

The Illustrated Standard for the
GERMAN SHEPHERD DOG



written and illustrated by
Linda J Shaw



SHAWLEIN PRESS



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CH Mensenredder's Corry Wiesental OFA TT

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SG Carmspack Chunko SchH3
Painting by Linda J Shaw

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The author pictured with her homebred male, Tim SchH3.

About the Author

Linda J Shaw has been a professional artist and illustrator since 1975, specializing in the animal world for clients such as the Canadian Kennel Club, the Royal Ontario Museum and myriad national breed clubs, pet food companies and police departments. She first became involved in the breed in 1970 and has titled dogs in obedience, tracking, schutzhund and conformation. She is an alumnus of the Ontario College of Art and Design and holds an honours BA with distinction as well as an MBA, both from the University of Toronto.



Heather with her dog Vice vom Gernelhaus IPO 3.

Layout and Design

Heather Dickinson has been an artist and graphic artist since studying fine art at the University of Guelph and communication and design at the Ontario College of Art and Design. She learned about schutzhund after purchasing a German Shepherd Dog and has since trained and titled multiple dogs.

Preface

In 1970 my father and I brought home our first German Shepherd puppy from a breeder on Vancouver Island, British Columbia, Canada. Maxine was a Grief v Elfenhain granddaughter, a little oversized, stretched in body, powerful and absolutely firm in character. She was my companion for thirteen years, traveling with my family throughout North America, and when she passed away I knew she had set the standard with her soundness, robust health, confidence and drive. I wanted another just like her.

Unfortunately, many breeders in the meantime had become infatuated with success in the show ring, often at the expense of nervous stability and physical soundness. It was many years before I found that kind of shepherd again. That was my beautiful Tim, a kind and reliable soul without whom I might have left the breed entirely. For fourteen years he was the truest friend and a wonderful ambassador for the breed wherever he went.

During that time the breed had evolved into several distinct types, and the magnificent working type of Bernd and Bodo Lierberg, Marko Cellerland and Volker Zollgrenschutzhaus had been forgotten in favour of exaggerations and compromises promoted as improvements. Von Stephanitz would not recognize what his breed had become.

A breed standard is a written document codifying the characteristics of a breed. Like any document, it is subject to personal interpretation. Sadly, the SV standard has been continually modified since the 1970s to transmute the distortions appearing in the show ring into new breed virtues. This is a working breed, and the demands of performance, not the fashion



Maxine of Lintricia CD

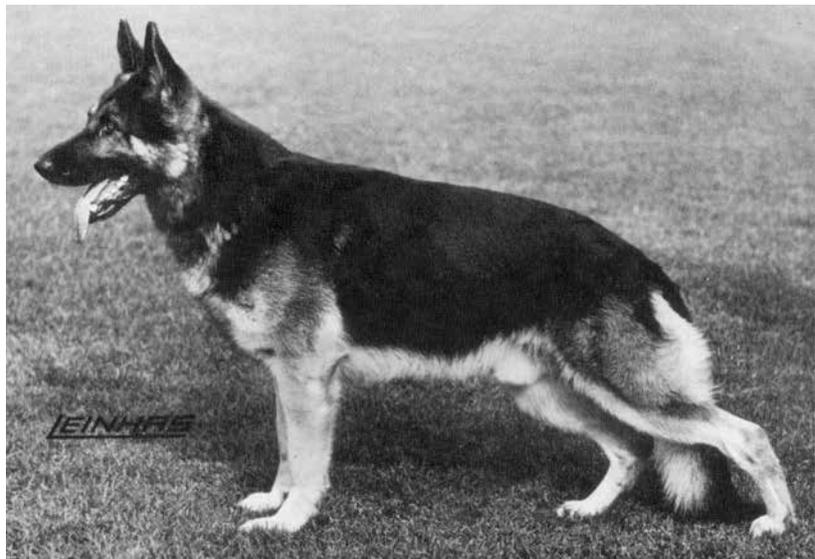
of the conformation ring, must guide one's understanding of the picture that it paints. To that end, I have tried to present an image of the correct shepherd according to its function. The German Shepherd Dog (GSD) was originally a sheepdog, able to trot effortlessly all day. It was never intended to be a trotting extremist designed to race (or pace) around a show ring. The GSD is a general purpose service dog, active and intelligent, never placid, cringing or untrustworthy. It must



Tim – Shawlein Easter Parade SchH3 AD TD CD CGC OFA

have the temperament appropriate to the jobs it must do. The GSD should be a breed for the real world, and not one with its drives bred out of it, or so extreme they are barely controllable. Extremes are not excellence, and deviate from the “golden middle”.

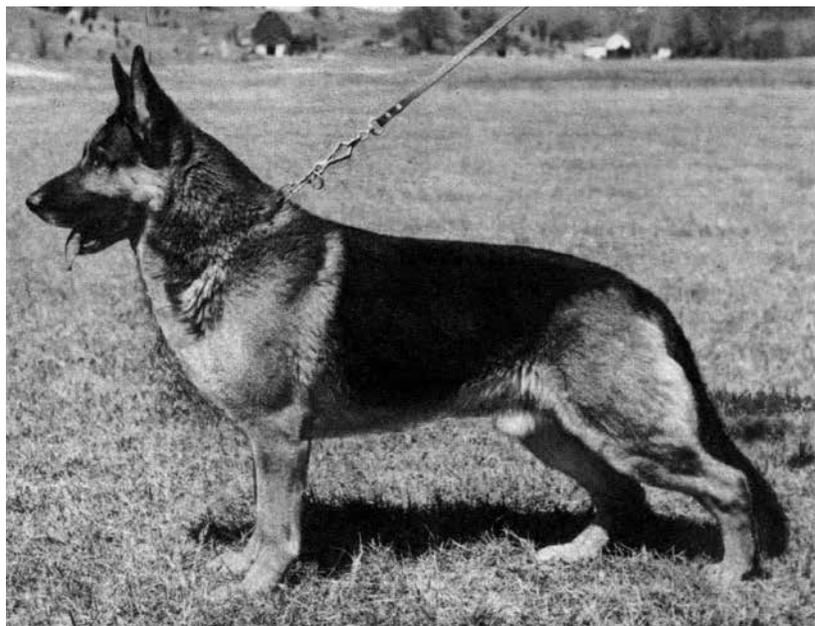
As a professional illustrator it is my job to observe and record the structure, anatomy, movement and gestures of all varieties animal life. I have spent over 30 years studying the GSD and I have the advantage of being able to accurately communicate what I see through my drawings. I have compiled this illustrated standard, not to promote an “ideal” specimen, but to show how and why a good (by performance criteria) representative of the breed is built and moves, as well as to illustrate the breed’s more common deficiencies. I hope this book helps preserve the unrivaled qualities of mind and body best expressed in a working dog.



VA3 Bernd Lierberg SchH 3 FH V-BSP
V Vello zu den Sieben Faulen
SchH3 FH
V Betty v Eningsfeld SchH3

VA1 Marko Cellerland SchH3 FH
Kondor v Golmkauer Krug HGH
Cilla v Hunnenfeuer SchH2

2X VA 1 Volker v Zollgrenschutz Haus
SchH3 CACIB
V Harry v Donaukai SchH3
Perle v Zollgrenschutz Haus
SchH2



Great show dogs, working dogs and the sires of working dogs

Introduction

This publication is a complete, practical, visual analysis of the structural anatomy and movement of the GSD. It is not simply a regurgitation of a particular breed standard or show ring fashion. To tell someone to look to a written standard for an understanding of conformation and movement really isn't very helpful. Without a good grasp of structural anatomy and the origin and purpose of the breed, a written document can be and is used to rationalize any number of bizarre variations. Different interpretations by supposedly expert conformation judges in different countries have resulted in the development of several anatomical abnormalities, sharply divergent from the original, useful form of the breed.

In contrast, the evolution of working bred shepherds has largely been directed by the demands of performance. While somewhat variable in type, on the whole they have changed surprisingly little from the early standardization of the breed, and continue to exhibit the essential athletic qualities of wild dogs.

Like all dogs the GSD is, genetically speaking, a subspecies of wolf and all the tasks required of it are derived from the behaviours of the wolf. Both wolf and shepherd are effective compromises between the demands for strength, speed and agility, and a study of the wolf has much to teach about soundness, structure and good movement. Therefore the wolf should be the objective anatomical baseline against which to judge the conformation of the GSD.

Modern conformation shows, and the breeding of "fancy" dogs for the increasingly affluent classes of England and Europe, developed in the mid-19th century as a result of the Victorian passion for scientifically ordering the natural world. The first kennel clubs embarked on the comprehensive categorization of the various types of dogs into discreet breeds, defined by written breed descriptions enforced at organized shows, but they failed to incorporate the analytical thinking that informed the scientific world. Breeders were

oblivious to the effects of the genetic isolation into which each breed was suddenly corralled. Dogs were no longer evaluated on their mental and physical ability to fulfill their original purpose but by how well, in the opinion of a judge, they conformed to a written description. Increasingly, judges were licensed who had no personal experience of a breed's working heritage. Judging and breeding were carried on with little real knowledge of anatomy and no understanding of genetics (modern theories of genetics were not developed until the early 20th century). It wasn't long before the dogs in the show rings began to diverge in appearance and temperament from the dogs in the field, and show dogs became the genetically dominant populations in most breeds.

A board member of the German Shepherd Dog Club of America once asserted to me that she lived by three credos: the Bible, the Constitution of the United States, and the (AKC) Standard of the German Shepherd Dog. Aside from the sheer weirdness of this statement, it reveals a dismal dependence on dogma rather than critical thought. The breed standard is accepted as doctrine irrespective of its errors and inexactness, or the personal interests of those involved in writing it. Several extreme yet dissimilar show forms have been developed from written standards that were similarly vague, evidence that blindly accepting the current interpretation will not protect the breed.

I think it is necessary to bring a little critical reasoning to the evaluation of GSDs, and some real understanding of how a normal dog should be constructed. I begin with a study of the components of canine anatomy, using the wolf as the benchmark for normal, athletic conformation and movement. As my focus will be structural anatomy, the emphasis is on the skeleton and musculature, but I introduce the nervous system and internal organs to give the reader some familiarity with these systems.

My presentation of the structure of the GSD begins with the head, moves down the neck, back and body, and then deals with the forehand and rearhand. At each stage the reader will find an in-depth study of the anatomy and function of the structure in question, both of its normal form and several deviant variations. Finally, I complete the topic of conformation with discussions of proportion, height, coat and colour, with a comment on breed type.

Once the reader has a clear understanding of the structure of a normal GSD I bring her to the subject of movement, first with a brief overview of the mechanics of movement, and then with a discussion of the different gaits that are typical of dogs. I explain and illustrate the trot, so characteristic of the GSD, in some detail.

Finally, I look at temperament, without which the most beautiful dog is inadequate. I discuss typical breed character, as well as the mental traits required to perform the principle jobs for which the breed is famous.

Note on photographs

I have chosen images of dogs from both sides of the Atlantic. The German dogs tend to predate the modern show lines because they possess stronger back structure and more powerful working type than later developments. The American dogs tend to predate the Lance line, and have better proportions and more moderate rear angulation than what came after them. Some dogs are modern working lines, but most predate the split between show and work and represent lines that could produce both. Also, many of these beautiful animals have virtually vanished from breed history, and I felt it important that such wonderful dogs be remembered.

Sel Ch Arbar's Benno ROM
 Sel Ch Wilhelm ad Winterzeit
 Conroy's Gabriel



V Ch Amigo Land der Berge SchH3
 V Jack v Furstenberg SchH3
 Dunja v Schippkapass SchH1



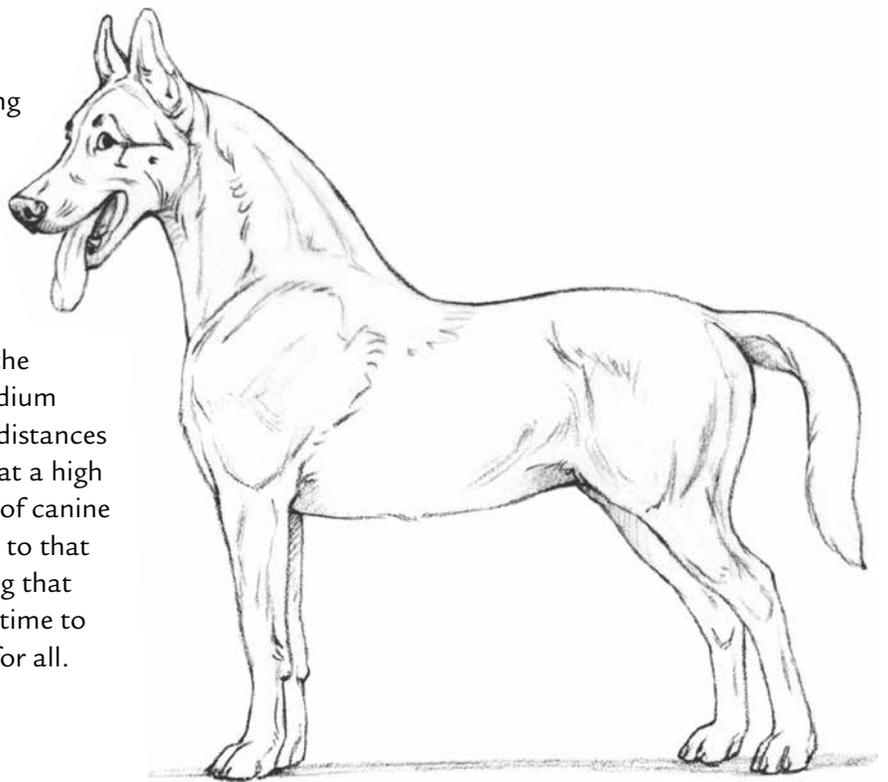
Ch Amber aus der Edelheim ROM
 Ch Caralon's Hein vd Lockenheim ROM
 Brandywine's Minuet



Structure

The Horse

Good dogs have been compared with good horses probably since the breeding of domestic animals began. The men who bred them likely knew little else, and in fact these two animals have virtually nothing in common. The horse evolved as a large, stiff backed, perissodactyl (odd-toed ungulate) designed for high speed escape, while the typical canid, such as the wolf, is a medium sized carnivore designed to cover long distances at a medium trot, and short distances at a high speed gallop. There is virtually no part of canine anatomy that can be closely compared to that of a horse, nor is there any breed of dog that bears any resemblance to a horse. It is time to bury that unfortunate myth once and for all.

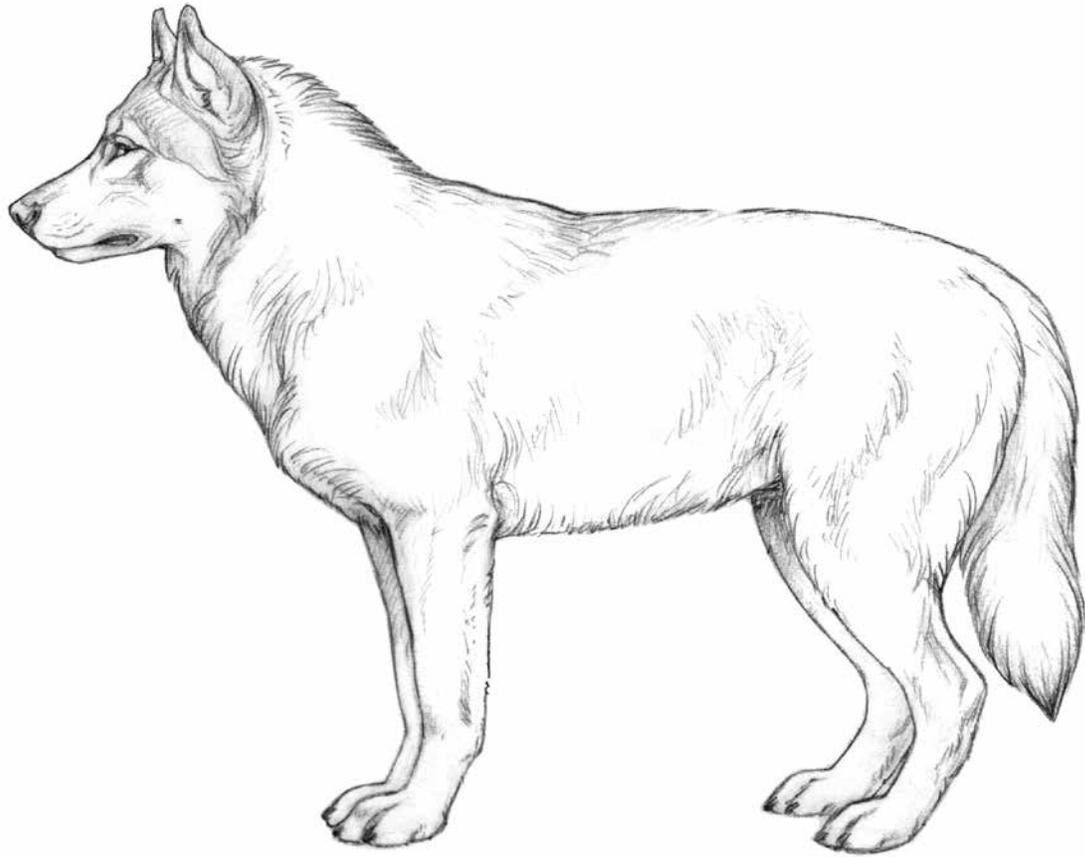


The Wolf

The dog is a wolf whose evolution over the last 30,000 years or so has been guided, directly and indirectly, by the requirements and desires of humans. The wolf is the dog's ancestor and cousin, and the closest thing we have to a natural benchmark for how a normal, fit, healthy dog should be constructed and should move. I have chosen the wolf rather than the pariah type dog because, while the pariahs are primitive dogs, most have been influenced by humans and do little more than wander about human encampments or accompany human hunters. They have not been subject to the developmental pressures that nature has inflicted on the wolf. Everywhere across its range the wolf is reasonably consistent in type and serves as a medium sized, intelligent pack predator built to cover ground.

No other predator on the planet displays greater long distance endurance at the trot than the wolf. If we want a dog that can trot efficiently, we should pay attention to what elements of the wolf's structure enable it to do this. If we want a

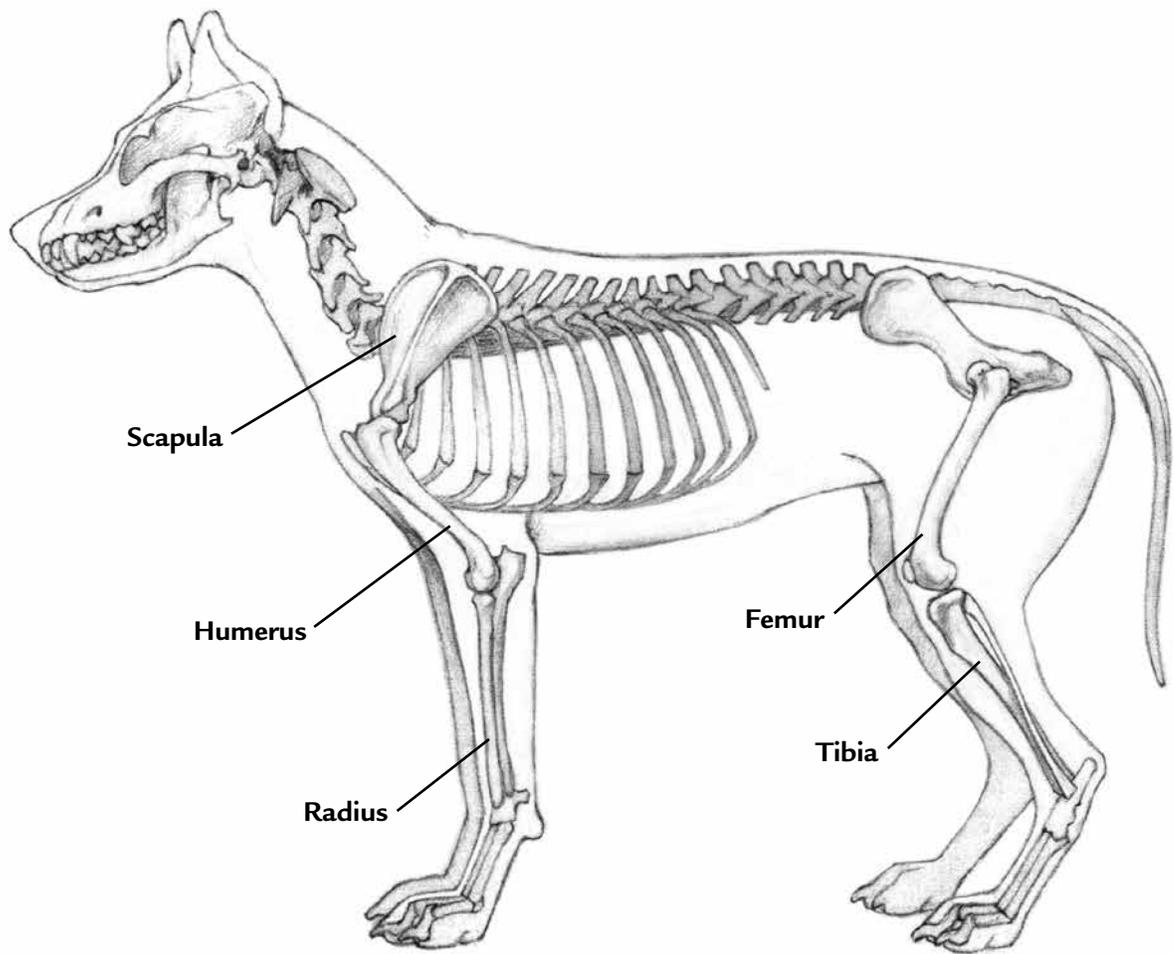
dog with endurance and strength, the wolf has these qualities in abundance. If we want speed, we should study the wolf's ability to run down prey animals that have evolved for speed. Several million years of refinement by the ruthless hand of natural selection has resulted in the conformation of the modern gray wolf. The modern show GSD is the result of a few decades of inbreeding. The notion that breeders can create a more efficient moving machine than 4 million years of Darwinian evolution is hubris run amuck. Therefore it is not only reasonable, but necessary to look to the wolf as a reference for the breeding of normal, healthy, athletic dogs. Obviously, in terms of temperament the dog must be a dog and not a wolf or we couldn't live with it. That's the whole point of domestication. However, that shouldn't become an excuse to warp an efficient original design into an increasingly pointless caricature.



