KUSA
Kennel Union of Southern Africa

KENNEL UNION OF SOUTHERN AFRICA

KUSA BREED JUDGES LEARNING PROGRAMME

STUDY GUIDE #6: GENERAL - INTRODUCTION & PART 1: STRUCTURAL BALANCE

CANINE PHYSIOLOGY

EXAMINATION CONTENT FOR LEVELS 1 & 2

All rights reserved. No part of this booklet may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or any information storage and retrieval system, without permission in writing from the Kennel Union of Southern Africa.

Edition September 2013

Compiled by Joy McFarlane for

THE KENNEL UNION OF SOUTHERN AFRICA
P O BOX 2659
CAPE TOWN.8000

CONTENTS

PART ONE – STRUCTURAL BALANCE

FIRST IMPRESSIONS 4
- Type vs Style 4
- Silhouettes 4

FORM AND FUNCTION 6

STRUCTURAL BALANCE 7
- Size 8
- Substance 9
- Proportions 10
- Variations of hind structure 12
- Variations of front structure 13

PART TWO – COAT AND SKIN

COAT 15
- Coat characteristics 16
- Coat textures 17
- Coat distribution 18
- Coat colours 18
- Coat patterns 19
- Coat markings 20

SKIN 21

PART THREE - CONFORMATION

HEAD AND NECK 24
- Head shapes 25
- Head planes 26
- Elements of the back skull 26
- Ears 27
- Eyes 28
- Eye rims 28
- Expression 29
- Elements of the foreface 29
- Nose 30
- Neck 31

FOREQUARTERS 32
- Withers 32
- Shoulder 32
- Upperarm 33
- Foreleg 33
- Wrist 33
- Pastern 33
- Forefoot 34

BODY 35
- Chest 35
- Abdomen 36
- Topline 37

HINDQUARTERS 38
- Croup and rump 38
  - Upper and lower thighs 39
  - Hock and rear pasterns 39
- TAIL 40

PART FOUR - ANATOMY

MUSCULAR ANATOMY 42
SKELETAL ANATOMY 44
Comparison of human and dog 45
The skull 46
Dentition 47
The forequarters 49
The spinal column 51
The ribcage 52
The hindquarters 53

PART FIVE - ANGULATION

FIRST IMPRESSIONS 54
FRONT ASSEMBLY 58
Shoulder layback 59
Return of upperarm 60
Shoulder angle 61
Shoulder placement 63
Examples of shoulder assemblies 64
HIND ASSEMBLY 65
Pelvic angle 65
Stifle joint 67
Hock joint 67
Examples of hind assemblies 68

PART SIX – MOVEMENT

CENTRE OF GRAVITY 70
HEAD CARRIAGE IN MOVEMENT 71
NORMAL GAITS 72
THE PACE 72
THE TROT 73
HOW TO EVALUATE MOVEMENT 74
Front and rear views 74
Examples of faulty movement 78

Answers to quiz 79
Acknowledgements 80

PART ONE:
STRUCTURAL BALANCE

FIRST IMPRESSIONS

In Study Guide #4: Judging Technique, we explored the five essentials of dog judging: **type**, **balance**, **soundness**, **temperament**, and **condition**. Good judges approach their assignments with these elements foremost in mind with the intent of finding and evaluating each of these elements in the exhibits they encounter. None of these elements should be viewed in isolation and none sit in opposition to the others - the concepts work together like bread and butter.

In this study guide, we delve deeper into what makes a dog what it is, but instead of diving directly to the points of anatomy that can frighten the more seasoned enthusiast, we start with what we see first – the total dog as it appears before us – then we peel away the layers, exploring each level in reasonable detail, with examples of the myriad variations that define the different breeds.

