

A Guide to Brachycephalic Breeds

Health Problems
Advice
Precautions
Treatment



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Introduction: Background to Brachycephalic Breeds

Over the last ten years, sales of brachycephalic or 'brachy' dog breeds have risen phenomenally in the UK. The Kennel Club has estimated a 3,104% increase in French Bulldog registrations alone!



Brachycephalic dogs exist as a result of selective breeding over the years to exaggerate certain facial features that owners find desirable. The most common example of this is their shortened muzzle.

Their physical appearance makes them look cute but sadly, these breeds don't have the easiest time - they are prone to many health problems and often live in discomfort throughout their whole lives.

My Family Vets Practices want to provide a support network for owners of brachycephalic breeds. This booklet will cover the most common issues related to brachycephalic breeds. It's designed to help you understand brachycephalic breeds, the problems they are prone to and how to prevent or fix them.

Owners who are educated on this subject will be able to spot problems earlier, will know how to act on them and will be better equipped to increase their beloved pet's quality of life.

Why do these dogs have breed-related health problems?

Brachycephalic dogs have been selectively bred to have shorter muzzles and flattened faces. Because their skulls are much flatter than other dogs, their faces are effectively 'squished'.

This can cause difficulty with their breathing, as well as:

 Eye issues

 Skin problems

 Dental problems

 Orthopaedic Issues

 Spinal problems

 Digestive difficulties

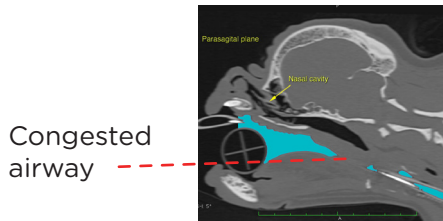
 Reproduction issues

 Heart problems

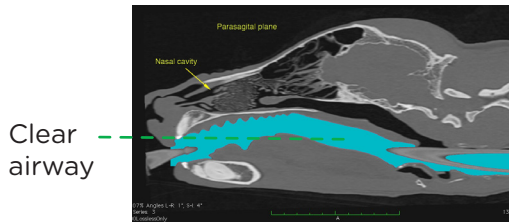
Brachycephalic Breeds: A Summary

'Brachycephalic' is the scientific term given by vets to any dog with a short nose or flat face. It originates from ancient Greek and translates to 'short head'.

The lower jaw is often longer than the top jaw, and sometimes appears to be sticking out.



Brachycephalic skull



Non-brachycephalic skull

The most common brachycephalic dogs are:



