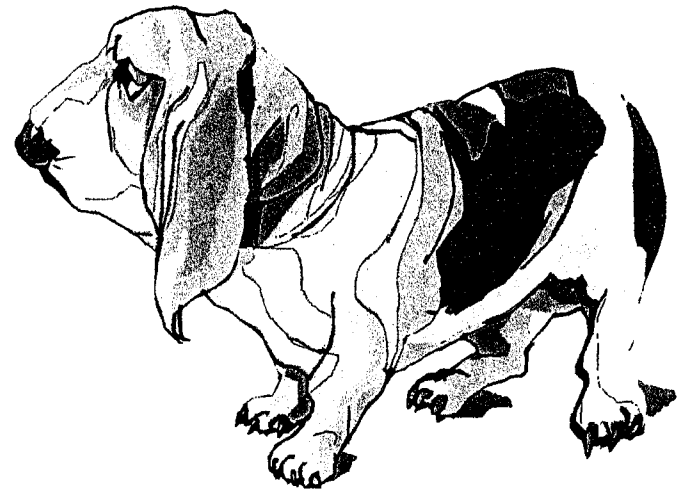


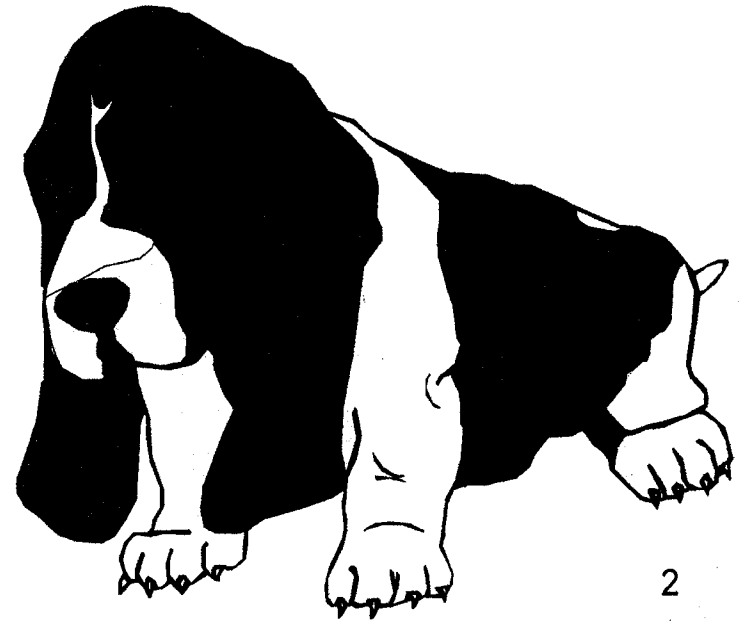
Basset Hound:

DWARF *and* GIANT?

**Presented At The 2004
BHCA National Specialty
By Claudia Orlandi, PhD**



Can a Basset
Hound be a
dwarfed
giant?

