

Anatolian Shepherd Dog HEALTH HANDBOOK

An educational publication of the Anatolian Shepherd Dog Club of America, Inc.

INTRODUCTION

Your Anatolian Shepherd Dog counts on you to look after his needs -- health, diet and training. Fortunately, the Anatolian Shepherd seems to be a sturdy breed not prone to any particular serious health problems that plague many domestic breeds. On the other hand, the early recognition and detection of any physical, emotional or mental abnormality in your dog is paramount in the maintenance of his health and well-being. The purposes of this HEALTH HANDBOOK are to provide health information that is pertinent to Anatolian Shepherds and to give owners general health information that can help ensure their dogs a healthy, happy life.

IMMUNIZATIONS: ADULTS AND PUPPIES

Puppies should be taken to the veterinarian several times during their first year for routine exams, immunizations and treatment for parasites. The use of immunizations to protect your dog against communicable diseases is advised; however, there have been reports of Anatolian Shepherds showing vaccine sensitivity. Vaccinations have been reported to cause transient seizures, a variety of autoimmune diseases, endocrine and joint disease, as well as the development of hypothyroidism. Recently, new vaccination protocols have been evaluated and approved for use by the American Veterinary Medical Association (AVMA). When deciding a vaccination schedule, the lifestyle (working vs. indoors), travel and genetics should be considered when determining the *type* and *frequency* of vaccinations. The factors deciding the vaccination schedule should be reevaluated based on the dog's needs, as they can change over time (i.e. age, general health and immunity, lifestyle, etc.).

Core vaccinations are recommend for all puppies and adults with no vaccination history. The target diseases in the core vaccinations can cause severe illness and may lead to mortality. The vaccinations for these viruses (canine parvovirus, canine distemper virus and canine adenovirus) have been proven to be highly effective. By law, all dogs are required to be vaccinated against the rabies virus (determined by the state that you reside). It is NOT recommended that an Anatolian Shepherd receive more than one vaccine at a time (i.e. parvovirus, distemper virus and adenovirus vaccine should not be given in conjunction with the rabies vaccine, as the risk of reaction increases 24.2% with each additional vaccine administered).

The use of additional vaccinations (parainfluenza, bordatella, leptospirosis, corona virus and lyme disease) should be based

on the exposure risk of the dog. The AVMA no longer recommends the use of several of these vaccines, as the diseases either response well to treatment, the reported adverse events are too significant for benefit, or effectiveness is not proven. The "Vaccination Guidelines" chart is a suggested schedule of immunizations for your puppies. (Your veterinarian and breeder may recommend a slightly different one.) Vaccines may not be suitable for older dogs and/or dogs with immune disorders. The use of any vaccines should be discussed with your veterinarian and breeder.

DIET: WHAT TO FEED YOUR ANATOLIAN SHEPHERD

Owners of Anatolian Shepherds need to know that their dogs have nutritional requirements vastly different from most domesticated breeds. It has been observed that the adult Anatolian Shepherd does not thrive on commercial foods high in protein. The Anatolian Shepherd, in its native environment, is mainly a vegetarian. It is also a conservative eater, it does not eat as much as one might expect for its size. It is not unusual for the Anatolian Shepherd to voluntarily fast occasionally, especially during hot weather or when traveling.

To stay fit, the Anatolian Shepherd must have the right balance of diet and exercise. Many adult Anatolians seem to have fewer coat and health problems when placed on quality lamb-rice or chicken based diets. Some owners have had good results with commercially-produced holistic diets, while others like supplement a dry food diet with cooked chicken, cooked rice, yogurt and/or cottage cheese as well as moderate vitamin supplementation, particularly Vitamin C.