Bulldogs



French Bulldogs



Pugs



Boston Terriers



Pekingese



Shih Tzu

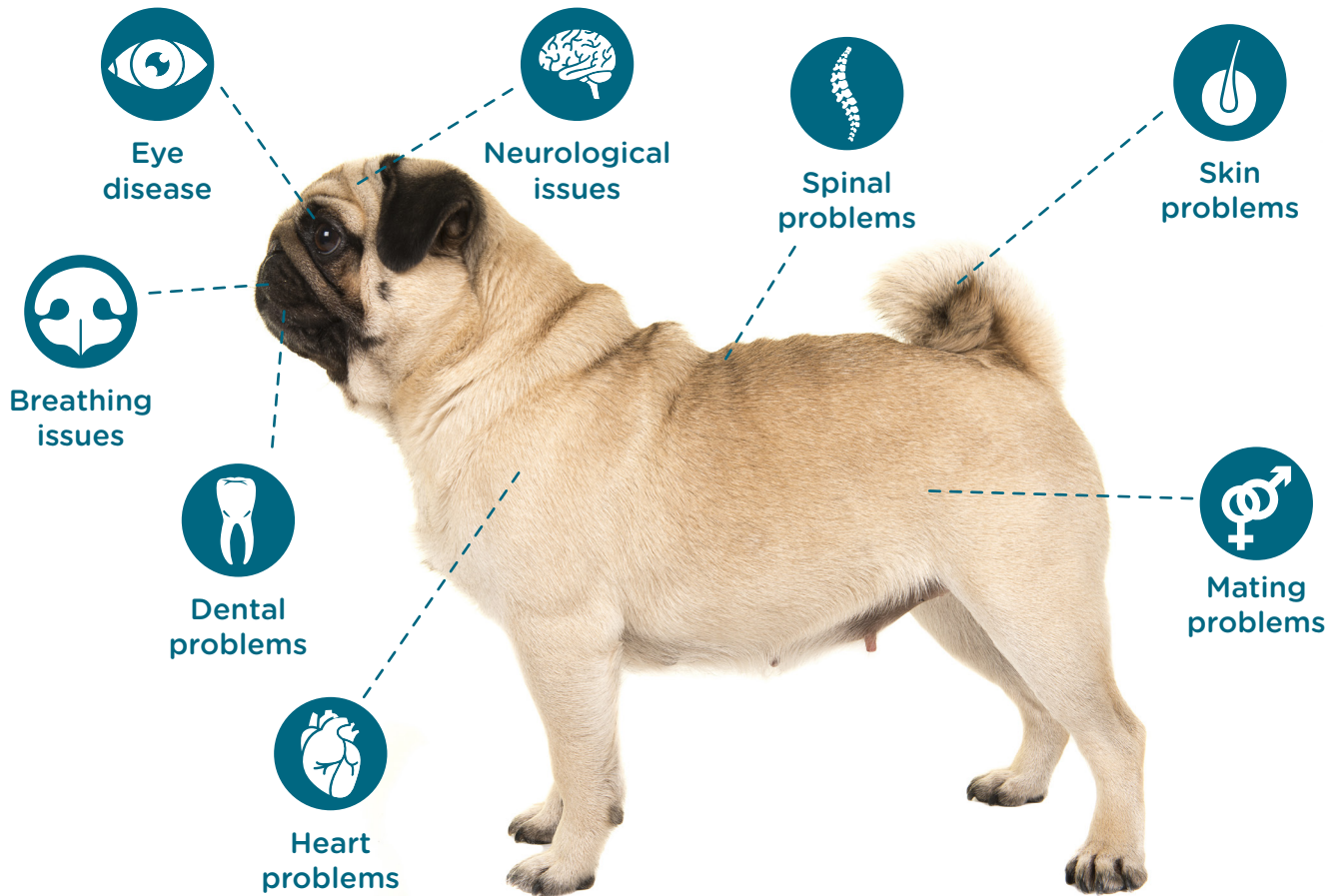


Boxers

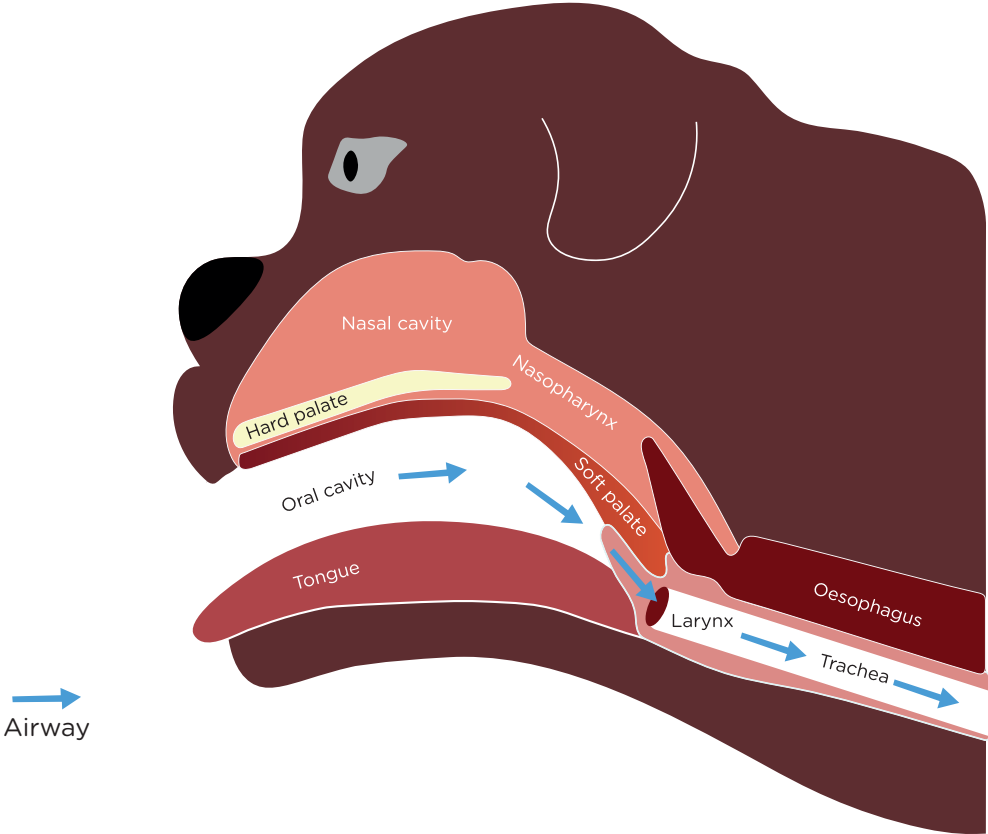


Chow Chows

Please note: This booklet refers to the health problems that brachycephalic breeds are **susceptible** to. The problems listed in this booklet are often found in brachycephalic breeds but are **not guaranteed to occur**. Some breeds are more susceptible to these conditions than others.



Facial Anatomy



Breathing Issues

Brachycephalic Obstructive Syndrome (BOS) refers to all of the breathing problems that brachycephalic breeds suffer from. These can be broken down into two main types:

Primary conditions: Problems that the dogs are born with, a direct consequence of selective breeding.

Secondary conditions: Problems that develop over time, usually occurring later in life as a consequence of the primary conditions.

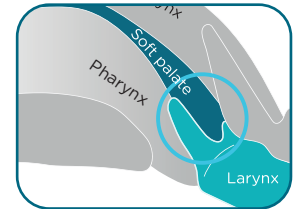
