

# Owner's Guide to the Chinese Shar-Pei

Why a guide to the Shar-Pei? What makes them different from any other dog? They **are** just dogs. The key to understanding Chinese Shar-Pei is to become familiar with what is uniquely normal for this breed. From that point, one can learn to recognize the disorders that may afflict them. Chinese Shar-Pei suffer some unusual and perplexing problems, many of which have not yet been described in the veterinary literature. It is not the purpose of this guide to make you a veterinarian, but to help you understand some of the unique disease problems of the Chinese Shar-Pei. To that end we have not included dosages of medication, specific discussions of techniques or references to the veterinary literature. We hope you find this guide useful.

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## EYES

One of the major problem areas in the Shar-Pei is the eyes. **Entropion:** This is the technical term used to describe inversion or rolling in of the eyelids. This causes the eyelashes and/or the haired margin of the eyelids to rub on the cornea resulting in irritation. Signs can be as mild as excessive tearing or as severe as squinting due to pain. Severe cases can result in corneal ulceration and scarring with permanent vision impairment. Confusion exists because this condition manifests itself as two distinct yet overlapping syndromes. The first syndrome is seen in puppies usually beginning at 10-14 days of age. Pups are depressed, not eating and have a heavy mucoid to pus eye discharge caused by the eyelids rubbing on the eyeball. It is felt this is often related to the excessive skin folds around the eyes in Shar-Pei pups (secondary entropion). If allowed to go too long corneal ulceration results which can lead to blindness. **THIS IS A MEDICAL EMERGENCY - SEE YOUR VET IMMEDIATELY!** The treatment is to have the eyelids tacked. This involves suturing the eyelids in such a way that the lids evert or roll out away from the eyeball. Eye tacking is considered a temporary procedure which gives the pup time to grow into skin folds around the eyes. It can result in permanent correction of the entropion. It is impossible in the young puppy to determine if the entropion is primary or secondary. The second syndrome is seen in older pups and young adults. This is primary entropion caused by a defect in the eyelids which results in rolling in of the lids and irritation of the eyeball. The treatment here is surgical repair. Eye tacking can be used to allow the cornea to heal, but will not result in permanent repair. Dogs who have entropion repair are not eligible to show in AKC conformation shows according to AKC regulations. Care of the puppy with eye tacks involves keeping the sutures clean and using topical eye medications as advised by your veterinarian. Those young adult dogs with entropion should not be used in a breeding program as the

condition appears to be hereditary.

**Glaucoma:** This is a condition caused by an increase in the pressure inside the eyeball. It can be primary or secondary. In the Shar-Pei it is often secondary to lens luxation. Lens luxation occurs when the lens of the eye breaks loose from its attachments due to trauma or weakness of the ligaments which hold the lens in place. Signs are a swollen painful eye, cloudy cornea, severe injection of the blood vessels of the eyeball and vision problems.

This is a medical emergency and often results in blindness in spite of medical or surgical therapy.

**Retinal Dysplasia:** This probably occurs in about 10% of the Shar-Pei and is characterized as folds or small defects in the retina of the eye. Usually it is picked up on a routine CERF exam as an incidental finding. Not usually associated with any clinical signs.

**“Cherry Eye”:** This is the common term for prolapse of the gland of the third eyelid. The third eyelid is similar to a windshield wiper and is located in the inner corner of the eye. It contains a tear producing gland responsible for about 50% of the tear production in the eye. Sometimes in the young puppy the ligament which holds the gland in place breaks and the gland pops up above the third eyelid causing a swelling in the corner of the eye. It is non-painful and usually causes no problem other than interfering with vision. Your veterinarian can suture the gland back in place. Beware since oftentimes the condition affects both eyes.

**SARDS:** This stands for “sudden acquired retinal degeneration syndrome”. The main clinical finding is sudden onset of blindness. It is irreversible and not treatable. It may be seen more commonly in middle-aged females and may be related to Cushing’s disease.

**Chemosis:** This is swelling of the lining of the eye or conjunctiva. This is a normal finding in young Shar-Pei and not associated with allergic reactions, etc.

## **EARS**

The breed standard for the Shar-Pei calls for small, tight, triangular ears which sit tight to the head. This predisposes the Shar-Pei to chronic ear problems due to inadequate air circulation to the ear canals and due to the difficulty in treating and cleaning the ears. The most common problem is chronic yeast overgrowth due to *Malassezia pachydermatis* a normal inhabitant of the ear canal. Given the right conditions of heat, moisture and darkness this organism can proliferate and result in ear infection. Worse yet, the presence of this organism can allow for secondary bacterial invaders and subsequent development of bacterial ear infections. The key to preventing problems is routine ear care - frequent examinations and routine ear cleaning. You will not cure ear disease in the Shar-Pei, but you can control it. A common condition in the Shar-Pei is that of a yeast overgrowth. This manifests itself as a dirty ear with no clinical signs of ear infection - odor, redness, pain, discharge. It is usually managed with routine cleaning and medication as prescribed by your veterinarian.

**Hyperplastic (Proliferative) otitis:** This occurs in some Shar-Pei as a complication of chronic ear disease. Warty growths develop in the upper part of the ear canal and block the ear canal interfering with normal cleaning and medicating of the ear. Many times surgery is necessary in these cases.

**Stenosis:** Many Shar-Pei have narrower ear canals than normal. This likewise can interfere with normal cleaning and care. Again, your veterinarian may suggest a surgical alternative.