Gray wolf (*Canis lupus*)



The structure of the wolf beneath its fur



The skeletal structure of the wolf

Unlike the other members of the Order Carnivora, the cats, bears and weasels, the wolf is a rather unspecialized predator built for a combination of speed, strength and stamina, qualities that have been separately selected and accentuated in different breeds of dog. The average wolf is

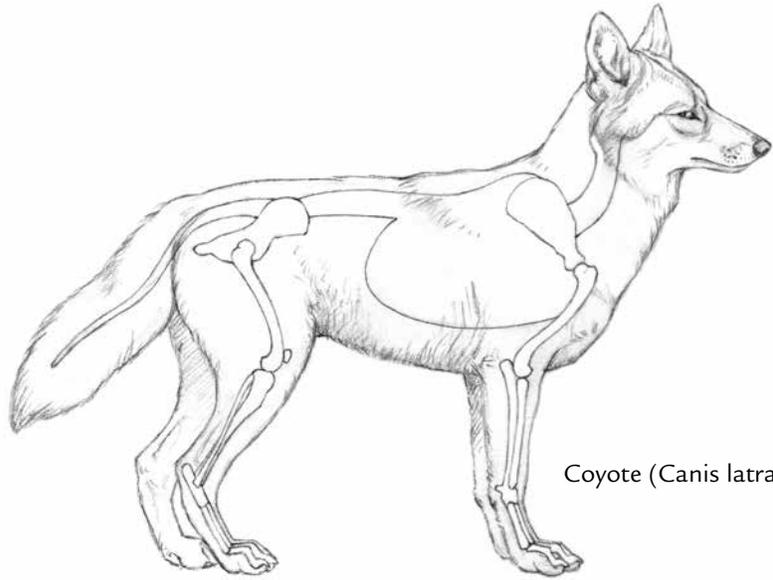
slightly longer in body than it is tall at the withers. The humerus and the radius of the lower arm are about the same length, and the scapula is about 80% the length of the humerus. The femur is slightly longer than the humerus, and the tibia is at least as long as the femur or slightly longer.



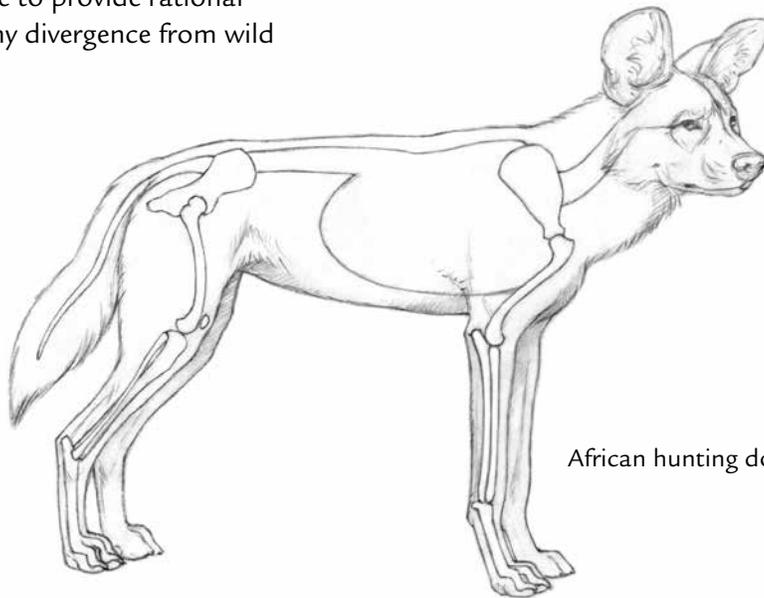
Arrow v Zuckerburg SchH3 FH Kkl 1
 V Aik v Haus Cindy SchH3 FH
 Xinerobella v Tiekerhook SchH3 FH

This highly functional structure also appears in most other wild canids such as the American coyote, African hunting dog and Asian dhole. Humans have not influenced the appearance of these animals and all are very similar in structure. The coyote and dhole show basic wolfish structure, while the hunting dog has structure more specialized for speed.

From this foundation we can derive our GSD, with structure proven over millions of years to provide athletic performance and endurance. We should be able to provide rational reasons for any divergence from wild

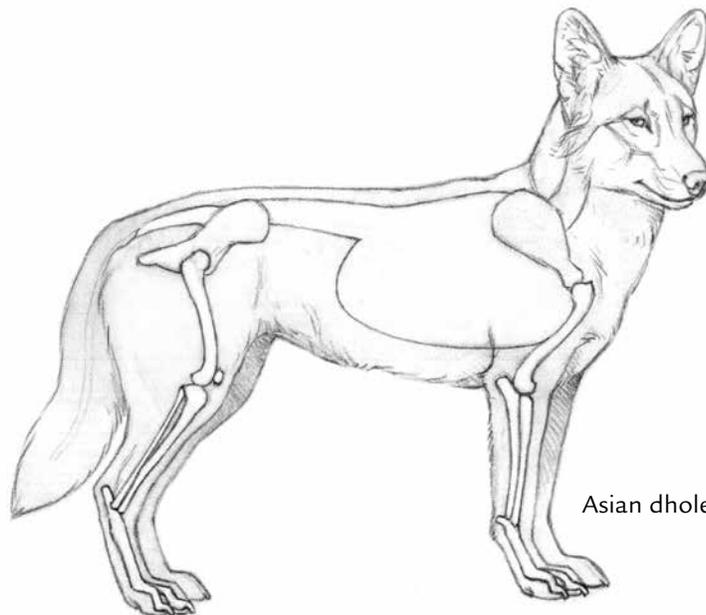


Coyote (*Canis latrans*)

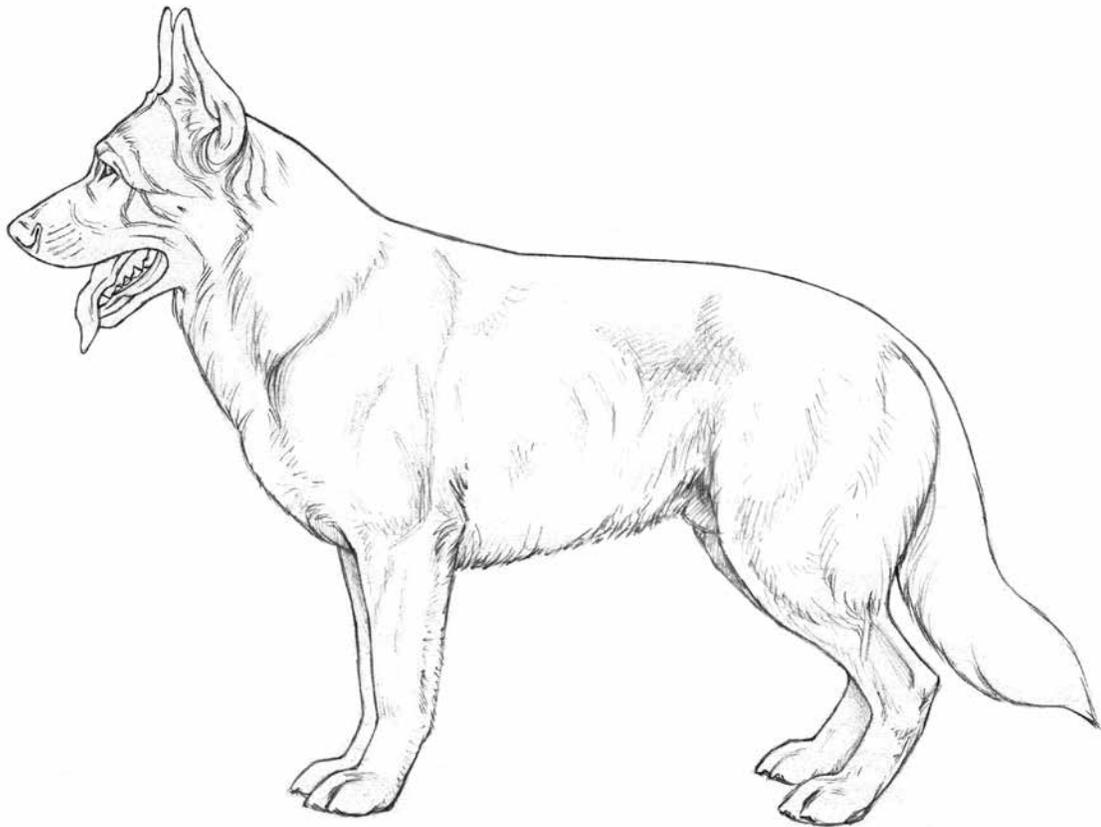


African hunting dog (*Lycaon pictus*)

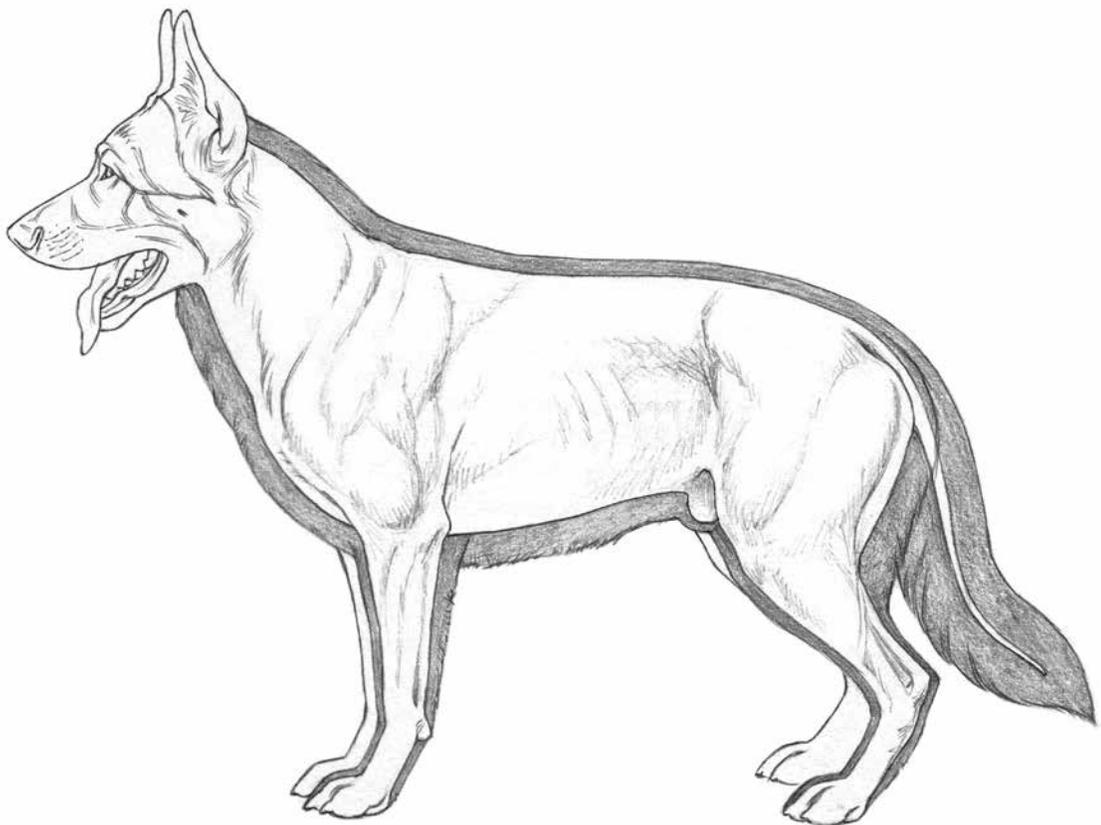
type. Specialized performance would be the most obvious reason. Wolves are not required to scale seven foot fences or work on pavement, and GSDs don't tackle big game. Esthetic preference or historical precedent can be acceptable reasons provided they don't conflict with health, soundness or temperament. Notions of "breed type" should never be elevated above health, soundness and temperament, without which you don't have a viable dog.



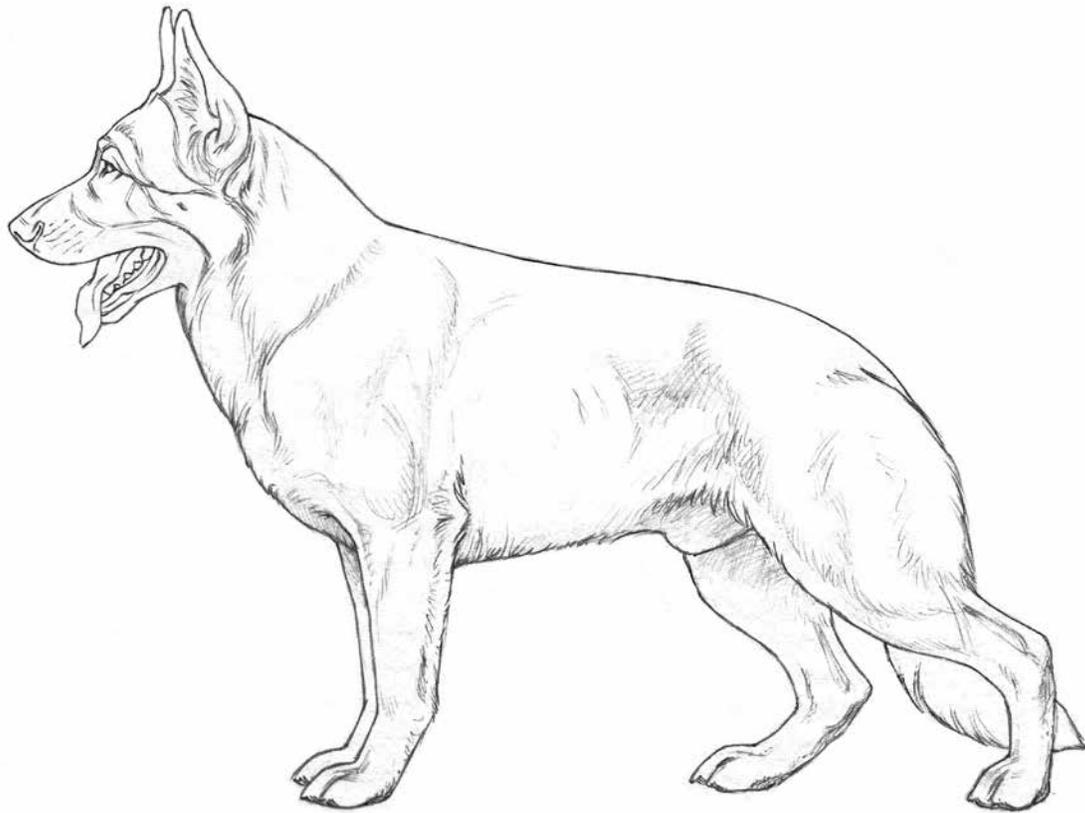
Asian dhole (*Cuon alpinus*)



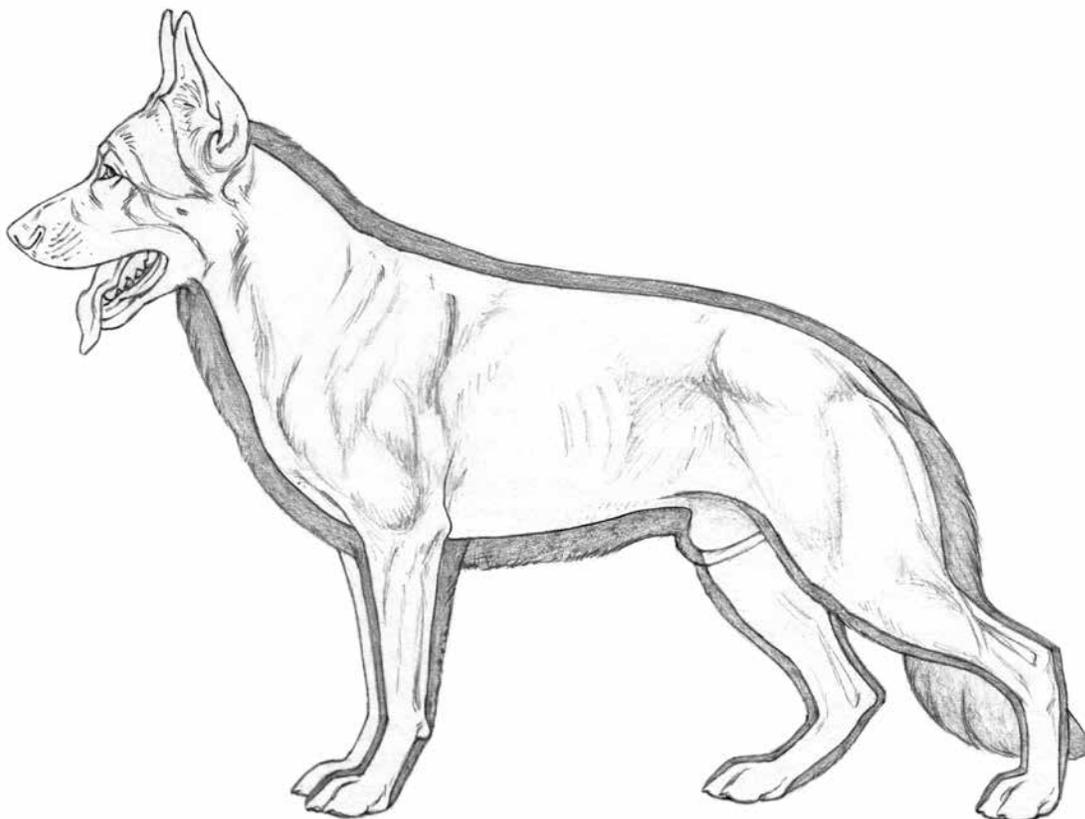
Normal GSD standing naturally, with the rear foot beneath the hip joint



Normal GSD standing naturally, showing structure beneath its coat



Normal GSD standing posed



Normal GSD standing posed, showing structure beneath its coat

Skeletal Structure

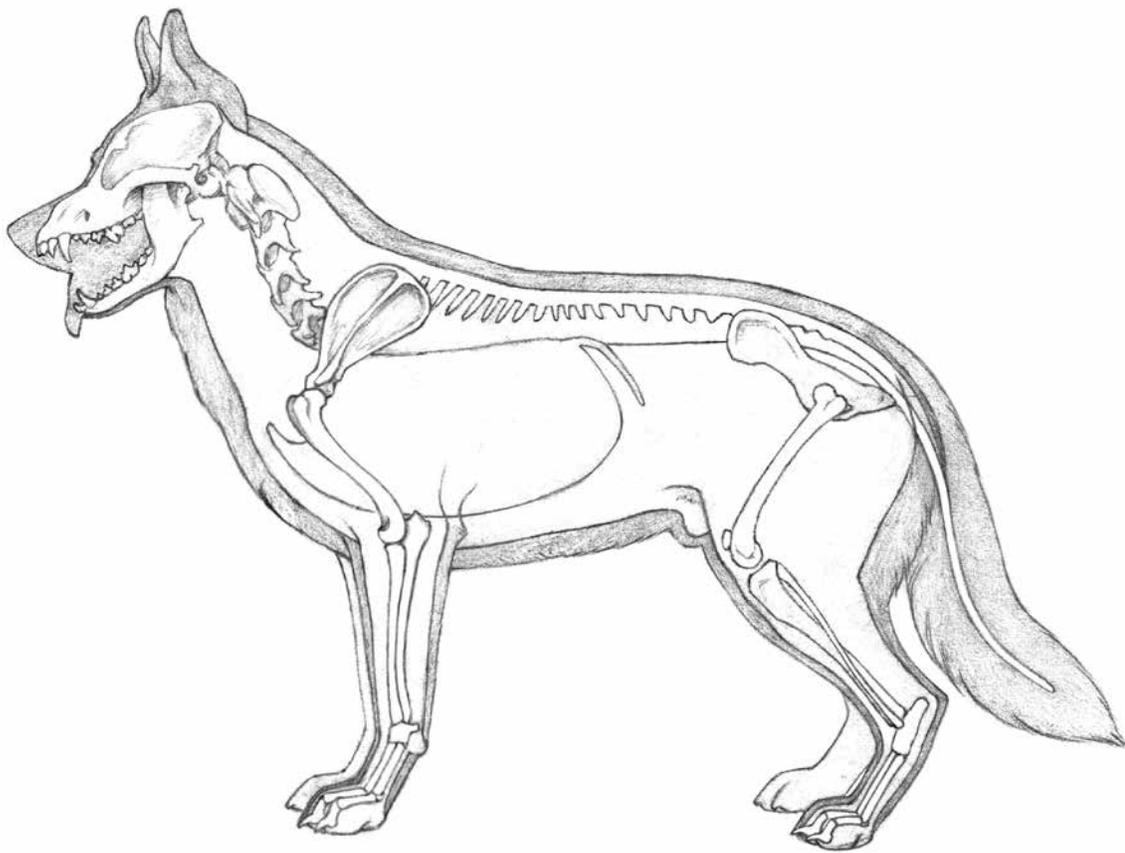
The Bones beneath the Muscle

The skeleton of the dog defines its framework. Without a good understanding of the skeleton it is impossible to understand or assess a dog's overall conformation and gait. In order to judge a dog's structure you must be able to identify the major bones and to visualize this underlying scaffolding in your imagination with reasonable accuracy.

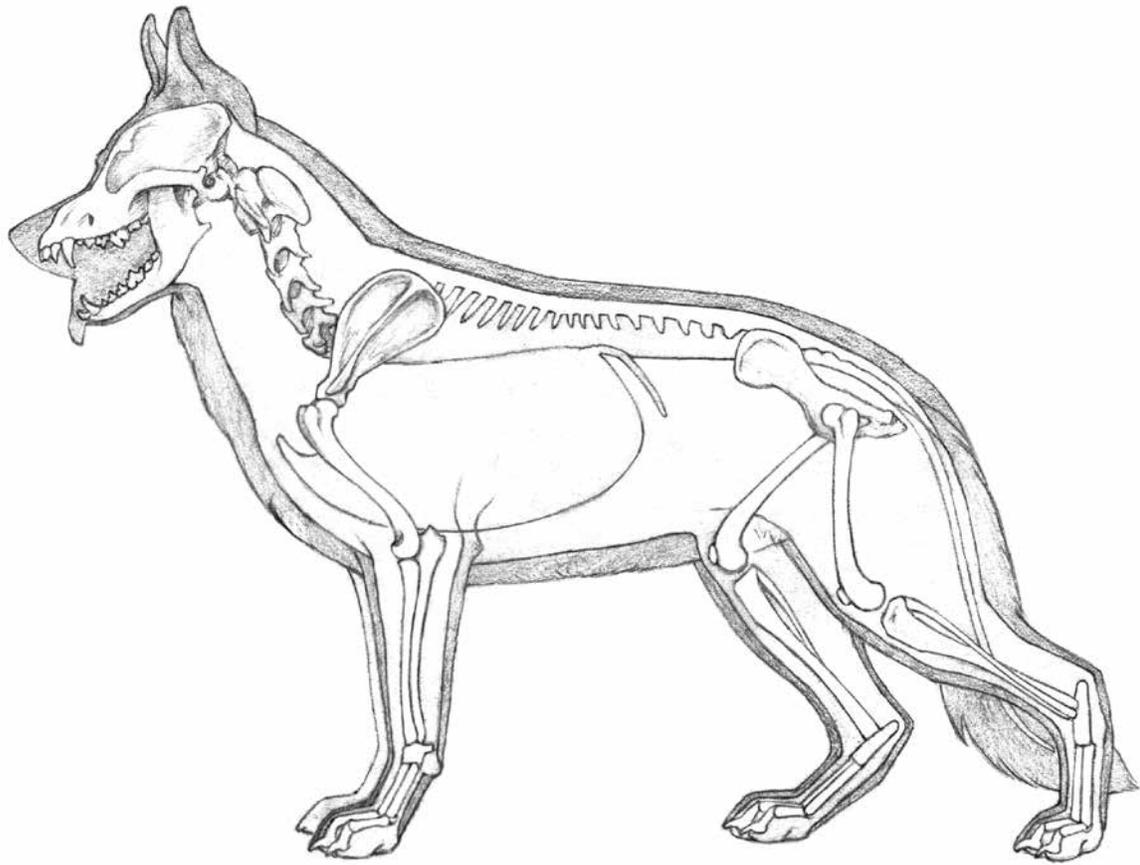
I spent several years in the 1970's providing drawings to Casey Gardiner's School of Canine Science, and it was obvious to me that her mania for measurement did not provide the accuracy in depicting canine anatomy that she believed it did. Judging from the myriad mediocre drawings in so many books and articles on the structure of

purebred dogs, it is apparent that if someone can't correctly visualize the bones beneath the skin - if they haven't learned how to accurately see with their own eyes, and understand what it is they are seeing - a stack of measurements isn't going to help much. Clearly, there are some basic measures with which you need to be familiar, but to take your understanding further you must study the shape of each bone and how it joins with its neighbours, and practice visualizing how it fits and moves beneath the skin of a living dog.

