table 4 Shows the results by age at X-ray and Table 5 by year of birth. The oldest dog scored was 84 months at time of X-ray

Table 4 Effect of age on score

| Age (m) | No. dogs | Mean score |
|---|---|---|
| 12 - 23 | 56 | 38.2 |
| 24 - 35 | 24 | 44.4 |
| 36 - 47 | 10 | 49.5 |
| 48 - 59 | 2 | 52.0 |
| 60 - 84 | 3 | 13.0 |

Numbers at older ages in table 4 are too small to be meaningful.

Table 5 Year of birth on score

| Year of birth | No. dogs scored | Mean age at X-ray | Mean score |
|---|---|---|---|
| 1977-79 | 7 | 50.9 | 44.43 |
| 1980 | 5 | 47.2 | 35.60 |
| 1981 | 6 | 30.2 | 34.00 |
| 1982 | 15 | 24.8 | 43.60 |
| 1983 | 19 | 25.1 | 40.05 |
| 1984 | 25 | 20.2 | 38.20 |
| 1985 | 14 | 18.0 | 45.71 |
| 1986 | 5 | 13.6 | 27.80 |

Although there is a clear tendency for age at X-ray to reduce as one moves from earlier to more recent years this is partly inevitable as recent births are still young. Eventually the age at X-ray ought to be similar for all years of birth. There is no evidence of any trend in score which is to be expected since scoring only began in 1983 on any scale. Breeders have had little time to take account of hip scores and many will not.

Difference between hips

Hip dysplasia is essentially a bilateral problem with both hips more or less similarly affected. The difference between hips is shown in Table 6 and illustrates this.

Table 6 Difference between hips

| Difference | No. | % | Cum. % | Difference | No. | % | Cum. % |
|---|---|---|---|---|---|---|---|
| 0 | 17 | 17.7 | 17.7 | 8 | 2 | 2.1 | 81.3 |
| 1 | 17 | 17.7 | 35.4 | 9 | 2 | 2.1 | 83.3 |
| 2 | 14 | 14.6 | 50.0 | 10 | 2 | 2.1 | 85.4 |
| 3 | 11 | 11.5 | 61.5 | 11-15 | 7 | 7.3 | 92.7 |
| 4 | 4 | 4.2 | 65.6 | 16-20 | 4 | 4.2 | 96.9 |
| 5 | 8 | 8.3 | 74.0 | 21-30 | 2 | 2.1 | 99.0 |
| 6 | 5 | 5.2 | 79.2 | 31-36 | 1 | 1.0 | 100.0 |

The largest difference between hips was 36 points. Some 75% of dogs differed by 5 points of less. This is a less clear picture than in most other breeds where in excess of 80% are differing by 5 points or less The significance of this may be clearer with more submissions.

Distribution of scores

One of the most useful items of information is the distribution of scores since it enables a breeder to know where his/her dog appears relative to the breed mean. Normally these would be shown by each sex but in view of small numbers scored the two sexes are combined. One can assume

| Total score range | Number of animals in this range | Percent of total | Cumulative percentage |
|---|---|---|---|
| 0 - 5 | 5 | 5.2 | 5.2 |
| 6 - 10 | 7 | 7.3 | 12.5 |
| 11 - 15 | 11 | 11.4 | 24.0 |
| 16 - 20 | 10 | 10.4 | 34.4 |
| 21 - 30 | 12 | 12.5 | 46.9 |
| 31 - 40 | 11 | 11.4 | 58.3 |
| 41 - 50 | 6 | 6.3 | 64.6 |
| 51 - 60 | 9 | 9.4 | 74.0 |
| 61 - 70 | 6 | 6.3 | 80.2 |
| 71 - 80 | 7 | 7.3 | 87.5 |
| 81 - 90 | 8 | 8.3 | 95.8 |
| 91 -100 | 3 | 3.1 | 99.0 |
| 101 -106 | 1 | 1.0 | 100.0 |

Lowest score seen 3 Highest score seen 102

In comparison with many breeds the problem in the Clumber is seen in Table 8. In a breed like the GSD some 75% of the breed are scoring 1 points or less(based on over 10,000 submissions). In the Clumber this score only accounts for about a third of all dogs. Half the breed are scoring under 40 but a quarter of the breed scores above 60. This assu the sample seen is unbiased. If breeders are selecting out the worst h and not sumbitting then the true picture is worse.

