The German Shepherd dog ideal height at the withers is 63 to 64 cm for males, and 58 to 59 cm for females.

The German shepherd adult dog should be slightly elongated, that is, the body should be slightly longer than the height of the withers.

The chest of the german shepherd depth should be approximately $45 \%$ of the height at the withers, and the running bones should be approx. $55 \%$ of this height and should correspond to the body size and sex of the dog.

The forehead, seen from the front and the side, shows only slight curvature; The upper portion of the head consists of approximately $50 \%$ of the entire length of the head. The mouth is strong, the lips are firm, dry and close.
The German Shepherd dog has a scissors bite, the incisors close in scissors formation over one another. The full dentition consists of 42 teeth - 20 in the upper jaw and 22 in the lower jaw. Puppies only have 28 teeth - missing the first premolars and the molars.

The ears of a German Shepherd dog are medium size, broad at the base and set high; they form a point at the top and are cupped towards the front.
The eyes are dark, almond-shaped, set somewhat at an angle and should not be protruding.

The neck should be strong, with well developed muscles and without loose skin at the throat. Seven cervical vertebrae form the bone foundation.

The Lines should preferably be harmonic. The topline starts at the tip of the ears and continues on, without any sharp knick or interruption, over the back, gently falling to the tip of the tail. The bottom line begins at the neck and continues long the forechest and lower chest and rises slightly towards the rear.

The important parts of the topline are:
The withers: - should be high and very pronounced; when the dog is in a calm stand position, they form the highest point of the back.
The back - must be straight, very well muscled and firm; it is formed by 13 vertebrae.
The thighs should be broad and strong. There are 7 lumbar vertebrae which are firm-dry attached to each other.
The croup should be long and slightly sloping at an angle of approximately 23 degrees. It consists of the sacrum, 3 coccygeal vertebrae, muscles and covering skin layers.
The boney portion of the tail, formed by 18-23 vertebrae, generally reaches the flocks and should not
be longer than to the middle of the rear foot below the hock.

The important parts ofthe bottom line are:
The chest area, which provides necessary space for the inner organs, such as heart and lungs, and must therefore be well developed.
The front is major part of the body is comprised of the chest, which is divided into the forechest and lower chest.
The forechest continues from the neck starting at the breastbone (sternum) to between the front legs. A well angled forequarter is indicated if the forechest is easily visible from the side view.

The relationship of withers to body length is: 9 to 10 , A dog with a height at the withers of 60 cm would therefore be 66 cm long.
The chest depth should be less than half the height at the withers; $46-47 \%$ of this height is the correct measurement.
The lower chest line should be harmonic and rise only slightly towards the rear and should be relatively long, in order to provide ample space for the inner organs.
The chest depth consists of approximately $45 \%$ of the height at the withers.
The ribs are slightly curved; there are nine true and four false pairs of ribs.

The shoulder blade is angled at approximately 45' and lies flat against the withers.

Continuing on at an approximately 90' angle is the upper arm, the shoulder blade and the upper arm, with a linking joint, form the shoulder; then is the elbow joint and the forearm.

The metatarsus joint connects it to the pasterns at an angle of approximately 220.

The elbow connection is often a problem area, especially in young dogs. Prerequisite for a good elbow connection is an appropriately wide chest area. If the chest is too wide (barrel chested), then the elbows are turned outwards and the dog tends to toe-in while walking and standing.

If the chest area is too narrow (flat-ribbed, narrow-chested), then the elbows tend to be pressed in, and the dog tends to walk and stand with the feet in an east - west position.

The front should be straight; the feet are round, short, tight, and curved.
The nails are short, strong and dark in color.
The rear quarter must be strong and well muscled.
The thigh (femur) is connected, at its upper portion, to the hip joint, and at its lower portion, by the knee joint to the shank (lower leg).
The metatarsal bones are strong and connected over the hock to the shank. The dog should stand slightly set back.