Just one of these primary conditions can cause breathing problems. However, brachycephalic breeds often have most, if not all, of these defects and find it very hard to breathe as a result, even while resting.

Primary Conditions

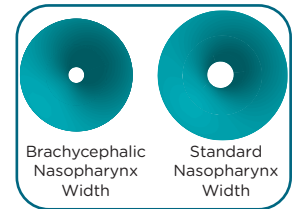
🐾: Narrow nostrils that don't take in much air.
Your vet may refer to this as 'stenotic nares'.



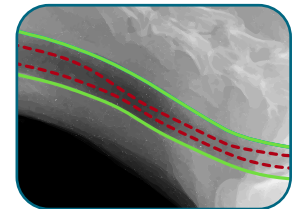
🐾: A larger soft palate (circled) that obstructs the voice box.
Your vet may refer to this as a 'hyperplastic soft palate'.



🐾: A narrow nasopharynx.
Nasopharynx: the area between the nose and the back of the mouth.

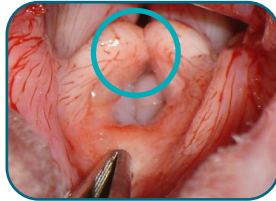


🐾: A narrow windpipe.
Your vet may refer to this as a 'hypoplastic trachea'.



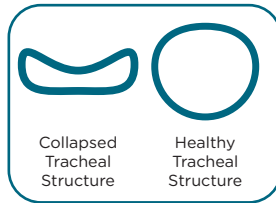
Secondary Conditions

- ❧ 'Balloons' of tissue that obstruct the windpipe. Your vet may refer to this as 'everted laryngeal ventricles'.