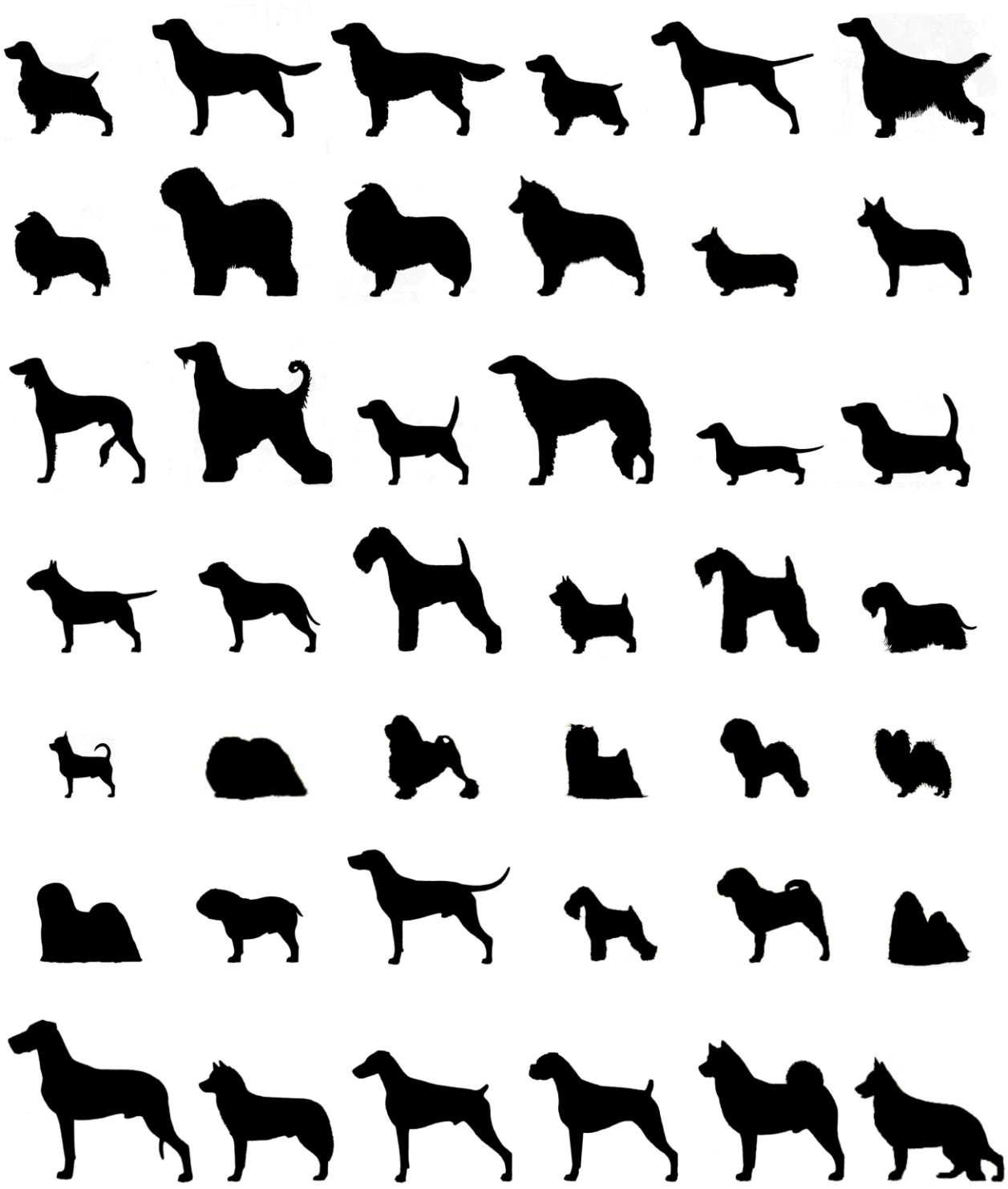
Regardless of various structural shapes and characteristics of different breeds, all members of ***Canis lupus familiaris*** (the dog) possess the same anatomical features. So, while there is much reference in this study guide to varying characteristics, the anatomical and conformational illustrations are of a generic dog, let's call it a "Westphalian Truffle Hound"!

Type vs style

Let's begin with what you see first – the total dog with all its characteristics that, together, **define its breed**. This is what one calls **type**. Breed type includes every aspect that defines that breed – its character, silhouette, head, movement and coat, together with all its particular breed hallmarks. Breed type separates one breed from another; for example, an English Springer Spaniel's type describes it as the tallest of all land Spaniels, symmetrically built and compact, having a liver and white or black and white coat, and moves in an easy, free manner. In the ring, however, you may find a selection of ESSs with excellent breed type, but of vastly different **style** – the American style and the English style – so different, in fact, that one wonders if they ought not to be declared different breeds! While these **variations** are very obvious, even to the novice, some variations in style may be very subtle, defining, for example, a particular kennel's preferred breeding style. So the breed type may be correct, but style may vary subtly or enormously. A good judge judges to the breed standard (ie. type), not to a particular style.