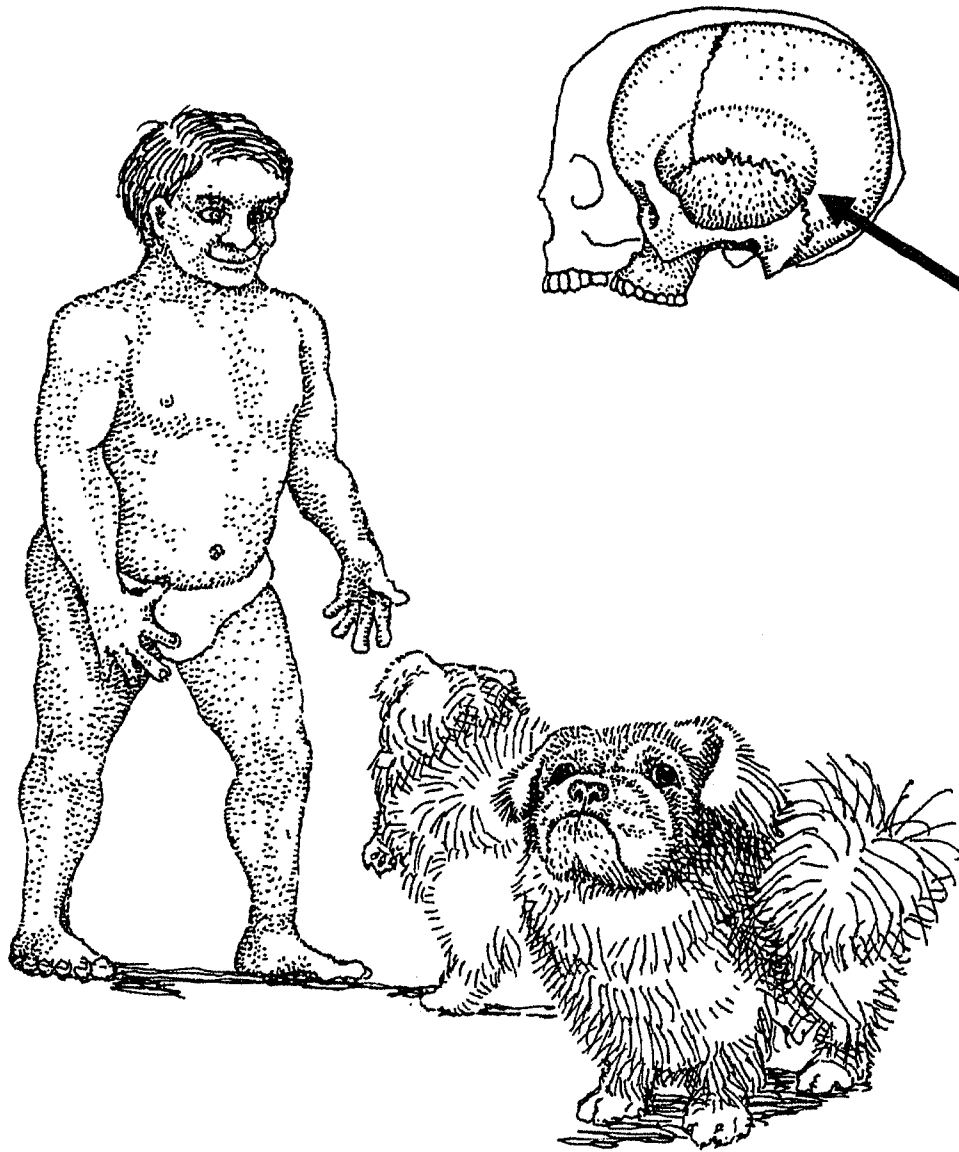


YES!

ACHONDROPLASIA
(Dwarfism)

And

ACROMEGALY
(Gigantism)