1

- ❧ The windpipe weakens and loses its structural firmness, often leading to distress. Your vet may refer to this as a 'tracheal collapse'.



What are the symptoms?

Difficulty breathing is the most common. The dog will make strange, snoring-like noises. Other symptoms include difficulty exercising, overheating and froth around the mouth, especially after they have eaten or when they're excited. These symptoms are usually worse during periods of exercise, hot weather or excitement.

Which dogs are most at risk?

The disease usually affects young to middle-aged dogs. Vets treat most animals when they're aged between 5 months and a few years.

Those at increased risk include:

- ❧ Older dogs
- ❧ Overweight dogs
- ❧ Dogs with other pre-existing conditions (heart issues, bronchitis and hormonal imbalance).

Interestingly, BOS rarely affects cats.

As an owner, what can I do?

- ❧ **Visit your vet:** They can diagnose the condition and tell you how severe it is.
- ❧ **Make exercise gentle:** Avoid walks in really hot weather and if you can't, make them nice and short.

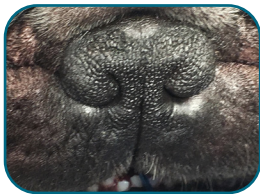
How will my vet diagnose it?

Your vet will perform a clinical examination of the nose and mouth, often using anaesthesia. They may refer to your dog's medical history to help with the diagnosis.

In some cases, your dog might need other tests such as a blood sample, an endoscopy or an x-ray.

What are the recommended treatments?

The treatment will depend on the problems the dog has, and how severe their condition is. Most young dogs will have their **nostrils widened** and the **soft palate shortened**.



Before Surgery

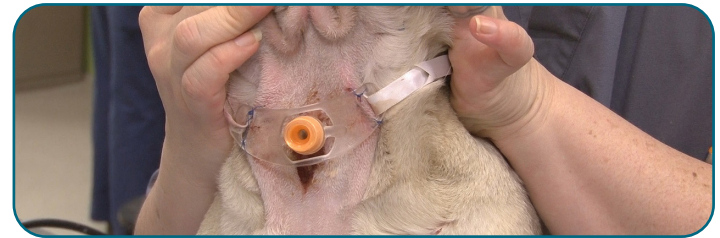


After Surgery

If the laryngeal ventricles are everted (see previous page), they'll be removed as part of the procedure.

If the windpipe has collapsed, your vet may use a tube to aid your dog's breathing.

This is known as a 'permanent tracheostomy' (pictured below).



2

Surgery is not possible during cases where the voicebox, windpipe and nasopharynx are **all** too narrow. Sadly, most affected dogs don't survive beyond their early adult life.

What is the outlook after surgery?

Surgery helps most younger dogs, and their owners are often pleased with the results. After surgery, dogs are known to enjoy their exercise and to make a lot less noise when they breathe.

In larger breeds (especially English Bulldogs), owners usually see improvements as soon as the dog recovers from anaesthesia. Smaller dogs may not show signs of a full improvement for a few weeks. If their breathing difficulties remain, the vet may recommend a permanent tracheostomy.



What are the complications of this surgery?

Nostril surgery rarely causes problems. The vet will often use dissolving sutures, which usually fall out after 2 weeks.

After surgery, there's a slight risk that bleeding or tissue swelling could obstruct the dog's breathing. This rarely causes serious problems but vets may keep patients in overnight for observation.

If breathing difficulties do occur during surgery, the vet may need to place a tracheotomy tube.

In most cases, the full benefits of surgery won't become visible until 2-4 weeks after the procedure. Your dog might continue to snore and make 'retching noises' during these initial weeks.



Eye Issues

Brachycephalic breeds appear to have bigger eyes than other dogs: this is not true! The eyes only seem bigger because the sockets are too shallow and the eyes bulge outward as a result. This might look cute, but it can often lead to damage or infection.