Silhouette

Your first sight of the exhibits in the ring will be the entire picture – the all-important silhouette. It's not unusual that your winner will be found during your first impression – the subsequent examination will either prove or disprove this impression. It's not by accident that almost every breed standard begins with a description of the dog's **general appearance**. During study of the various breeds, a judge builds an experiential reference to the perfect silhouette – the sum of everything in all the correct proportions that makes the breed what it is. Every breed is governed by certain general dog terms, namely, height, length of body, length of leg and so forth. There are also common expressions such as "low on leg," "long in body," "racy," "cobby', and hundreds of other terms that judges must learn to use. In pursuit of correctness, it is imperative that one understands how these terms apply to any specific breed of dog. Understanding and building a 'mental library' of silhouettes takes considerable study, but it is this mental image that a good judge takes into the ring in an effort to find a match in the ring.

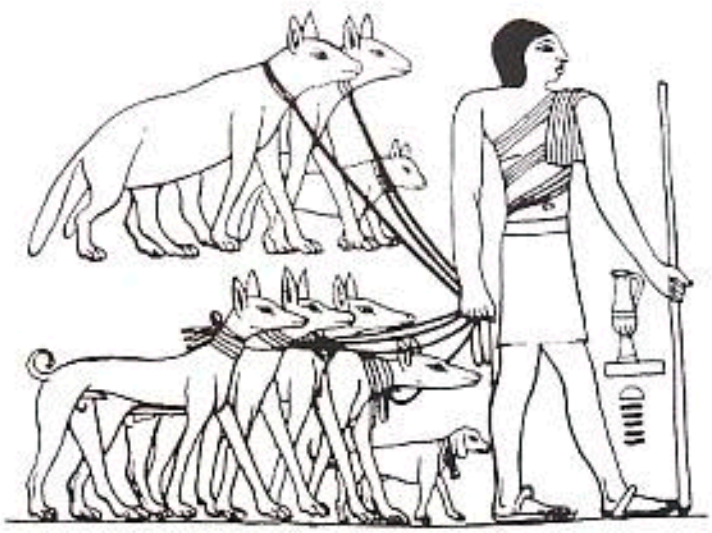


Silhouettes of a few dog breeds. Can you identify them correctly? (Answers on last page)

FORM AND FUNCTION

A breed's conformation, temperament and style of movement are influenced by its original function, which, in most cases, was to partner humans through hunting, retrieving, carting, guarding, protecting, herding, and many other functions.

Although dog jobs have changed or disappeared and modern humans value dogs more as companions than partners, form and function remain critical to the selection of a healthy, well-conformed dog that is physically able to meet expectations. For example, a Golden Retriever or English Springer Spaniel with poor shoulder structure may not only lack the stamina to hunt all day, he is unlikely to be able to jog, hike, jump, romp with the kids, or chase a ball for any length of time, particularly as he gets older. An Australian Shepherd or Pembroke Welsh Corgi that will never herd cattle still needs proper structure to compete in agility and obedience events; a Saluki or Greyhound that will never course after buck or hare must still have the proper front and rear angulation to gallop after the plastic bag on a lure-coursing field. Beyond the need to maintain the original purpose of a chosen breed, we are often in awe of the incredible way that dogs are far more than a sum of their parts.

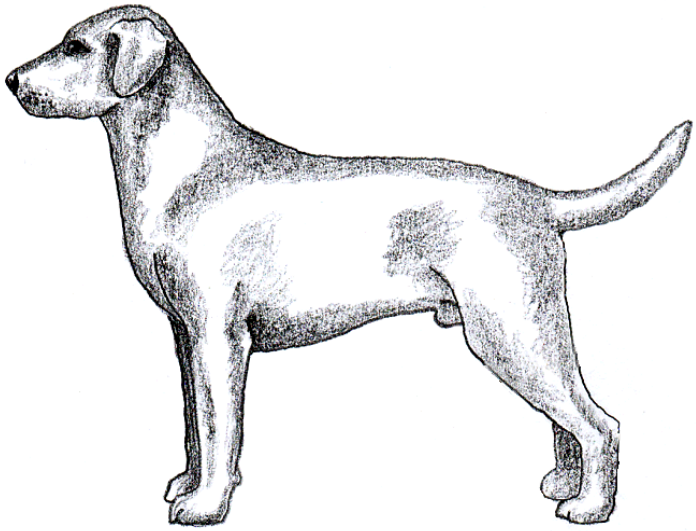


The notion of "**form following function**" is a valid idea that can be tested by science. The testing of our dogs was done primarily by those who preceded us and the principles were based on performance, a sort of working science, in its way. When judging in the breed ring, we cling to the belief that the standards we are interpreting will guide us in finding those dogs that could best fulfill their original purpose. This appreciation of the dog as an animal, an athlete, a protector, an alarm, or simply a creature of great beauty should figure in the search for the perfect specimen.

