

## Hip & Elbow Dysplasia Facts

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- There is no DNA evidence whatsoever that Canine Hip Dysplasia (HD) or Elbow Dysplasia (ED) is in fact genetic. Previous studies that suggested there may be a genetic basis for HD was based on the now obsolete statistical Heritability Factor ( $h^2$ ); which indicated that if there is a genetic link, then about 80% or more of HD is due to environment.
- Many breeds of dogs are affected by this problem. The authoritative Orthopaedic Foundation for Animals, now defunct, listed 37 breeds with a greater incidence of HD than German Shepherd Dogs (GSD's).
- In South Africa, less than one in 500 GSD's develops clinical symptoms, i.e. physically show lameness, before old age, that can be linked to HD.
- There is no correlation between radiological diagnosed Hip Dysplasia and the development of actual clinical symptoms in GSD's. Many dogs diagnosed with even severe Hip Dysplasia never show a day's lameness or discomfort their entire lives.
- More than 90% of young GSD's in South Africa diagnosed with HD due to looseness of the hip joints (subluxation) without accompanied arthritis, pass the scheme if they are re-examined a year later.
- There is evidence that ED may be linked to incorrect (bowed) front lines. This may be heredity.
- **HD and ED as radiologically defined is unlikely to be genetic and can be caused by you, the owner.** Most common environmental causes are the following:
  - Incorrect feeding, especially the following-
    - Imbalance in the Calcium: Phosphor ratio in the food due to additives fed to especially growing dogs. For example, meat may result in too much phosphor and vitamin additives imbedded in calcium may result in the calcium part of the equation being too high;
    - Feeding foods too high in protein often result in a too high growth rate and Panosteitis (Growing Pains) which may lead to HD and
    - Overweight growing puppies.
  - Too much, especially forced or impact based exercise.
  - Physical injuries of puppies such as:
    - Running through a doorway and bashing a hip against a door post;
    - Climbing over a fence and snagging its hips or elbows on the top strand;
    - Wiggling through a fence constructed from vertical bars such as a swimming pool fence;
    - Injured in rough play, especially with older dogs.
- Misdiagnosis often incorrectly labels a dog as Dysplastic. More than 90% of diagnoses made by non-expert vets submitted to the GSDF for evaluation turn out to be incorrect.
- Positioning for the X-ray is critical. Incorrect positioning is the most important cause of misdiagnosis.

*The German Shepherd Dog Federation of South Africa (GSDF) has been running a compulsory Hip Dysplasia Scheme since its inception in 1984. X-rays of more than 10,000 dogs have been examined during this time. Only dogs that pass the scheme may breed. The above facts have inter alia emerged from studies based on the results. The author designed the scheme at its inception and has been closely involved with its monitoring.*