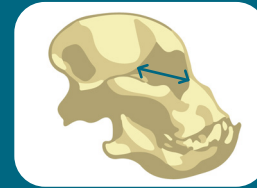
Shallow eye sockets - bulging eyes

Normal eye socket

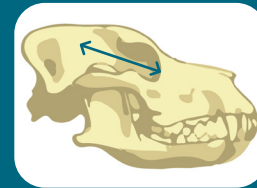
Like humans, dogs must be able to close their eyes and blink. This refreshes the eyes with moisture and cleanses them of foreign bodies. Brachycephalic breeds are unable to fully close their eyes, which is uncomfortable in itself before we begin thinking about the associated health risks.

This problem is known as **Brachycephalic Ocular Syndrome**.

A closer look: The brachycephalic eye socket



French Bulldog
(Brachycephalic)
Skull



German Shepherd Skull

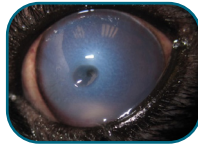


Greyhound Skull

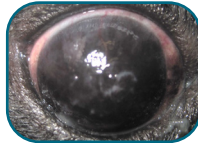
These examples highlight how shallow a brachycephalic's eye socket really is.

Brachycephalic breeds are at a much higher risk of:

- 🐾 **Eye ulcers:** The eye becomes dry and prone to ulcers, infections and sometimes blindness. The dog also risks losing their eye altogether.



- 🐾 **Infections:** The eyelids sometimes roll inwards, hairs can grow from the edge of the eyelids - sometimes even inside them. Fur rubbing against the eye can cause ulcers and infection.



- 🐾 **'Proptosis' of the eye:** The eye can be so far out of the socket that a very minor trauma can lead to the whole eye 'popping' (or proptosing) in front of the eyelids, causing blindness or loss of the eye.



- 🐾 **Cherry eye:** The tear gland can prolapse and swell up from behind the eyelid. If your dog suffers from this, they will need the help of a vet.



As an owner, what can I do?

Stay alert and vigilant, check your dog's eyes every day and keep them clean. Use cotton wool, appropriate eye cleaner or wipes - but only perform **one wipe per eye using a clean wipe each time.**

As with most aspects of pet ownership, prevention is better than cure!

How can my vet help?

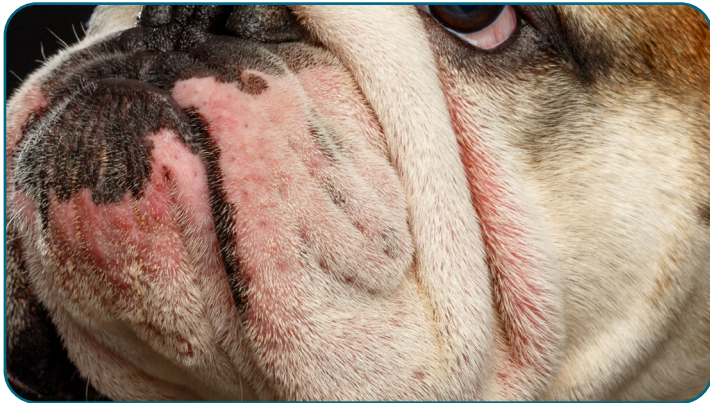
If you notice any problems with your dog's eyes or if they appear to be struggling with their vision, we recommend that you contact your vet immediately.

Eye conditions can deteriorate rapidly, often leading to sudden and permanent blindness, so we advise you to contact your vet urgently to minimise the risk of any long-term damage. They'll be able to check the condition and act accordingly.

Skin Problems

Brachycephalic breeds often have excessive folds of skin around their muzzle, ears, eyes and at the base of the tail.

The skin folds can lead to friction and excessive moisture, often damaging the skin and sometimes causing infection.



How can I spot skin problems?

