

HEALTH PROBLEMS IN PUGS

The following includes just some of the health problems that are common in Pugs. Most of them are genetic and therefore, inherited. If you are thinking of getting a Pug, you need to be aware of some of the problems that you may also get. If you are thinking of breeding Pugs, it is important that you have a clear understanding of the health issues in the breed, BEFORE you take the step. All Pugs used for breeding, should be checked, and cleared, for these health problems. There are huge questions around the health of breeds like the Pug so both the breeders and potential owners have responsibility towards ensuring they only breed/purchase puppies from properly health tested parents. Good knowledge of your Pugs bloodlines is a must.

Allergies/Atopy usually shows as skin & coat problems. Hair loss, chronic itching & hot spots are common symptoms. Causes can be poor/improper diet, contact with some plants/grasses, or inhaled allergens. Often a problem within the immune system, often common in Pugs. Pugs with ongoing skin problems should not be bred with.

BOAS. Brachycephalic Obstructive Airway Syndrome. There are different parts that make up BOAS, but essentially it is as it reads. The airway has some obstruction which causes respiratory distress and the effected dogs can have poor exercise tolerance. Narrow, pinched nostrils, (Stenotic Nares), narrowed airway, elongated soft palate, are some of the issues involved. Pugs should be tested and have good airways before being considered for breeding. It goes without saying that Pugs with BOAS need careful management around exercise and very good weight control.

Cleft Palate is a congenital defect not uncommon in Brachycephalic breeds, such as the Pug. It is seen when the two sides of the roof of the mouth fail to fuse, leaving a gap. Can also be seen as abnormal openings in the soft palate or nasal cavities. It is detected at birth and affected puppies should be euthanased.

Collapsing or Narrow Trachea is seen when the rings of cartilage in the windpipe collapses. It causes breathing difficulty and affected Pugs also have a honking type of cough. Pugs can also have a **Collapsing Larynx** which can result in partial obstruction of the airway. Both conditions confirmed by x-ray and observation under anaesthesia.

Corneal Ulcers are usually caused by an injury to the eye, and are fairly common in Pugs. The large eyes and lack of nose length, puts the Pug at greater risk. At any sign of eye squinting or weeping, immediate veterinary attention is required. Sometimes corneal ulcers are caused by an eye lid problem and need specialist attention. (see Distichiasis, Dry Eye, Entropion, Pigmentary Keratitis.)

Degenerative Myelopathy (DM) is a degenerative neurological disease affecting the spinal cord. The cause isn't known and possible hereditary basis is suspected, given that recent overseas research has identified a DNA mutation that is a major risk factor for DM.

Affected dogs experience a slow and painless loss of coordination in the hind legs. The weakness evolves into a partial paralysis, sometimes in a matter of months, or it could be over several years. Loss of bowel & then bladder control is common. We have seen DM type symptoms more than we would like in our NZ Pugs. The disease is heartbreaking to deal with as the dog isn't in pain & is still alert & happy. Often they are relatively young. There is no cure and the eventual outcome is humane euthanasia when dog & owner can no longer cope. ALL Pugs used for breeding should be DNA profiled for DM. This testing is available in NZ. Symptoms in Pugs can be similar to that of Hemivertebra (HV), therefore it's important for Pugs to be xrayed & cleared for HV in order to make a more accurate diagnosis of DM.

Distichiasis are small stubby, bristly hairs that grow on the inner eyelid margins and rub directly on the cornea. They can cause chronic irritation and discomfort, as well as ulcers. The irritation causes a build up

of pigmentary keratitis which leads to loss of vision.

The incidence of eye disorders in Pugs in NZ is very high. ALL Pugs should receive a full eye examination from a specialist eye vet, at around 6 months of age. Sooner if there are signs of a problem. Breeders should be breeding only with dogs who have clear eyes.