## **MOUTH**

There are several problems associated with the mouth and muzzle of the Shar-Pei. **Bite:** The standard calls for a scissor bite. A common problem involves the over-bite in which the upper incisors overlap the lower incisors too much leaving a gap. This gap can range from several millimeters to almost an inch. Large gaps are referred to as “parrot mouth”. This overbite doesn’t cause the dog any particular problems. Many breeders want to blame an overbite on the tight lip problem discussed later. It should be borne in mind that the soft tissue pressure exerted by the lower lip can not impede the bone growth of the lower jaw. The lower lip can exert enough pressure to deform the lower incisors causing them to be angled backwards. In this case however, the base of the lower incisors is in alignment with the upper incisors. In the normal bite, the tip of the lower canine tooth is found between the upper corner incisor and the upper canine tooth. If abnormal lower jaw development has occurred, this relationship will be disturbed. **Tight lip:** This is a condition in which the lower lip curls over the lower incisor teeth. It is also known as “labial curl”. Many veterinarians reserve the term “tight lip” for those cases in which the lip interferes with eating and hence, causes the dog problems. In most dogs this situation is not associated with any difficulty. Often tight lip is associated with a parrot mouth. Again it must be reiterated that the tight lip does not restrict the growth of the lower jaw. In serious cases of tight lip surgical correction is necessary. **Lip fold pyoderma:** Due to the extensive padded muzzle and heavy overlap of the upper lip, water, saliva and food can accumulate between the lips and result in superficial infection. This creates a foul mouth odor. Routine cleaning of the folds of the lower lip can prevent problems. It also appears that this excessive padding can contribute to the development of dental disease due to the accumulation of food and saliva around the teeth of the lower jaw. The padded lips can also make it more difficult to brush the teeth. **Tongue:** It should be mentioned that there are normally two swellings under the root of the tongue in most Shar-Pei. These may be confused with salivary gland obstruction or ranula.

## **RESPIRATORY**

The Chinese Shar-Pei is classified as a brachycephalic breed similar in structure to the Bulldog, Boxer and other short-nosed breeds. Due to this relationship the Shar-Pei does manifest the **Brachycephalic Airway Obstruction Syndrome:** This syndrome is composed of a number of anatomical abnormalities. Not all Shar-Pei have all of these physical problems. 1. Stenotic nares - This is present in most Shar-Pei as very pinched nostrils. 2. Elongated soft palate- -The soft palate in the dog is the equivalent of the human uvula, but is much more developed. In the Shar-Pei the soft palate often is so long that it interferes with the opening to the trachea. This is often the reason many Shar-Pei snore so much. 3. Hypoplastic trachea - This is a smaller diameter trachea than would be normal for a particular size dog. Most Shar-Pei require a smaller endotracheal tube for the administration of gas anesthesia than would be considered normal for their

size. All these factors taken together serve to decrease the respiratory reserve of the individual. Shar-Pei can be expected not to tolerate heat stress very well and are susceptible to heat stroke. They don't tolerate excessive physical restraint very well and can be expected to go into respiratory distress easily. In extreme cases surgery should be considered to help the dog breathe easier.

**Pneumonia** - Some Shar-Pei puppies seem prone to develop bacterial pneumonias around 6 -12 weeks of age. These are sick puppies often with a chronic cough or "gagging" problem. Usually they also have a fever and depressed appetite. Often owners notice labored respirations. Shar-Pei may be particularly susceptible to pneumonia due to the high incidence of IgA deficiency in this breed. This is a critical situation and immediate veterinary care is indicated. **Ciliary dyskinesia** - This is a syndrome which has been reported in the Chinese Shar-Pei in which the cilia (microscopic hair-like projections on the epithelial cells which line the upper airways) are malformed or non-existent. These projections are vital in helping the lungs to eliminate foreign material as well as infectious agents. Dogs with this condition often present develop and present with pneumonia. The long-term outlook for these dogs is poor. **"Breather" puppies** - This condition is seen in very young Shar-Pei puppies usually within the first 2 weeks of life. Symptoms manifest as a very active puppy who vocalizes excessively. These pups don't nurse well and lose weight. They seem to have trouble breathing. The cause of this condition is not known and various remedies have been tried. Bottle or tube feeding may be necessary to maintain weight and increasing the humidity in the puppy's environment are helpful. Veterinary intervention is necessary in most cases. **Rhinitis** - Bacterial nasal infections occur in Shar-Pei again probably related to the high incidence of IgA deficiency in the breed. This manifests as a chronic pus discharge from the nose. Usually the dog feels pretty well although occasional sneezing may be evident.

## **CARDIOVASCULAR**

Diseases involving the heart and blood vessels are not common in the Shar-Pei. Cases of heartworm disease have been reported. Rare cases of cardiomyopathy (restrictive), mitral insufficiency and congestive heart failure do occur. Symptoms of heart disease are coughing, exercise intolerance, fainting episodes and change in breathing pattern. Great strides have been made in the diagnosis of various types of heart disease in animals. The advent of echocardiography has enhanced the veterinarian's ability to assess heart function and new heart drugs have enhanced the treatment of heart disease in dogs.

**Thromboembolism** - involves the formation and circulation of blood clots in the blood vessels of the body. It is known that the tendency toward this condition accompanies SIRS or the systemic inflammatory response syndrome. SIRS is often a complicating factor in the uremic syndrome, renal amyloidosis and FSF, various types of cancer, severe bacterial, viral and fungal infections, shock, trauma and other disease conditions. These blood clots tend to become lodged in small blood vessels located in the lungs and kidneys primarily, but can involve other organs as well. Often death is the only symptom of thromboembolism.

**Disseminated intravascular coagulation (DIC)** is another syndrome which often accompanies SIRS and results in the in a bleeding tendency due to consumption of platelets and clotting factors. Treatment is difficult and both DIC and thromboembolism

are associated with high mortality rates.