*Fairly common mutation –
1/10,000 births.*

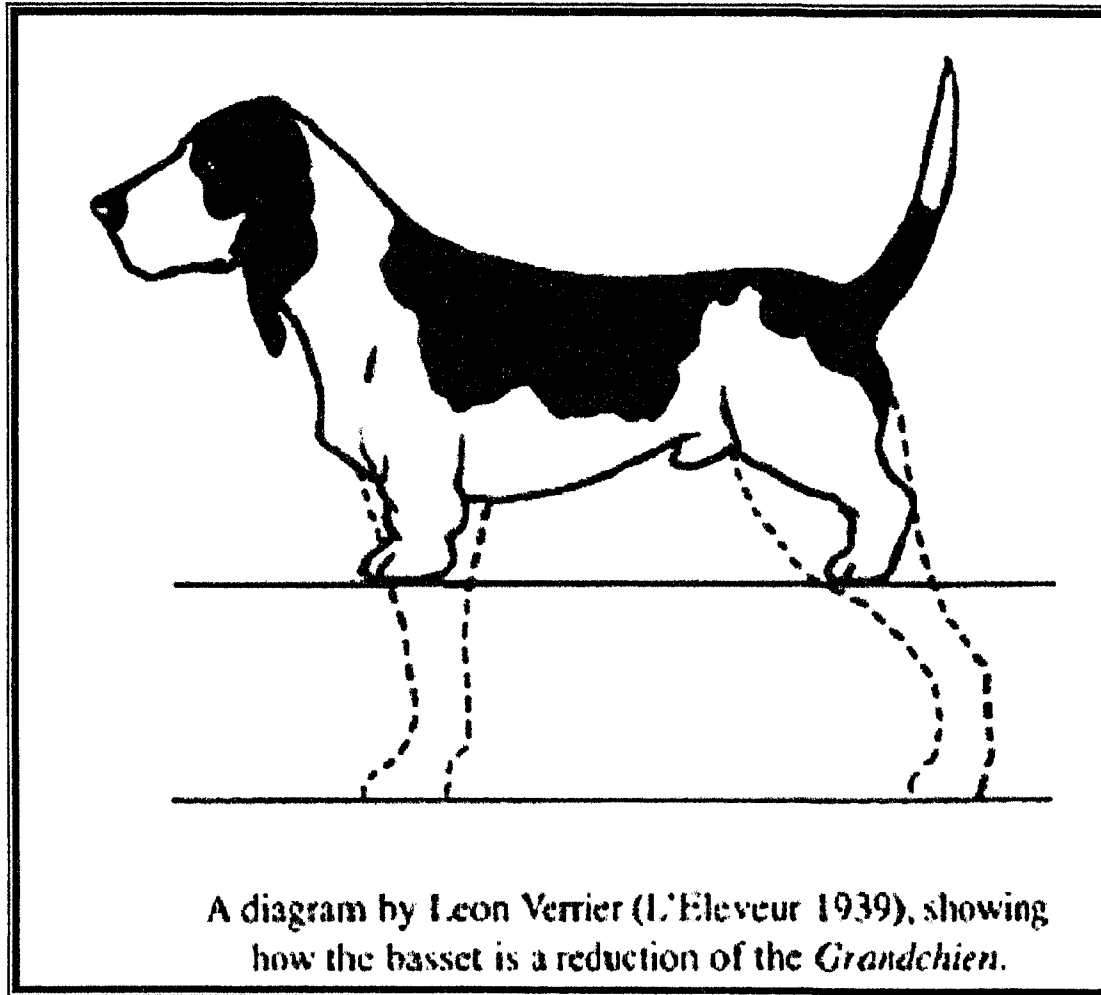
*In man and dogs there may
be a compression of the
face (doesn't occur in the
Basset).*

Achondroplasia (Dwarfism)

Achondroplasia

(Dwarfism)

- Cartilage of bone-ends grows improperly**
- Affects growth of long bones of young dogs**



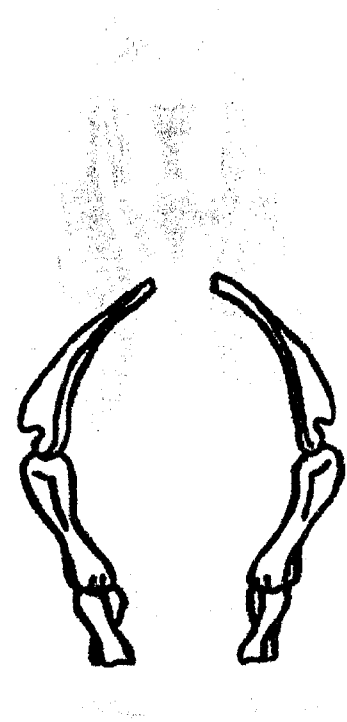
**Results in a dog with
short legs!**



**Origin of breeds like Basset
Hound and Dachshund -
penetrate thick underbrush
in pursuit of game.**

Characteristics of stunted leg bones

- Frequently bowed
- Often stronger than bones of normal length



- **Short leg with crook is a dominant trait in dogs (based on Stockard)**
- **Short legs with fine bone tend to be straighter than heavier bones**
- **High levels of feeding up to 3 or 4 months = increases bone structure, length of leg and length of back (Willis, 1989, p 105)**