Demodectic Mange is caused by the Demodex mite. All dogs have a small number of this mite, but a poor or weak immune system can lead to the dog developing mange. It is seen as a loss of hair in patches. Some bloodlines of Pugs are more prone to this problem. Skin scraping and checking for the mite via microscope is how the condition is confirmed. **Pugs who have Demodex issues should not be bred with.**

Dry Eye (Keratoconjunctivitis sicca) (KCS) is low tear production in the eye. Pugs with this will seem to have a dull eye surface. They may show discomfort on bumping their face, and often seem to accumulate a lot of 'muck' in the corner of their eyes. The problem can have more than one cause. A vet can measure tear production but proper specialist eye exam is important. Treatment may be required for life.

Elongated Soft Palate is a common airway obstruction in Pugs. It results in affected dogs having breathing difficulties. They can have very noisy breathing, can gag to try and clear their airway – sometimes bringing up some 'froth', when eating or drinking. They may have more frequent 'reverse sneezing' attacks. Confirmation is by examination under anaesthesia. Surgery is not always recommended in any but the most severe cases, because of the complexity.

Entropion is very common in Pugs. Usually the medial, (inside) edge of the lower eyelid rolls inward so that the hairs and lashes rub on the cornea. The Pug will probably have squinty, weepy eyes, and will develop pigmentary keratitis. Diagnosed by specialist eye examination, easily corrected by surgery. A painful & distressing condition, and loss of sight if not found and corrected. One of the reasons **all Pugs need specialist eye check early in life.**

Heart disease is seen in Pugs. Signs include low tolerance to exercise, poor growth, weight loss, chronic cough, pot belly appearance, sometimes fainting. A full veterinary examination may be needed.

Heat Stroke happens more easily, and more frequently, in the Brachycephalic breeds, such as the Pug. Pugs can become heat stressed within a very short period of time. The Pug owner needs to be aware of this problem and avoid situations that can lead to heat stress in their dog. NEVER leave a Pug in a car, even on a warm day in winter. Don't allow vigorous exercise/play during the heat of the day, don't leave a Pug outside in a yard but have him indoors with a cool floor, plenty of water and a fan. Heat stress kills in an unpleasant way, but is 100% preventable. **While all Pugs are at higher risk of Heat stroke, overweight Pugs will be even more at risk than those of a healthy weight.**

Hemivertebra is a spinal defect where part of the vertebra fails to form properly. Hemivertebra are often wedge shaped and result in an unstable portion of the spine. Adjacent discs are prone to rupture. Pugs with HV are prone to painful disc disease later in life, sometimes paralysis. In severe cases paralysis may start in a puppy as young as 3 or 4 months of age and euthanasia is the only humane outcome.

ALL PUGS USED FOR BREEDING SHOULD BE X-RAYED & CLEARED FOR HV!

Hip Dysplasia is not confined to the larger breeds. HD is seen when the head of the femur does not sit firmly in the cup of the hip socket. The joint is loose and causes the dog much pain. Pugs are not routinely hip x-rayed and scored in NZ, but the incidence of HD appears to be increasing, so hip x raying, or use of the Penn Hip method, is now recommended as a mandatory health test in NZ. . Some Pugs have been found with HD to the extent that surgery or euthanasia has been required. Proper diet, weight, and exercise management of the growing puppy can play an important role in hip development.

Legg-Calve Perthes Disease is usually seen in small breeds, in puppies under 12 months. An interruption

of the blood supply to the developing femoral head, sees it start to disintegrate. It is a very painful condition, often first noticed when the dog carries the hind leg up. Diagnosed by x-ray, treatment is surgery to remove the femoral head.

Luxating Patellas are loose or slipping kneecaps. Causes include weak ligaments, poor muscle conformation, or a lack of a proper groove in the stifle joint. A dog may briefly carry the leg, stretch it backwards, hop when trotting, and limp. Diagnosed by watching the dog move, physical examination and x-ray. Surgery often needed, though it can be costly and requires careful management during recovery. As with any of the inherited conditions, Pugs should be cleared of Patella Luxation **before** being bred with. It is seen as a mandatory test for Pugs in NZ.