The growing puppy also demands more nutrition and more frequent feedings to help him develop strong bones, muscles and teeth plus a healthy coat. He is still developing well into his second and third year and will not be fully mature until he is about 4 years old. Anatolian Shepherd puppies can suffer growth problems when placed on high-protein diets. A good quality puppy formula with sensible calcium and iron supplementation (if recommended by your veterinarian and breeder) in conjunction with regular exercise and a proper safe environment is needed for the puppy to realize his full adult potential. It is recommended that puppies be switched to an adult food by 12 weeks of age. Caution: Over supplementation can be harmful to proper body development.

Nutritional requirements for older dogs differ from those of young adults. As the Anatolian Shepherd ages, it will burn calories at a slower rate and his level of activity will decrease. The older dog may be prone to an overweight condition. Today,

Disease	Vaccination Guidelines ¹
Distemper	Puppies < 16 weeks of age: one vaccine ² at 6-8, 9-11, and 12-16 weeks of age Puppies > 16 weeks of age and adults: one does is recommended Boosters: required at one year and then every three years unless exposure level changes.
Adenovirus	Puppies < 16 weeks of age: one vaccine at 6-8, 9-11, and 12-16 weeks of age Puppies > 16 weeks of age and adults: one does is recommended Boosters: required at one year and then every three years unless exposure level changes.
Parvovirusinfection	Puppies < 16 weeks of age: one vaccine at 6-8, 9-11, and 12-16 weeks of age Puppies > 16 weeks of age and adults: one does is recommended Boosters: required at one year and then every three years unless exposure level changes.
Rabies	Legal requirements vary between states, consult your veterinarian and your breeder.

¹ University of California, Davis VMTH Vaccination Guidelines, as approved by the AVMA, June 2005

² Using the modified live virus.

there are high-quality commercial dog foods specially formulated for senior citizen canines.

The Anatolian Shepherd does not have to be aging to suffer from a weight problem. Extra weight can increase the risk of serious health problems such as diabetes, heart disease or a stressed skeletal system. Avoid feeding your dog table scraps.

Feed your Anatolian Shepherd at a specific time once or twice a day. If obesity is not a problem, dry dog food can be available at all times. Your puppy should eat more often. Pregnant and nursing bitches have special nutritional requirements especially during the peak nursing period. Your dog needs plenty of fresh water at all times. Just remember: Your Anatolian Shepherd should be fed a diet that is complete and balanced for all life stages, his current condition and weight.

GROOMING

The Anatolian Shepherd is by nature exceptionally clean and it tends to have less of a doggie odor than many other breeds. Unless under a very stressful situation, the Anatolian Shepherd does not drool. While the Anatolian can have a long coat, the majority of Anatolians have a shorter coat, which makes grooming a simple task. The Anatolian has a thick undercoat that protects it from the elements. The coat of the Anatolian Shepherd requires little care except during seasonal shedding (molting) twice a year at which time a thorough brushing is required. Young puppies need to be taught to accept grooming and handling, making brushing, bathing, toe-nail clipping and health maintenance important contact time. Overly long toenails have a tendency to spread the paws and cause pain when the dog walks. Neglected toenails can cause injury by becoming snagged and getting torn off. Dogs' nails are quite tough and require the use of commercial dog nail clippers or a Dremel which grinds/sands the nails down in a less stressful manner.

DENTAL HEALTH

Dental health is an important part of your Anatolian Shepherd's total health. If allowed to buildup, tartar can cause gum disease, bad breath and eventually, loss of teeth. A teeth and gum inspection should be part of any yearly health exam. Between veterinarian visits, the owner can foster good dental health by monitoring his dog's breath and conducting a regular teeth and gum inspection. Dry dog foods in conjunction with dry dog snacks can help prevent the buildup of plaque and tartar on your dog's teeth and provide chewing enjoyment.