In order for dogs to carry out their respective purpose – or appear to be able to do so – a dog must possess a specialised degree of **structural balance**. One of the biggest challenges of judging is acquiring the skill of evaluating this structural balance.

STRUCTURAL BALANCE

Balance exists when a dog appears as a symmetrical, harmonious and well-proportioned blend of all its parts...



Let's look at canine conformation and anatomy within the framework of a dog's structural balance, which is made up of its **size**, **substance**, **stance** and **proportions**. In this study guide, we discuss characteristics that apply to a majority of breeds, but not all breeds, so it is essential that this material is studied in conjunction with the respective breed standards.

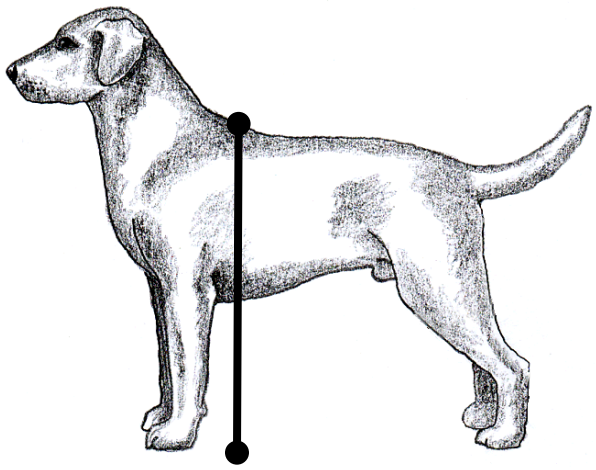
For the sake of clarity, the term "structural balance" is used in this study guide to refer to how correct the dog's structure is and how closely it resembles its breed standard. This is a rather subjective task, and somewhat daunting because a dog's 'correctness' can be perceived differently by different people. This subjectivity revolves around how a judge prioritises virtues and faults.

STRUCTURAL BALANCE
How close does the whole dog come to the breed standard?

SIZE
SUBSTANCE
STANCE
PROPORTIONS

To **understand** a dog, the student must **analyse** it – break it down into easier, more tangible features that are easier to evaluate as being correct or incorrect.

To **judge** a dog, the judge must **synthesise** it – bring all the elements together into a cohesive whole.



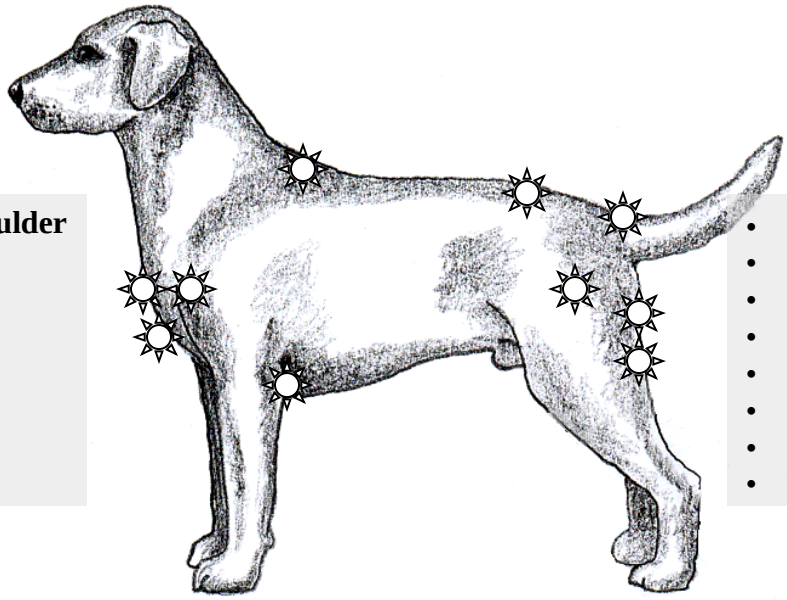
1. Size

Correct size is an important feature of structural balance. Size refers to a dog's **height** and **weight**, both or either of which are usually mentioned in the breed standards.

Height is always measured from the ground to the withers with a rigid **measuring stick** or **measuring hoops** while the dog stands on a firm surface.