PDE (Pug Dog Encephalitis) is an inflammatory disease of the central nervous system that is usually progressive and fatal. Symptoms include seizures, depression, ataxia, abnormal gait and blindness. Seen more often in fawn female Pugs under 7 years of age than in black and male Pugs. Overseas research has led to DNA testing being available to identify PDE susceptibility. While some breeders are claiming to have dogs clear of PDE, the test doesn't identify dogs as being clear, but whether at low or high risk. Whilst it is classed as a mandatory test, breeders should place equal emphasis on testing for the conditions that are frequently found in NZ Pugs, e.g. DM and Eye conditions.

Pigmentary Keratitis is the development of a dark brown film over the cornea of the eye. It is extremely common in Pugs in NZ. It is generally a symptom, and result, of an eye injury or one of the other eye problems that have already been covered. Treatment first involves correct specialist diagnosis and removal of the underlying problem, then the use of medication, often cyclosporine, to try and dissolve the pigment. Without proper treatment, the Pug will eventually have marked loss of vision, possibly complete blindness.

Reverse Sneezing usually happens when the Pug gets over excited. It is caused by the dog inhaling its own air, so that it starts 'snorting' or 'honking' in a repeated manner. It can be stopped by getting the dog to breathe through its mouth by gently covering its nostrils. Massage of the area immediately under, and to the side of the nostrils, also helps. Try & keep the dog calm too.

Seizure Disorders have been seen in some lines of Pugs in NZ. The breed is one that can have a low seizure threshold, so something as simple as oxygen deprivation can trigger a seizure. Some Pugs have been known to faint and have a little seizure when over excited. Such as when they have been left alone for a period of time and get very excited when the owner returns. Some seizures are triggered by sleep apnoea. A head injury can also cause the dog to have a seizure, Sometimes this leads to epilepsy. Seizure disorders have also been linked to over vaccination of dogs, or reaction at time of vaccination. Recommendation is to vaccinate no more than once every 3 years.) Any Pug that has a seizure needs to be seen by a veterinary surgeon. If your Pug has more than one seizure, it may require daily medication for life.

Other problems that are known in Pugs are: **Dystocia**, or difficulty in whelping puppies. It is quite common for Pugs to require a caesarean in order to give birth. For this reason alone, the breed is not best suited to a beginning breeder and consideration should be given to not breeding subsequent litters from Pugs who are unable to whelp naturally.

Stenotic Nares are narrow breathing passages. Pugs with this problem have to be carefully watched as they will be more prone to heat stress, be exercise intolerant, and need extremely good weight control. Surgical correction is an option.

Diabetes is seen more frequently in Pugs than in the past. Possibly due to the fact that feeding habits by owners have changed and many Pugs are overweight. This leads to a multitude of health issues over time.

Liver Disease, or Liver Shunt is also seen in Pugs. Signs include poor growth, weight loss, vomiting, diarrhoea and/or seizures.

To become a Dogs NZ Accredited Breeder it is mandatory for all breeding stock to be eye tested annually,

to be x-rayed for Hip Dysplasia and x-rayed clear of luxating patella. Other tests that are strongly recommended are x-rays and clearance for Hemivertebra and BOAS.(brachycephalic obstructive airway syndrome). (Eye testing & certification is done by a specialist ophthalmologist vet, Hemivertebra x-rays may be done by a normal vet but need to be read by a specialist for a certificate to be issued). DNA testing for DM and PDE also needed. Pugs used for breeding should also be free from any skin/coat disorders; be of a reasonable breed standard in that they have competed with some success in the show ring; and have typical Pug temperament.

While very few Pug breeders do some of these tests, it is a very sad indictment for the breed to know we do not have a single NZKC Accredited Breeder of Pugs in New Zealand. Potential buyers need to be proactive by walking away from breeders who are not acting in the best interest of the long term welfare of the breed.