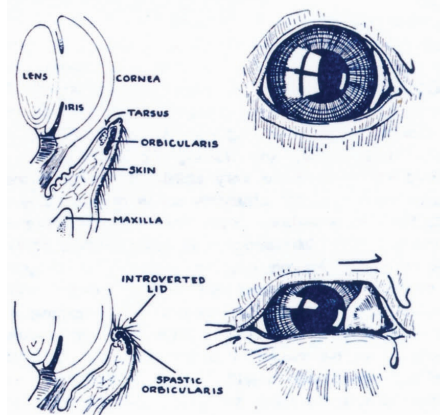
ENTROPION / ECTROPION

Entropion (inward rolling of the eyelid) and ectropion (drooping or rolling outward) is present in most -- if not all -- Anatolian Shepherd breeding lines. In large and giant breeds the central lower lid is often ectropic, while the corners of the lid are entropic. Ectropion, unless very pronounced, does not lead to severe diseases of the eye itself. However, a droopy eyelid may collect debris from the environment (dust, pollen, etc.) causing ocular irritation that leads to discharge and a red eye. This is pronounced in dogs outdoors much of the time. The dogs' eyes must be cleaned and medicated on a regular basis.

Entropion, characterized by squinting and watery eyes, frequently causes ocular pain and corneal disease due to hairs of the eyelid rubbing on the eye. Mild entropion can be managed with medication; chronic irritation may cause corneal ulceration and scarring which, if not corrected surgically, can impair your dog's vision permanently. Dogs that have had corrective surgery cannot be shown.

Entropion and ectropion are hereditary disorders influenced by several genes (polygenic) that determine the relationship of the eyelids to the eye: eyelid size and shape; depth of the eye socket; size and shape of the eyes; and skull conformation. If

the eyelid conformation defect is to be eliminated, only those dogs free of entropion or ectropion should be bred.



Drawings of a normal eye and one with entropion

EARS

Anatolian Shepherds with their drop ears can be prone to frequent ear infections. Ears should be cleaned and checked at frequent intervals for any signs of redness or abnormal odor indicating possible bacterial or fungal infection. Head tilting can indicate an inner ear canal infection. Frequent shaking of the head can also indicate infection, hematoma or the presence of a foreign object (ear mites, foxtails, etc.) in the ear canal. If the dog has been in a fight with another animal, ears should always be checked for puncture wounds. Ears should be cleared of waxy deposits with a cotton ball dipped in undistilled vinegar, alcohol, or a professional ear cleaner.

PARASITES

Parasites are organisms that live in or on your Anatolian Shepherd. External parasites - fleas, ticks and mites -- live on or in a dog's skin and hair. Internal parasites -- usually worms and protozoa -- live inside a dog's body, most often in its intestinal tract. A simple fecal check by your veterinarian can detect hookworms, tapeworms and the common roundworm. Heartworm, transmitted by the mosquito, is the most dangerous canine parasite that may damage your dog's heart, lungs or other vital organs. By the time clinical signs of heartworm appear, major damage to your dog's vital organs may have already occurred. A regular heartworm check is recommended. Your veterinarian must first examine your dog and take a blood test to check the dog for infection; preventive medicine can seriously harm an already-infected pet. Your veterinarian can recommend a monthly heartworm preventative medication program for as long as is necessary to prevent this potentially deadly parasite. Dogs diagnosed with heartworm are treatable.

STRUCTURAL / JOINT PROBLEMS

HIP DYSPLASIA

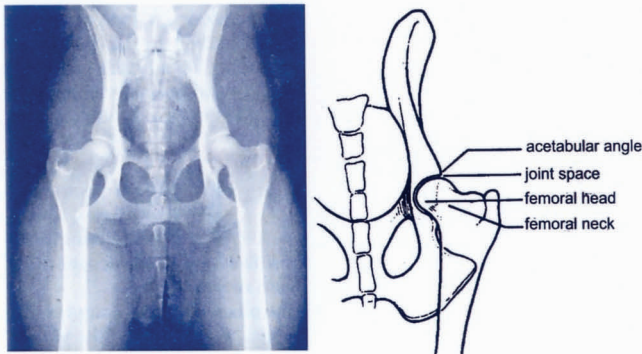
Hip dysplasia is defined as the abnormal development of hip joints characterized by one or any combination of the following:

- Shallow acetabulum (i.e. where less than half the femoral head can be accommodated within the acetabulum);
- Flattened femoral head,
- Coxofemoral subluxation (partial lateral displacement of the femoral head from the acetabulum);
- Degenerative joint disease secondary to one or more of the above.