## **MUSCULOSKELETAL**

The Chinese Shar-Pei is classified as a “giant” breed in terms of its growth rate and susceptibility to various bone and joint problems. **Panosteitis and hypertrophic osteodystrophy (HOD)** - are two bone diseases seen in young, rapidly growing animals. The cause of these problems are unknown, but are characterized as an inflammatory process involving the bone and/or the covering of the bone (periosteum) or lining of the bone (endosteum). Affected dogs are generally in the 6 -12 month age range and usually in a period of rapid growth. Symptoms include a shifting lameness, pain on deep palpation of the affected limb, temperature, lethargy and generally not acting themselves. Radiographs are usually diagnostic and various medical therapies are available. A **Swimmer pup** - is a young pup, usually between 2-4 weeks of age with a flattened chest which forces the legs out to the side resulting in the inability to support its weight and walk. Environment plays a role in that many of these pups are raised on surfaces which are too slick or “give” too easily such as newspapers and floor tiles. Often these are overweight pups which have grown too rapidly and can’t bear their own weight. Abnormal neurological development and poor muscle tone may also play a role. Treatment should be taken under the supervision of a veterinarian and usually utilizes tape hobbles, reduction in growth rate and change in substrate to allow good traction. This can be a life-threatening condition due to the compression of the sternum on the rib cage with reduction in lung capacity. **Carpal laxity** - is another condition seen in pups usually between 8- 16 weeks of age. Here the carpus or wrist is knuckled forward or off to the side. This is usually seen in the large rapidly growing pups. Treatment centers on nutrition - shifting to a lower protein diet and slowing down the growth rate of the pup. Your veterinarian will also consider splinting the leg to provide support until the ligaments strengthen. In most pups this is a reversible condition. **Luxating patella** - is a heritable condition involving the kneecap. In the normal anatomy of the canine stifle or knee the upper leg bone called the femur has two ridges on its lower end (the trochlear ridges) with a groove called the trochlea in which the patella or kneecap sits. Often one of the ridges is too short allowing the kneecap to slip to one side or the other. Usually the problem in Shar-Pei is a medial luxation towards the inside of the rear leg. This is often complicated by abnormal pull on the patella by the muscles of the upper leg. This can be due to “bowing” of the leg bones giving a “bulldog” appearance to the rear legs. An additional cause can be due to lack of rear angulations or straight hocks. Chronic luxations should be surgically repaired before long-term complications such as arthritis result in permanent lameness. Sometimes associated with patellar luxation is **hock hyperextension** or **straight hocks**. In this condition the hocks actually bend forward when the dog walks. This may be due to laxity of the ligaments in the hock joint. This doesn’t appear to cause the dog any problem, but may result in early degenerative joint disease in the hocks or in reduced exercise tolerance. **Anterior cruciate ligament rupture** - This ligament stabilizes the knee joint in a front to back direction. It can be torn when excessive force is applied to the knee especially when it is flexed. This may occur when the dog turns sharply and the leg slips out. Shar-Pei seem prone to this injury due to the conformational problems mentioned above, the heavy rear leg musculature

which can apply heavy stress to the knee joint and due to the temperament of some Shar-Pei. Surgical correction is necessary when this ligament is damaged to avoid debilitating lameness later on. **Hip dysplasia** - This hereditary condition involves malformation of the hip joint. Great strides have been made in the Shar-Pei to reduce the incidence of this condition, but breeders need to remain vigilant in their efforts to screen breeding stock. Nutrition plays a role in the severity of hip dysplasia primarily in terms of maintaining a slow rate of growth allowing good bone development before excessive muscling and weight is put on. **Elbow dysplasia** - consists of a number of abnormalities involving the elbow joint. Ununited anconeal process and fragmented coronoid process are seen occasionally. The end result is degenerative joint disease manifesting as front leg lameness. **Osteochondritis dissecans (OCD)** - is a disease of the joint cartilage seen in younger dogs (6-12 months of age) and primarily involves the shoulder joint. Typically front leg lameness is seen usually after exercise and diagnosis is based on radiographs. Surgery is necessary to avoid joint disease in the adult dog later on.

**Muscle/ligament/tendon strains and sprains** - Dogs can suffer soft tissue injuries just as people do and these can manifest as weight bearing lameness vary in severity, location and duration. Many of these respond to exercise restriction, analgesics such as aspirin, and application of cold or heat depending on whether the injury is acute or chronic. Diagnosis should be based on a veterinary examination. Prevention of these injuries involves maintaining your dog's physical conditioning through adequate exercise, warm-up periods prior to performance events such as agility and common sense (think about what you would do for yourself). Too often our dogs get excessive exercise on the weekends after being couch potatoes all week - try to maintain moderate exercise levels throughout the week. **Inguinal hernias** - There is a normal opening in the body wall in the crotch area on either side which closes down prior to birth known as the inguinal ring. In some pups this opening doesn't close and allows abdominal fat or organs to drop through the opening. If the pup is in a standing position with the front legs up a noticeable bulge can be seen on both sides of the caudal abdomen near the rear leg crease. Dogs with inguinal hernias should not be used for breeding. **Umbilical hernias** - occur at the "navel" area and most often are traumatically induced by the bitch when she breaks the umbilical cord. These are not considered to be inherited.

## **GASTROINTESTINAL**

The Chinese Shar-Pei seems to have more than its fair share of digestive tract problems. **Megaesophagus** - this is a hereditary condition involving the esophagus or the "food tube". Affected individuals have a dilated esophagus with altered motility which allows food and secretions to accumulate. Regurgitation of undigested food and large amounts of saliva accompanied by weight loss in a young dog are the common signs. Diagnosis is by radiography and treatment is largely management although several drugs are useful. The long term outlook for these dogs is guarded to poor. Aspiration pneumonia is a frequent complication. **Inflammatory bowel disease (IBD)** - this is an immune-mediated disease of the digestive tract which may affect the stomach, small intestine and colon individually or together. Signs are referable to the system affected such as chronic vomiting, diarrhea, and loose stools with blood and mucous. Often weight loss is pronounced due to malabsorption and maldigestion of the diet. The underlying pathology