The German Shepherd dog is a trotter he must be able to gait (trot) for long stretches with minimum
effort. Prerequisite for this is the appropriate anatomical structure, combined with dry and strong muscles. The medium trot is the most natural type of movement of the German Shepherd. For a reaching stride, correct angulations are a requirement. Only with correct angulation of the rear quarter do the hind feet meet the steps of the front feet [under the dog] or even pass them. The trotter assumes an almost horizontal position while in motion.
The forward movement initiated through the rear quarter is transferred to the forequarter over the croup and the back. Therefore, the length and position of the croup, as well as a short, firm back are of great importance for a good trotter.
Correct angulation of the rear quarter and broad, well muscled thighs enable the dog to have a powerful rear drive.
The forequarter has the responsibility to complete the forward movement action and catch the body.

For the largest possible length of stride, the correct angulation of the forequarter, with correct length and position of the upper arm and shoulder blade are of importance.

Anatomical faults influence the harmonic movement, e.g. faults in the back disrupt the line over which the energy of the forward motion is conveyed. A soft back acts like a bumper, the dog has no line and falls on the forequarter.
Limitations in angulation influence the length of the stride.

The other gaits of the German Shepherd are the step, gallop and pace.
The step is the slowest gait; the dog always has three feet on the ground.
He starts the motion in that he first moves the rear leg forward and then lifts and sets the front leg ahead.
The transition from a trot to a gallop is flowing.
The gallop is the fastest gait, but can only be endured for a short period of time.
The gallop is a type of Jumping gait, which is basically a quick succession of broad jumps.
The pace is the normal gait of giraffes and camels; for the German Shepherd, however, it is faulty. This gait involves moving the rear and front leg of the same side ahead in unison.

Also of importance for smooth flowing movement are the support lines.
Support lines are imaginary lines which from a front view, flow vertically through bones and joints over the shoulder blade, upper arm, lower arm and pastern to the ground.
From a rear view, the imaginary support line flows over the thigh, lower leg and hock to the ground.If these support lines are not straight, the elasticity or spring of the legs during the various forms of gaiting are unfavorably influenced.

Straight bone structures are prerequisites for a secure stand and flawless movement of the dog.

The German Shepherd should, therefore, have correct support lines, because only then will he be able to stand for long periods of time and to trot with endurance.

Verifying the anatomy is done at breed events. For this, the organization has introduced a schedule
according to which the dog is judged and evaluated.
To begin with, the teeth, the tattoo in the right ear, and the testicles are checked.
Following this, the size, bone strength and structural proportions of height to length are evaluated. In conclusion, the head, withers, back and croup as well as the angulations and chest proportions are evaluated; and from the front view, the correctness of the front.
Evaluating the gait involves evaluation of the stepping sequence from the back, from the front, and the trot.

For the evaluation of the trot, the length of the stride and the overall tightness are of importance. A further glance takes in the ears and the tail carriage.

In the critique, the individual positive and negative features are to be assessed.

The consideration of all these individual features then becomes the overall evaluation, ( Koerung report ie: KKL1-recommended for breeding or KKL2- not recommended for breeding ).

## German Shepherd Anatomy

## German shepherd correct angles

HIPS AND YOUR RESPONSIBILITY

One frequently encounters discussions which assert that hip dysplasia is 50\% genetics and 50\% environment. We prefer to think of it as $100 \%$ genetics, then $100 \%$ environment. Genetic considerations are the entirety of what we must as breeders consider. Once that puppy is born, environment is $100 \%$ of how well that puppy will do within the possibility of his genetics. Dogs with very good hips, congenitally, may have an injury and end up diagnosed as having 'unilateral hip dysplasia'.
Puppies that have very shallow sockets may be mobile and free of pain to an advanced age, if they have unlimited exercise. This is the entirety of what the owner of that puppy needs to concern himself with to provide the best possible care for his dog.