See Appendix 1: Internal Anatomy: The Skeleton.



Normal GSD standing naturally, showing skeletal structure



Normal GSD standing posed, showing skeletal structure



V (BSZS)Hutch vd kalten Hardt SchH3 BSP
V Karn v Fegalhof SchH3 BSP IP3
V Chuckie v Schloss Laer SchH3 FH

The Anatomy of a Bone

Bone is a complex living tissue that occurs in two forms:

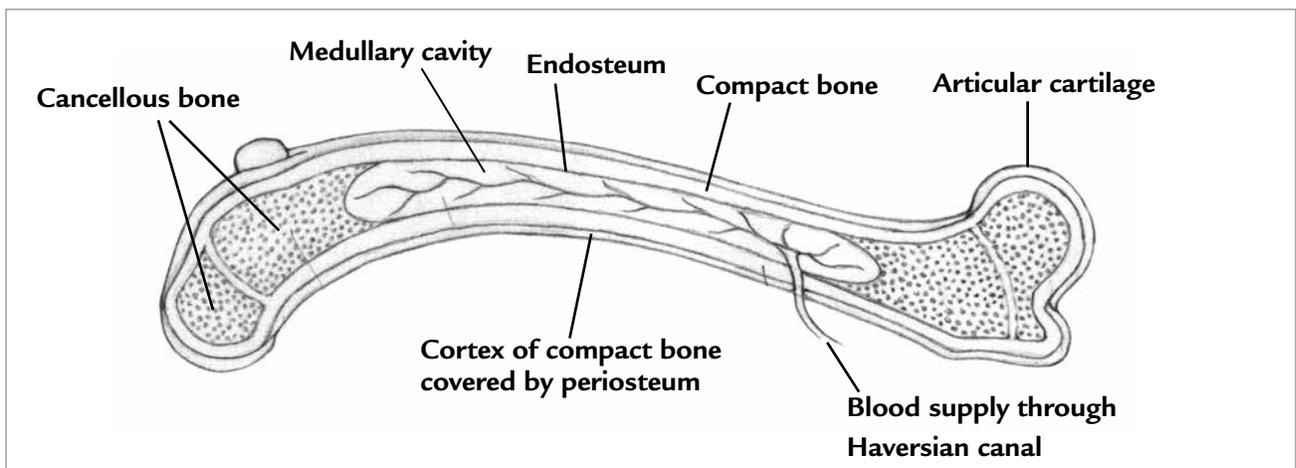
- Compact bone forms the hard outer shell of a bone.
- Cancellous bone, also known as trabecular or “spongy” bone, forms a mesh of fine, bony scaffolding within larger bones. This is not what some judges refer to as spongy bone, which is a rather unhelpful reference to thick, heavy bone.

A typical long bone, such as a leg bone, begins its embryonic life as soft cartilage. It completes ossification (calcification and hardening) by approximately one year of age or when the dog has reached its adult size. The larger the dog, the longer this process can take. Mature bone consists of 80% (by volume) collagenous protein (cartilage) and 20% hardening minerals comprised of calcium, phosphorus, magnesium, potassium, boron, manganese and copper. When complete, the bone is a tremendously strong scaffold and factory for the manufacture of red blood cells. A mature bone is constructed of several components:

- Compact cortical bone forms the shape and outer shell of the bone, providing strength and hardness, and storage for calcium and other minerals. It is perforated with small holes allowing access for blood vessels. 80% of a mature dog’s bone mass is cortical bone.

- The Medullary cavity is the hollow interior of the shaft. Hollow shafts are stronger than solid rods.
- The Endosteum is a membrane lining the interior walls of the Medullary cavity.
- Cancellous bone is honeycomb scaffolding that fills the interior of short bones and the rounded ends of long bones, reducing the weight of the bone while providing strength. 20% of a dog’s bone mass is cancellous bone.
- Yellow marrow is mostly fat and fills the interior of the shafts of long bones. Red marrow manufactures blood cells, platelets and other blood components and fills the spongy spaces of the cancellous bone.
- Articular cartilage caps the ends of the bone and forms the joint surface that articulates with another bone. It reduces the friction of joint movement and absorbs the shock of impact.
- The Periosteum is a tough fibrous membrane coating the outer surface of the bone, except for the articular surface of the cartilage, and to which tendons are attached.
- All bone is perforated by a network of fine Haversian canals through which run blood and lymph vessels, and nerves.

Anatomy of a long bone (femur)



Ligaments, Tendons and Cartilage

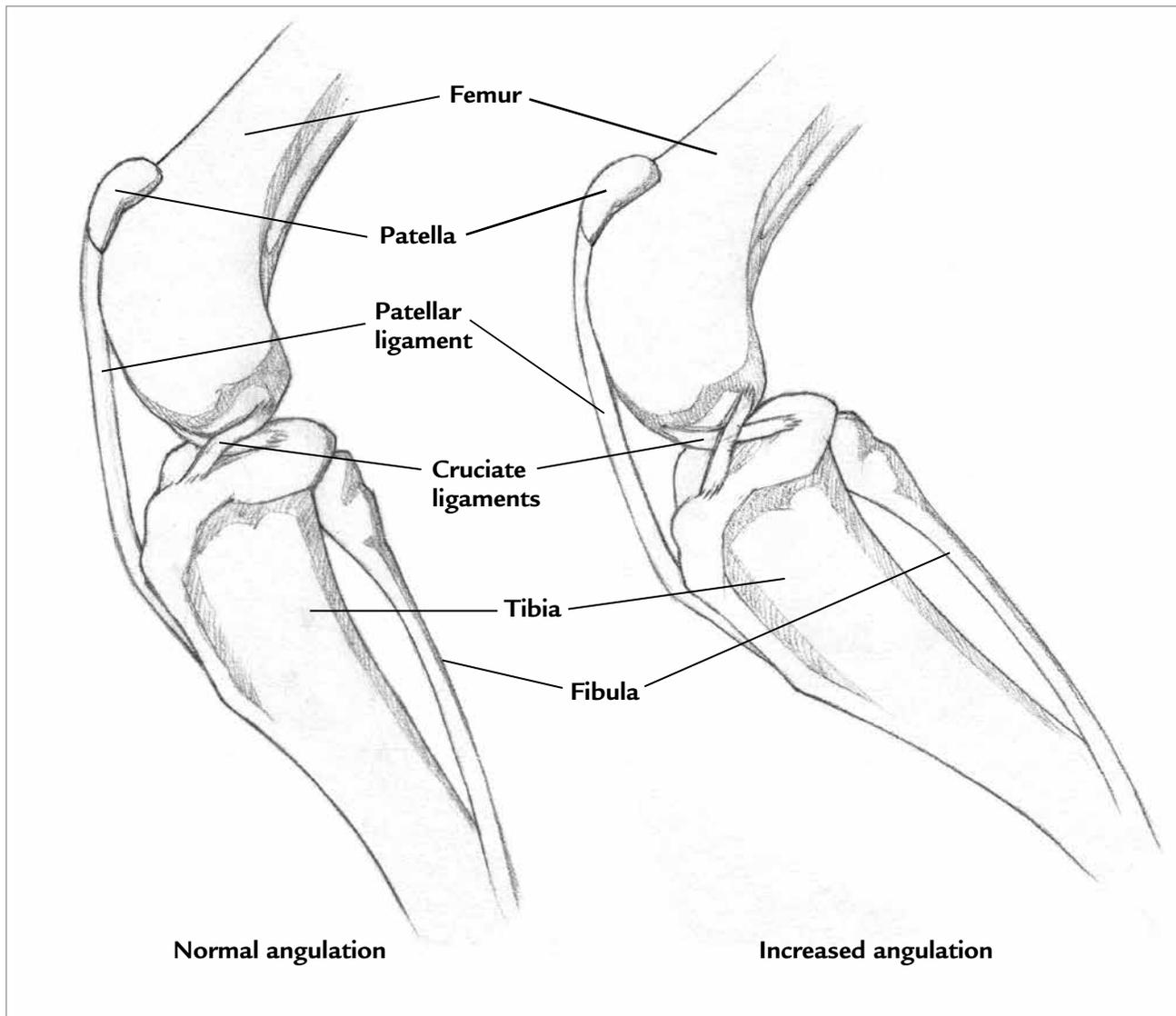
Ligaments, tendons and cartilage maintain the integrity of the skeleton, transferring muscular energy between the bones and protecting them from stress and impact.

Ligaments

Ligaments consist of long strands of collagenous fibres, sometimes interspersed with elastic fibres. They can be very long or very short. Ligaments fix bone to bone, their fibres fanning

out onto and knitting into the periosteum of the bone. They are the primary stabilizers of the pastern and hock joints. Ligaments have no nerves or blood supply and are slow to heal.

Ligaments of the stifle



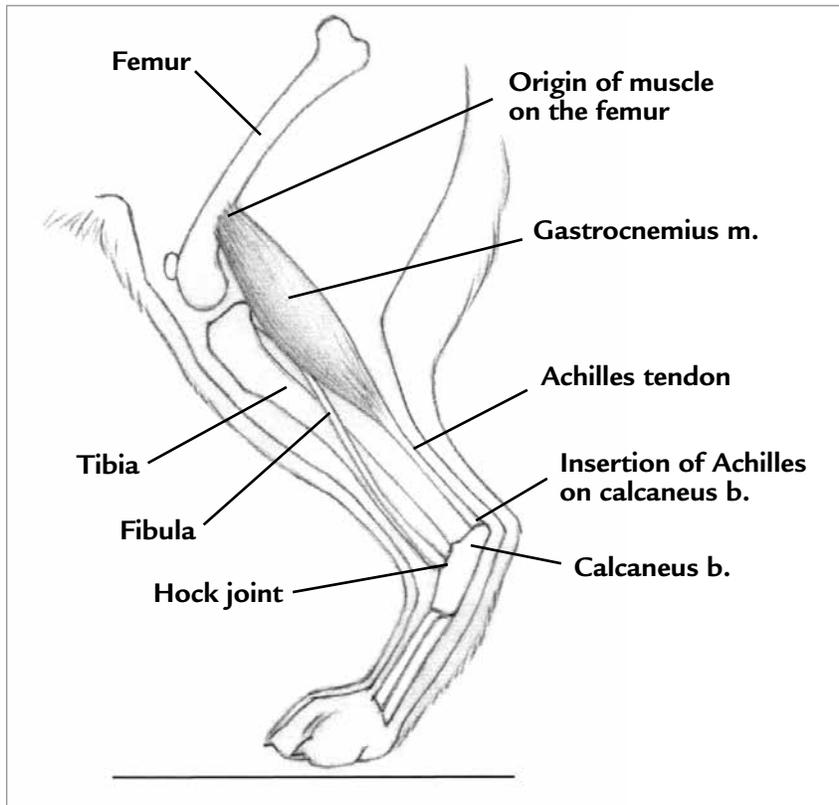
Increasing angulation at the stifle also increases the length of the ligaments that hold the joint together, reducing the joint's stability and increasing its vulnerability to injury.

Tendons

Tendons are tough, white cables of closely packed, parallel bundles of collagenous fibres interspersed with elastic fibres to provide the tendon sufficient flexibility to withstand

strong pulling forces. The tendon is knit into a muscle at one end, and attached to the bone it must move at the other. Tendons have no nerves or blood supply and are slow to heal.

Achilles tendon



The Achilles tendon inserts onto the calcaneus bone (the tip of the heel bone) and opens the hock when the gastrocnemius muscle contracts.

Cartilage

Cartilage is the material that forms the embryonic skeleton, and later ossifies into bone. In the adult dog, cartilage forms the ears, nose and vertebral disks and covers the surfaces of joints. It has no nerves or blood supply. There are three kinds of cartilage.

- Hyaline Cartilage is a flexible tissue forming the nose, the tracheal rings, and the articular surfaces of joints.

- Elastic Cartilage is modified Hyaline, more supple, forming the ears, the Eustachian tubes and the epiglottis.
- Fibrocartilage is tough, dense, fibrous material found between the bony vertebral disks. The body also uses it to form scar tissue to repair torn hyaline cartilage.

See Appendix 1: Internal Anatomy: Cartilage.

How Bones Work

The bones of the skeleton are not simply inert structures. Bones have several essential functions:

- **Support:** The skeleton is the body's framework, supporting the soft tissue and organs, and the origin and insertion points of attachment for tendons and associated muscles.
- **Protection:** Different parts of the skeleton protect the soft tissues that they surround. The skull protects the brain, eyes and throat, the rib cage protects the heart and lungs, and the pelvis protects the lower gut and sexual organs.
- **Movement:** The bones direct the energy generated by the muscles, in some cases increasing this energy by leverage.
- **Storage:** Calcium, phosphorus and other minerals are stored in the bone, and are released into the blood stream as required.
- **Blood cell production** occurs in the red bone marrow.
- **Chemical energy** in the form of fat is stored in the yellow marrow.

There are several different types of bone based on their shape and the type of mechanical work they must do:

- **Long bones** are the bones of the legs and the primary levers of movement. They are long and narrow and are gently curved according to the forces applied to them by muscle.
- **Short bones**, the tarsals and carpals, are small and more spherical, and give the support and flexibility required by the pastern and hock.
- **Flat bones**, such as cranial bones, ribs and scapula, are thinner in cross section and provide protection and broad surfaces for muscle attachment.
- **Irregular bones** such as vertebrae are complex in shape and provide support to special structures and each other.

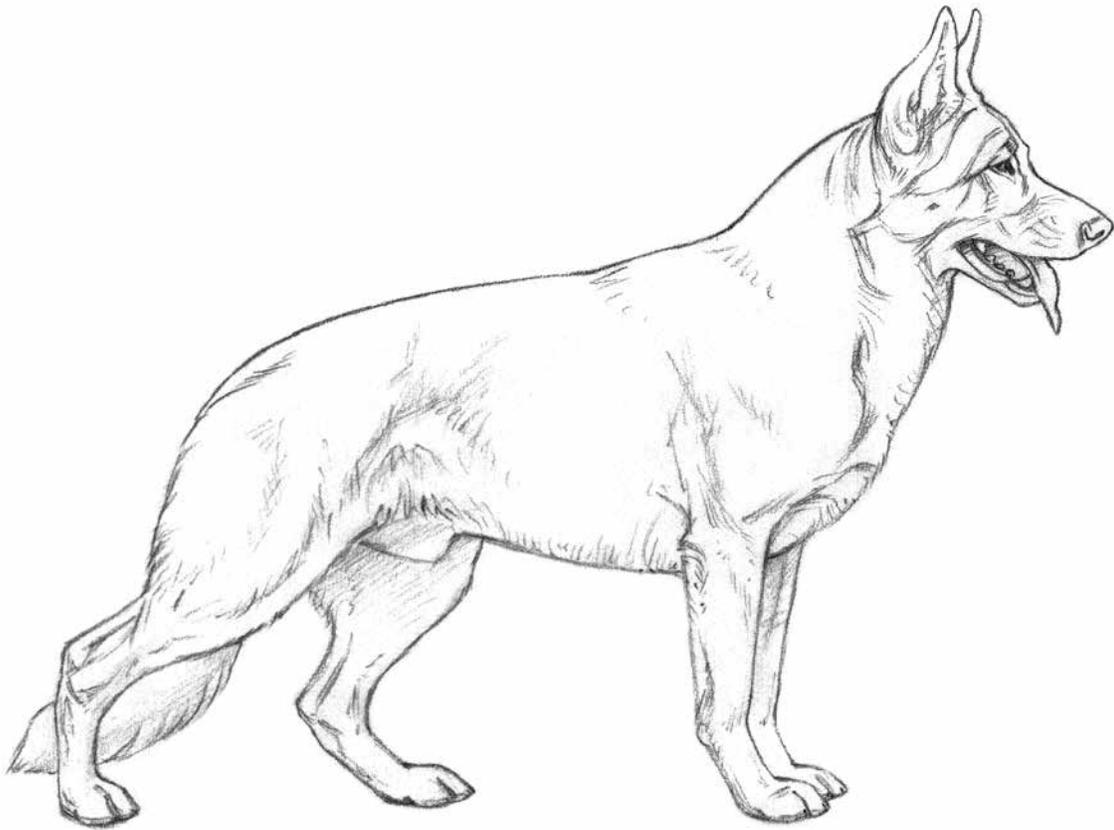
- **Sesamoid bones** such as the patella develop within tendons where particular stresses must be mitigated.
- **Sutural bones** are tiny, variable bones located within the joints between cranial (skull) and mandibular (jaw) bones.

Joints are complex and varied, but for the purposes of judging dogs they fulfill two principle purposes: facilitating movement of the body by transferring and directing the flow of energy generated by the muscles, and absorbing forces of impact. The joints of the legs are of several different types, described under their respective sections. There are three categories of skeletal joint:

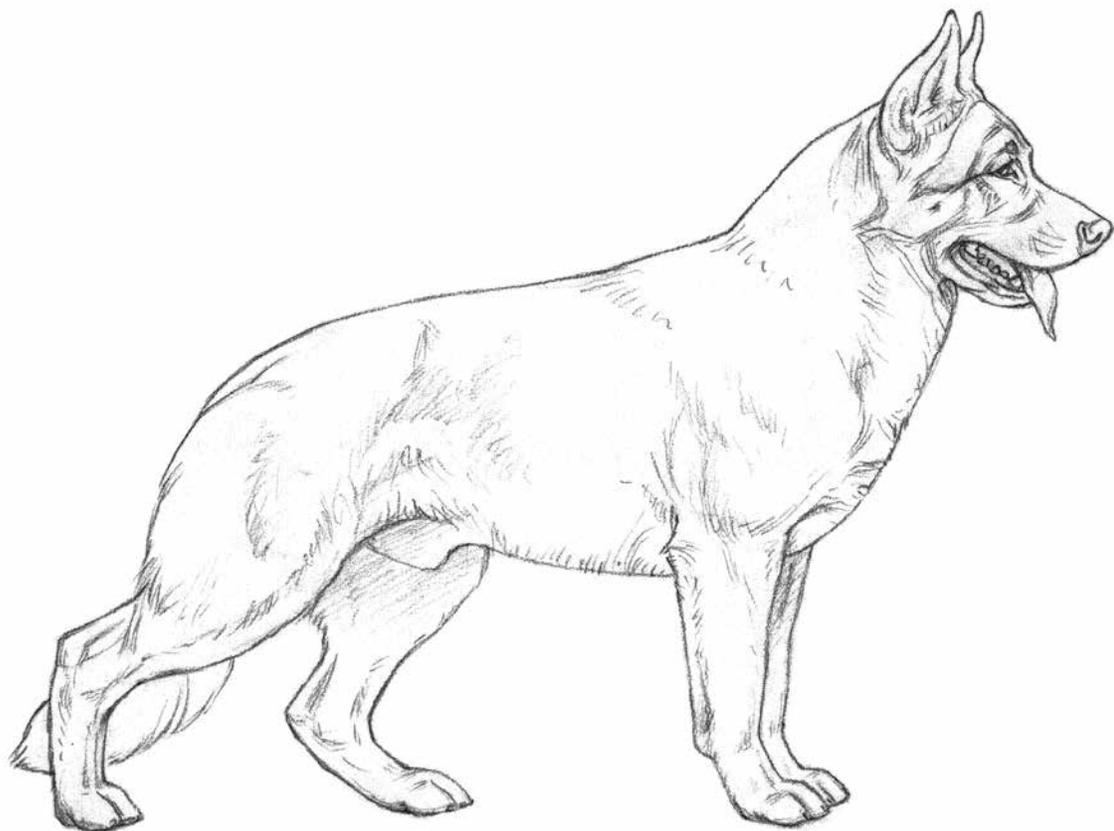
- **Fibrous joint**, found mostly in the skull as rigid sutures between the plates.
- **Cartilaginous joint**, providing connection with varying degrees of mobility between the mandibles (two halves of the lower jaw), bones of the pelvis, and vertebrae.
- **Synovial joint**, providing articulation within a fluid filled synovial membrane or sack. The joints of the legs that are synovial are the hip, stifle, hock, shoulder, elbow and pastern, and the toes. Synovial fluid within the joint sack lubricates and protects the moving surfaces and allows them to rotate freely.

Bone Strength

The GSD has what we call medium to medium heavy bone. That means that the size of the bone is strong enough to withstand the rigors of a working life, but not so heavy as to impede speed and agility. Light bone implies a finer, lighter structure. While heavier bone is stronger than lighter bone, bone strength is also related to the dog's physical condition and the quality of its nutrition. References to dry or spongy bone aren't particularly helpful, and it would be better to assess the dog's size of bone and its overall condition. Rigorous exercise can improve the density and strength of a dog's bone.



GSD male with light bone

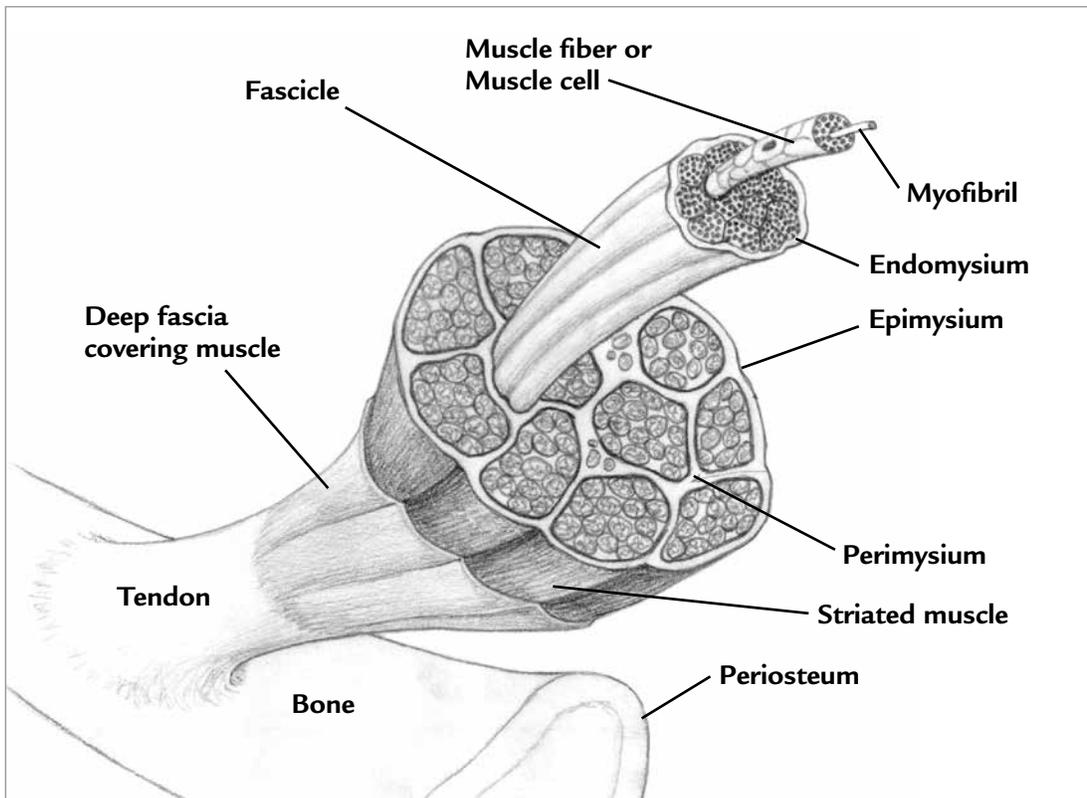


GSD male with heavy bone

Sighthounds bred for speed show a decrease in bone weight and strength, which is not to say that they are not still very strong. It means they have sacrificed some bone weight in favour of increased lightness and therefore greater speed. Mastiffs and malamutes bred for strength will have thicker, stronger bones capable of withstanding the pull and torque of heavier muscle, but with their greater weight they will not be able to cover ground as fast

or as far. The GSD is designed for the intersection between great speed and great strength, excelling at both but the best at neither. The shepherd's quality of bone is not so light that it will compromise strength, nor so heavy that it will impede speed and stamina. A dog in exceptional condition can manage heavier bone than one that is not. The wild wolf tends to show heavier bone than one would expect in a dog of similar size.