involves infiltration of the bowel wall by inflammatory cells due to altered immune system function. The thickened bowel is unable to produce digestive enzymes or absorb digested nutrients and the dog wastes away. Diagnosis is based on intestinal biopsies. Treatment is highly variable depending on the type of IBD. Oftentimes dietary management alone is adequate. Drug therapy is usually necessary at some point in the disease. **Food hypersensitivity** - There is some overlap of this condition and IBD - often they present the same. Food hypersensitivity develops in dogs who have been on the offending diet for several months to several years. Diagnosis is often empirical being based on switching to a hypoallergenic diet and seeing resolution of clinical signs. Blood testing with either RAST or ELISA testing can be done to try to guide the dietary therapy. There is quite a bit of controversy as to whether this test is accurate or not. **Adenocarcinoma** - Shar-Pei have a higher incidence of intestinal adenocarcinoma. This is a malignant tumor involving the small bowel. Their susceptibility to FSF may be a predisposing factor. One must maintain a high index of suspicion for this condition as clinical signs may be vague and non-specific. Signs may be related to intestinal obstruction such as vomiting and abdominal pain. At other times signs may mimic IBD. Diagnosis is often based on exploratory abdominal surgery. **Foreign bodies** - More often than not this problem occurs in the young dog. Keep in mind that this may be the result of *pica* or abnormal appetite secondary to malabsorption/maldigestion syndromes and as such, can be seen in older animals. **Bloat** - Gastric dilatation-volvulus (GDV) has been seen in the Shar-Pei. It appears to occur in certain lines and hence in certain regions of the country more often. It is often seen as a post-anesthesia complication possibly related to air swallowing during recovery. It may also be seen secondarily to amyloidosis, IBD and other diseases. Clinical signs are caused by acute distension of the stomach with food, water and air. Typically there is non-productive vomiting, excessive salivation, distended abdomen with intense pain and pacing. **This is a life-threatening situation and quick action is imperative!** Veterinary intervention is critical and the sooner the better. Treatment is surgical in most cases and mortality is high. Prevention centers on soaking dry food before feeding, smaller more frequent feedings, limiting water and food intake immediately post-exercise and vigilance. **Liver amyloidosis** - It is often forgotten that amyloidosis can affect the liver as well as the kidneys although not seen as commonly. Clinical signs are related to liver disease and can be vague and non-specific. More advanced cases can manifest as *icterus* or yellow color imparted to the whites of the eyes (sclera), the skin and the mucous membranes due to deposition of bilirubin in these areas. Diagnosis is based on the results of urinalysis, liver blood testing and liver biopsy. **Ulcers** - Ulceration of the GI tract often accompanies kidney failure, but can also be seen secondary to the use of aspirin in the treatment of bouts of FSF. Signs may be apparent as blood in vomitus or stool or a dark, tarry stool. Consult your veterinarian concerning diagnosis and treatment. **General feeding recommendations:**

- 1. Twice daily feeding**
- 2. Feed a food which the dog does well on - evaluate based on stool quality and quantity, quality of coat, body condition, appetite and energy level.**
- 3. Feed a daily amount which maintains the dog's body weight. Obesity is a very common disease problem.**

## DERMATOLOGY

This represents the number one problem area in the Shar-Pei. Remember that the skin can only respond to disease in a limited number of ways and so many skin diseases can look the same. Also remember that more than one disease can affect the skin at the same time and that several treatment modalities may be necessary at the same time. **Allergic skin disease** - Allergic inhalant dermatitis (atopy) is the number one cause of allergic skin disease followed by flea bite dermatitis, contact allergy and food allergy. Symptoms are varied and can mimic the signs of other skin diseases. Itching is the primary sign with hair loss, secondary skin infection, ear infections and other skin signs. Diagnosis is based on clinical signs, allergy testing utilizing skin testing or RAST testing and response to treatment. Treatment consists of various combinations of hyposensitization, antihistamines, fatty acid supplements, corticosteroids, hypoallergenic diets, etc. The important thing in treatment is the quality of life of the dog versus the side-effects or dangers of various therapies. The watch word here is patience - many times therapy is based on a trial-and-error approach to see what works. **Ectoparasites** - these encompass skin parasites such as fleas, lice, ticks, chiggers and mites. Oftentimes the only manifestation of fleas is flea bite dermatitis or allergic skin disease caused by sensitivity to flea saliva. In most cases fleas are not seen on the dog, but are present in the dog's environment. Flea treatment of the environment is the primary concern followed by treatment of the dog. There are several new products available in the arsenal of flea control products - ask your veterinarian. **Demodectic mange** is probably the number one concern in the Shar-Pei. Two forms are seen: localized and generalized. The mites are thought to be picked up by the pup within the first few days of life via contact with the bitch when nursing. The localized form is seen in dogs less than one year of age. It appears as localized areas of hair loss with the skin in the area appearing reddened and inflamed. These areas often occur on the extremities, the trunk and the head. The diagnosis is based on skin scrapings and finding the mites. In the vast majority of cases the dogs seem to outgrow localized demodectic mange. Its appearance may signal a temporary immunosuppression phase in the young dog and once the immune system catches up, the mites are controlled. Treatment is generally conservative and topical on the localized areas. Since the majority of dogs will get over localized demodecticosis on their own, dipping with Mitaban® is generally not indicated or recommended. It is important to know if the individual will go on to develop generalized demodecticosis (which does occur rarely) as these individuals should never be used in breeding programs. Generalized demodecticosis generally occurs after 1 year of age and is a serious, often non-curable, life-threatening disease. It also can be very frustrating to treat. Here the mites cause generalized and progressive skin disease often complicated by secondary skin infection. Mitaban® dips are indicated in these cases, but response is varied. Other treatment options such as oral ivermectin are available when the dips don't work, but life-long treatment may be necessary. **Sarcoptic mange** is caused by another type of mite and is more commonly found in young Shar-Pei. It is very itchy and is contagious to people. It is not easily picked up on skin scrapings and oftentimes treatment is initiated based on clinical signs and history. **Pyoderma** or superficial bacterial skin infections are fairly common in Shar-Pei. These may be either primary or secondary. Primary skin infections are usually due to underlying immune system problems such as IgA deficiency