The only sign might be an unpleasant smell. Lesions or sores are often too deep within the folds of skin for owners to notice so you'll need to check your dog's skin regularly and thoroughly.

Symptoms of skin problems include discharge, matted fur and red/inflamed skin around the affected area. Your dog might seem unsettled or scratch often at the same spot.

As an owner, what can I do?

Make sure you regularly clean and dry beneath your dog's excess skin folds, removing debris, crumbs and anything else unwanted. Keeping their skin dry will also help.

You should do this as a **preventative measure**, not just after finding a pre-existing skin problem.

How can my vet help?

If you spot any signs of infection, contact your vet. They'll take a closer look at your dog's condition and will know what action to take.

Dental Problems

Even though their snouts are a lot shorter, Brachycephalic breeds have the same number of teeth as other larger, long-nosed breeds: 42 teeth together, often in **less than half the space they need**. This can cause complications, including:

- 🦷 **Gum disease:** Brachycephalic breeds don't tolerate teeth-brushing very well because the action of opening their mouth can restrict their breathing further. A mouth crowded with teeth is hard to hold open and cleaning each tooth individually and thoroughly is also more difficult. The individual teeth aren't kept as clean and this increases the dog's chances of developing gum disease.

- 🦷 **Other complications:** The dog will likely need lots of baby teeth removed to make room for adult teeth - this means lots of operations and lots of trips to the vets.

If excess teeth aren't taken out, they can cause cysts which can seriously harm the dog's jaw bone.

As an owner, what can I do?

Getting your dog used to having their mouth examined from an early age will really help as they get older.

You should aim to brush your dog's teeth every day. By paying attention to their teeth, you're more likely to spot problems.

You should contact your vet if you notice any of these:

- 🦷 Your dog's baby teeth don't come out
- 🦷 Their teeth are pointing out in odd directions
- 🦷 Some teeth are missing

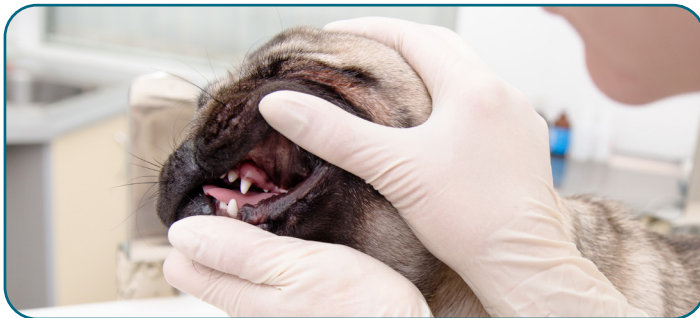


What can my vet do about dental problems?

If the baby teeth don't come out, your vet will need to remove them to make way for the bigger teeth. It isn't always easy to spot absent teeth because there isn't always a gap where the tooth should be. Your vet will examine closely to check for absent teeth.

To prevent further overcrowding and make brushing more effective, the vet might need to remove several permanent teeth too. They'll be able to make a reliable assessment of which permanent teeth are less important.

The chances of a brachycephalic breed needing dental surgery are very high. If you need more help, contact your vet.



Did you know?

There are two popular theories* for why certain dogs are bred for short snouts:

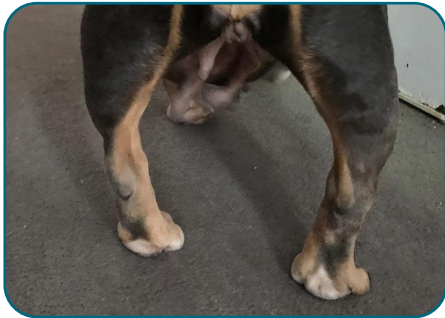
The first theory refers to a practical function that the short snouts were believed to have. At one time, breeds like English Bulldogs were bred for hunting and fighting; short snouts were associated with strong jaws so owners and breeders believed a short-nosed dog would be a better fighter.