Striated muscle in cross section



GV Ch Ingo Wunschelrute SchH1 ROM
 V Arry v Burghalderring SchH3 FH
 Lona v Aichtal SchH3

Musculature

The Muscles beneath the Skin

If you are to understand canine structure and gait, it is important to have a functional understanding of the muscles that are principally responsible for the dog's ability to stand, walk, trot, gallop and jump. Much attention is paid to bones and their arrangements, but they can't go anywhere without muscles. Because this is a breed book and not an anatomy book, the focus will be on the primary muscles that enable the dog to move.

See Appendix 1: Internal Anatomy: Musculature.

The Anatomy of a Muscle

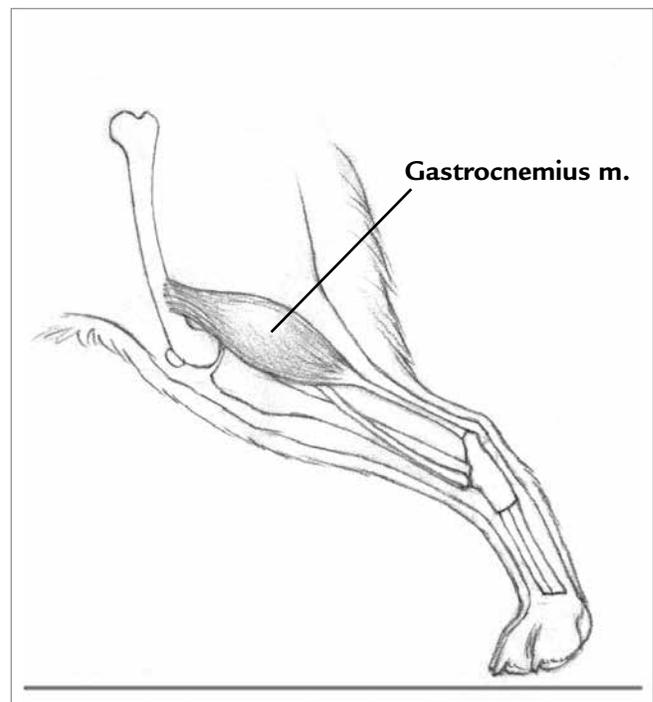
A typical striated muscle, the type with which we are most concerned, has one end known as the origin or head, which is wider and fleshier and is usually its stationary attachment. A muscle may have more than one origin. The belly of the muscle is the larger middle portion that does the mechanical work by contracting and shortening. A muscle may be divided into more than one belly. The other end is the muscle's insertion, the narrower, tougher end that terminates in a tendon that attaches to the periosteum of the bone that the muscle must move.

Each muscle is constructed of long, bundled strands of parallel fibres. The number of muscle fibres within each muscle is genetically controlled and cannot be increased, but their size and ability to contract can be increased dramatically with good nutrition and exercise. Similarly, inactivity and malnutrition can waste muscle tissue. A single muscle is composed of several components.

- Epimysium is a sheath of fibrous tissue that covers the muscle.
- Deep fascia is a sheath of fibrous tissue that covers the epimysium.
- Fascicles are the bundles of muscle fibres that together make one muscle.

- Perimysium is a sheath of fibrous tissue that covers and protects each Fascicle.
- Endomysium is the sheath of finer connective tissue that covers each individual muscle fibre within each fascicle.
- Muscle cells, known as muscle fibres, are the cells that contract in unison within a muscle to create movement. They can extend the entire length of the muscle.
- Myofibrils are the contractile filaments within each muscle cell. They are striated, or striped, with bands of light myosin and dark actin myofilaments that pull together to contract the muscle, and pull apart when it relaxes.

Striated muscle, contracting



Typical striated muscle, the gastrocnemius m.

There are three fundamental types of muscle:

- Striated muscles are the skeletal muscles that control and move the bones. They move voluntarily and are under the dog's control. They are also capable of storing both heat and chemical energy that can be converted into mechanical energy, via contraction, and therefore movement. Striated muscles fall into several categories, depending on their function:
 - Flexors contract to bend a joint, contracting concentrically (shortening). Opposing extensors may relax, or may contract eccentrically (lengthening).
 - Extensors contract to open a joint, contracting concentrically. Opposing flexors may relax, or may contract eccentrically.
 - Adductors contract to bring a limb into the body, such as when a leg converges to the mid-line when gaiting.
 - Abductors contract to pull a limb away from the body, such as when a male dog cocks his leg.
 - Pronators contract to rotate a bone around its long axis. Dogs have limited rotation of the lower arm compared to humans, causing the foot to toe in or toe out.
- Smooth muscles do not show marked striations, and are controlled by the autonomic or involuntary nervous system. Their rhythmic contractions are more sluggish when stimulated, but are longer lasting. They are found in the lining of the gastrointestinal tract, the circulatory system and the hair follicles.
- Cardiac muscle is found only in the heart. Also controlled by the autonomic nervous system, its fibres are modified to transmit powerful rhythmic impulses within the heart.

How Muscles Work

Muscle fibres have four principle properties:

- Contractibility, the ability of the muscle fibres to shorten in length.
- Elasticity, the ability of the muscle fibres to return to their original length.
- Extensibility, the ability of the muscle fibres to stretch under an applied force.
- Irritability, the reactivity of the muscle fibres to stimuli.

Voluntary muscle contractions are the means by which the striated muscle does its work. When a muscle fibre contracts it shortens and thickens. The stronger the muscle fibre, the shorter it can become during contraction in relation to its length when relaxed. It will be able to contract against a greater opposing force, it will be able to sustain a contraction for longer and it will be able to continue contracting repeatedly for a longer period of time.

The strength of a muscle is directly related to its thickness. Some muscle strength is genetic, resulting in more muscle fibres in each muscle. Some muscle strength is due to physical conditioning, resulting in muscle fibres that have thickened through exercise. Regardless of how much natural muscle mass a dog is born with, exercise will increase muscle size. Conditioned muscles can help protect the bones and joints and make the body less vulnerable to injury.

The distance a muscle can move a lever is related to its length and its ability to shorten when contracted. Longer muscles will shorten more when contracted, relative to their length when relaxed. Faster dogs will have longer, slimmer muscles that can contract explosively, and exert longer leverage on their leg bones. Shorter, thicker muscles contract less explosively but in a more sustained way, increasing the power the dog can throw into its work. A GSD should have smooth, hard, moderately thick muscle, compromising between the long muscle required for speed and the short, thick muscle required for strength.



GSD showing normal strong musculature.



GSD with soft muscle and loose ligaments. This was a top show dog in North America.

Thin, soft muscling is usually accompanied by loose, weak ligaments and tendons, resulting in loose joints that are vulnerable to injury.

Exercise, carefully done, may improve the condition of these dogs, and help to protect their joints, but it cannot repair their genetics.



GSD with soft muscle and loose ligaments in motion. This is an American champion.

The Brain, Spinal Cord and Nerves

The central nervous system consists of the brain and spinal cord. While these structures aren't apparent in the conformation of a dog, it is useful to understand the principle pathways of the spinal cord and the major nerves. When the anatomy of a dog is greatly changed with selective breeding, such as an increase in length of back or curvature of the spine, the length and orientation of these nerves can be affected.

The spinal cord runs through the vertebral canal and extends to the 5th caudal (tail) vertebra. It is divided into segments that correspond to the vertebrae through which it passes. Each region of the spinal cord is responsible for delivering signals to, and receiving signals from, its corresponding region. The Thoracic region extends peripheral nerves through the shoulders and forelegs. The Lumbar and Sacral regions extend peripheral nerves through the hindquarters.

The peripheral nervous system consists of all nerve tissue outside the central nervous system, including twelve cranial nerves that originate directly from the brain, and thirty-six spinal nerves that originate from the spinal cord. The cranial nerves include sensory and motor neurons that link the eyes, ears, nose, mouth and face directly to the brain. The spinal nerves originate from the spinal cord. The Thoracic region extends axons into the forelegs: the large radial, median and ulnar nerves. The Lumbar and Sacral regions extend axons into the hindquarters: the large femoral, tibial and sciatic nerves, and nerves that control the tail, bladder and anus. These nerves subdivide into a network of smaller nerves that cover the surface and fill the interior of the body.

See Appendix 1: Internal Anatomy:
The Nervous System.

Ch Ora of Hollabird
Ch Immo vd Eschbacker Klippen
Mia v Worther Blick

The Internal Organs

You should be reasonably familiar with the location and form of the internal organs. Length of body, tuck-up and width and depth of chest can all have an impact on the positioning of the diaphragm and major organs.

See Appendix 1: Internal Anatomy: The Digestive System, The Circulatory System, The Internal Organs, Female & Male Reproductive Organs.

Ch Tannenwald's Kira
Sel Ch Tannenwald's Igor ROM
Weberhaus Gemima



The Head

A Beautiful Head

Some might suggest that the head is of little importance, yet it is here where the entire expression and character of the breed resides and where temperament is most completely revealed. Masculinity or femininity can be determined at a glance. Health and strength can be observed in the definition and muscling of the skull, condition of the teeth and gums, luster of the fur, clearness of the eyes and cleanliness of the ears. Correct proportions give the dog its strength of grip, olfactory capacity, a roomy brain case and a beauty and strength of expression that commands attention for a working dog that often serves in the public eye. Without a good head, it is difficult to claim real quality in an animal.



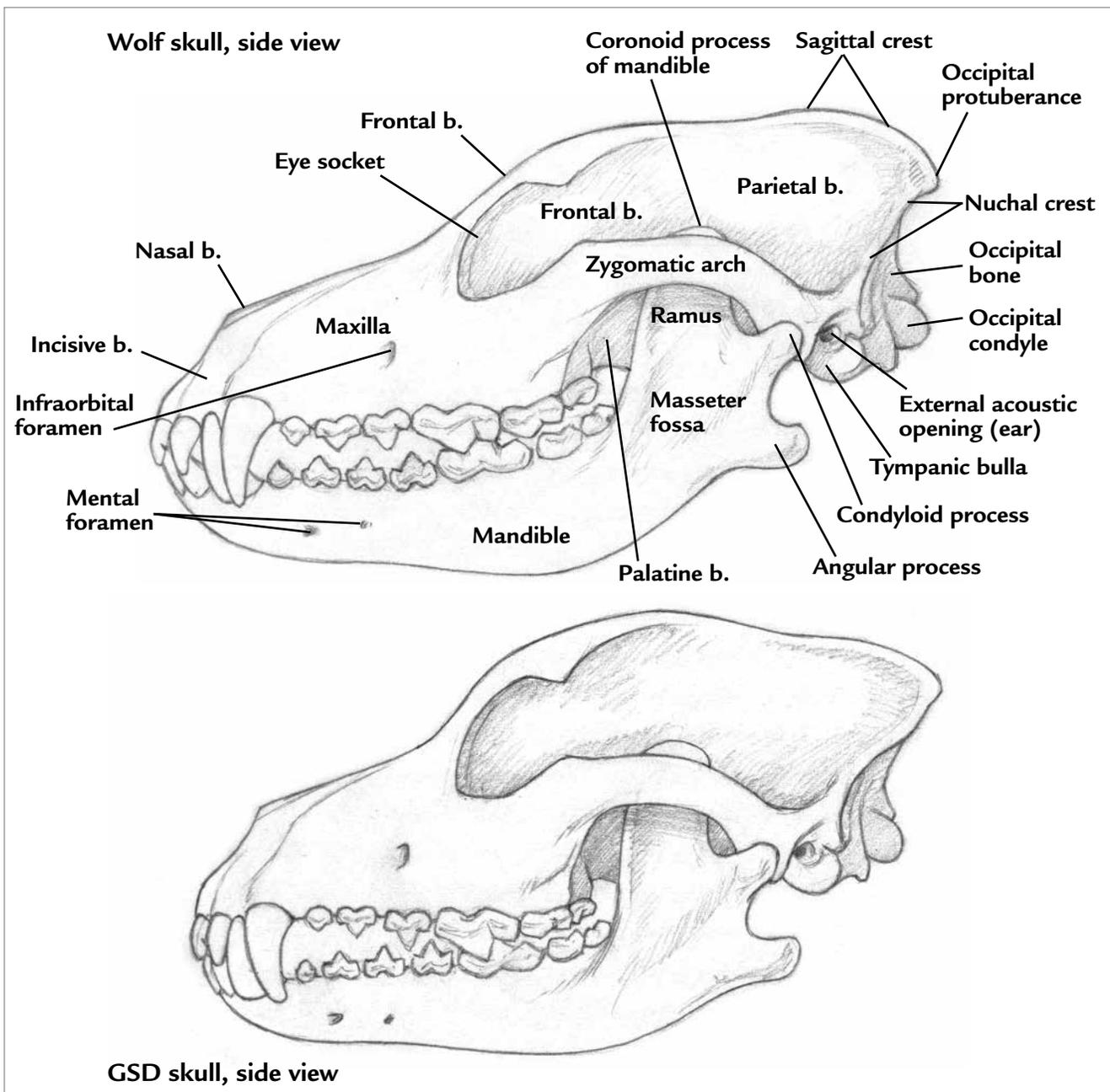
This montage shows four slightly different but perfectly acceptable heads. Clockwise from top they are: Canadian show x work male, Canadian Champion female, East German type male, West German male. Dogs of different families and bloodlines will show minor differences in head and expression.

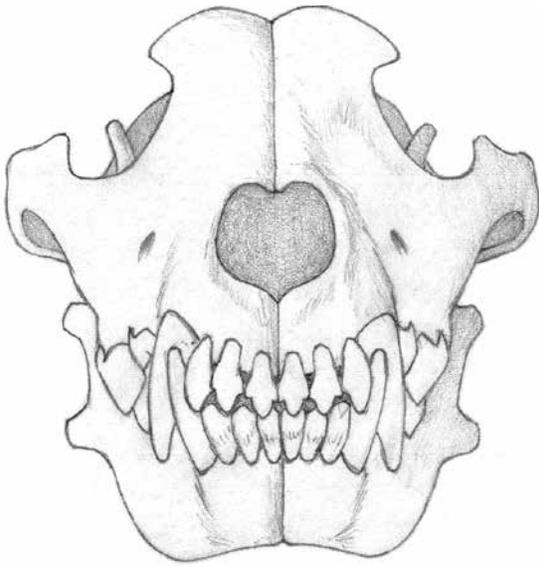
The Skull

The skull of the wolf features large, closely spaced teeth, a large brain case, forward focused eyes and very long, powerful jaws with capacious nasal passages; all the equipment required by an accomplished predator that locates its prey by scent and social cooperation.

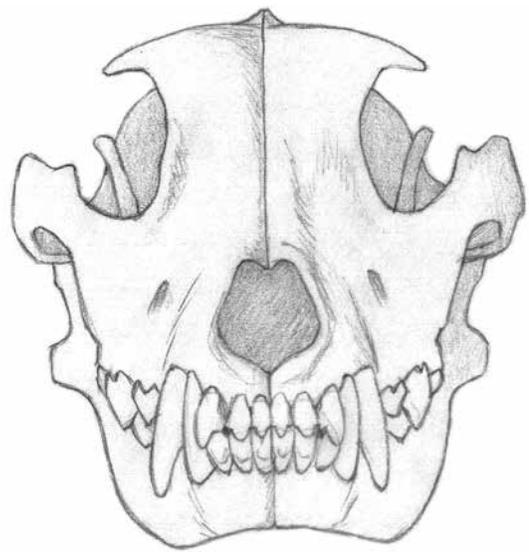
The first dog skulls date from about 33,000 years ago and show several changes from their wild ancestor. The brain case is smaller, the stop deeper and the teeth are smaller and more widely spaced.

This head can be seen today on the dingo, basenji and other pariah types. The heads of both the wolf and primitive dog are Mesocephalic, being long, without exaggeration and with about the same length of skull in front of the eyes as behind them. The head of the GSD is also Mesocephalic and should retain something of the size and strength of the wolf, while still showing the characteristics of a domestic dog: a slightly deeper stop and a bolder, more forward facing eye.

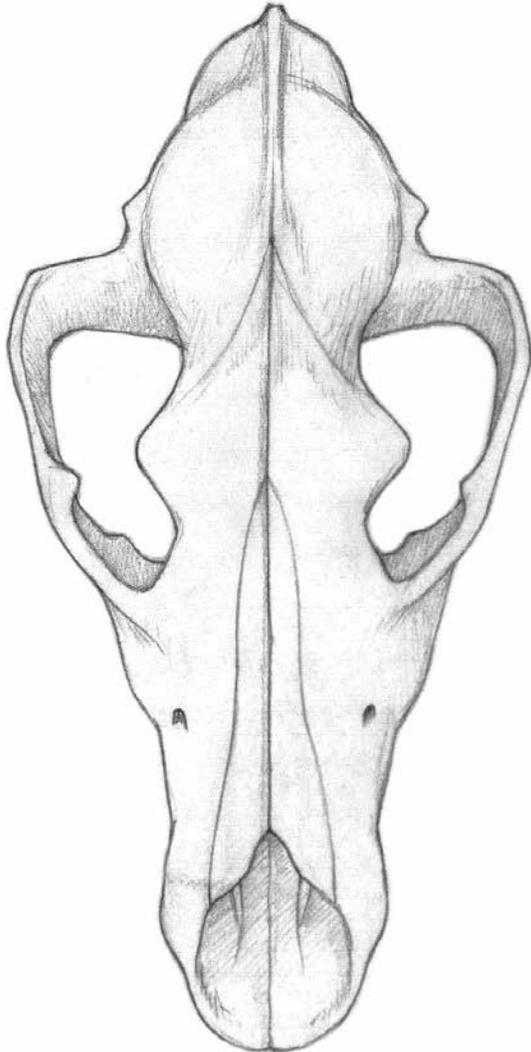




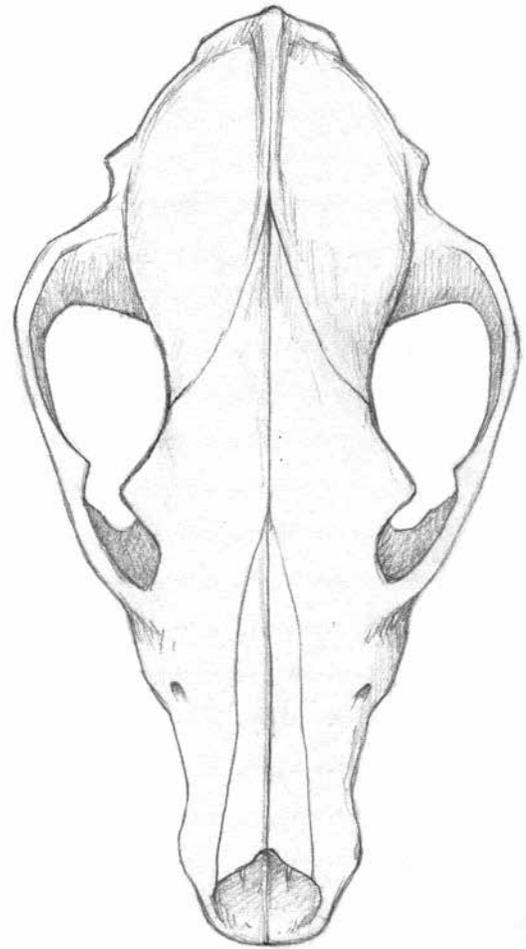
Wolf skull, front view



GSD skull, front view



Wolf skull, top view



GSD skull, top view

Skull Proportions

Front View

From the front, the head shows its square proportions, being as wide as it is deep. The muzzle too, at any point along its length, is almost square in cross section. Breadth of muzzle prevents crowding of the incisors, as well as giving a wide and roomy nose with broad, open nostrils. The top of the head between the ears is nearly flat and the sagittal crest should not be visible. The temporal and masseter muscles that

together close the jaw give the head its shape and strength. Broad headed, heavily muscled dogs can have a slight furrow at the crown as well as a somewhat cheeky look. Conversely, poorly muscled dogs can have a narrower head with a palpable sagittal crest, and probably a weak grip.



Front view of a normal male head



Front view of a normal male head with the skull superimposed

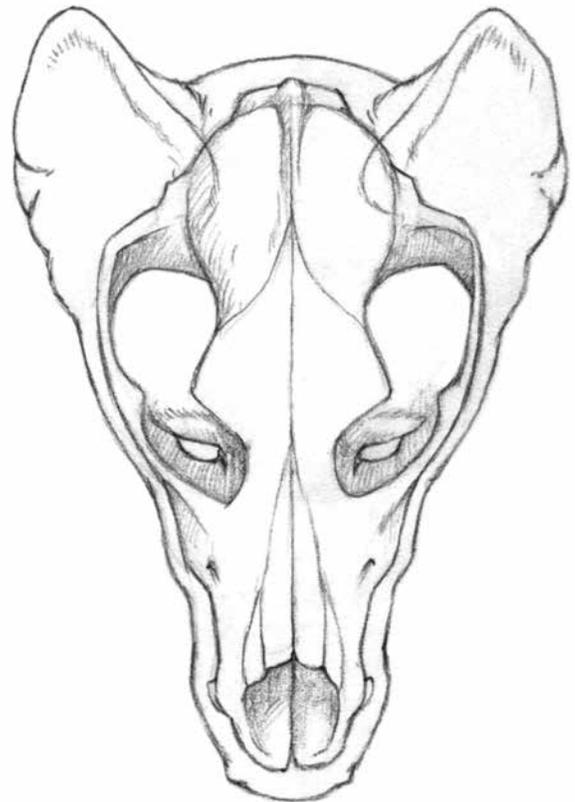
Top View

From above, the back-skull is about as wide as it is long and in length is equal to or slightly greater than the muzzle. The transition from back-skull to muzzle is smooth, flowing over moderately broad zygomatic arches or cheekbones. As the cheekbones become broader the muscle over the cheeks and skull becomes thicker, increasing the power of the

dog's grip. The skull should be broad enough to orient the eyes almost completely forward, but sufficiently oblique to give a beautiful, almond-eyed expression that should radiate confidence and intelligence. Totally forward facing eyes can be too round, while those set too obliquely can have a furtive, feral expression.