The method of **length** measurement varies by breed so judges need to know how length is to be measured in each breed. Here are a few possible measuring points as mentioned in various breed standards:

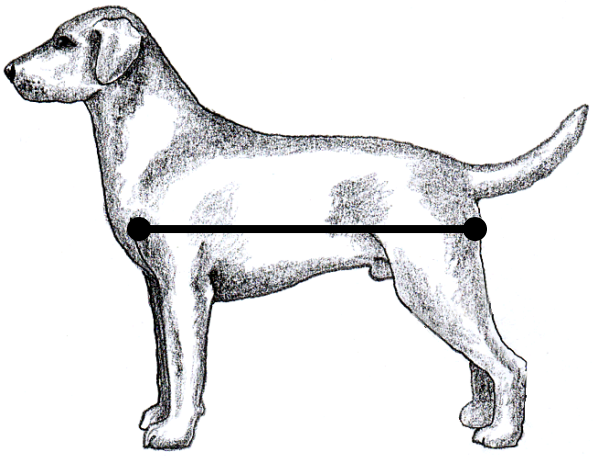
- **point of shoulder**
- **forechest**
- **chest**
- **breast**
- **breastbone**
- **sternum**
- **withers**



- **point of buttocks**
- **rump**
- **pelvis**
- **rear projection**
- **hindquarters**
- **stern**
- **back of thigh**
- **root of tail**

In most breeds, or where a measurement method is not specified, the most common way is to measure from the **point of shoulder** to the **point of buttocks**.

Note: In South Africa, no disqualifications are made on size infringements, regardless of the recommendations in various breed standards. However, a judge would not normally award an out-of-size dog unless its other qualities outweigh this fault.



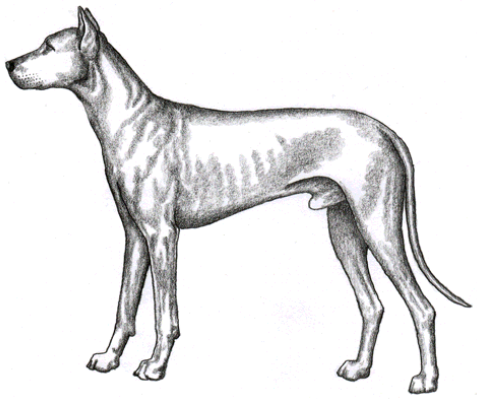
2. Substance

Substance is synonymous with the heaviness of a dog's **bone** – not to be confused with fat! As related to the overall structure of the dog, a judge establishes the correct heaviness of bone in the foreleg, where it will be found that there are basically three basic longitudinal shapes of bone:

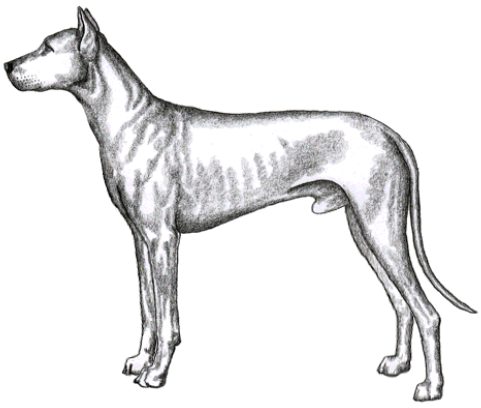
- **flat (bladed) bone:** weighs less and allows for greater speed, eg. Borzoi
- **oval bone:** balances the frame of the dog, eg. Pointer
- **round bone:** resists lateral contact and stress, eg. Shar Pei

Some judges believe that a well-muscled dog "has substance", but if it is well muscled and has insufficient bone, this would be an incorrect assessment. It is important for judges to know what level of substance is required in the breed standard.

3. Stance



natural stance

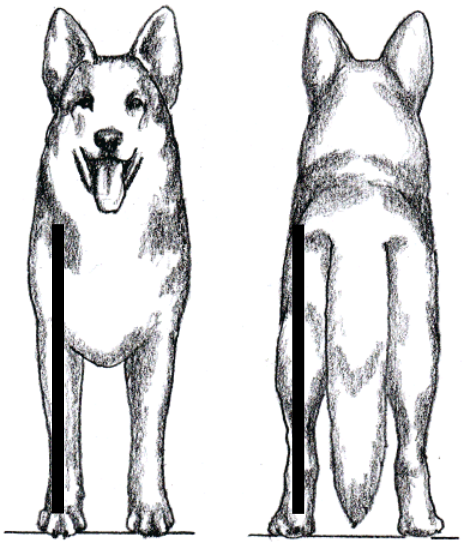


hard stacked

The way a dog stands naturally, without being **hard stacked** or baited into position, is called its **natural stance**. Exhibitors are often experts at stacking their dogs in a pleasing four-square stance – possibly to disguise conformation weaknesses – so it is useful for judges to study sufficient dogs in natural stance to be able to understand true dog structure. When judging, you can request the handler to allow the dog to stand in a natural stance as it returns to you after an 'away-and-back' gaiting pattern. A dog standing on its own often presents a truer picture of its natural balance.