CROSS OF GERMAN SHEPHERD WITH BASSET HOUND



First
generation
(F1)



Second generation (F2)

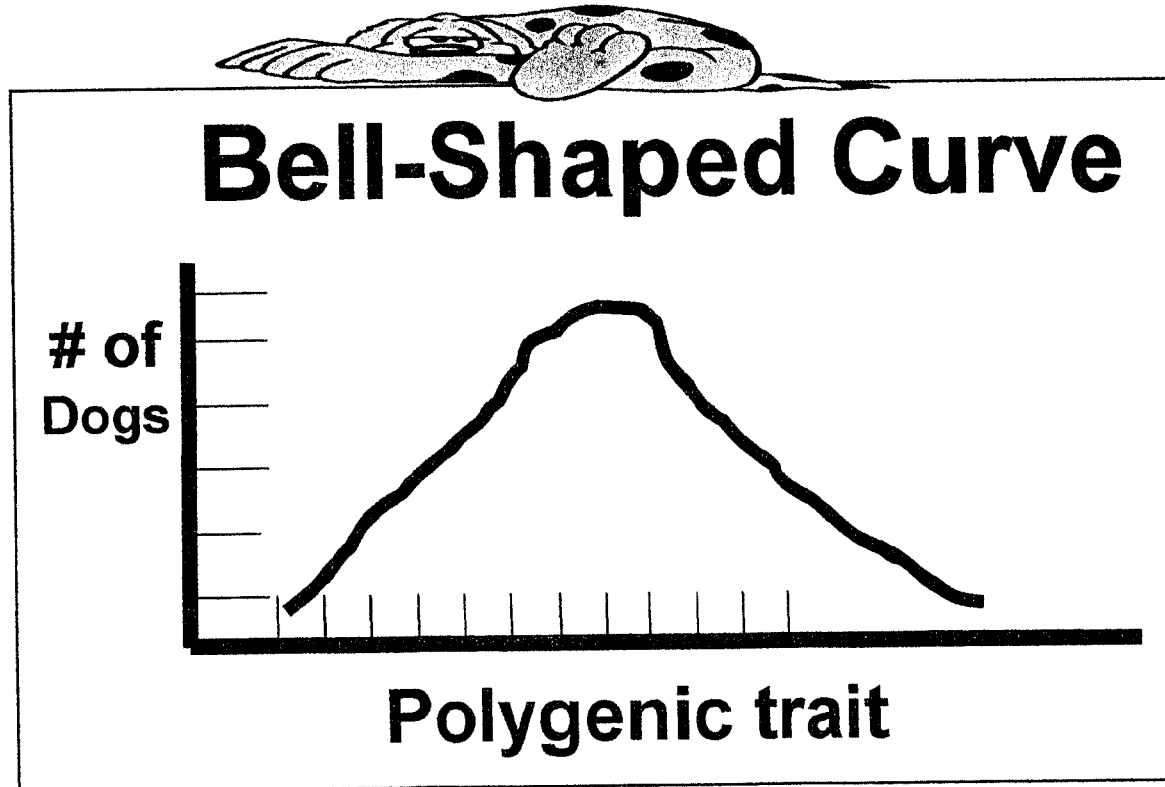


FIGURE 5-3

From Stockard (1944)