Top view of a normal female head



Top view of a normal female head with the skull superimposed

Side View

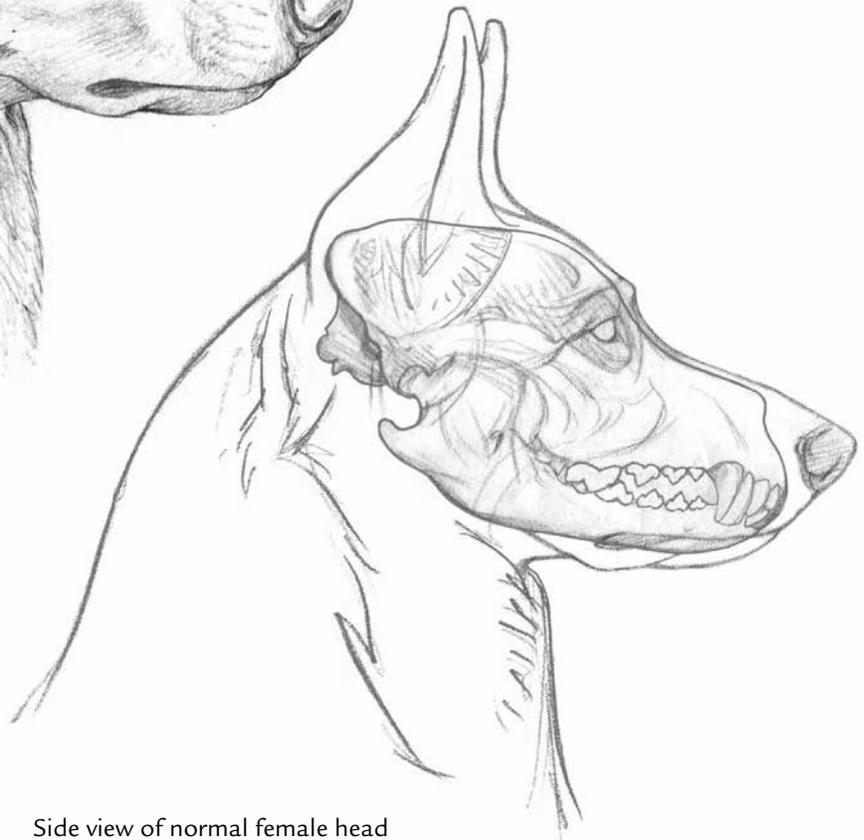
The distance between the point of the occipital bone at the rear of the skull and the inside corner of the eye is nearly equal to the distance between the same point at the eye and the tip of the nose. In strong-headed dogs, the length of the muzzle can be slightly shorter than the skull, giving the jaw muscles greater leverage

and a more powerful grip. Viewed from the side, the skull behind the eyes is approximately square, being as deep as it is long. It will have a defined forehead, neither domed nor flat, but slightly arched to give room to the brain case and added attachment area for the jaw muscles.

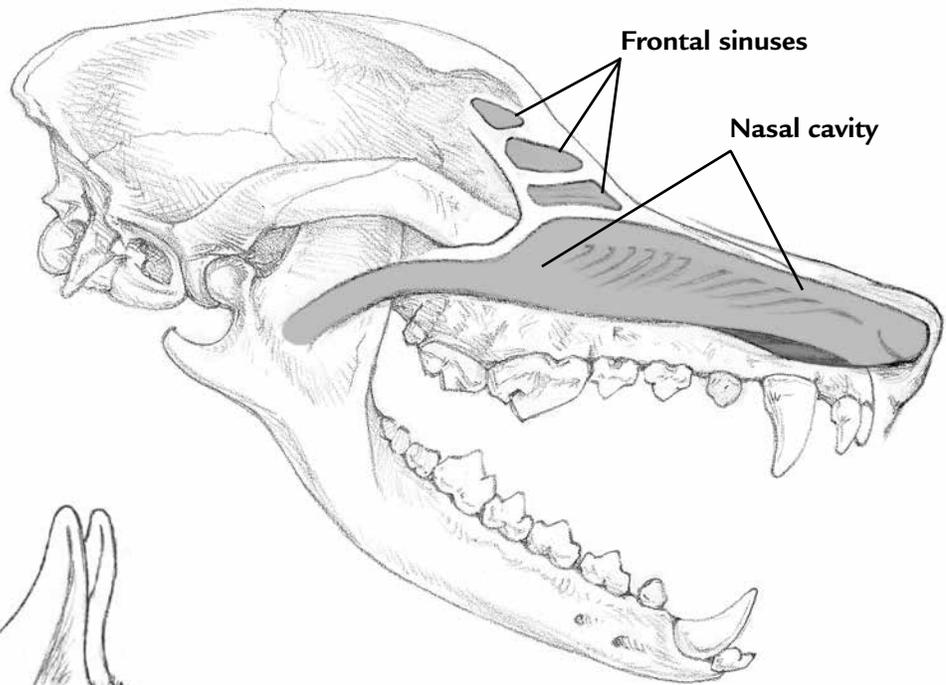
The muzzle has the profile of a well blunted wedge, with a defined chin and a convex curvature of the lower line of the jawbone to provide ample depth of bone to anchor deeply rooted teeth. A coarser head might have a more blunt, squared off muzzle. A long, narrow head will have a long, narrow jaw lacking in depth and strength. A square skull, moderate stop and a muzzle and jaw of correct length will give a strong and correctly proportioned head.



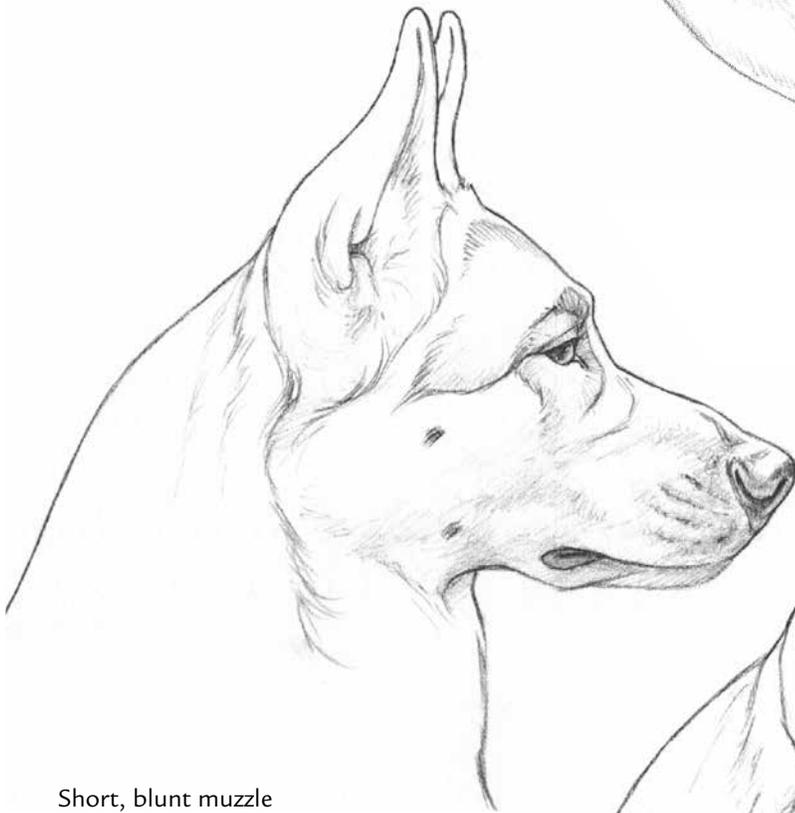
Side view of normal female head



Side view of normal female head with the skull superimposed



Cross section of skull showing the size of the nasal passages



Short, blunt muzzle



Long, sharp muzzle

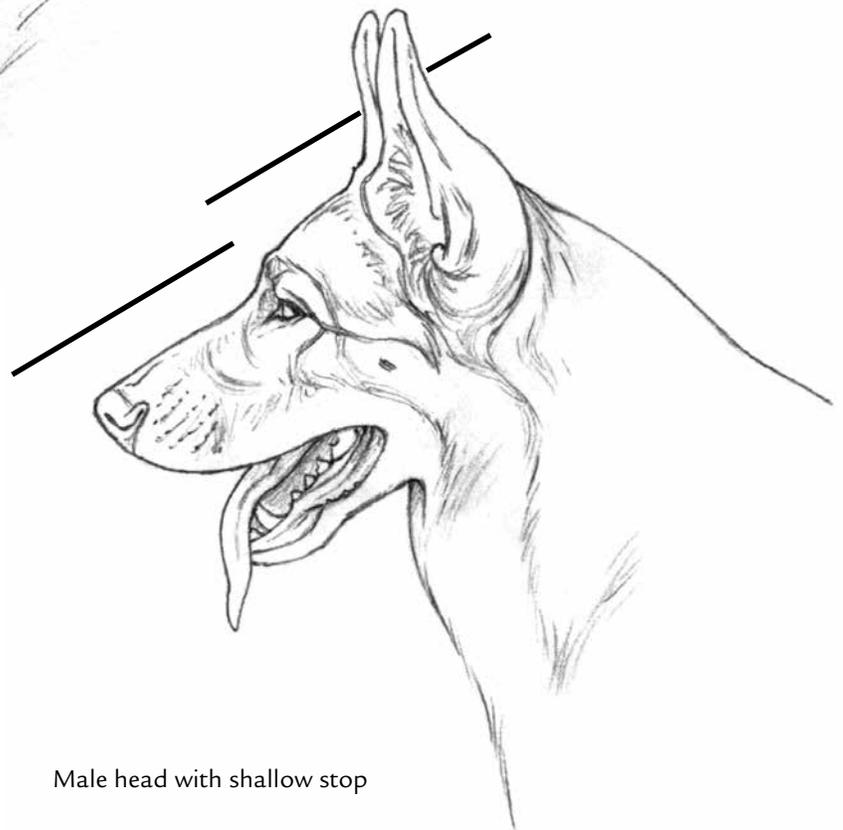
Skull Planes

Normal planes of the back skull and muzzle should appear parallel. The plane of the back skull is determined by a line running through the brow bone and the occipital bone, not along the slope of the forehead. This plane is definitely above that of, but reasonably parallel to, the topline of the muzzle, which is as straight as possible, neither dished nor Roman in profile.

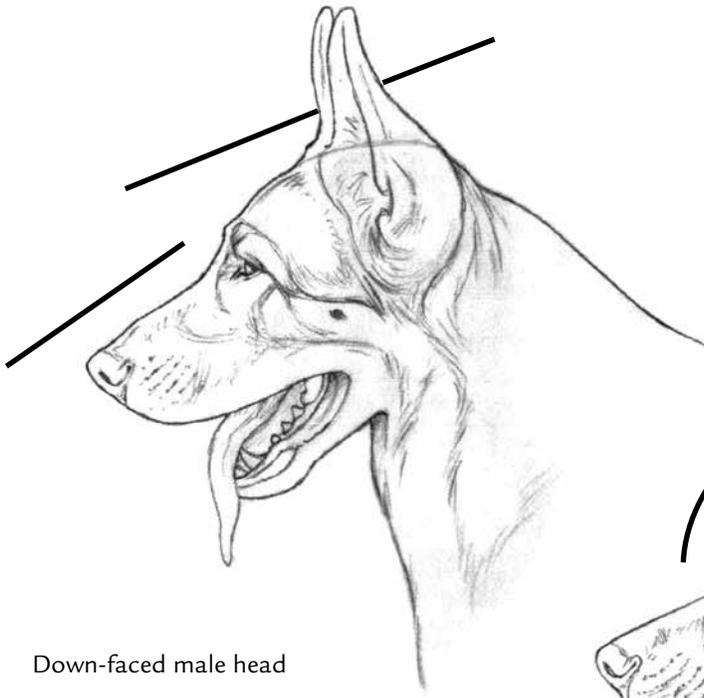
Parallel planes give a deep, powerful upper jaw and roomy sinuses. Sometimes dogs with correct parallel planes can appear slightly up-faced, because of added muscle and fur rising before a strong ear set. The stop should be smooth, flowing and without pronounced furrow, but the steepness of the stop can vary slightly.



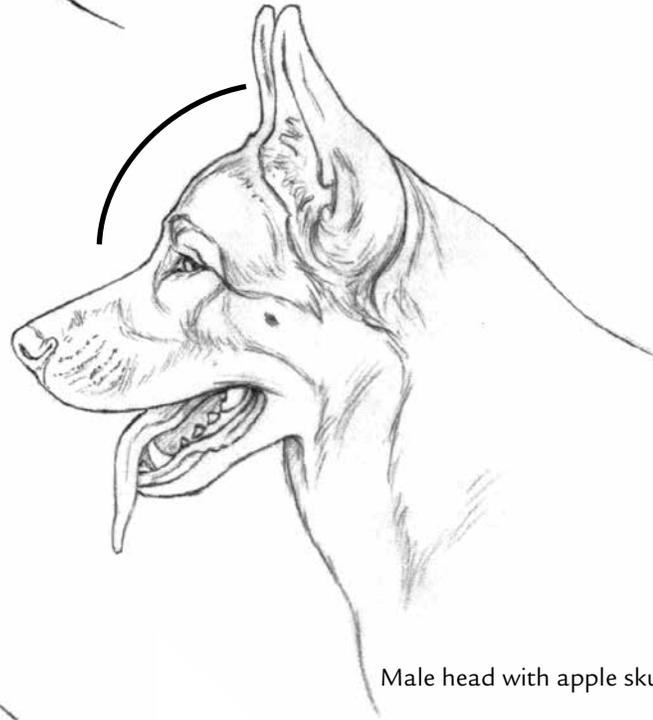
Good male head showing parallel planes



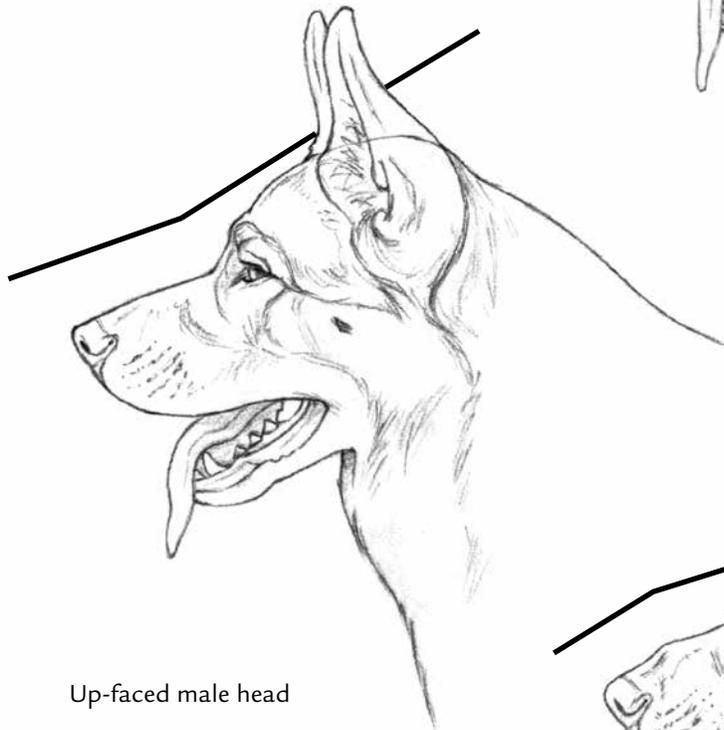
Male head with shallow stop



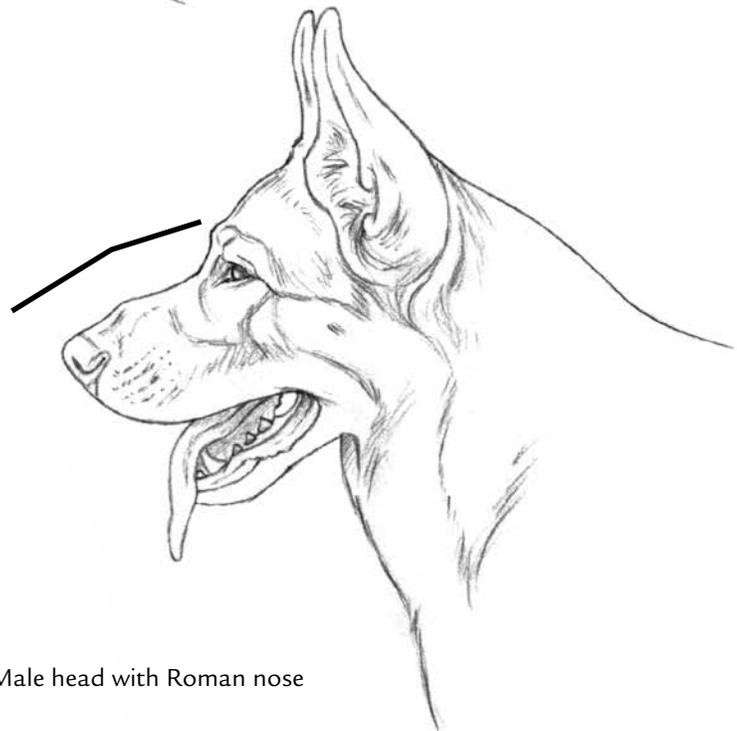
Down-faced male head



Male head with apple skull



Up-faced male head



Male head with Roman nose

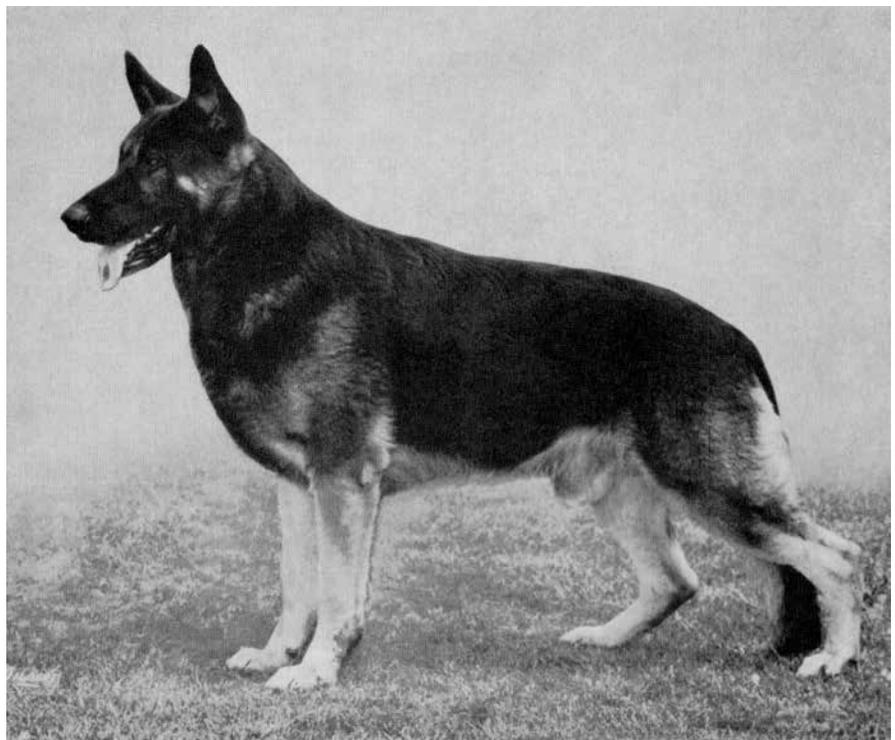
V Ch Atlas v Piastendamm SchH2 (sire of Raps)
Ulbert v Piastendamm SchH3
Clarice vd Teufelslache SchH1



Baldur Befreiungsplatz SchH3
Sigbert Heidegrund
Berna z Saarkante



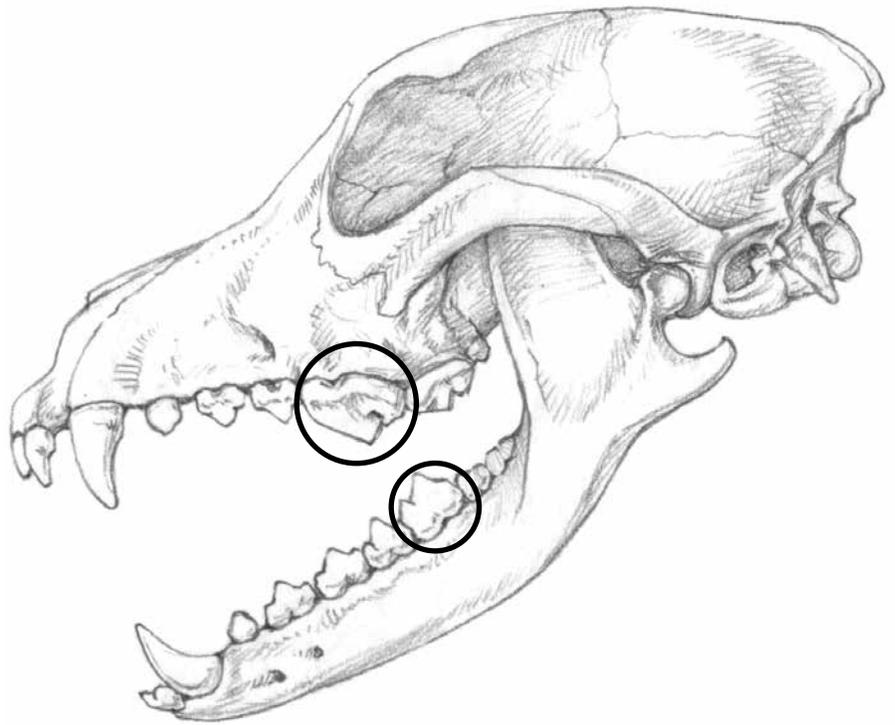
BIS BISS Ch Bar Wieherturichen ROM
Pascha v Gelnhauser Schlosschen SchH3
Dina vd sieben Pappeln



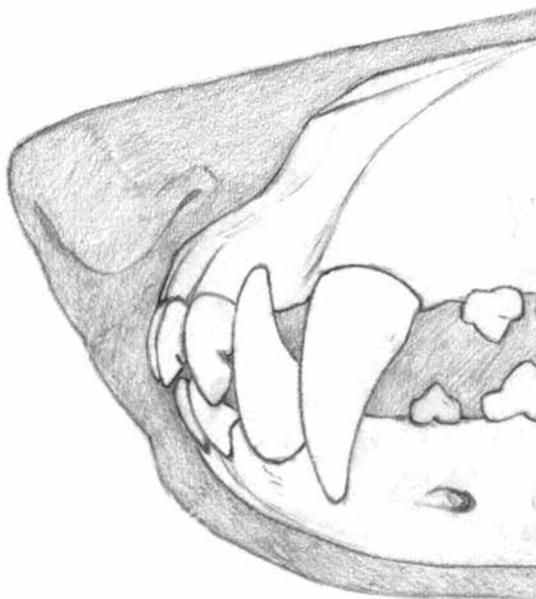
Teeth, Jaws and Bite

All dogs wild and domestic belong to the Order Carnivora, as do the cats, bears and weasels. This order of mammals is distinguished by unique teeth designed for shearing meat, the carnassial teeth, which are enlarged and flattened like blades. In the dog these teeth are the upper fourth premolars and the lower first molars.