or combined immunodeficiency that has been described in the breed. Secondary pyoderma is more common as a complicating factor in allergic disease, mange, low thyroid function, fungal skin disease, etc. Antibiotic therapy is indicated sometimes for long periods of time. Some dogs require daily low-dose or pulse antibiotic therapy for recurring pyodermas. A new area of therapy centers on the use of immunomodulators to stimulate the immune system to better fight skin infections. **Hypothyroidism** seems to be fairly common in the breed. It can mimic the appearance of other skin diseases and thyroid testing should always be done in suspected cases. Thyroid tests are not conclusive in all cases. A **sick euthyroid syndrome** can be seen in dogs with other underlying disease and can be mistaken for hypothyroidism. A thyroid panel done by Michigan State includes a canine TSH level (thyroid stimulating hormone) which provides valuable information to distinguish among the various types of thyroid results. Classical hypothyroidism manifests as weight gain, lethargy, poor haircoat, areas of hair loss with hyperpigmentation and skin thickening and usually has a chronic onset. Other signs can include infertility, neurologic disease and behavior changes. **Masses** are fairly common on the skin of Shar-Pei. The primary concern is in differentiating between cancerous and benign masses. Often your veterinarian can do a fine-needle aspirate to examine cells from the mass. Mast cell tumors are fairly common and of major concern. In the Shar-Pei these tumors tend to be very aggressive and surgical excision is highly recommended as soon as possible. Histiocytomas are benign growths which are also very common in the breed. They can show up at any age and typically appear on the face and extremities. Other common masses are lipomas or fatty growths and “mucinomas” or localized accumulations of mucin in the skin which can appear as tumors. **Cutaneous mucinosis** is a peculiar skin condition which is normal for the Shar-Pei and abnormal for any other breed. This condition shows up as “blisters” or vesicles in the skin primarily on the legs, under the neck and on the flanks. These “bubbles” can be broken open and will leak a sticky, clear fluid called mucin. The mucin can also accumulate in deeper layers of the skin resulting in permanent folds or “pleats”. Mucin is now known as hyaluronan and is a polysaccharide composed of repeating disaccharides of glucuronic acid and N-acetylglucosamine. Hence hyaluronan belongs to the family of glycosaminoglycans. An HA molecule can be made up of hundreds to thousands of these repeat sugar units. HA tends to maintain the status of a viscoelastic solution or paste depending on the concentration and size of the molecules. These long molecules tend to aggregate into mesh works. In solution HA molecules assume a complex ribbon coil structure. A good analogy would be Jell-O®. When Jell-O® is diluted with too much water it is very soft and runny. If not enough water is added it becomes almost a solid. In like manner when HA molecules are in low concentration or of smaller size molecules they form a thick fluid; and when present in high concentration or longer size molecules they form a paste or semisolid substance. Thus HA has a very important structural function in the body and varies in consistency from a thicker tenacious fluid such as seen in joint fluid or in the skin of Shar-Pei (recall how “sticky” the fluid is in a skin laceration in the Shar-Pei) to a solid-type material as is seen in joint cartilage. Due to its structure HA also facilitates cell shape changes and movement of cells due to its role in the pericellular envelope which surrounds cells. The HA molecules are constantly changing their orientation much as a spring does. No treatment is necessary for cutaneous mucinosis and it causes no problem in itself. However, in itchy skin conditions, the dog

may scratch these vesicles open and superficial skin infection can result in “hot spots”. Shar-Pei seem to be more prone to develop **abscesses** than other breeds. These often occur a few days following a bite wound or other puncture-type injury. Any Shar-Pei with a bite wound or puncture should be started on antibiotics as well as have the wound thoroughly cleaned. Hot compressing of the wound area is also extremely useful.

**Seborrhea** is a skin condition characterized by an oily coat often with flakes and a rancid odor. It usually occurs secondary to other skin diseases such as bacterial disease, mange, allergies, etc. It can usually be controlled by the use of tar and sulfur shampoos. Of course the main goal is treatment of the primary skin disease. A skin condition called **Shar-Pei syndrome** has been described. It is purported to be caused by the rubbing of the hair in the skin folds leading to itching and irritation. In appearance it looks like many of the skin diseases in the breed and is only diagnosed after all other skin problems have been ruled out. There is no treatment. The **skin folds** in the Shar-Pei usually do not result in primary disease. An exception occurs in excessive skin folds around the hocks which predispose to hair loss in this region due to rubbing or friction. It also appears that the hair follicles become non-functional over time in these areas. The hair follicles may also be spread apart by the accumulation of mucin in these areas resulting in less coat coverage. **Malassezia dermatitis** is caused by a yeast organism and results in crusty, oily, smelly skin and generalized thinning of the coat. It may be related to chronic antibiotic and/or steroid use. It may also be related to IgA deficiency as well. Diagnosis is based on skin scrapings or smears and finding the characteristic yeast organisms. Therapy is anti-fungal shampoos and, in some cases, oral anti-fungal medications.