The second theory is that in the past, owners preferred short-nosed dogs because their appearance was similar to humans and human children.

*Study conducted by PLOS One

Orthopaedic Issues

Another characteristic of brachycephalic breeds is their short, stubby legs, which often have a bowed or curved shape. The short legs mean that movement does not come as naturally to them as it does to breeds with longer legs.



Because they have a substantial bodyweight and smaller legs to support it, brachycephalic breeds are at a higher risk of deformity, hip dysplasia and dislocations of the kneecap.

Slipped kneecaps are common in brachycephalic breeds. The bones of the back legs often pop out of their groove, which prevents the knee from moving normally. The dog will kick out to try and fix it. This worsens as they grow and if untreated, can lead to arthritis or cruciate ligament failure.

Impaired movement lowers the dog's quality of life. Running, playing and jumping are natural behaviours for most dogs but for smaller brachycephalic breeds, this isn't always the case.

As an owner, what can I do?

Stay on the lookout. If you notice a change in your dog's behaviour, or if the way they walk is different to usual, speak to your vet as soon as you can.

How can my vet help?

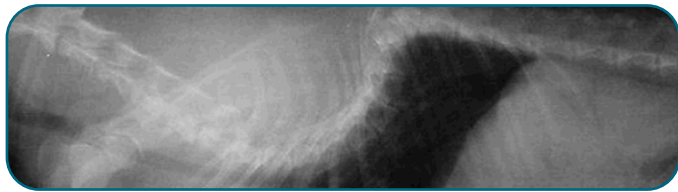
When it comes to slipped kneecaps, surgery to realign the kneecap is often the best method of treatment.

Your vet will be able to observe the symptoms and take action accordingly.

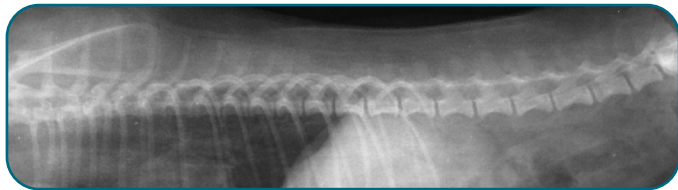
Spinal Problems

Some brachycephalic breeds are at risk of serious spinal problems, especially those with coiled/short tails or no tail at all.

In most mammals, the spine consists of small bones known as vertebrae that are joined together. With brachycephalic breeds, the vertebrae don't always align very well and might not develop properly.



Disfigured spine



Healthy spine

This can lead to problems such as curving or twisting of the spine and an unstable spinal column, which can cause nerve damage, incontinence or in severe cases, paralysis.

How will I know if my dog has spinal problems?

Keep an eye on the way they walk. If they appear wobbly or if their back legs seem weak, there might be a problem with their spine. When you check your dog, look out for muscle wastage in the back legs and any irregularities with the shape of their back.

Symptoms will differ from dog to dog, so vigilance remains important. If you have any doubts, always seek your vet for advice.

Are there any treatments for spinal problems?

Your dog might need an x-ray or MRI scan, along with complex surgery, or they might be fine to go home! It all depends on the condition. If they're good to go home, your vet will advise you to monitor the way they walk and to lower the risks of injury.

The important thing is to keep a close eye on your dog's physical condition, temperament and the way they move. If you think something is up, it's always best to contact your vet sooner rather than later.

Other treatments include acupuncture, physiotherapy and hydrotherapy. Your vet will discuss these with you if they're necessary.

Gastrointestinal/Digestive Difficulties

Studies have shown that brachycephalic breeds are more prone to gastrointestinal/digestive difficulties than other breeds. It's been suggested that this may be linked to breathing issues.

What are gastrointestinal/digestive difficulties?

A gastrointestinal difficulties refers to any disease that affects your dog's **digestive tract**. It is often very uncomfortable.