Hip dysplasia is an inherited defect that is present in nearly all large breeds such as the Anatolian Shepherd that typically experience rapid growth early in life. When this occurs, the ball and the socket do not fit properly and arthritis subsequently

develops. Dogs may show signs of hip dysplasia as early as 4 to 11 months of age. The main clinical signs include lameness, bunny hopping when running, difficulty getting up after exercise, and sometimes crying due to severe pain.

The mode of inheritance of hip dysplasia is complicated because of the interaction of multiple genes and is thus referred to as being polygenic. The genes influence a number of factors such as pelvic conformation, joint integrity, muscle mass, weight gain and rate of growth. Environmental factors are also involved in the expression of a polygenic trait. The latest statistics for the Anatolian Shepherd provided by the Orthopedic Foundation for Animals (OFA) show 88.4% Normal Hips.



X-ray and diagram above: Pelvis of a normal adult dog.

ELBOW DYSPLASIA

Elbow Dysplasia is defined as an inherited polygenic disease in the elbow of dogs. Three specific etiologies make up this disease and they can occur independently or in conjunction with one another:

- Pathology involving the medial conoid of the ulna (FCP)
- Osteochondritis of the medial humeral condyle in the elbow joint (OCD);
- Ununited anconeal process (UAP)

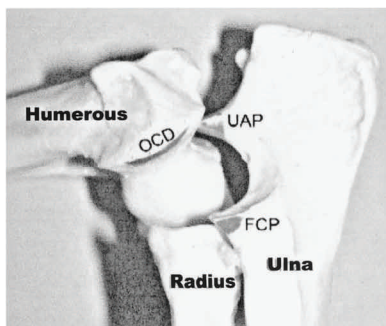


PHOTO LEFT:

Dog's elbow showing the three bones making up the joint: radius, ulna & humerus

(OCD) osteochondritis dissecans

(FCP) fragmented coronoid process

(UAP) ununited anconeal process

This is a polygenic condition. Environmental factors such as diet, activity, and trauma also have a role in the development and progression of the disease. Clinical signs of the condition may appear starting between 6-12 months of age and include: lameness and elbow pain, which may remain for long periods of time; abnormal gait; stiffness; limited range of movement; and pain and swelling of the joint. This disease often affects both front legs. Good clinical results are usually seen if treatment starts early, before degenerative changes in the joint have developed. If left untreated, pain and lameness will gradually get worse and surgical intervention may be necessary. The latest statistics for the Anatolian Shepherd provided by OFA show 94.6% Normal Elbows.

X-rays are necessary to diagnose both hip and elbow dysplasia. It is irresponsible to breed dogs not x-rayed. It is also irresponsible to breed dogs affected with hip dysplasia and/or elbow dysplasia.

Anatolian Shepherd owners and breeders must x-ray ALL breeding stock prior to breeding (see the ASDCA Code of Ethics). With the information provided by the OFA database, breeders can make conscientious decisions when selecting mating pairs.

ORTHOPEDIC FOUNDATION FOR ANIMALS (OFA): The Orthopedic Foundation for Animals (OFA) is a not-for-profit corporation that provides database information on a variety of heritable diseases that impact animal health. Among the databases maintained by the OFA are: hip dysplasia; elbow dysplasia; autoimmune thyroiditis, and congenital heart disease. With the information provided by the database, breeders can apply greater selective pressure to minimize or eliminate detrimental characteristics that could be carried in their breeding stock. Radiographs submitted to OFA for evaluation must be identified with: 1) Registered name and/or registration number; 2) Name of veterinarian making the film; 3) Date radiograph taken. Only dogs that are 24 months of age or older at the time of radiography, with no radiographic evidence of dysplasia, will be assigned a breed OFA number. Application forms are available from the OFA website at: <http://www.offa.org>.