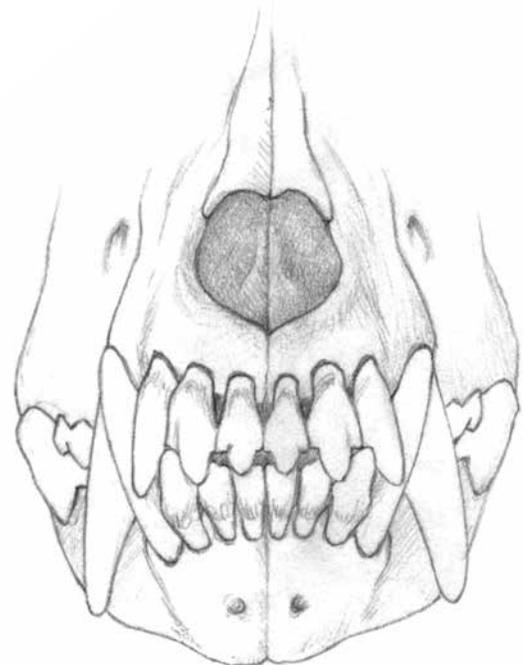
Both the wolf and the GSD have 42 teeth, 20 in the upper jaw and 22 in the lower, with the incisors meeting in a scissors grip. The teeth are large, strong, evenly aligned and closely spaced to ensure a good grip and a healthy mouth. Small, widely spaced teeth, missing teeth and crooked bites are all abnormal and prone to premature wear and breakage. Care should be taken to keep the dog's teeth clean with a meat diet and regular veterinary attention.



Canine carnassial teeth

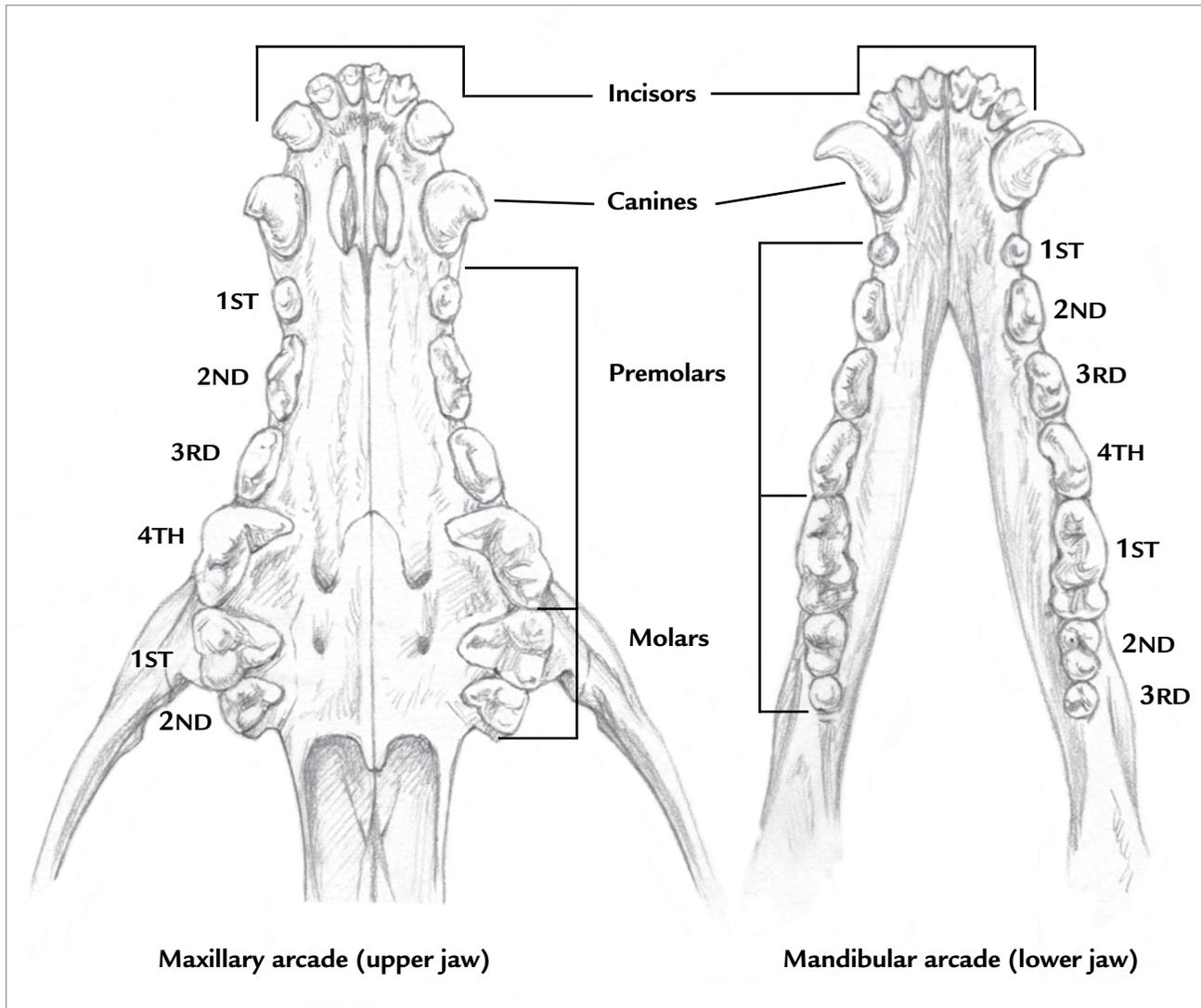


Scissors bite, side view



Scissors bite, front view

Dental arcades

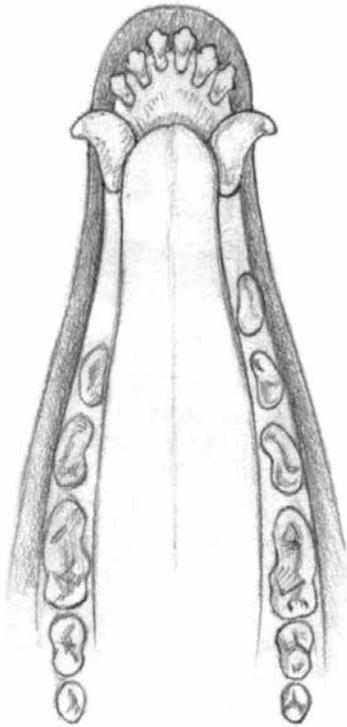


There are 42 teeth, 20 in the upper jaw, 22 in the lower jaw. They should be large and closely spaced.

Incisors: 6 upper, 6 lower
 Canines: 2 upper, 2 lower
 Premolars: 8 upper, 8 lower
 Molars: 4 upper, 6 lower

The following chart shows the ages of tooth eruption:

Teeth	Deciduous	Permanent
Incisors	4 - 6 weeks	3 - 5 months
Canines	5 - 6 weeks	4 - 6 months
Premolars	6 weeks	4 - 5 months
Molars		5 - 7 months



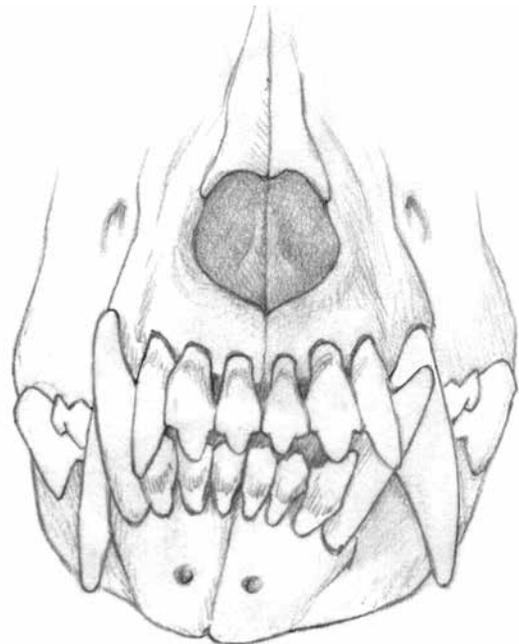
Narrow jaw, with missing premolars and compressed incisors



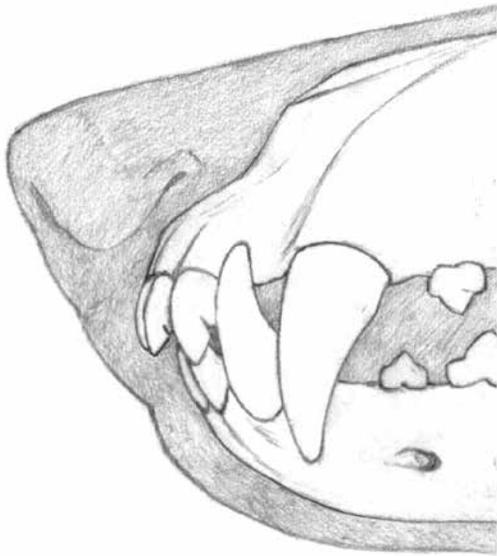
A long narrow skull with small, widely spaced teeth

Congenital dental defects in wild wolves appear to be rare. Nature selects against them. A single missing pre-molar may be acceptable in an otherwise good dog, but any fault should be penalized not only for its severity, but according to how pervasive it has become in the breed. Small, widely spaced teeth may be the result of an overlong or weak skull, and crowded and missing teeth may be the result of excessively narrow jaws. Occasionally, double premolars appear. If the teeth are of normal size they will probably be crowded and are abnormal.

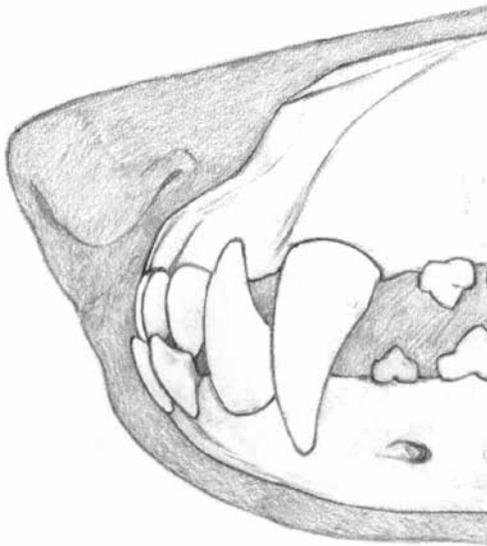
Faults of the bite are usually due to misalignment of the lower mandible resulting in faulty positioning and premature wear to the teeth. They should be considered genetic problems. The jaws of a large male can exert between 300 and 500 lbs psi which must be absorbed by the teeth, so they should be as close to perfect as possible.



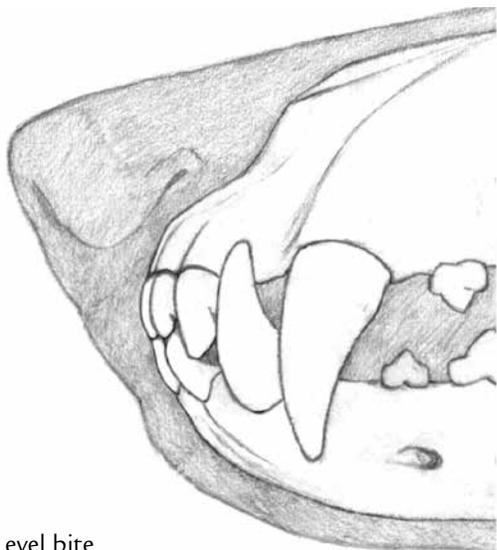
Wry bite, a misalignment of the lower jaw



Overshot bite



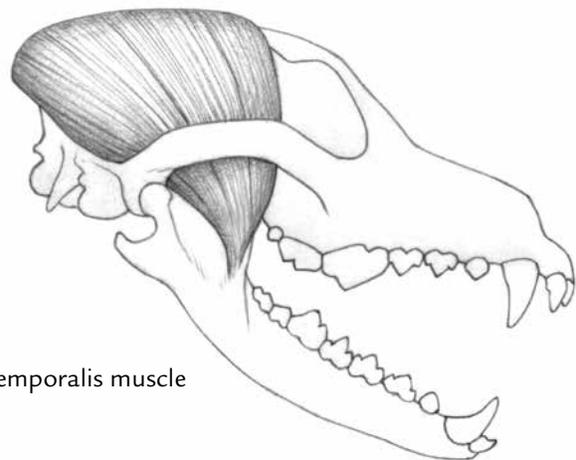
Undershot bite



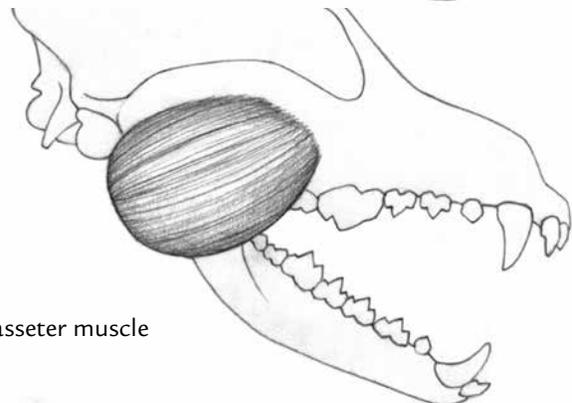
Level bite

Sometimes the lower jaw of an immature dog will grow more slowly than the skull and the emerging lower canines will fail to occlude properly with the upper teeth, even poking into the upper palette. If the lower jaw continues to grow properly this can correct itself and the dog's bite will mature normally.

The lower jaw or mandible is actually two bones fused up the middle of the chin. The mouth is closed principally by two pairs of very strong muscles, the masseter and the temporalis. The temporalis originates over the crown of the skull, anchored against the sagittal crest that runs up the middle of the brain case. In powerfully jawed dogs these muscles may be so massive that this spine disappears into a fleshy furrow running up the middle of the top of the head. The belly of the temporalis runs down from the top of the skull, beneath the zygomatic arch (the dog's cheekbone) and inserts along the ramus, the outside of the base of the lower jaw. The masseter attaches along the lower edge of the zygomatic arch and inserts onto the base of the lower jaw over the temporalis. It is the masseter that gives powerful jaws their cheeky look.



Temporalis muscle



Masseter muscle

Ear Set and Carriage



Good ear carriage

A beautiful set of ears is undeniably critical to a German shepherd dog's expression. They should be fully erect, parallel or nearly so, medium sized, symmetrical and open to the front. They should not lean inwards across the skull, or flap noticeably when the dog is gaiting. Erect ears allow air circulation to the ear canal and act as ear trumpets, directing sound waves into the inner ear. While it is natural for ears to occasionally be folded back when relaxed, this should not be the dog's typical carriage as this can indicate submissiveness or weakness of character. When out in public a confident dog's ears are usually held erect.

Over a dozen muscles are responsible for the ear's mobility and for drawing the juvenile ear erect. Weak muscles or oversized ears result in sloppy and uneven ear carriage that spoils the expression. Poor ears don't affect working ability and in an otherwise superior dog a crooked ear may be overlooked. However, ear faults can be genetically persistent so care must be taken to avoid them. Good ears should be bred, not taped, or glued and certainly not created surgically.

Nature does not tolerate soft ears, probably because of their vulnerability to injury. Ears that block the ear canal may even affect the dog's hearing.



Bat ears



Overset, weak ears



Drop ear



Soft, weak ears



Weak ears set too far back



Weak ears set too far forward



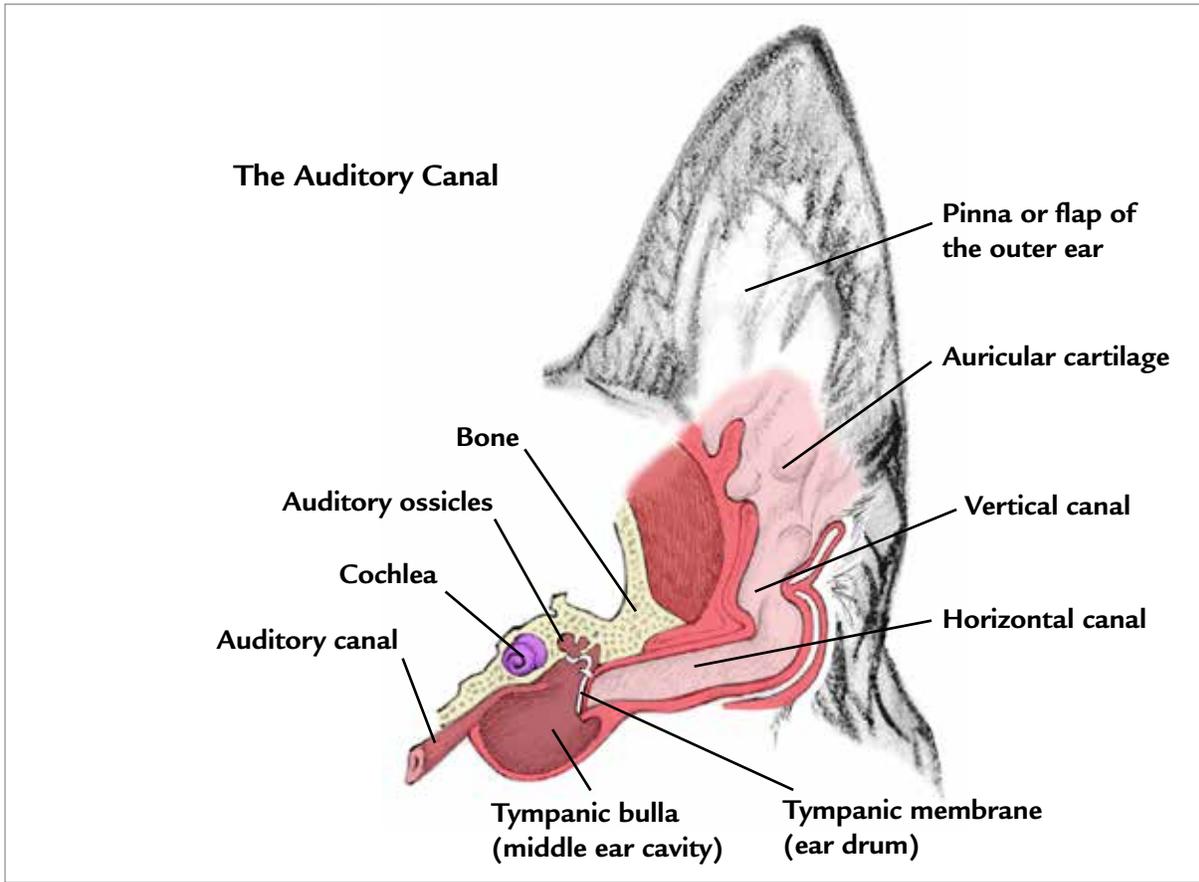
Excessively tall ears that may require taping



Wide set ears, rather low and soft

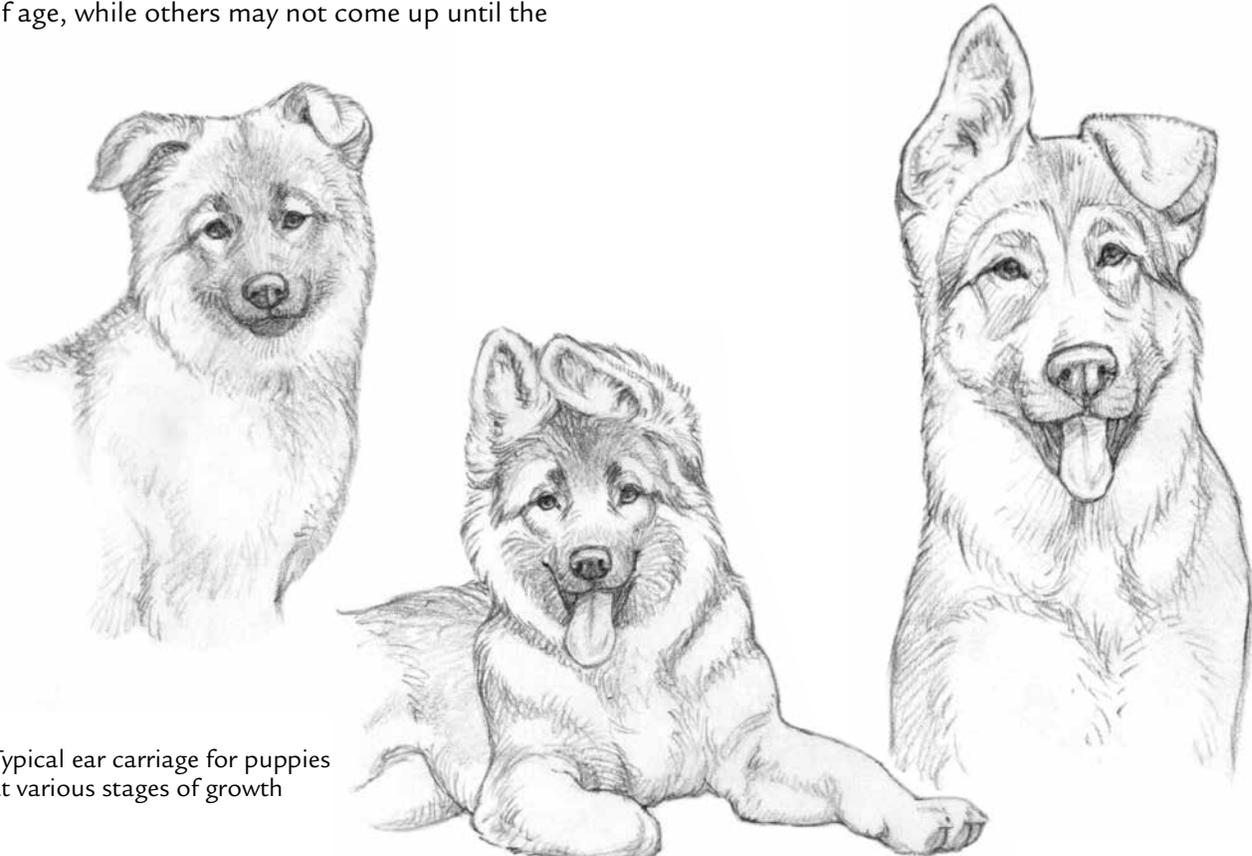


Weak, asymmetric ears



The GSD puppy is born with dropped ears that gradually come erect with maturity. Some puppies may show fully erect ears at only a few weeks of age, while others may not come up until the

dog is nearly a year old. During teething it is common for standing ears to collapse, only to rise again when the stress of teething has passed.

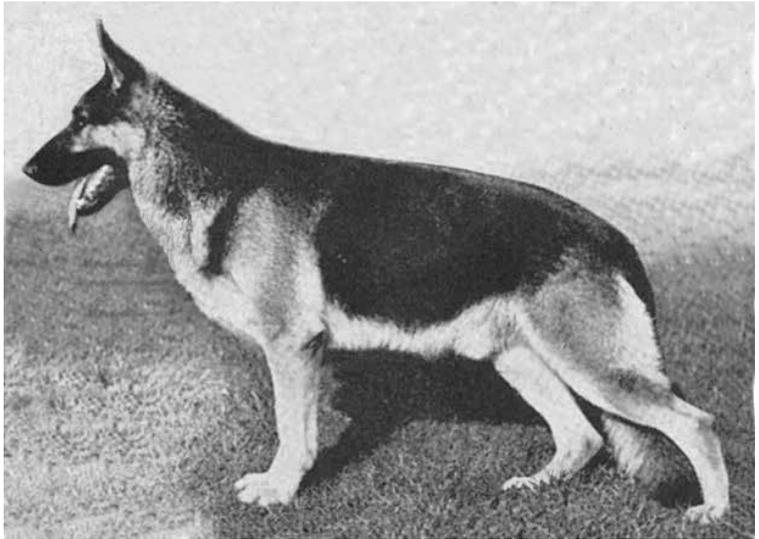


Typical ear carriage for puppies at various stages of growth

Ch Barithaus April of Heldhaus
Ch Eko-Lan's Paladen ROM
Barithaus Mist of Clover Lynn



VA1 Basko vd Kahler Heide SchH3 FH
VA1 Zibu v Haus Schutting SchH3
Nixe ad Eremitenklause SchH1



GV Ch Bel-Vista's Solid Sender
Ch Treu v Wolfstock
Hessian's Helene v Bel-Vista



Eyes and Nose

The eyes of a GSD are the seat of its personality and can tell volumes of the dog's character and disposition. They should be almond in shape and their expression should be confident, intelligent, composed and alert. The eyelids are firm with no visible haw. Eye colour is purely

esthetic. Darker values give a more pleasing expression, but for some reason Nature has chosen an amber eye for the wolf and it might be wise not to discard the lighter eye until we better understand the genetics behind it.