**Ringworm** is another skin disease caused by fungal organisms. It can have a wide variety of presentations from a single, solitary area of hair loss to generalized skin disease. It is transmissible to humans. Diagnosis is based on fungal culture and skin scraping preparations. Treatment varies from topical ointments to oral anti-fungal medications. **Telogen effluvium** is a fancy name for the normal post-whelping hair loss in the bitch. Shar-Pei commonly lose all their hair, especially the horse coats. They may have concurrent dermatitis and oily skin. Antiseptic shampoos and appropriate oral medications may be necessary. Time is usually the cure. In many individuals of the breed, the **muzzle** is padded and may deflate in response to stress, medication and disease. Many dogs “deflate” during periods of sexual activity. Also many anti-inflammatory medications such as aspirin, corticosteroids, NSAIDS, etc. can deflate the muzzle. Fortunately, this is usually not permanent. Muzzle size is important indicator of the as health of the dog. Many dogs with chronic disease will initially only show muzzle “deflation” as a preliminary sign. It pays to know what your dog’s muzzle normally looks like. **Vitiligo** is depigmentation of normally pigmented areas of the body. These areas include the nose, flews, mucous membranes, eyelid margins, etc. This is seen most often in females and is often associated with the heat cycles. It can be permanent and may be associated with immune-mediated conditions such as systemic lupus, pemphigus variations, etc. **Hot spots** or pyotraumatic dermatitis is fairly common in Shar-Pei and is caused by self-trauma due to itching. These often occur in association with allergies, fleas, bacterial skin diseases, etc. They appear as superficial, moist scabby areas located in those parts of the body the dog can reach to lick or chew. Treatment is to treat the primary condition and keep the lesions clean and dry. Topical antibiotic-hydrocortisone ointments are often used topically. **Streptococcal toxic shock syndrome**

appears to occur in Shar-Pei as two syndromes. The first involves large areas of skin sloughing usually involving the trunk. These are full-thickness skin necrosis with subsequent loss of large areas of skin. The second syndrome appears to be acute death related to systemic septicemia and shock. Both conditions are extremely serious and life-threatening. Emergency care needs to be instituted immediately. Mortality is high. The causative organism appears to be beta-hemolytic Streptococcal bacteria. A mention needs to be made about **normal shedding**. The normal shed in the horsecoat Shar-Pei is often mistaken for various types of skin disease. The dogs will typically develop a moth-eaten appearance to the coat, but these areas usually keep the guard hairs and the skin remains normal in appearance. Skin scrapings usually rules out any mange problems. Dogs should not be treated for mange until skin scrapings have been done.

## **IMMUNOLOGY**

The immune system is composed of organs such as the thymus, lymph nodes, and spleen, cells such as lymphocytes, macrophages and monocytes and chemical messengers called cytokines. This system functions to protect the dog from bacterial, fungal and viral diseases and to recognize “self” from “non-self”. The immune system accomplishes these functions by identifying foreign substances and then providing the mechanisms to eliminate these invaders. Sometimes things go wrong and the response of the immune system leads to disease known as immune-mediated disease. Why this happens is not completely understood. Shar-Pei are afflicted by a number of immune-mediated diseases primary of which is **Familial Shar-Pei Fever (FSF)**. FSF is also known as “hock fever”, “swollen hock syndrome” and “Shar-Pei fever”. The primary clinical sign in FSF is fever, usually in the neighborhood of 105° - 107°F. Bear in mind that a normal temperature in the dog is 101° - 102°F. This fever is usually self-limiting lasting from 12 - 36 hours. During this time the dog has the “sick dog” look — ears down, tail down, arched back, “walking on eggs” gait. Often these dogs won’t lie down, usually have no appetite, don’t drink water and may pant quite a bit. Approximately half the dogs will have painful, hot swelling of one or both hocks (ankles). Remember, many Shar-Pei have mucin accumulation around the hocks (often called “socks”) which is not FSF. FSF appears to be the canine version of a disease seen in man called Familial Mediterranean Fever. Approximately 25% of people with FMF go on to develop renal amyloidosis leading to death due to kidney failure. Amyloid is a stress protein which is normally excreted in the urine. However, in the Shar-Pei, it builds up in the spaces around kidney cells and eventually “chokes” them to death. A similar process can occur in other organs such as the liver, spleen and lungs. It is important to emphasize that FSF is not renal amyloidosis or that a dog with FSF will develop amyloidosis — they are at an increased risk for developing amyloidosis. Emergency treatment for FSF involves steps to decrease the fever and pain management. Aspirin given every 12 hours seems to be helpful. Sometimes aspirin must be given every 6 hours for the first 24 hours. Monitoring the dog’s temperature is extremely important. Very high fevers or those not responsive to aspirin may require administration of other medication by your veterinarian as well as emergency treatment for heat stress. Dogs with recurrent FSF episodes should be placed on colchicine by your veterinarian as a possible preventive for renal amyloidosis. Colchicine may or may not help the fever episodes sometimes reducing the severity or