Over the years, our observations of the kennel populations of giant breeds and their siblings living in private homes have led to the conclusion that there is no such thing as congenital unilateral hip dysplasia, but only acquired unilateral hip dysplasia ( one hip ).
The kennel dogs, whose exercise opportunities are maximized, with several dogs of a similar age free to run and play all day and night in large paddocks, show us some interesting things.

They grow much more slowly, because much of their food intake goes into play and running. They rarely (almost never) suffer an injury.
They always have symmetrical hip sockets, even if they are very shallow.

Their litter mates in private homes, with tiles, marble on floors, those that have been overfed and confined to a crate without movingall day and where exercise consist of an hour of intense play or jogging when their owners return from work, provide us with a different set of observations.(Exercise them after you return from work, but moderately, let him warm up and increase slowly, BEST is to let them be in some free ample space until you return).

They grow very large, very fast.
They often suffer injury.
They frequently have hip sockets of different depths.
They are overweight.

The implications of these observations are enormous, but very simple to understand. These large breeds grow much too quickly for their biology to keep up. They frequently show some degree of clinical rickets with some bowing of the forelegs, and have large soft joints due to the inability of the body to deposit calcium in the bone at a rate equal to the rate of growth. They often show uneven growth, with the rear end growing over a few weeks, then the front end trying to catch up. As the rear leg assembly grows disproportionately, the mechanical leverage that the muscles are able to exert across these straighter angles is much reduced.
The result of this is a decreased ability of muscle to protect joints from injury.

The owners of giant breed pets tend to overfeed their puppies, having with the best of intention, the inner desire to see a 'big dog' and to do nothing which might risk the dog not attaining the greatest possible size.
Try as they may, some owners are just unable to restrict their puppy's diet. Owners are cautioned that their puppy needs a good deal of exercise, but their work schedules often conflict with their desire to do this. The result is a period of intense exercise. A 3 mile run, or a half hour of Frisbee. When a single puppy who lies around all day or is locked up in a crate, welcomes his owners in the evening, he is ill prepared for either intense exercise, or the uncertainty of footing on slippery floors and his always changing joint angulation. His muscle tone is a small fraction of that of a puppy which plays with other active dogs all day long. The result is an injury unseen by the naked eye.

When any dog has a hip dislocated, if it is not repaired within 48 hours, the socket begins to lose depth. When an injury occurs to a rear leg, whether it be a toe injury, a stifle injury, a soft tissue injury, or a hip injury, the result is often a decreased amount of weight bearing on that leg over a period of days to weeks or months. When this happens, the mechanical forces applied to the living bone tissue change, and the hips become asymmetrical, the injured hip becoming shallower in a similar fashion.

The conclusion from these observations is that the single most important environmental factor in a puppy's life is exercise, always increasing gradually and then continuous and strenuous.
Since this is often impossible for owners to arrange, the next considerations are to drastically restrict the diet of the growing puppy and to avoid quick/short strenuous exercise which will exhaust his muscles and leave him unable to protect his joints from injury.
The puppy should be given frequent moderate exercise instead. This requires a different kind of time commitment from the owner.

HIPS X-RAYS??

Breeders have to have their dogs x-rayed because their dogs will be producing other dogs,so their hips,elbows have to be the best. If you are not going to breed your dog,there is no need to put your dog through this because radiation is detrimental to health and going under anesthesia can always be fatal.

If you see the warning signs ( your German Shepherd puppy can not jump, cries when he sits or gets up, can not run ) then you might want to check him out.

A young German Shepherd puppy is forming and growing, so doing an x-ray is irresponsible. As the puppy grows, so are the bones, cartilages, tendons and muscles.
So a funny, weak walk is normal and as he gets older you will see improvement.

EXERCISE IS VERY IMPORTANT as developing-strenthening the muscles hold the bones in place. Until the age of 18 to 24 months a German Shepherd puppy has not totally developed, this is why The OFA ( Orthopedic Foundation For Animals ) WILL NOT certified any x-rays done prior to 2 years old.