A dog that stands **four-square** disperses its weight correctly for its breed, over all four legs, which serve as **columns of support**.

What to look for: *To look for a correct four-square stance from the side, evaluate if the front legs are vertical and the rear pasterns are perpendicular to the ground.*



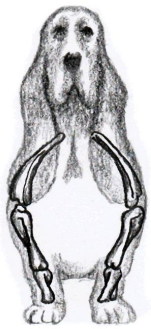
In correct four-square stance, the bones in the front and rear legs will be aligned to provide a strong support structure.

What to look for

- *front and rear legs are almost parallel*
- *a straight or nearly-straight line can intersects all the angles of the front or hind assembly.*

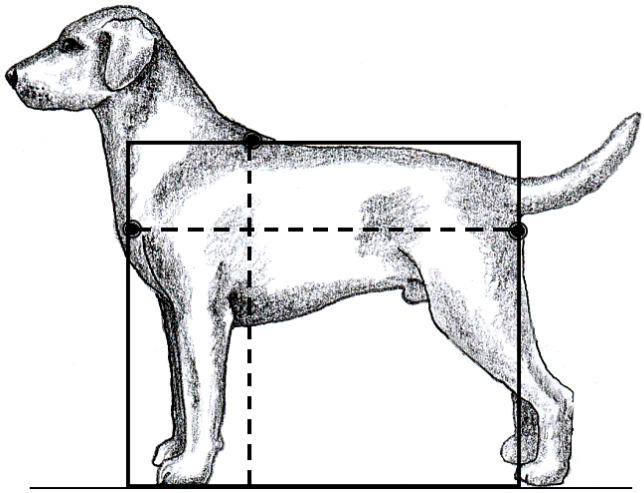
A straight column of bones provides support – the ribcage shape and depth are the key.

Of course, there are some exceptions to the rule – some **achondroplastic** breeds, such the Dachshund and the Basset Hounds, etc. have a **wrap-around front** so that the chest is supported by the front legs.

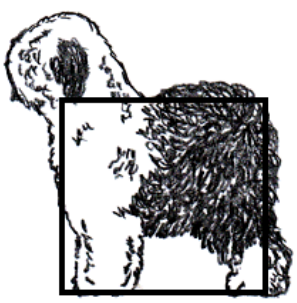


4. Proportions

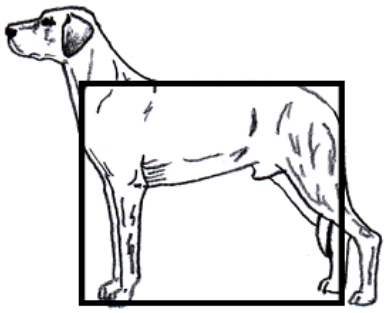
Proportions are comparisons between two or more features, for example, a dog's head to the rest of its body, or the ratio of foreface length to back skull length, etc. There are dozens of different proportions described in breed standards, but one of the most important with regard to a dog's structural balance is **length versus height**, in other words, the apparent **squareness** of a dog's structure.



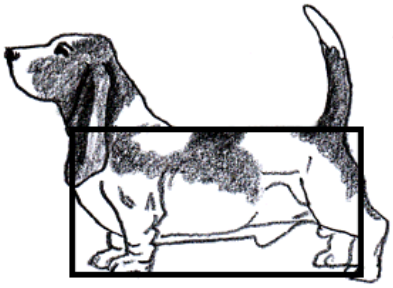
Generally, breeds will fall into one of three categories regarding height proportions:



SQUARE
eg Old English Sheepdog

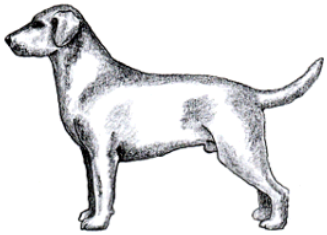


OFF-SQUARE
eg. Rhodesian Ridgeback

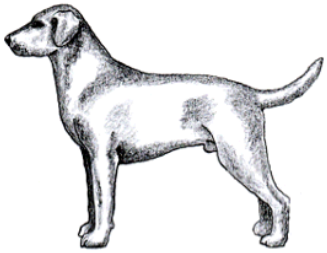


RECTANGULAR
eg. Basset Hound

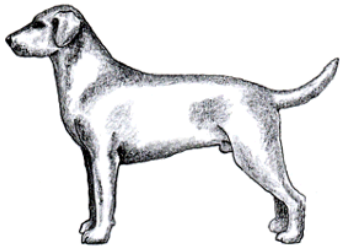
While considering balance, our perception of squareness may be affected by factors such as leg length and coupling. See how the following examples affect the perception of height and length.