NUTRITIONALLY BASED DEVELOPMENTAL DISEASES

As was discussed earlier in this pamphlet, the nutritional needs of an Anatolian Shepherd are very different from most other breeds because of their rapid growth. The following three problems are seen primarily in Anatolian Shepherds during their first year of life because of the rapid growth they go through.

OSTEOCHRONDRITIS DISSECANS (OCD) A separation of joint cartilage caused by too rapid growth. It is known to occur in elbows, shoulders, hocks and stifles, but it can occur anywhere in the body. It is a defect in the cartilage overlaying or attaching to the bone. Surgery is usually necessary to correct the accompanying lameness.

HYPERTROPHIC OSTEODYSTROPHY (HOD) HOD manifest with toes turning in or out, roached toplines, pinched rears, and in advanced stages fever, lethargy, pain in joints inability to stand or function. This is a problem of intake in calories versus output of energy -- too many calories consumed and/or unbalanced diet disrupted by supplementing.

PANOSTEITIS (Pano or Wandering Lameness). Pano is associated with too rapid growth. Lameness can occur in one limb or over time in all limbs. It is self-limiting and spontaneously disappears.

HYPOTHYROIDISM

Hypothyroidism is a relatively common endocrine disease in dogs. It is a condition in which the dog has a deficiency of the thyroid hormone in the blood stream. Thyroid hormone regulates metabolism, and therefore, affects almost every system in the body. Symptoms can appear between the ages of 2-10 years and include: lethargy; weight gain; cold intolerance; chronic infections; wounds that don't heal easily; dry scaly skin and dandruff; coarse, dull coat; bilaterally symmetrical hair loss; and infertility.

Because susceptibility to one form of the disease may be inherited, thyroid panels and antibody tests should be used for genetics screening of apparently healthy animals to evaluate their fitness for breeding. Common tests that evaluate thyroid gland function by measuring thyroid hormone concentration in the blood are Total T4, Total T3, Free T4, and TSH, and cholesterol. Thyroid levels should be interpreted in conjunction with your dog's history and the presence or absence of clinical signs. Other illnesses can cause temporary thyroid dysfunction. Standard treatment for hypothyroidism involves supplementing with a synthetic form of thyroid hormone given twice daily. Soloxine is a common drug of choice. Blood samples will need to be drawn periodically to assess the effectiveness of the dosage and to make adjustments if necessary. Treatment is for life.

It is important to recognize that thyroid hormone levels can vary for a number of reasons: another illness (kidney or liver disease); skin infection; and improper diet. Breed and age may also play a significant role in determining what "normal" thyroid levels are: the normal level for a toy poodle may not be appropriate for an Anatolian Shepherd. If a dog has a normal activity level, shows normal hair-growth after an area is shaved, and is otherwise clinically healthy, a slightly low thyroid level may be normal for that dog.

ANESTHESIA ALERT!



Anatolian Shepherds are much more sensitive to anesthesia than most other breeds. Working Anatolian Shepherds wearing heavy duty, large-animal flea tags are particularly vulnerable to severe anesthetic reactions. Normal dosages of anesthetics should NOT be given to your Anatolian Shepherd. One-tenth of the normal dose of an anesthetic is frequently all that is required for these dogs. The safest thing for your veterinarian to do is to start with this greatly reduced dosage and administer small increments until the desired effect is achieved ("step-wise" approach). Avoid the use of barbiturates. An accurate body weight must be determined prior to anesthesia.