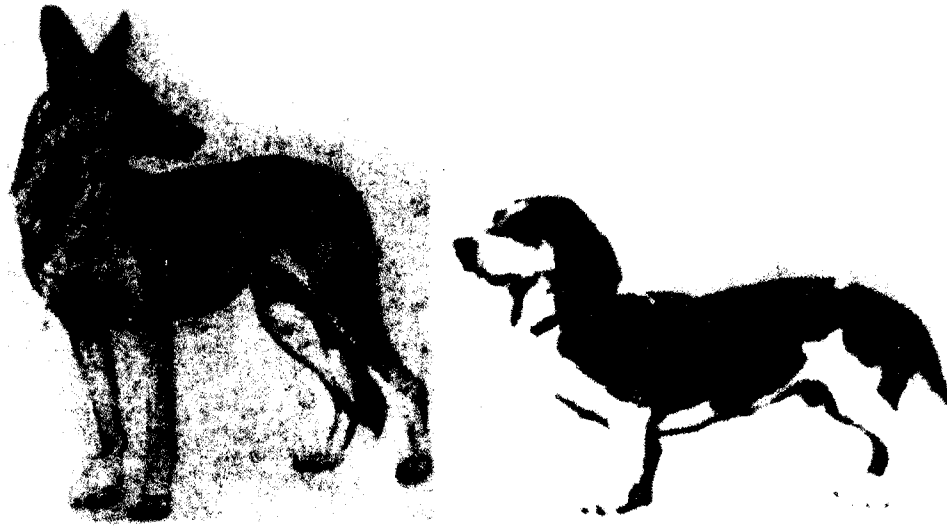
With polygenic traits like leg length, the phenotype of most offspring will generally fall midway between that of the parents.

Distribution of Polygenic Traits



- Follow a bell-shaped curve.
- Very few dogs on either extreme - most fall in the center, that is, the phenotype is generally midway between that of the parents.

CROSS OF GERMAN SHEPHERD WITH BASSET HOUND



First
generation
(F1)



Second generation (F2)

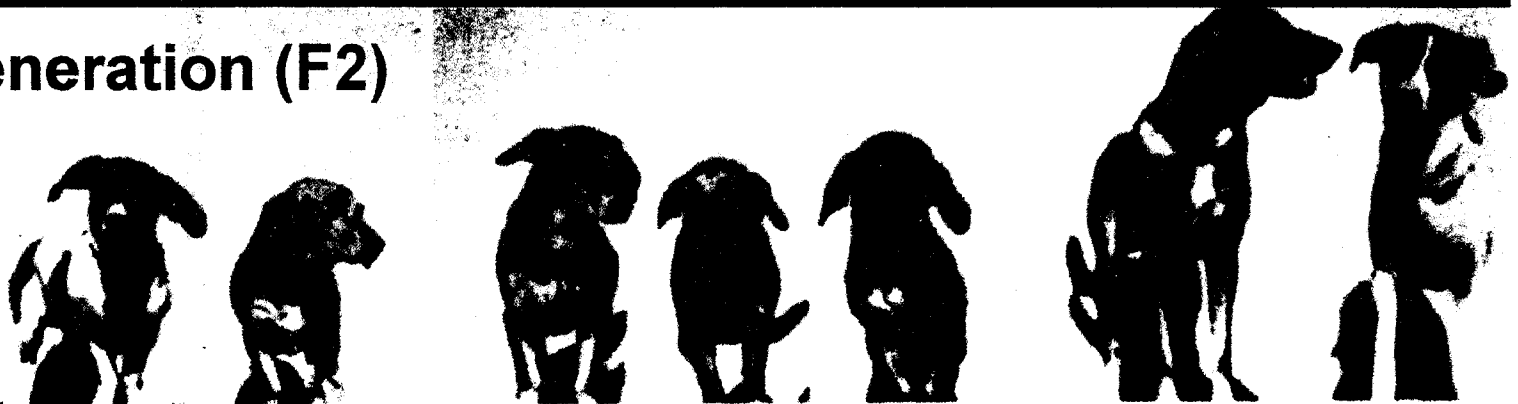


FIGURE 5-3

From Stockard (1941)

Leg length is fairly easy to control:

**Don't mate 2 long legged
animals.**

Don't keep long legged offspring.

Selection is up to the breeder!