shorter legs = body appears long

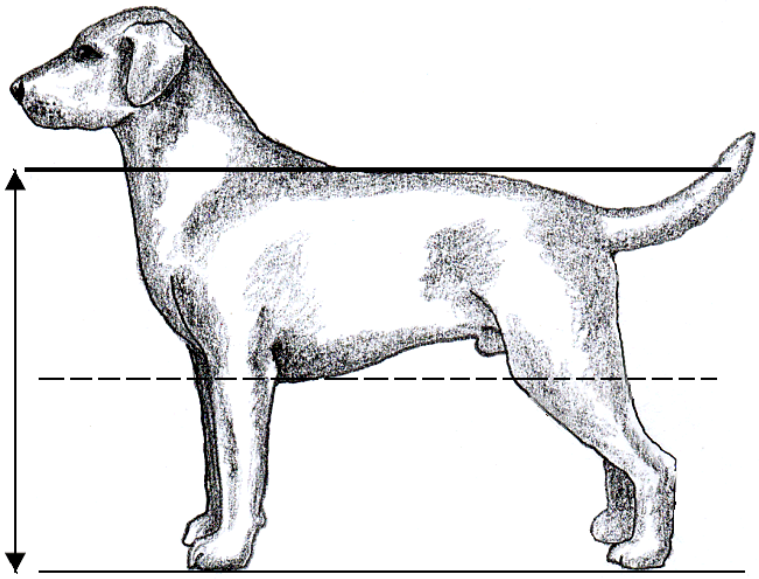


longer legs = body appears short



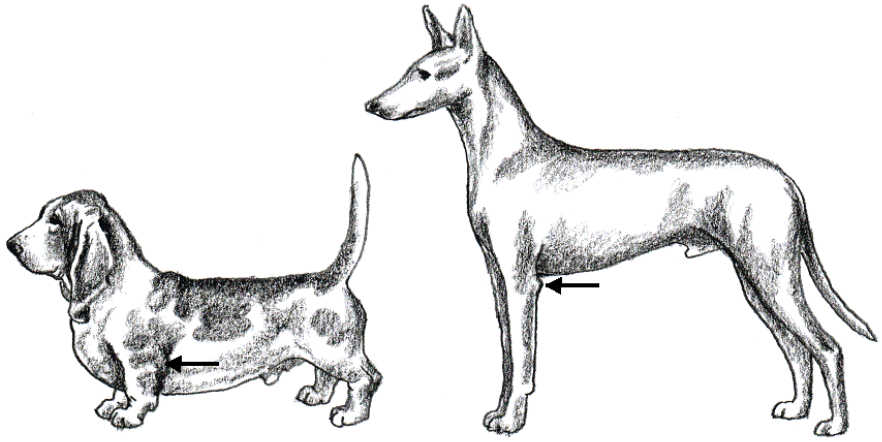
long coupling = body appears long

Another important concept of proportion subscribed in many breed standards is the **leg length** versus **brisket depth**. Many breed standards require the brisket to reach the elbow at the half-way mark of the total height of the dog.



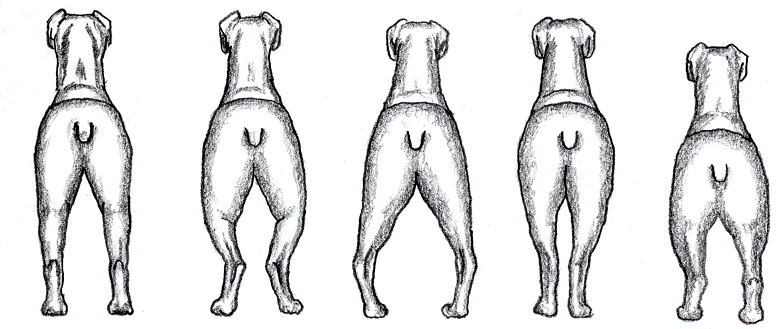
leg length and brisket are each 50% of the total height of the dog to the withers

In some breeds, the depth of brisket is discussed in terms of whether it should be **above**, **level** with, or **below** the elbow. In a Basset Hound, for example, the brisket should extend below the elbow, while in a Sighthound most briskets are considerably above the elbow to facilitate agility.