Yes, your vet will tell you to do it before to get more money out of your pocket sooner, so it's up to you

Having said all of this above, many people take their puppies to have them x-rayed to untrained people ( a vet helper or even a vet ) which doesn't position the body properly, or wrongly flex and pull the legs which will affect the outcome of the $x$-ray; most vets nowadays, relay on Anesthesia , which also adds another twist, which is that when you are sleep, the joints naturally relax and/or have subluxation. In addition,many vets are not trained or knowledgeable in how to read this x-rays nor how to interpret them based on the puppy's age ; the difference between Excellent and bad is 1 millimiter ( depending on the age, growing rate, size all of this affect the reading/opinion)...
The vet will just see if the bone is not completely in the hole and say, "ok they are bad,the dog won't be able to walk soon, How about surgery ?, The earlier the better".

This is why, there is an Organization in the USA , OFA , which have trained professionals to read the $x$ rays and their final say is based on an x-ray taken at 2 yrs or older ( before 2 yrs old, you may get a preliminary,but because the dog is growing, there is still too early to completely tell or get a final certification ). ( All of our dogs have the "A" stamp from Europe/Germany on hips and elbows, which is stricter than the OFA )

Even after everything is properly done and the x-rays show your dog to have " hip Dysplasia " , only REAL SYMPTOMS count: (unable to run/jump, unable to stand on both legs, crying when sitting/getting up )... many people can atest to this, where vets have told them their German Shepherd dog won't be able to walk again and 5-10 years later,the dog still going with no problems .....
So is not just that by looking at the x-rays " The head/ball of the Femur is not fitting perfectly in the socket/hole"; If we were to $x$-ray our bodies, you will find that not all bones fit perfectly and we are still living and going to live a fruitful live, just like our dogs.

UNDERSTANDING GERMAN RATINGS-TITLES

VA: Select Champion: Awarded to the top few Champion dogs at the Sieger show each year or big shows in a country.

V: Champion Vorzuglich (Excellent): This is the standard Championship for excellence of quality. No dog in Germany can even TRY for it's Championship until it is at least 2 years old, has passed a hip x-ray for Dysplasia, has passed a Temperament Test, has a working Schutzhund degree (tests the dog in Tracking, Obedience, and for Courage), and passed a 12 mile Endurance test...then you can show the dog to get his title!

SG: Sehr Gut (Very Good): This is a rating that the dog has Very Good structure. It is the highest rating a dog can get in the Show if he/she is under 24 months old or until it has met all the requirements listed above for a Championship.

G: Gut (Good): This dog is rated as having Good structure. This is the lowest rating still allowed to be used for breeding in Germany.

VP: Very Promising: The Highest rating available to dogs under 1 year of age when shown;puppy classes.

U : is an unsatisfactory rating which typically means the dog did not show up for the class after the stand and did not have a vet's excuse.

EZ: is where a dog was excused after the stand

T : (Followed by a number) means the dog did not pass the performance test.

T1 = läßt nicht ab, ohne Bew. TSB; - does no release;did not "out" on command; also considered as obedience failure.

T2 = TSB vorhanden; sufficient - demonstrated enough to pass.

T3 = TSB nicht genügend; not sufficient

T4 = abgebrochen wegen mangelnder Führigkeit = lack of obedience, no proper heeling nor handler control.

SchH and IPO (1, $2 \& 3$ ): Schutzhund: Schutzhund is a test of the dog's trainability and talents in Tracking (following a person's trail similar to Search \& Rescue work), Advanced Obedience (includes working under gunfire. Dogs that are afraid of gunfire are also afraid of thunder and lightening...can be a real problem. If you've ever had a dog that is afraid of loud noises, you'll understand why it is important), and the dog is tested for it's Protection abilities.