Other Effects Reported in Human Dwarfs

Obesity

Swayback

Increased risk of ear infections

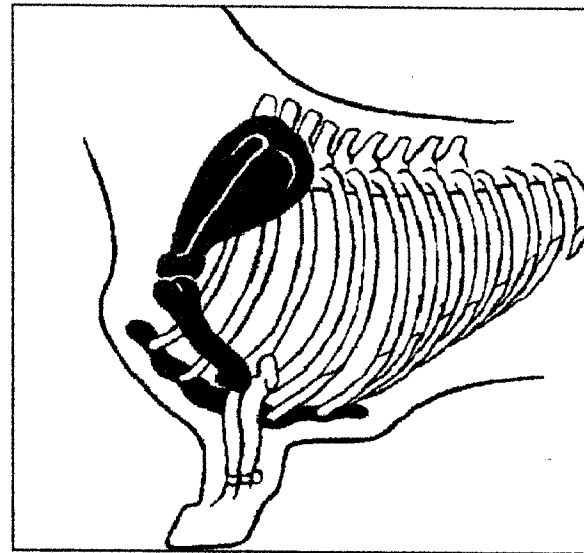
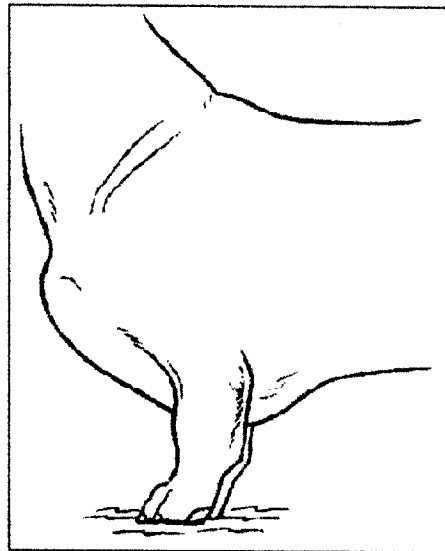
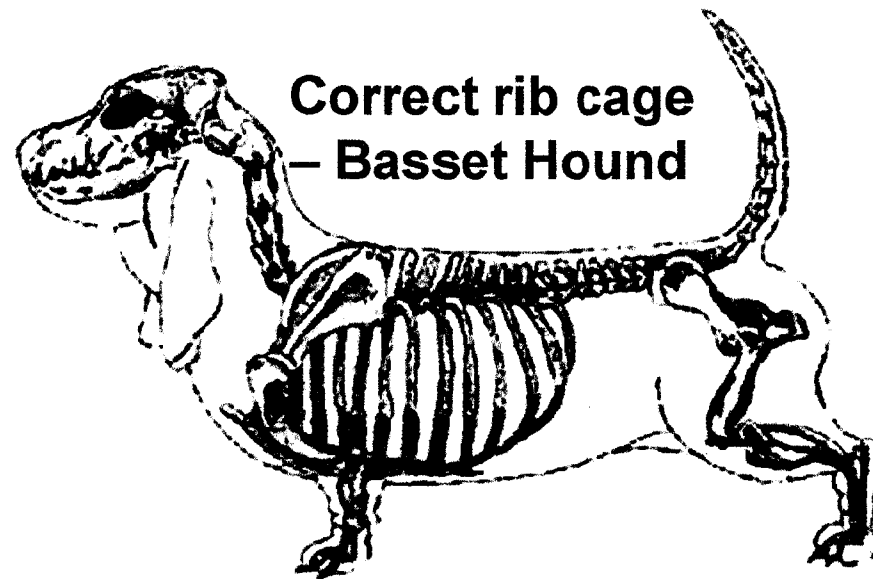
Small rib cage

Lax joints

Wide based waddling appearance when walking

In addition to short legs, how *might* achondroplasia affect the Basset Hound?