increasing the interval between episodes. Reducing stress which can sometimes serve as a trigger for fever episodes is also helpful. Some dogs also respond to low dose daily aspirin therapy to prevent fevers or at least increase the interval between fevers and/or their severity. Dogs with recurrent FSF episodes should also have periodic urine sample checks primarily looking for increased levels of protein in the urine and to monitor specific gravity which is a crude measure of kidney function. Checking a kidney blood panel periodically is also very helpful. There is a genetic basis for the disease and it appears to be inherited as an autosomal recessive. Dogs with FSF should not be used for breeding. Be careful, too, because some episodes of FSF may lead to streptococcal toxic shock syndrome (STSS), disseminated intravascular coagulation (DIC), heat stroke or the fever of STSS may be confused with FSF. **Masticatory myositis** or immune-mediated inflammation of the muscles which open the mouth has also been seen in Shar-Pei. Clinical signs vary from pain on opening the mouth, low grade fever and pain in the muscles on top of the head. Longer duration results in inability to open the mouth more than 1 inch and muscle atrophy on the head resulting in a “caved-in” appearance to the head. Laboratory findings suggest the condition and detection of antibodies in the blood against the muscles of mastication confirm the diagnosis. High dose corticosteroid therapy usually results in clinical improvement. **Immune-mediated hemolytic anemia** is an immune-mediated process directed against the red blood cells and **immune-mediated thrombocytopenia** is an immune-mediated process directed against the platelets. Both of these processes can be associated with reactions to drug therapy, other immune mediated diseases, infectious diseases, heartworm disease, etc. Females seem to be affected more often. These are life-threatening diseases which require rapid intervention. Clinical signs are somewhat vague such as lethargy, depressed appetite, and mild temperature elevation. Hemolytic anemia may have additional signs such as port wine urine color, sometimes icterus or yellow color to the skin, sclera and mucous membranes, pale mucous membranes and even collapsing episodes. Destruction of platelets can manifest as bruising on the skin, small areas of hemorrhage on the gums, bloody stools or urine and bleeding from the nose or mouth. Therapy centers on immunosuppressive doses of steroids and sometimes the use of additional chemotherapeutic agents. Long-term therapy is often needed. **Immune-mediated glomerulonephritis** probably represents about 70% of the kidney disease in the Shar-Pei. Typically this manifests as excessive protein loss in the urine. In conjunction with this finding is usually a significant decrease in the serum albumin in the blood. The glomerulus is the filtration unit of the kidney and when intact it will not allow protein (albumin) to be filtered into the urine. In addition to blood tests and urinalysis, a urine protein/creatinine ratio is needed to determine if the protein loss in the urine is abnormal. Long-term prognosis is guarded and treatment may involve protein-restricted diets, anti-hypertensive agents and other medical therapy. Kidney biopsies are very useful providing guidelines for medical therapy in kidney disease, but they should be considered early in the course of the disease. Routine urinalysis is a critical factor in discovering kidney disease early — probably more sensitive than kidney blood tests. Another disease seen in Shar-Pei which may have an immune-mediated cause is **SARDS or Sudden Acquired Retinal Degeneration Syndrome**. This condition is characterized by sudden loss of vision in an apparently normal dog. The blindness is permanent. A blood panel should be done to rule-out Cushing’s disease or hyperadrenocorticism

## GENITOURINARY

The primary problems seen in the Shar-Pei involving this system are **Renal Amyloidosis** and **Immune-mediated Glomerulonephritis** which we have already discussed.

**Pyometra** is a severe uterine infection in which the uterus fills with pus. The toxins produced are absorbed and result in clinical signs such as increase water intake, increased urination, loss of appetite, depression, sometimes a purulent vaginal discharge and hind limb weakness. Treatment involves spaying the bitch and removing the infected uterus. Prevention is best and bitches should be spayed if not used in a breeding program.

## NEOPLASIA

Shar-Pei seem to have an increased susceptibility to certain types of cancer. A factor in this may be associated with the FSF problem and immune system problems in general. An important function of the immune system is in tumor surveillance and this function may be decreased in Shar-Pei. The main tumor types in the breed are **mast cell tumors**, intestinal **adenocarcinomas**, **lymphosarcoma** and **histiocytoma**. Mast cell tumors and histiocytomas are difficult to distinguish based on appearance. Both can appear as raised, reddened masses. Mast cell tumors tend to be particularly aggressive in the Shar-Pei and can spread to lymph nodes and other organs. Early, wide excision with surgery is the best approach. Histiocytomas can occur at any age in the Shar-Pei unlike in other breeds where they tend to be seen only in young animals. These are benign growths which often regress spontaneously, but because of their similar appearance to mast cell tumors they should be removed. Lymphosarcoma often appears as generalized lymph node enlargement in which case it is easily recognized. Other forms such as the gastrointestinal, thymic or multicentric forms may present with non-specific sign such as weight loss, depression, etc.

## ENDOCRINOLOGY

The endocrine system consists of a number of glands in the body and the hormones they produce. For the most part the endocrine system operates on a system of positive and negative feedback. The hypothalamus (a part of the brain which constantly monitors information from the body) and the pituitary gland (which produces trophic factors which control the production of hormones from various glands in the body) are the centers of the endocrine system. **Hypothyroidism** is a fairly common malady in the Shar-Pei. In this condition the thyroid gland produces inadequate levels of thyroid hormones which result in signs of hypothyroidism: weight gain, lethargy, poor hair coat, decreased mental status, etc. The presence of hypothyroidism should **always** be confirmed by blood testing not on the basis of clinical signs alone and thyroid supplementation should always be started under the supervision of a veterinarian. **Cushing's disease (hyperadrenocorticism)** involves the overproduction of glucocorticoids by the body. These hormones are actually produced in the adrenal glands although only about 20% of Cushing's disease is due to primary disease of the adrenal glands (tumor). The other 80% is due to pituitary microadenomas in the pituitary gland of the brain which results in

excessive levels of ACTH, a hormone which stimulates the adrenal glands to produce high levels of glucocorticoids. This is called pituitary-dependent hyperadrenocorticism. Clinical signs are pot-bellied appearance, increased water consumption and urination, increased appetite, obesity, thin skin and characteristic changes on routine lab work. Special testing is required to confirm the diagnosis and treatment involves special drug therapy. **Addison's disease or hypoadrenocorticism** is a deficiency of glucocorticoids due to atrophy of the adrenal glands. Symptoms include weight loss, weakness, and gastrointestinal signs such as vomiting and diarrhea. Diagnosis is based on electrolyte abnormalities on a blood panel and the results of an ACTH stimulation test. The disease is treatable, but does require life-long treatment.

## **TEMPERAMENT/BEHAVIOR**

With its history as a guard dog, hunter and a fighting dog, there are a number of behaviors the Shar-Pei possess which need to be understood in order to effectively and safely restrain them:

1. They are very independent, dominant and strong-willed dogs.
2. They are very alert, intelligent and highly responsive.
3. They have a low aggression threshold.
4. They have a low proximity tolerance to other dogs.
5. Most Shar-Pei are very complacent until they are "pushed" - examples are nail trimming, ear cleaning and physical restraint.
6. You cannot physically dominate an adult Shar-Pei. They will fight to the death. Excessive restraint can result in death of the dog due to complications of brachycephalic airway obstruction syndrome and stress.