GASTIC DILATION, TORSION, VOLVULUS (BLOAT) Bloat is a killer of large breed animals. Without warning, the stomach fills with air (dilation), can twist 180 degrees (torsion) on its long axis, or more than 180 degrees (volvulus) thereby cutting of blood and oxygen to vital organs. Bloat can be primary or secondary, caused by emotional or physical stress, improper nutrition or feeding habits, guzzling water, inappropriate exercise, as well as other causes that we do not understand. Every Anatolian Shepherd owner needs to familiarize themselves with bloat symptoms and have a plan of action to get the animal to an emergency medical facility at the onset of the first symptom. A dog that is bloating has approximately 3 hours to live without medical intervention.

BREEDING YOUR ANATOLIAN SHEPHERD

The Anatolian Shepherd is very slow to mature and NOT physically or mentally ready for motherhood until the second, or preferably, third heat cycle. All breeding bitches should be certified radiographic free of hip and elbow dysplasia, free of other genetic defects (hypothyroidism, overshot bite, undershot bite, etc.), of sound temperament, conforming to the AKC Breed Standard, and at least two years of age. Bitches should not be bred two heats in a row without veterinary approval. Only bitches in exceptional health should be considered for breeding more than three times. To prevent an accidental mating, the female dog should be quarantined during her entire heat cycle. A boarding kennel is a responsible alternative if at-home kenneling arrangements are inadequate.

Most Anatolian Shepherd females come into their first heat cycle between the age of 9-13 months. In most breeds, the estrus cycle for females lasts approximately 21 days. It is not unusual for Anatolian Shepherd females to be in season for up to 4 weeks. Likewise, the Anatolian Shepherd female will often accept the male after the 15th day of estrus, later the most domestic canines. Progesterone testing can help pinpoint the optimum time for breeding. During the 62-day gestation period, the female should be given more than her usual ration of healthy food. The addition of vitamin and mineral supplements should be discussed with your veterinarian and your breeder.

When selecting a stud dog to service your bitch, research his pedigree and health history carefully. Make sure he is free of hereditary defects, conforms to the AKC Breed Standard, has sound temperament, has been checked for brucellosis, tested

for thyroid, and certified radiographic free of hip and elbow dysplasia (see the ASDCA Code of Ethics at www.asdca.org). Thoughtful, selective breeding of our Anatolian Shepherds is the most feasible method of producing quality dogs.

If you do not plan to breed your Anatolian Shepherd female, spaying her (or neutering your male dog) is a practical option. Spaying the female reduces the incidence of pyometra, mammary tumors and eliminates the possibility of ovarian and uterine cancer. Neutering the male can reduce roaming and fighting as well as reducing the incidence of prostate cancer.

INJURIES / FIRST AID

The most commonly-reported causes of deaths among Anatolian Shepherds are: cancer; parvovirus; poisons (antifreeze, insecticides, organic phosphates, rodent bait, strychnine, etc.); snakebite; heatstroke (particularly affecting puppies) during periods of high temperature and high humidity; broken bones after being hit by a car (especially prevalent in rural areas where fencing is minimal); and *gunshot*. The death rate for livestock guardians, due to farm accidents, is high. Anatolian owners should have a comprehensive dog owner's medical manual and a First Aid Kit readily available. Properly administered First Aid and CPR prior to seeking emergency medical help are sometimes the only chance your dog has to survive.

PERMANENT IDENTIFICATION

The ASDCA recommends that all Anatolian Shepherds be permanently identified either by microchipping or tattooing. Once your Anatolian has been microchipped be sure to enroll him/her with a recovery service. AKC Companion Animal Recovery (CAR) service offers a global database that once enrolled, you and your Anatolian are connected for life in the AKC CAR's program. You can find more information about AKC CAR at www.akccar.org

ON-LINE HEALTH INFORMATION

- Canine Health Foundation www.akcchf.org
- Animal Poison Control Center www.aspc.org/apcc
(888) 426-4435
- Canine Inherited Disorders Database www.upei.ca/cidd
- AAHA Healthy Pet - www.healthypet.com
- Canine Eye Registration Foundation (CERF) www.vmdb.org/cerf.html



"I know Anatolian Shepherds don't like to leave their flocks unprotected for even a day, but did you have to bring them ALL along?"

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