See Appendix 2: Colour & Patterns: Eye Colour.



Correct eyes



Round eyes



Eyes showing haws



Furtive eyes

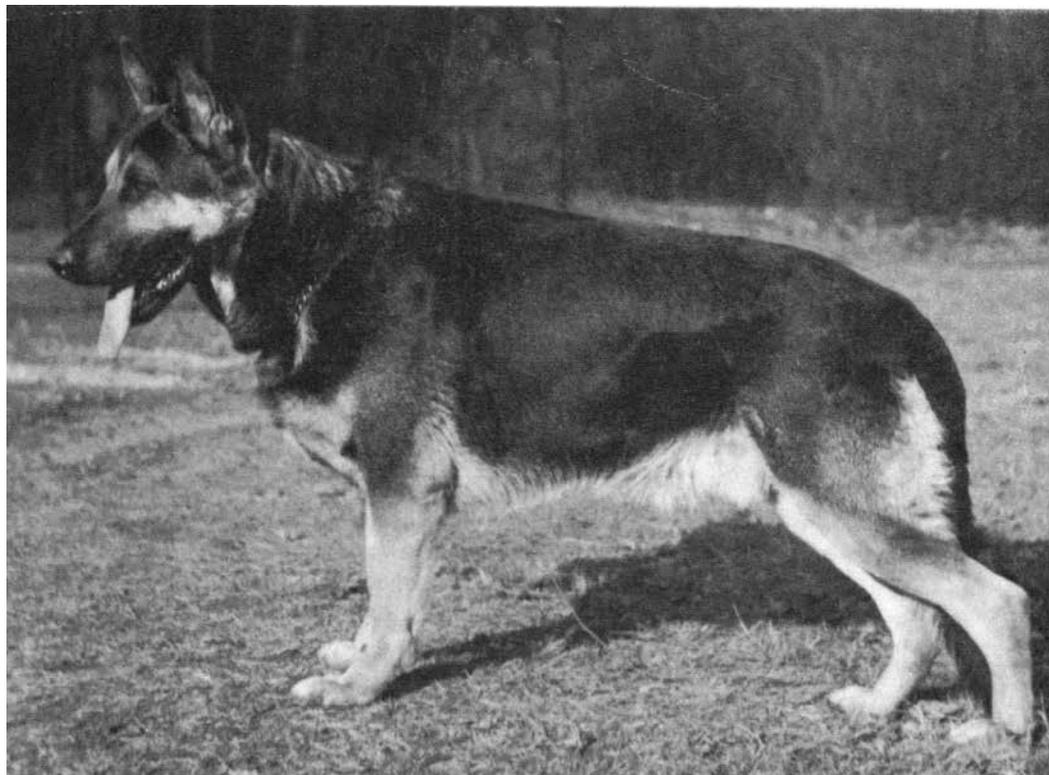
The nose, eye rims and foot pads should always be black. A fleshy coloured smear down the centre of a black nose during the winter, known as winter nose, is not uncommon and seems to be of little consequence, but dogs with strong pigmentation generally have uniformly black nose leather. Dogs that are homozygous for liver (**bb**) will have brown skin, while dogs that are homozygous for blue (**dd**) will have grey skin. Pink spotting of the nose is a lack of pigmentation associated with white spotting of the hair. Pink skin lacks melanin and burns under sunlight in dogs as it does in humans. Eumelanin, the black pigmentation in skin and hair, makes the skin tougher and protects it from UV radiation. No matter how pale the coat pigmentation of northern wolves their exposed skin is always deep black.

See Appendix 2: Colour & Patterns: Nose Colour.



Carmspack Kilo, French Ring Brevet
V Ulf v Haus Iris SchH3 FH2
Idonah vom Haus Kuhn
Canadian bred sire of multiple service dogs.

VA Bob v Riedkanal SchH3
Dick v Malmannsheide SchH3
Werra v Riedkanal SchH2



Male and Female Heads

Secondary Sex Characteristics

These are most immediately apparent in the head. A male will have a noticeably more powerful head with a masculine expression. The female's head

is typically smaller, more finely chiseled and more feminine. Too much refinement in the female is not desirable as an over refined female will probably have refined brothers and sons. In a working breed it is preferable to err on the side of strength.



Shawlein Rosie showing a beautiful female head



DDR VA1 Bodo Gräfental SchH3 showing an impressive male head



A portrait of both male and female. Pronounced secondary sex characteristics make their genders obvious.

Head Faults

There are numerous faults of the head, but here are some of the more common ones:



Male with a long foreface, shallow stop and collie-like expression
A multiple Best in Show winning American champion



Female with long, weak, shallow skull, shallow stop and short lower jaw



Female with long, narrow skull and jaw and weak ear set



Male with long foreface, weak ears and weak neck
A multiple Best in Show winning Canadian champion



Male with weak skull and lack of secondary sex characteristics



Male with weak skull and jaw, dished stop, Roman nose and round eye
A Select rated American champion



Male with heavy, coarse head and loose flews (lips)

The Look of Eagles

No one could look at these beautiful dogs and believe that the quality of the head is unimportant. Strength of head and expression are what give this breed its unmatched nobility, epitomizing the “Look of Eagles”. However, quality does not mean all good heads must look alike. Genetic diversity is something the breed must not lose and different families can vary in appearance while still fulfilling the essentials of the breed standard.



VA1 Bodo Lierberg SchH3



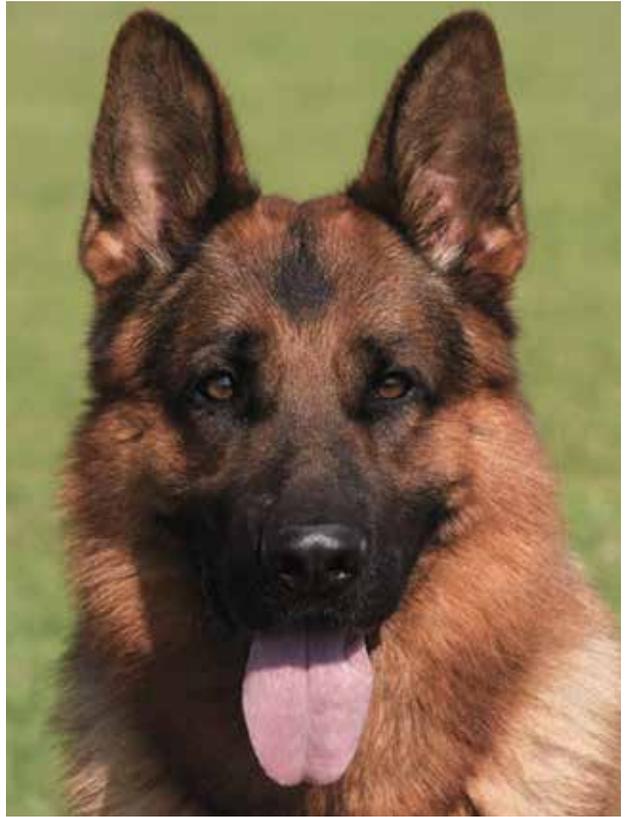
GV CH Yoncalla's Mike



Ch Mensenredder Corry Wiesental TT



Sel Ch Phantom of Lebarland



VA1 Zamp Thermodos SchH3



V Eick v Rahbusch SchH3



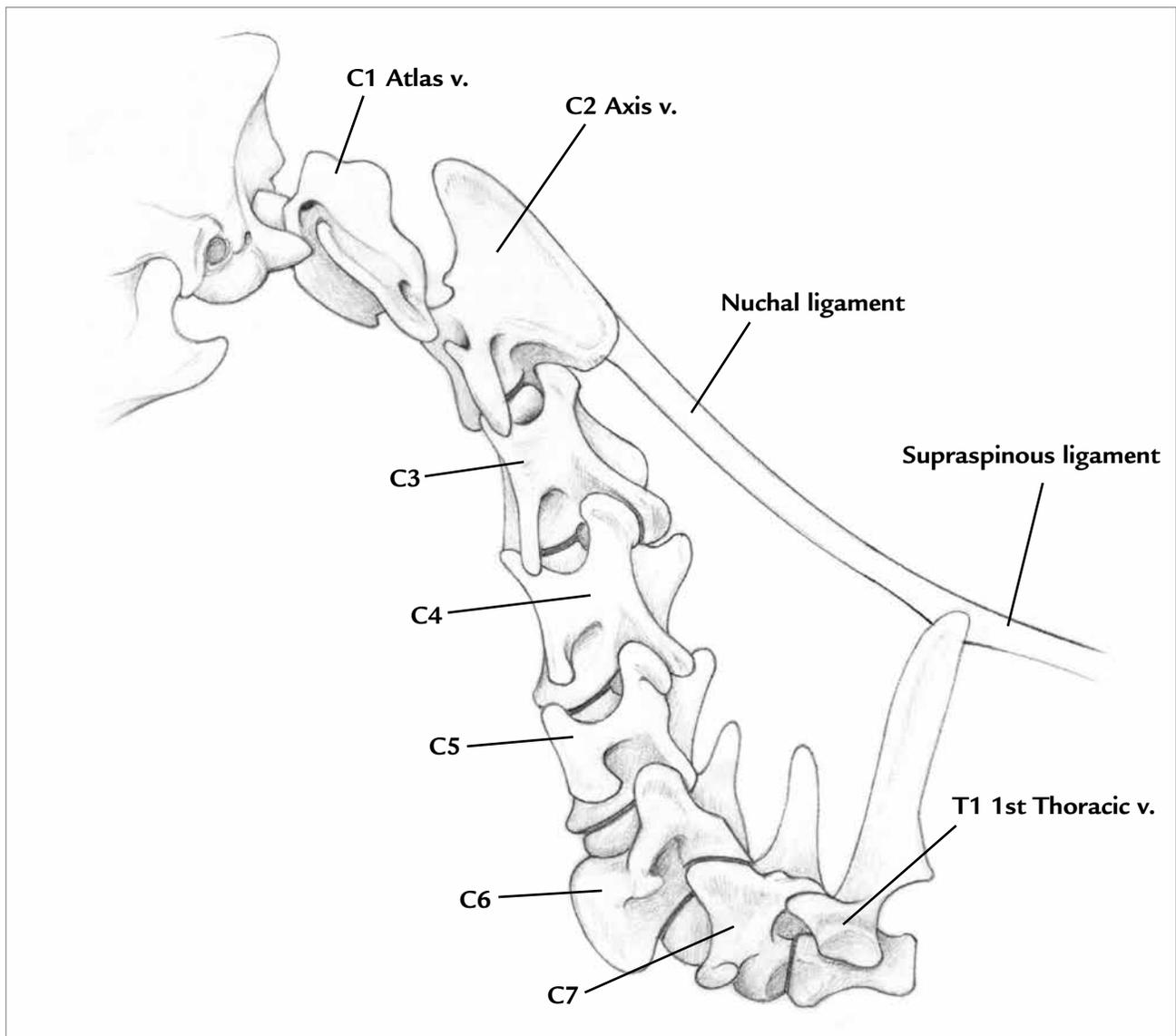
Dargo vd Thuringer Kronjuwelen SchH3 FH2

The Neck

The neck consists of seven cervical vertebrae (C1 to C7). The first, C1, is the Atlas vertebra, which attaches the skull to the spine. The articulation of the Atlas with the skull gives the head up and down motion. The Atlas features two lateral wings of bone which provide attachment to powerful neck muscles that arch the neck and nod the head. The second cervical vertebra (C2) is the Axis. The articulation of the Atlas with the Axis gives the head rotary motion. The Axis features a dorsal crest of bone to which the

front end of the Nuchal ligament is anchored. This ligament's other end is attached to the long dorsal spine of the first thoracic vertebra (T1) and serves as a suspension cable to the bridge of the neck. The last cervical vertebra (C7) is transitional, with an elongated dorsal spine and attachment for the first set of ribs. The vertebrae of the neck describe a gentle S curve that allows the head a wide range of positions from high and back, to down and forward.

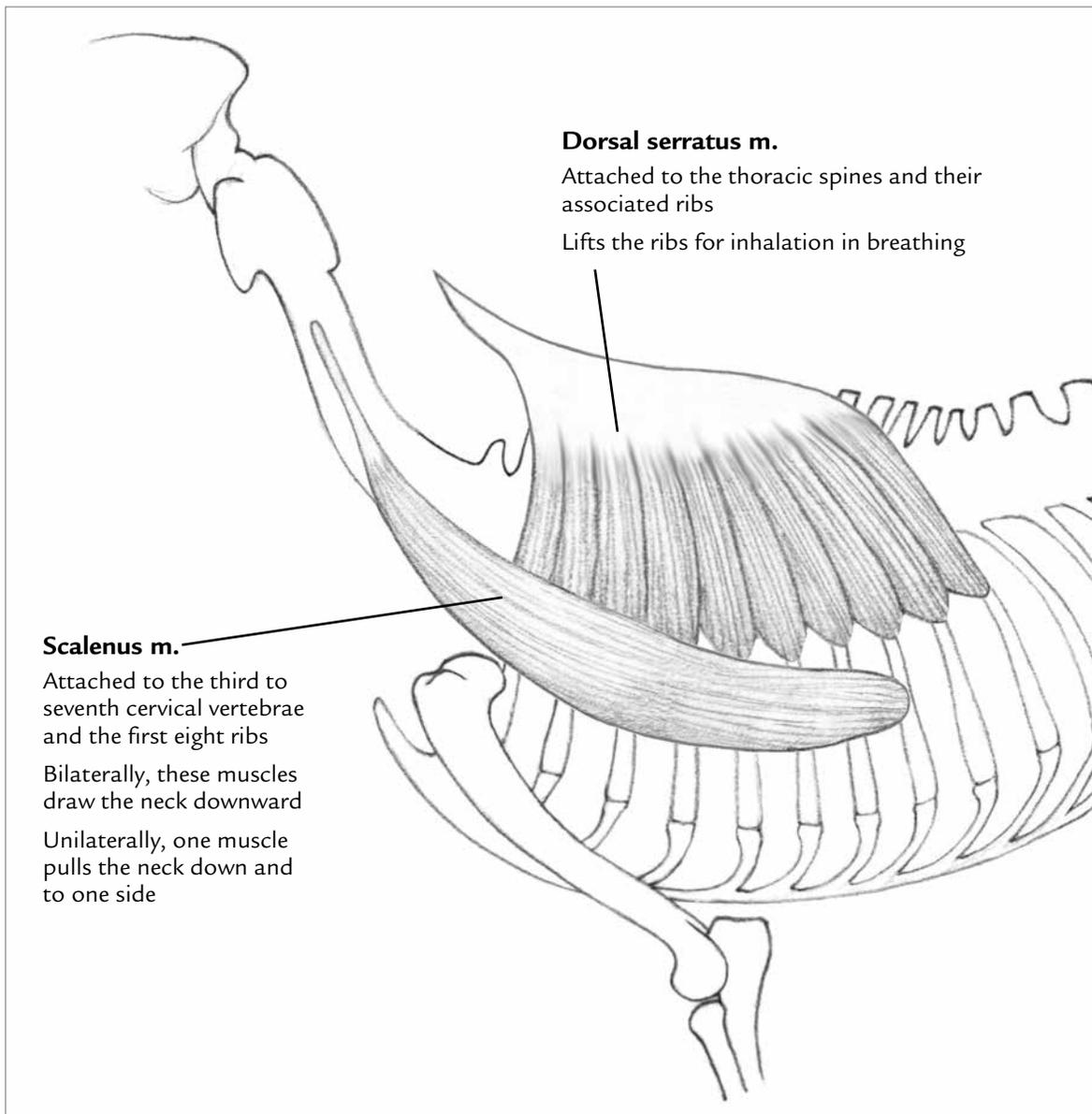
Vertebrae of the neck



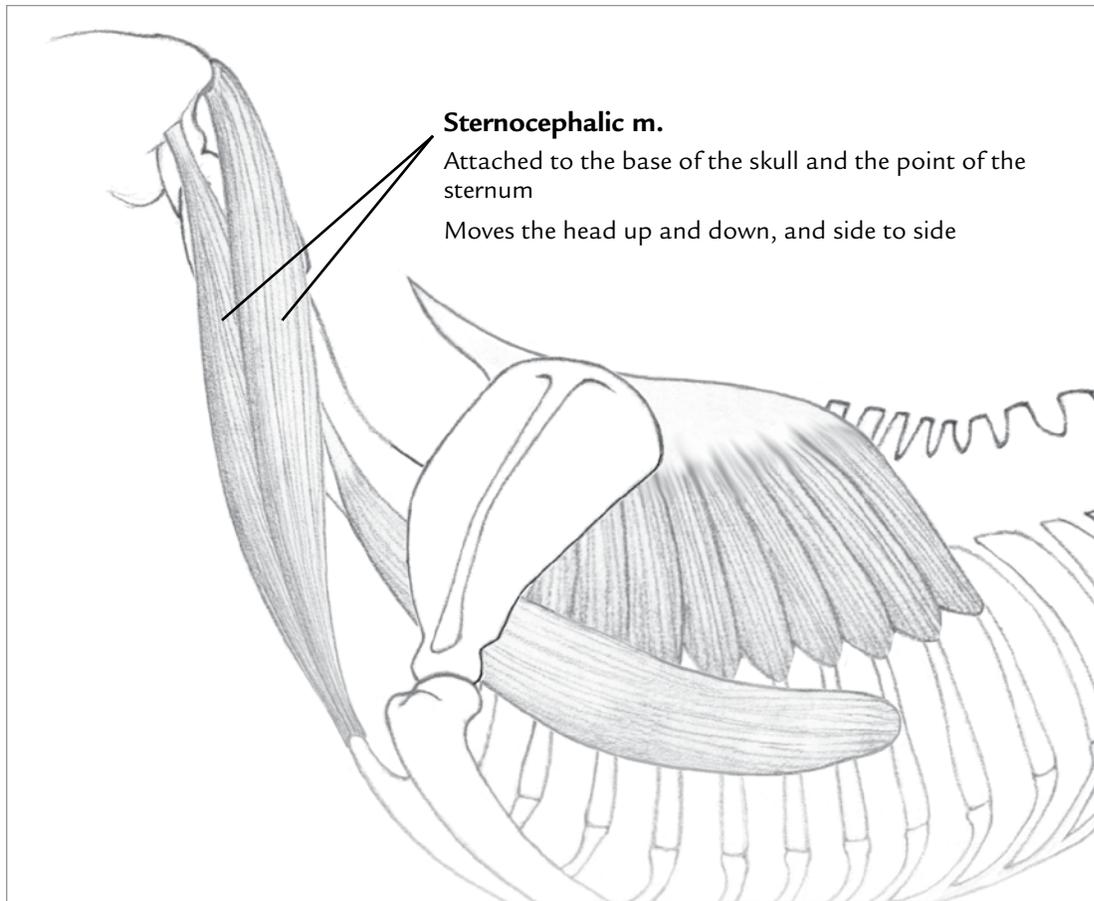
The numerous muscles of the neck are very powerful and help to protect the jugular veins, carotid arteries, thyroid gland, trachea, esophagus, neck vertebrae and spinal cord. Training instruments, electrical or mechanical, that could potentially damage these structures should never be applied by anyone who is ignorant of their anatomy. All these muscles occur as pairs, one on each side of the body. Some neck muscles are classified as forelimb

extrinsics, and are the muscles that originate in the neck and are responsible for drawing forward the scapula and humerus. Other neck muscles are classified as epaxial muscles, which stabilize the neck section of the spine. Three muscles are classified primarily as neck and thoracic muscles, and they are: the scalenus m., the dorsal serratus m. and the sternocephalic m.

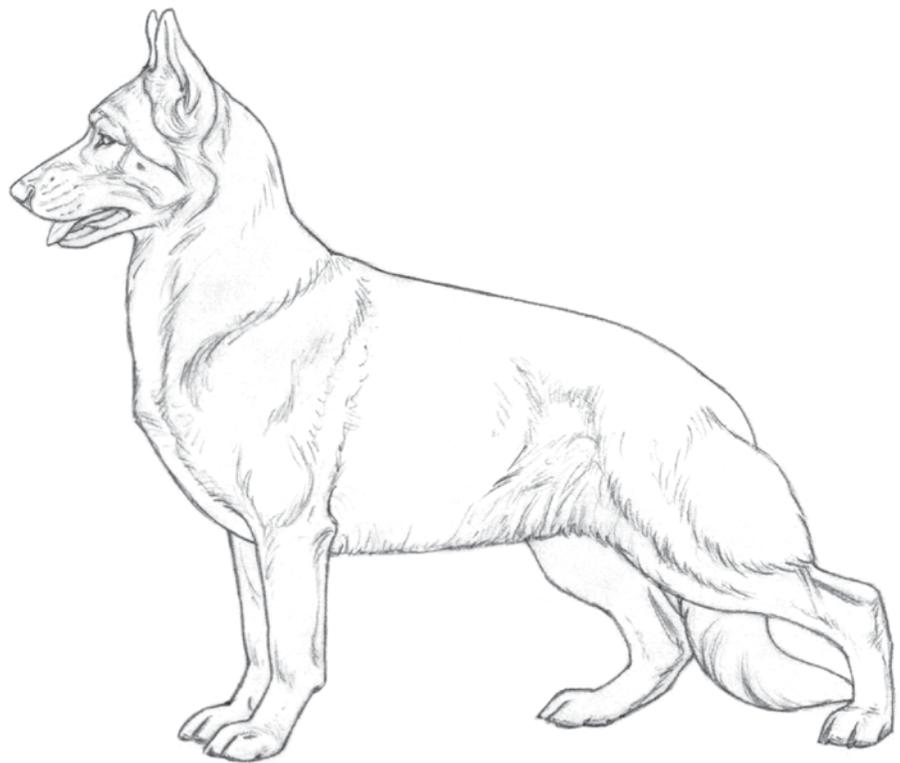
Lateral thoracic muscles (scapula removed)



Ventral neck muscles



Dogs with weak musculature will not show a strong arch over the back of the neck. The arch will become accentuated when the dog holds its head high, but high head posture by itself does not indicate a strong neck. Neither does hoisting up the dog's head in the show ring.



GSD with its head and neck artificially arched up at a conformation show (handler and lead omitted).