The following guidelines in restraint should be followed:

1. Due to their powerful physique and low center of gravity, they are very strong and powerful dogs. Excessive use of force in restraint will usually result in extreme aggressiveness by the dog. Use of chemical restraint before this point is reached is highly recommended. Consult your veterinarian about tranquilizers, etc.
2. Most Shar-Pei do not like to have their feet handled or their nails cut. They often tolerate blood drawing from the jugular vein better than from the cephalic vein or front leg vein. The lateral saphenous vein, which is located on the outside of the lower rear leg is easily used as well.
3. A gauze muzzle works better and is more reliable for this breed than use of a leather or nylon muzzle which buckles behind the head. Due to the excessive head wrinkles and small ears, the buckle muzzles can slip off at a bad moment.
4. Anyone with a new Shar-Pei puppy should be encouraged to pursue Puppy Kindergarten Training and basic obedience classes. Early use of dominance exercises and socialization probably benefit the Shar-Pei more than any other breed.

### Books

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2. Redditt JT. *The Chinese Shar-Pei Puppy Book*. Medea Publishing Co., Inc. 1984.
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4. Redditt JT. *Understanding the Chinese Shar-Pei*. Orient Publications, Inc., Arlington, VA. 1989.
5. Redditt JT. *The Chinese Shar-Pei An Owner's Guide To A Happy, Healthy Pet*. Howell Book House, 1996.
6. Strang PD, Olsen EC. *The Chinese Shar-Pei*. Denlinger's Publishers, LTD., Box 76, Fairfax, Virginia. 1980.
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8. Brearley JM. *The Book of the Shar-Pei*. TFH Publications, Inc. 1991.
9. Debo EW. *The Chinese Shar-Pei*. TFH Publications, Inc. 1986.
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11. Nicholas AK. *Shar-Pei*. TFH Publications, Inc. 1988.
12. Gannon D. *The Complete Chinese Shar-Pei*. Howell Book House, Inc. 1988.
13. Cunliffe, J. *The Chinese Shar-Pei Today*. Howell Book House, Inc. 1995.
14. Kleinhans, K. *A New Owner's Guide to Shar-Pei*. TFH Publications, Inc. 1996.

An excellent source of additional information about the Chinese Shar-Pei is available through the official Chinese Shar-Pei Club of America, Inc. breed publication, The Barker. It contains articles which focus on health-related issues concerning the breed. The Barker is sent to all CSPCA members *free* - yearly membership is \$45.00. For a membership application write:

The Chinese Shar-Pei Club of America, Inc.  
33853 SE Doyle Rd.  
Estacada, OR 97023

The Health Through Education Committee would appreciate any comments, criticism, additions or corrections concerning this guide. These may be directed to:

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Lastly, the information in this "guide" is based largely on experience. It should be used as such. Our goal is to share information about the breed and it is our hope this will be a reciprocal process - your sharing information with us. The Chinese Shar-Pei Club of America, Inc. is in no way responsible for the information contained in this "guide".

#### **HELPFUL WEBSITES:**

1. [www.drjwv.com](http://www.drjwv.com) – Dr. Vidt's website
2. <http://www.wvc.vetsuite.com> – Dr. Tintle's website

## **APPENDIX A: CLEANING EARS**

My opinion: ONCE A SHAR-PEI HAS AN EAR PROBLEM IT WILL ALWAYS HAVE EAR PROBLEMS. YOU WILL NOT CURE THE PROBLEM; YOU WILL ONLY CONTROL IT THROUGH ROUTINE EAR MAINTENANCE.

The primary problem with ear cleaning in the Shar-Pei breed centers on inadequate training and lack of control of the dog. If the dog will not let you clean the ears you will not be able to treat the ears. The training process begins in puppy hood and involves discipline and positive reinforcement methods which are beyond the scope of this article. Suffice it to say that you should train your dog as a puppy to tolerate ear cleaning. I will also be the first to say that some of the problem in cleaning the ears rests in the most common method of ear cleaning used today - the cotton swab. Improper use of the cotton swab results in trauma to the ear canal with swelling, pain and an uncooperative patient. The best way to clean the ear canal is to “float” debris out of the canal using an ear cleaning solution. A wide variety of such solutions are available on the market with none being better than any of the others. Try different ones and see which works best for you. My personal favorites are Pan-Otic and Nolvasan Otic. Do not use hydrogen peroxide! The foaming action bothers the dog and the peroxide breaks down into oxygen and water in the ear. It is usually wise to clean the ears outdoors because the principle here is to allow the cleaning solution to loosen the debris and the dog to shake the material out of the ear. The ear canal is filled up with the cleaning solution, gently massaged, and then the dog is allowed to shake its head. Stand Back! Material tends to catch on the inside of the ear flap where it is wiped off with cotton balls and the whole process is repeated. This is done several times until no more debris is collected. At this point a cotton swab can be gently inserted into the ear canal to soak up any remaining ear cleaning solution. Do not clean the ear with the cotton swab! After the ear is thoroughly dried, the appropriate ear medication is instilled into the ear canal as directed by your veterinarian. It is often a good training technique to give the dog some sort of a special treat at this point to positively reward the dog. This may make future sessions more pleasant. In ears that have severe disease, it is often a good idea to treat the ear for several days with medication first before attempting to clean the ears. This allows the swelling and pain to subside first and allow the dog to tolerate the cleaning procedure better. In such cases it may also be a good idea to have your veterinarian anesthetize the dog and clean the ears before any home therapy is done. This also allows your veterinarian the opportunity to examine the ear more thoroughly.