- ⇒ Bumpy, flanged rib cages, short posterior sternums
- ⇒ Bad bites?
- ⇒ Kinked tails (achondroplasia of axial skeleton, reported in Dachshund literature)
- ⇒ Health defects: bowed ulna, ear infections???
- ⇒ Tendency to obesity



Cut off keel and short posterior sternum - Dachshund

Consistently breeding long, smooth rib cages – very difficult in Basset Hounds.

Presence of correct rib cages in parents and close up ancestors is no guarantee offspring will inherit this trait.

ACROMEGALY

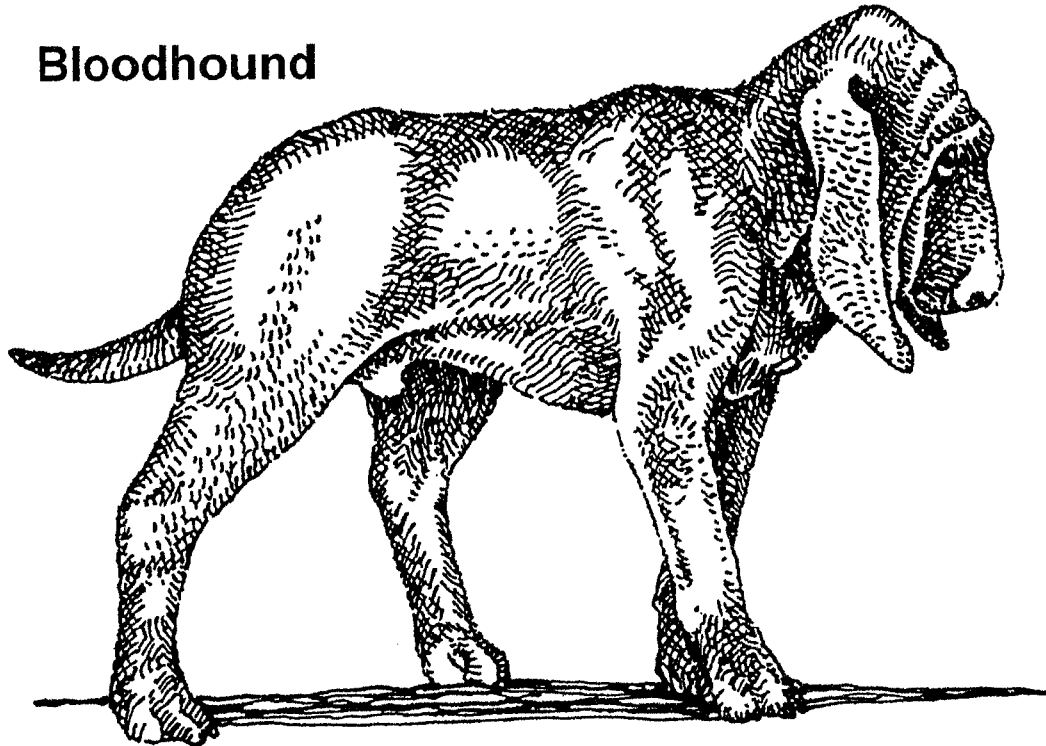
(Gigantism)

Gigantism: one of the most common mutations among higher vertebrates. 1/10,000 births in man and dogs.



Acromegaly

Bloodhound



Fleshy face
=
acromegaly
in the
extreme

Disturbance of pituitary - excess growth hormone

Fairly common mutation

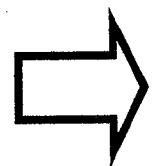
**Basset Hound's
traits of gigantism
reflect a genetic
influence of the
Bloodhound.**

Effects of Acromegaly

- ⇒ **Increased size**
- ⇒ **Unusually massive leg bones and feet**
- ⇒ **More massive muscles**
- ⇒ **Loose skin about head hangs in folds and wrinkles; long, pendulous ears**