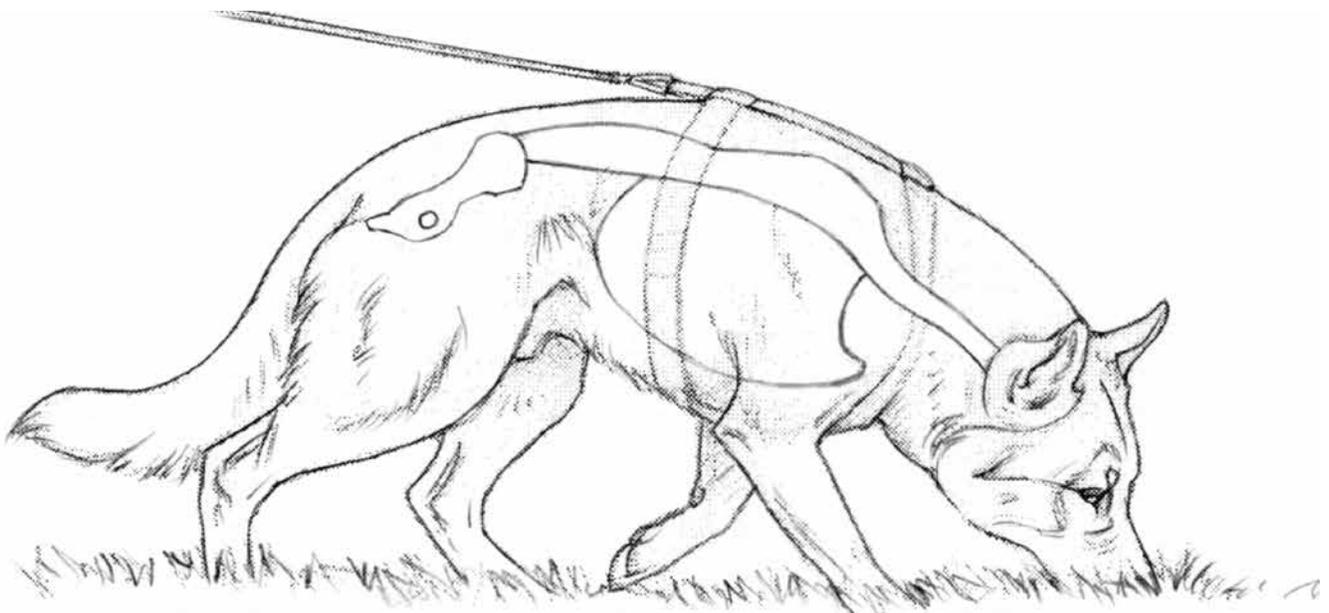
Natural head carriage on a male with a powerfully arched and muscled neck



Natural head carriage on a male with a weak neck. This is an American Grand Victor.

A GSD with a well arched neck will be able to reach the ground with its nose to track without having to crouch too much in the front. The less the dog has to drop its front

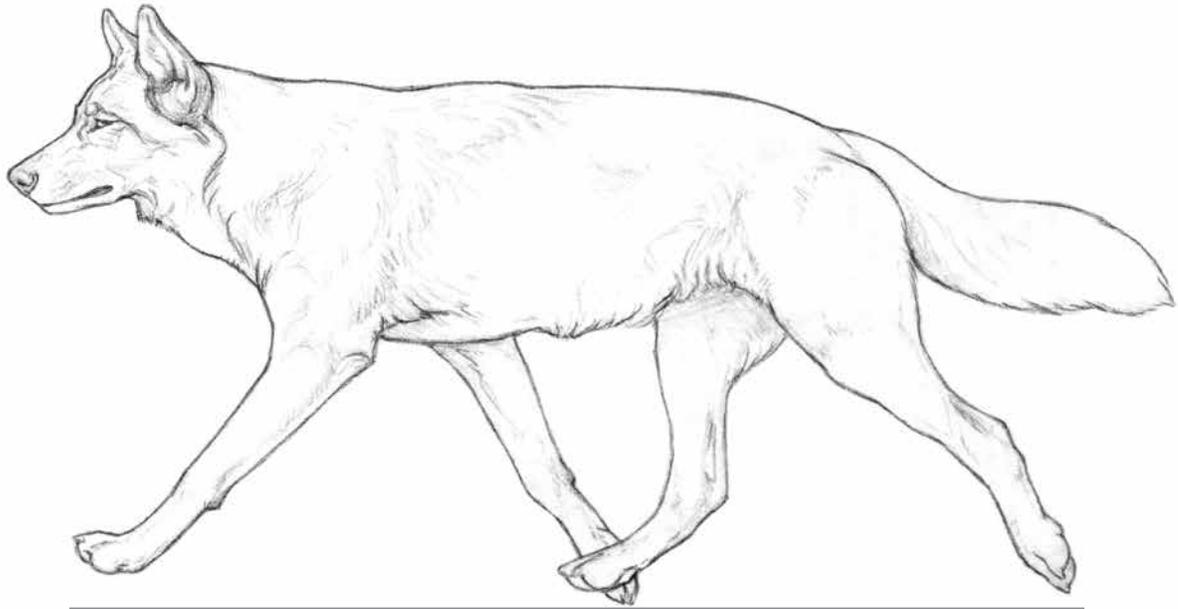
the longer it will be able to maintain its tracking posture. The "S" curvature of the vertebrae of the neck is able to straighten and increase its length, like the neck of a bird.



Tracking GSD showing extended neck vertebrae

The head and neck carriage of a wolf standing naturally is about 45° to the horizontal. The head lowers when trotting so that the neck approaches the horizontal. This helps shift the centre of

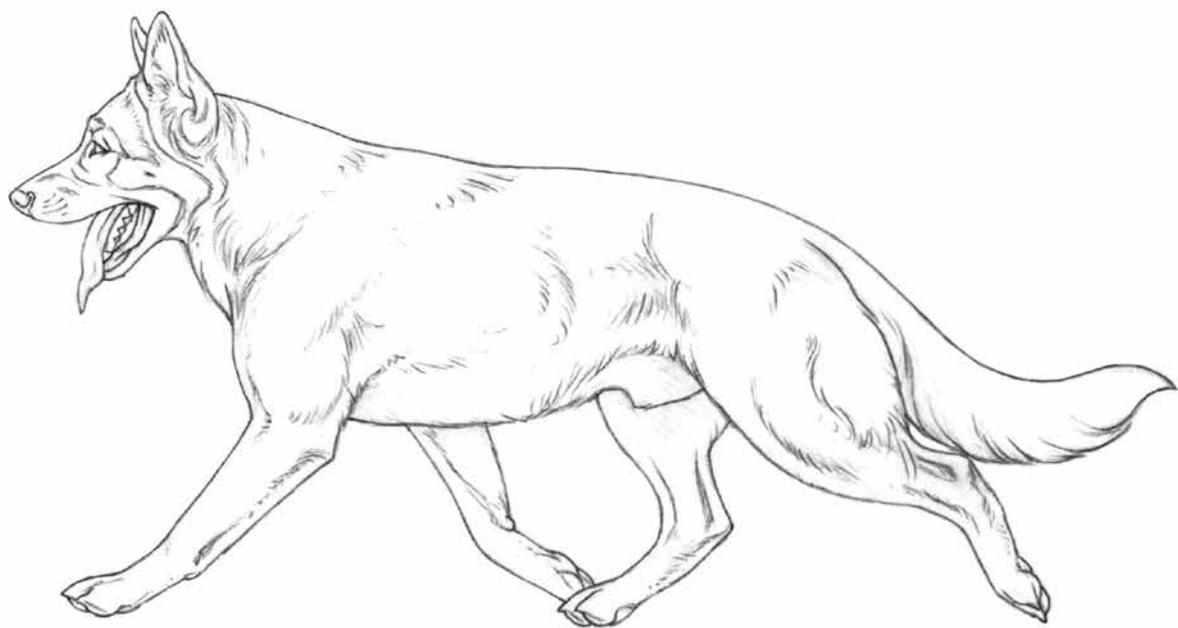
gravity forward, increases longitudinal stability, opens the airways and aligns the muscles that draw the shoulder and upper arm forward.



Wolf at a jog trot with normal head carriage

The GSD will also drop its head slightly when trotting. A long powerful neck is more effective than a short or feeble neck at bringing the centre of gravity forward and reducing the effort the dog must expend. The dog can raise its head

for a better look at something, but should not maintain this posture. Dogs in the show ring sometimes have their heads strung up to elevate the withers and give the illusion of greater reach, but whether artificial or structural this is not a gait posture that can be maintained.

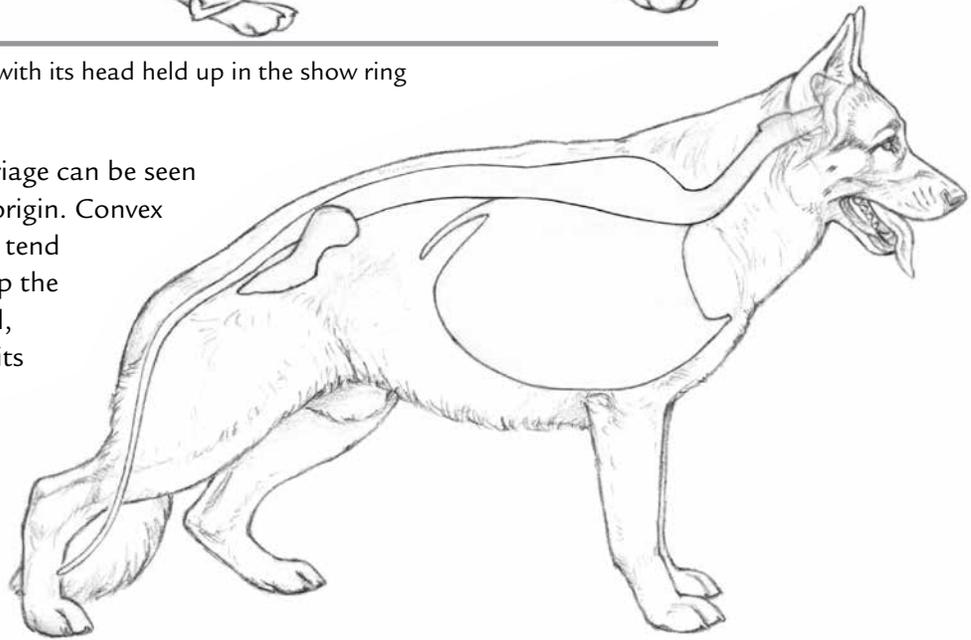


GSD at a working trot with normal head carriage

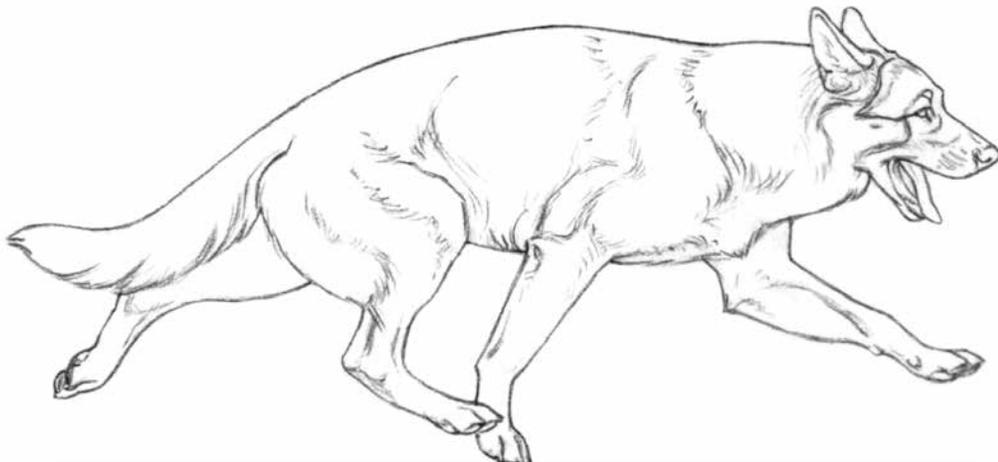


GSD being gaited with its head held up in the show ring

Unnaturally low head carriage can be seen in show dogs of German origin. Convex curvature of the spine will tend to flatten the withers, drop the thorax and lower the head, forcing the dog to fall on its forehand or goose step. These are both unattractive and inefficient.



GSD with roached spine and lowered head carriage. This is a VA dog.

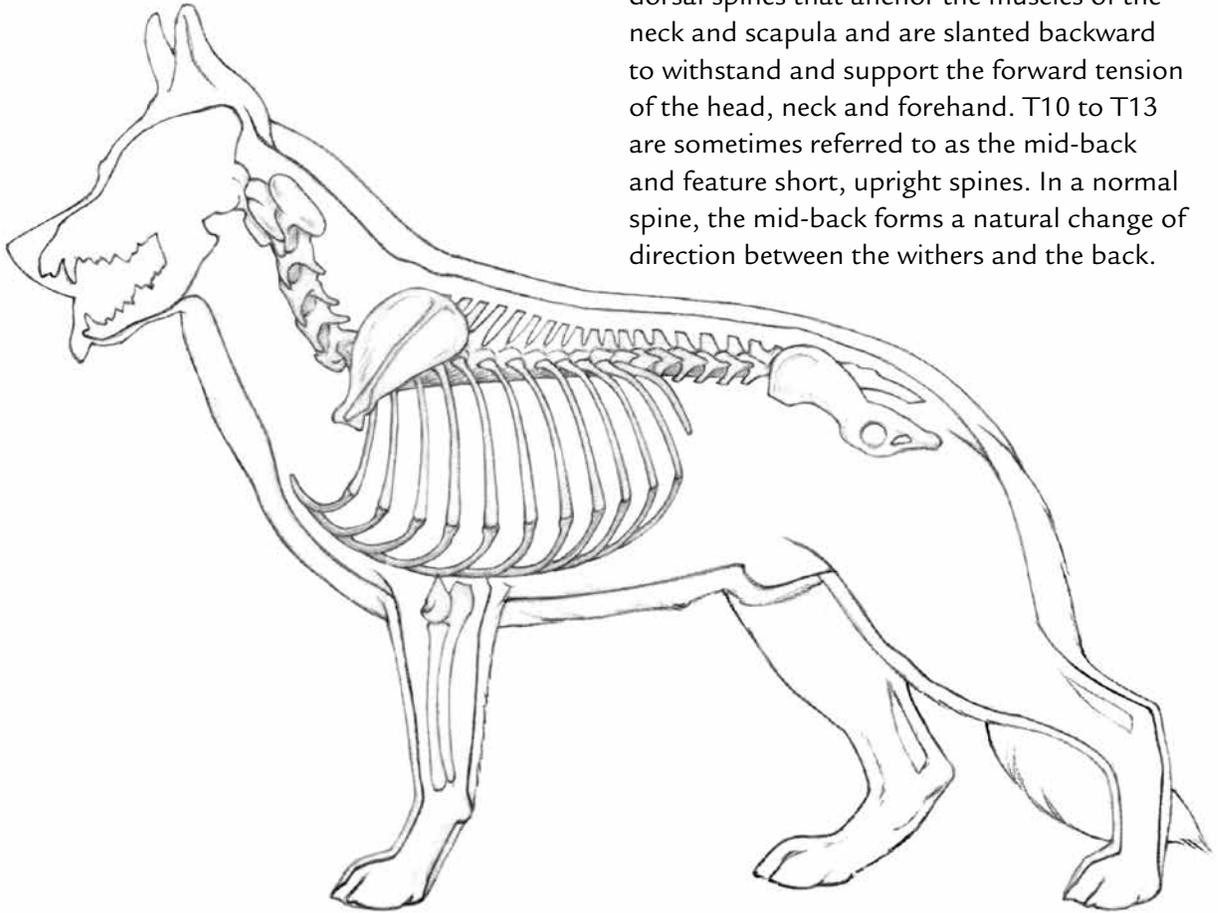


GSD with roached spine at a fast trot. This dog is goose stepping in the attempt to reach beyond what its low withers and neck carriage will allow.

The Withers and Back

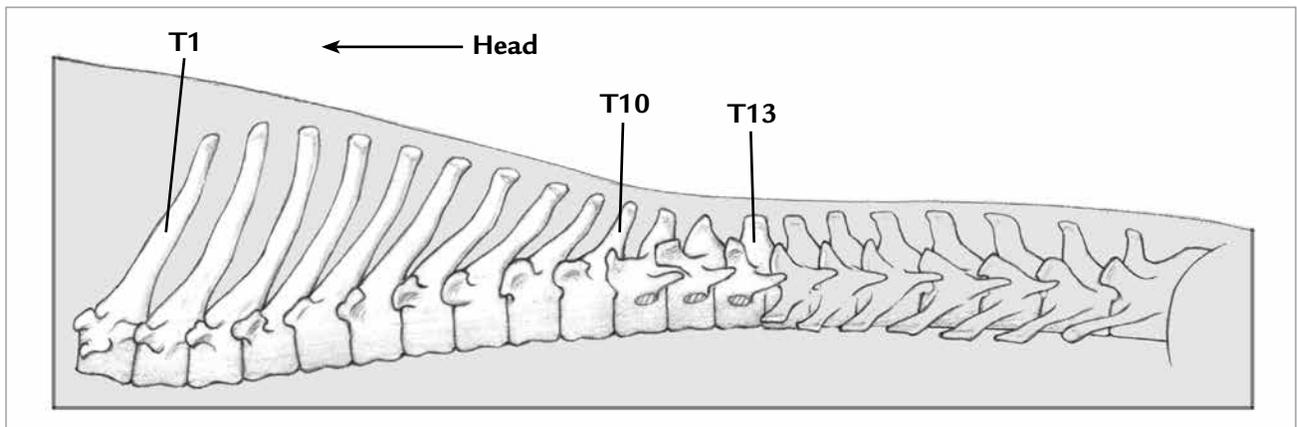
The Withers

The withers consist of the thirteen thoracic vertebrae (T1 to T13) of the spine, from the base of the neck to the mid-back. The vertebrae T1 to T9 feature long, backward sloping dorsal spines that anchor the muscles of the neck and scapula and are slanted backward to withstand and support the forward tension of the head, neck and forehand. T10 to T13 are sometimes referred to as the mid-back and feature short, upright spines. In a normal spine, the mid-back forms a natural change of direction between the withers and the back.



The spine and its correct orientation

Detail of thoracic vertebrae



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This book is the author's interpretation of Max's original intent, not a regurgitation of any show ring fashion. As well, the anatomical analysis of structure has been referenced to the benchmark of Nature's most efficient trotting machine, the gray wolf. No one who studies the material in this book will be in any doubt about what is and is not normal structure and gait in a working dog. Also included are about 90 photographs of beautifully structured dogs, representing many different bloodlines, past and present.

For more information:

Standard@shawlein.com

Not available as an ebook.

What people are saying about The Illustrated Standard for the German Shepherd Dog

I just received Linda Shaw's incredible book today. If I could afford it I would buy one for every GSD person I know, and for sure every puppy owner. If you consider yourself a "Shepherdist" you should have one. It is so well written and well edited--succinct, informative, and free of politics. It will piss some extreme show people off, but I say let them write their own book and illustrate with such clarity why they say their dogs need to look like that in order to be useful or beautiful. The illustrations, the quality, the information presented in such a clear and concise way are well worth the price. I do hope it comes out in hard back one day, as it's an heirloom quality volume. History making. Great job Linda.

Julia Priest, Coach for Canines

Look what came in the mail today. Thank you Linda, have only gone through the first few pages and all I can say is wow, a fantastic, informative book. A must have for any GSD lover. The illustrations and explanations in the book are top notch, and I love the photos of all the dogs. I stayed up past midnight last night going through it. Again, congrats to you and Heather Dickinson for doing such a super job.

Teresa K.

This much anticipated book has arrived and looks fantastic! Thanks Linda. I can't wait to start reading it.

Kirsty T.

Hello Linda. My book arrived safely despite all the snow. It is beautiful. I am going to treasure it and enjoy learning more about structure and function while admiring all the wonderful illustrations.

Thank you, Ann

Hi Linda. The book arrived safely on Friday. It's an absolute feast for the eye!

I've been a fan of your work for many years and was so thrilled to see you'd illustrated and published such a comprehensive compendium of canid anatomy. It would be difficult, if not impossible to find another volume of work that so clearly and effectively illustrates the complexity and nuance of canine form and function. I've purchased many books on animal anatomy over the years, but I feel that this, though specific to the conformation of the GSD is simply the most detailed, accurate and beautiful work available on the subject of anatomy.

I'd love the opportunity to speak with you more about your work. I'm an artist and I have, over the years, referenced and looked to your work for inspiration. I do think that you're one of the best out there. Thank you for making your art available to others.

Best, Ashley

Linda, I am so impressed with this book. I found myself cheering as I read. Such truth! You are a brave soul! I would like to make your book part of my K9 sports massage class. Can't put how I feel into words!

Cindy H.

Linda, I received my book yesterday. It is wonderful! I've studied anatomy at Virginia Commonwealth University in the Fine Arts Department and at Blue Ridge Community College in the veterinary technician program. Your book is a wonderful refresher as well as teaching me some new things. I so hope that your book will help nudge breeders back to the correct GSD

Beth G.

I received your book yesterday! It's absolutely gorgeous! The illustrations are amazing. I can't wait to really get to sit down and read everything. It's definitely something special. It's something every GSD owner, lover, and enthusiast should have!

Stephanie S.

Thanks Linda, The book arrived in Bonnie Scotland safely. It is beautiful,

thanks so much. Margaret W.

I tried to go to your website to order the book but it's so popular that you've reached your bandwidth limit and it won't open!

Lindsay C.

To everyone who ever wondered about the best structure for the German Shepherd Dog, here you go. This is the most comprehensive illustrated study of the breed's structure I have seen. Science and physics is how a dog moves.

Of course, the dog also needs to be correct in the head too.

Thank you Linda. Nancy S.

I received my copy of Linda Shaw's 'The illustrated standard for the German Shepherd Dog' and I must say it is even better than I imagined it would be. The brilliant illustrations and relating text make it very educational understanding structure, function & purpose. Thank you Linda for producing such an outstanding book!

Karen C.

Hi Linda, Where to start!

The outward appearance and feel of the book is of high quality. The perfect binding and paper quality (weight and coating) allied with the ink density – most pleasing. Very clean cut.

Font – clean, white space – works well.

Number of pages – not disappointing.

Vocabulary – well chosen, tightly constructed sentences.

Comments found on page six – are to my mind, a critical series of points that should be in big red letters with the rest of the book being locked until:

1. Have you read this section?
2. Do you understand this section?
3. Do you agree with the points in the section?

Any person answering “NO” or suggestions of wavering mental debate to any of the above – is not given access to the rest of the book.

So, is the book a success?
For myself – most certainly.

Your evidence via diagrams and supporting textual comment hopefully will engender debate and put those who infer present show GSD evolution as still driving towards a structurally sound creature are on a wobbly footing (pun intended).

There must be many like myself who relish the beauty of the W. German showline but do not want to be hobbled with a dog that is unable to perform such activities as demanded by UK Working trials (and the like).

To cover all the features and parts that bring it to a package that results in a 9.5/10 review would generate pages of un-necessary hyperbole. Simply put, your efforts have a good chance of being considered a classic production, one that hopefully stands the test of time. The difference between creating a pamphlet and a text is enormous.

Your dedication to the breed is portrayed visually in a most demonstrative manner.

Thank you so much.

Regards, Peter D.