A Schutzhund dog must work off leash in a crowd of people with out endangering any one. They are the 'cream of the crop' when it comes to trained dogs!

KKL1 and KKL2 : KKL= Koerung / Koerklasse. Before a dog can be bred in Germany it must pass it's AD, BH, SchH1, and then it must also be evaluated by an official of the German Shepherd Club of Germany (Schaeferhund Verin) called a Koermeister to further test and evaluate the dog's temperament and structure. Every part of the dog is described in a report called a Koerreport.

Dogs that are considered to be prime quality breeding prospects will be graded KKL1, dogs considered acceptable for breeding, but with some warnings of what to watch out for, such as being oversized, etc. will be graded KKL2. Dogs considered "not suitable for breeding" will not earn a KKL rating, and they can not be bred in Germany.

TSB bite test on the SV Siegershow BSZS

In order to approve the TSB test on the SV Siegershow in reference to it's explanatory power last year in Nürnberg the „Wertmessziffern" have been rated in addition to the normal rating. The target of this pilot project was to bring more transparency and a wider descripion of the performance which was shown.
After a great deal of discussions it was found to overwork the rating with „Wertmessziffern". Following please find a detailed description about the "Wertmessziffer" in the particular phases of the TSB test.

Attack out of the hiding place on the handler / Defense of an attack out of the lurk position:

WZ: 5
Reacts determined, directly, energetic and conclusively, shows a effecitver, safe, calm, firm and full grip in all phases of the defense exercises. Releases after the allowed command ( $1 \mathrm{HZ}+2$ Zusatz HZ ) and shows powerful guard phases with very good hardness.

WZ: 4
Reacts at once and conclusively, shows a good grip not completely full and/or somewhat anxious in all phases of the defense exercises. Releases after the allowed command (s.o.) and shows good guard phases with good hardness.

## WZ: 3

Reacts a little hesitating, should show more speed and impact, slows a little down. Shows a short grip which should be clearly fuller and calmer, does once slip but grips again. Shows still good hardness parts. Releases after the allowed command (s.o.) and shows still good guard phases.

WZ: 2
Reachts very hesitating, indetermined, brakes down, bites only hesitating or nearly standing, very short, slack grip, very anxious, weak and ineffective. Releases after the allowed command (s.o.) should be more mindful and powerful in the guard phases.

## WZ: 1

Doesn't react, doesn't follows, doesn't bite, doesn't attack.

Break off TSB ng:
The dog doesn't resist the stress of the defense exercise, runs away.
The dog leaves the helper during the avert phase ( 4 m ) the handler ties the dog with command.

Disqualification:
Three times not free walking by heel at transport.
The handler leaves the position from where the dog is send to escape.
Dog doesn't release after three commands.
The dog grips other parts of the body than the protective sleeve.
Physical action of the handler.
"A" Stamp: The "a" means the dog has passed it's hip and/or elbow certification for Hip and/or Elbow Dysplasia in Germany.

OFA: Orthopedic Foundation for Animals: which receives, evaluates, and certifies hip x-rays for dogs in
the USA. An OFA hip certified dog is listed as "having no evidence of hip dysplasia". There are different levels of certification. The grading takes several factors into consideration which include the structure of the hip joint, the clarity and quality of the hip x-ray itself, and the positioning of the dog's hips on the $x$-ray. All levels of certification (fair, good or excellent) are free of hip dysplasia and are suitable for breeding.