Variations of hind structures

- **cow hocks:** as viewed from behind, cow hocks turn inwards, causing restricted action and, very often, the hocks can brush against each other when passing.
- **bowed hocks:** the opposite of cow hocks – the hocks turn outwards. This also indicates a weakness in hind structure and movement will be restricted, often appearing as a waddle.
- **straight hocks:** insufficient angle at the hock, often caused by a second thigh lacking length.
- **sickle hocks:** The contour of the hock and rear pastern simulates a sickle. Usually caused by an over-angulated rear, the structure is weak and movement is uneven.

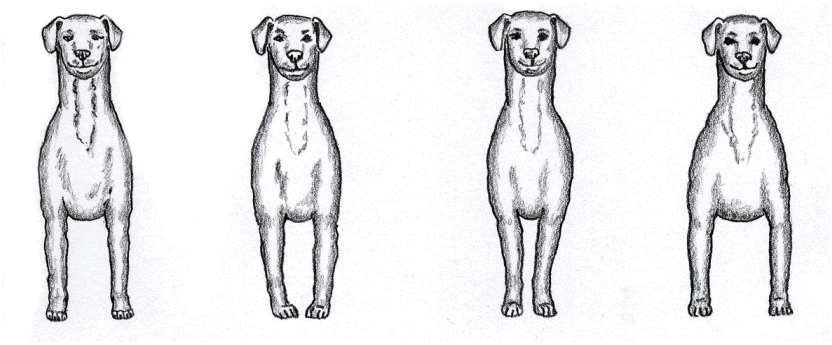


correct *cow hocks* *bowed hocks* *too narrow* *over-angulated*

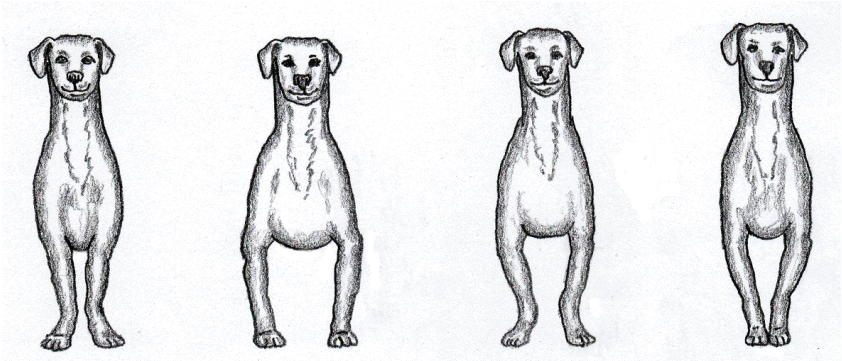
Variations of front structures

Depending on the specific breed standard, there are several types of fronts, some of which are desired, others are described as faults:

- **bowed front:** when viewed from the front, the forearms curve outwards from the elbows, then close inwards towards the pasterns – sometimes caused by genetic influence, sometimes caused by nutritional deficiencies or disease. This presentation is generally considered faulty, but is required in the Pekingese.
- **crooked front:** the forearms incline symmetrically inwards and may be slightly bowed from the elbows to the wrists so as to create a cradle-like support for the chest. It is present in some achondroplastic breeds such as the Basset Hound and Dachshund, where it is called the 'crook'.
- **east-west front (French front:** when the pasterns are incorrectly positioned, they may turn the feet outwards. This is very often a fault associated with a narrow front. Not to be confused with certain breeds where the feet are required to turn outwards slightly, eg. Saluki, Staffordshire Bull Terrier.
- **fiddle front (Chippendale front, cabriole front):** a front that resembles a fiddle shape – elbows rather wide, forearms sloping inwards, and pasterns and feet turning out.
- **horseshoe front:** where the forearms are further apart at the elbows than at the pasterns, which are perpendicular to the ground. While this may be a fault in most breeds, it is a requirement of the Bedlington Terrier.
- **narrow front (pinched front):** one in which the forearms are presented closer to each other than desirable. Usually a fault, especially in working breeds, but a requirement in some, such as the Borzoi and Saluki, which call for a moderately narrow front.
- **normal front (gun barrel front, straight front):** a true and straight front where the forearms, pasterns and feet are positioned vertically and parallel to each other.
- **pigeon-toed front (toeing in):** the pasterns and feet turn inwards towards the centre line. The opposite of an east-west front.
- **wide front:** the front assembly is built wider than normal, often associated with a barrel chest. Usually a fault, but a requirement in, for example, the Bulldog.



normal front *pigeon-toed front* *narrow front* *wide front*



east-west front *bowed front* *fiddle front* *horseshoe front*