Nevertheless there is considerable hope. If around a quarter of the breed score 15 or less then scoring only 100 dogs would give about scoring 15 or less. Scoring 1000 dogs would increase the number of relatively tolerable scored dogs to 250 animals, providing scope for t selection of other traits. Clearly breeders of Clumbers will have to b less selective on hips than other breed enthusiasts because of the hig mean score and limited numbers of lowish scorers. This, however emphas

the importance of scoring as many dogs as is humanly feasible. If the Siberian Husky breeders( a breed of comparable numbers to Clumbers) can score over 300 animals then why not Clumber breeders. Moreover the Husky has excellent hips and thus the need to X-ray and score is much less important in that breed than in yours.

Progeny testing

Evidence from the Rottweiler and GSD shows that the heritability (inheritance factor) for HD is around 40%. This does not mean that only 40 percent is inherited but that in selecting only 40% of any superiority (or inferiority) for hips will be transmitted to the next generation. In other breeds the figure may be less. Thus in Labradors it is around 28 and in Goldens about 18% The figure for Clumbers cannot be derived in vie of the small number of sires and progeny. However if we accept 40% then a dogs only score is about 63% reliable as a breeding guide. This is more useful than any pedigree or litter mate data(though both would be useful) However progeny data are more useful still. As few as 10 progeny would be some 73% reliable(more useful than the dog's own score) and 20 progeny about 84% reliable.

We know that given 20 progeny from a good sample of bitches we can accurately identify sires that help or hinder hip progress. No sires have enough data to be published but already there is an indication of possible differences. One sire(a high scorer) has a progeny mean in exces of 70. Another( a low scorer) has a progeny mean below 20. Other sires are seen at varying levels. Clearly these provisional data could be very misleading but they emphasise the need to score as many stock as possible from as many bitches as possible. In the GSD over 200 progeny tests have been published. In Goldens over 100, In Rottweilers and Labradors smaller but important numbers and even in numerically small breeds progeny test data are being made available. This is the greatest advantage of this scheme over all others. We need to X-ray and score all dogs that can be

done and remember that a pet dog may seem unimportant but it represents data on its sire/dam and kennel and thus is highly valuable to the presentation of data for breeders to use.

Hip dysplasia is far from the most important thing in dogs. Character eyesight, freedom from epilepsy etc may all be more crucial than HD. But if your dog is crippled with HD then it is the most important thing for your dog. A high score does not mean that a dog will be seriously impaired since much depends upon musculature and character. But many dogs do have their life style impaired by HD. Some critics will argue that they do not X-ray because their dogs are sound. I have seen cripples produced by sound dogs which had high hip scores. Users of a dog have a right to know all that can be gleaned about that dog, including hip status. Others may argue that anaesthetics can kill. That is unfortunately true and a small number of dogs can die under an anaesthetic just as penicillin can kill the occasional person. Butmmore dogs die because they are put down with HD than ever died on the X-ray table. In other countries legislation has imposed limits on what can be bred. Here they have not yet come about. But if we do not put our house in order then sooner or later it will be imposed upon all of you. It is better to be masters of our own dogs' destiny than to have impositions upon us. X-ray and score all your dogs. Make it a routine thing to be undertaken after 12 months of age. That way I can produce more data to feed back to you and sooner or later the hip status will improve in this breed if you use that data - without harming the general looks of the breed. You are undoubtedly in a mess but all is not lost. Itis your breed, you and you alone must care or it will be nobody's breed.