 **Wrinkled skin on legs**

 **Lower jaw may grow excessively compared to rest of skull**

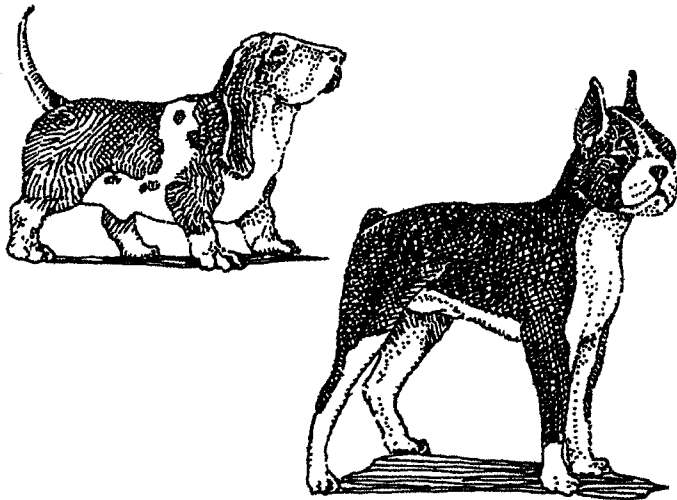
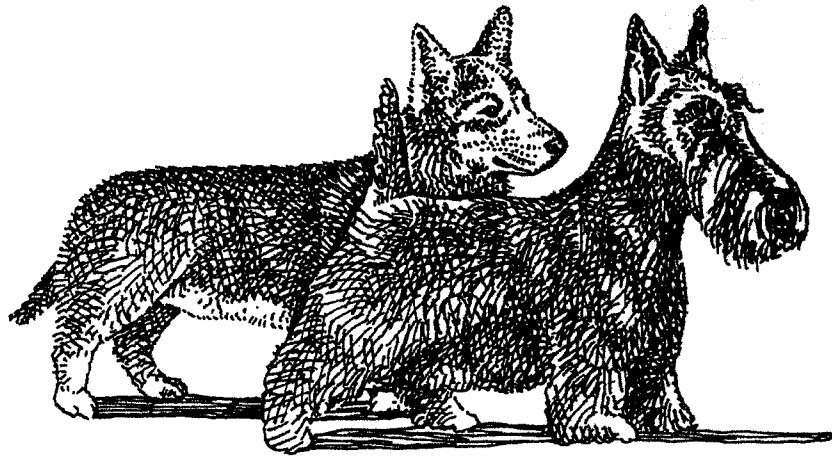
 **Intestinal obstruction may occur (weight of guts)**

Acromegaly and the Basset Hound

1. Tendency to bloat?

**2. Bite problems (Standard:
scissors or even)?**

3. Tendency to over eat?



Loughlin: “...**Basset Hound** is a sort of ‘dwarfed giant’ of **acromegalic Bloodhound** ancestry, a kind of ‘canine tank’ for rapid movement through heavy brush”

(The Canine Clan: A New Look At Man's Best Friend, 1983, p 128).

Some final thoughts for breeders:

- 1. Dwarfed legs are dominant – breeders need to use caution and select against incorrect forelegs (ie, too much crook; mismatched fronts,) The more tightly linebred the individual the stricter the breeder must be in the selection process. Traits are more “fixed” in closely linebred or inbred individuals.**
- 2. Forequarters are the hardest things to breed correctly. Correct forequarter assembly is more difficult to attain in an achondroplastic breed.**
- 3. Nutrition in the first 3 or 4 months, seems to have the potential to affect bone size, leg length and length of back (Willis, 1989). Bassets tend to put on weight more easily than other breeds. Care should be taken not to over feed.**

- 4. Acromegaly may predispose Basset to bloating.**
- 5. Acromegaly and dwarfism may predispose Bassets to bad bites more frequently than in other breeds. Standard allows scissors or even.**
- 6. Breeding consistently good rib cages can be a challenge in some Basset Hound blood lines due to the influence of dwarfism. What you see is not always what you get in offspring.**
- 7. Controlling leg length is fairly easy to do. Breeders should not mate 2 long legged dogs. Phenotype of offspring should fall midway between that of the parents.**

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