Schutzhund German Commands

German English

Pfui --- Shame
Aus --- Let go

Achtung --- watch

Hopp --- Jump
Fuss --- Heel

Halten --- Halt
Bleib ----- Stay

Setz --- Sit
Komm ----- Come

Pass Auff -- Watch Out
Fass ------ Attack

Voraus --- Go Out
Platz ----- Down

Gib Laut --- Speak

Kriech ---- Crawl

Nein --- No
Nimm ---- Take it

Bleib Sitzen -- Stay Sitting
Bring --- Fetch

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Such --- Track
Lass es --- Leave it
Geh Weiter --- Go on
Geh rein -- Go inside
So ist brav -- praise
Blind search -- Revier
Bite ---- Packen/Fass
Guard --- Passauf/Wache
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A German Shepherd dog must have a companion dog temperament test (BH), a minimum of SchH1/IPO1 working degree, certified hips ("a" stamp or OFA), a 12 mile endurance test followed by examination for physical soundness (AD), and compete at a show to achieve a conformation rating of at least SG (Very Good), V (Excellent) being the best at any show that is not the National Championship or Sieger Show where the coveted VA (Excellent Select) can be awarded once a year to only the very best dogs. Dogs younger than 18 months competing in these shows can not attain a conformation rating higher than SG .

These requirements make the dog eligible to enter a Koerung (to qualify for breeding) which is a Breed Survey where the dog is carefully evaluated for excellence of structure, temperament and courage.Many times dogs with great prerequisites should not be bred together because of incompatible bloodlines or characteristics.

## Schutzhund Titles

BH - Traffic Steady Companion Dog Title - Must be at least 15 months old

The BH is a degree for traffic-safe companion dogs that tests the dogs temperament in and around people. It includes basic formal obedience - heeling on and off leash, sits, downs and recalls - as well as practical tests of the dog's character in everyday situations ( crowds of people, strange noises, joggers, cars and other dogs). Before being allowed to enter for a Schutzhund I title, the dog must first have successfully completed the BH.

AD - Endurance Title - Must be at least 16 Months old.
WH - Watchdog title

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FH - Advanced tracking degree .
FH1 - Advanced Tracking
FH2 - Highest tracking title
DH - Service Dog
DPH - Service Police Dog
HGH - Herding Dog
LwH - Avalanche Dog
PFP1 and PFP2 - Police Tracking Dog
PH - Police Dog
ZH1, ZH2 and ZH3 - Customs Dogs
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SchH1 or IPO1 (Schutzhund 1- novice level) The preliminary Schutzhund qualification in tracking, obedience and protection - Must be at least 18 months old.

SchH2 or IPO2 (Schutzhund 2 - Intermediate level) More challenging Schutzhund work in tracking, obedience and protections - Must be at least 19 months old.

SchH3 or IPO3 ( Schutzhund 3 - Master level) of the three phases of Schutzhund - Must be 20 months old.

Schutzhund Training Phases

For each of the three titles already discussed above, there are three distinct phases: tracking, obedience,
and protection.

## Tracking

In this phase, the dog must draw from inherited abilities by using his/her nose to find a person's track and discover articles that have been dropped along the way. Depending upon the title sought, all tracks will vary in length, shape and age. Tracking is usually done in dirt or on grass.

## Obedience

The obedience phase involves numerous and demanding exercises which include heeling on and off leash, a gunfire test, walking through a group of people, motion exercises, recall, a 10-20 minute long down, retrieving, and jumping. A set pattern is demonstrated by the handler from memory (unlike AKC obedience, where the judge calls the pattern for you).

## Protection

This phase of Schutzhund training is very intricate, advanced, and taught with control in mind. It should not be confused or compared in any way with guard dog or police protection training. A dog competing in the sport of Schutzhund must always prove to have a reliable temperament and must show courage without viciousness. The "bad guy" or "helper" as he is known in the sport always wears protective leather pants and a special sleeve with a burlap cover. The dog is allowed to bite this sleeve and he must bite this in the correct manner. On command, the dog MUST release the bite. A dog will fail if it does not release the bite when commanded to do so.
KKL: Koerung / koer-klasse - Breed survey rating---rated "especially recommended for breeding"

## Scores

Excellent - V (Vorzuglich) 286-300

Very Good - SG (Sehr gut) 270-285

Good - G (Gut) 240-269

Satisfactory B (Befriedigend) 220-239

Insufficient M (Mangelhaft) 0-219