A digestive disorder is any issue with your dog's **digestive process** - a problem with their absorption of food or the food's passage through their digestive tract.

What are the symptoms?

The symptoms are easy enough to spot. They include vomiting, regurgitation of food, diarrhoea and a visible lack of energy.

As an owner, what can I do?

It's important to limit your dog's access to any food that could cause digestive problems. Avoid giving your dog high-fat foods such as cheese and meats and take care to ensure that they can't open your bin.

For dogs that are prone to gastrointestinal or digestive difficulties, your vet might recommend a special, easy-to-digest diet that will lower the risk of related problems.

Stay alert and if you spot any of the symptoms listed above, contact your vet right away.

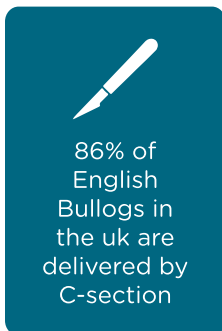
How can my vet help?

They'll be able to provide dietary advice specific to your dog. Most digestive problems go away on their own, and quite quickly, but some dogs are prone to them and can experience recurring difficulties.

In these cases, your vet will guide you through further tests and long-term treatments such as diet management options.

Reproduction

Brachycephalic breeds also struggle to mate and give birth naturally. Without the help of a vet, brachycephalic mothers-to-be are prone to severe injury or even death. Many can't get pregnant in the first place without artificial insemination, which highlights just how unnatural these breeds have become!



Why is it so dangerous for a brachycephalic dog to give birth?

One of the effects of selective breeding is that puppies' heads can be too big to pass naturally through the mother's birth canal. Some bulldogs give birth naturally without casualties but this is rare. Without the help of a vet, the offspring are unlikely to survive and there is a risk of losing the mother too.

This is why vets often discourage brachycephalic pregnancies. They strongly advise clients in favour of neutering and will refrain from offering fertility advice or pre-mate tests.

As an owner, what can I do?

You should strongly consider having your dog neutered. This will eliminate the risk of birth-related problems and offer many other benefits. Speak to your vet for more information.

How can my vet help?

Of course, vets will treat brachycephalic dogs with the love and care they deserve. If your brachycephalic bitch does become pregnant, you can contact your vet as you would with any other breed. However, we do strongly advise against breeding from a brachycephalic dog.



[Dog neutering article](#)

Scan me on your phone!

Heart Problems

Vets see a fairly high prevalence of heart disease in brachycephalic breeds. Some affect dogs from birth, others occur later in life, often getting worse as the dog grows older. See common heart problems below.

🐾: Pulmonic stenosis

Commonly affects: French Bulldogs

Usually present from birth, pulmonic stenosis refers to a narrowing of the pulmonic valve in the heart which restricts the blood flow from the right heart. Pulmonic stenosis can cause collapse or even death. Veterinary Hospitals such as **Southern Counties Veterinary Specialists** can perform an operation whereby a balloon is fitted to force open this valve to improve blood flow. See example to right.

🐾: Aortic stenosis

Commonly affects: Boxers

Also a birth defect, Aortic stenosis is a narrowing of the aortic valve, restricting blood flow from the left heart.

🐾: Cardiomyopathy

Commonly affects: Boxers

This refers to a disease of the heart muscle. It often occurs later in the dog's life and can cause collapse or even death. Thankfully, it's often possible to manage the condition with medication.

🐾: Mitral valve disease

Commonly affects: Cavalier King Charles Spaniels

This refers to a leak of the mitral valve, often causing congestive heart failure. Dogs are more prone to Mitral valve disease as they grow older, but there are a range of preventative treatments available.

As an owner, what can I do?

Heart disease may be symptomless, or affected dogs may display the following:

🐾: Breathlessness

🐾: Reluctance to exercise

🐾: Collapse

These symptoms can belong to other conditions, so it's important to stay vigilant and to contact your vet if you're concerned.

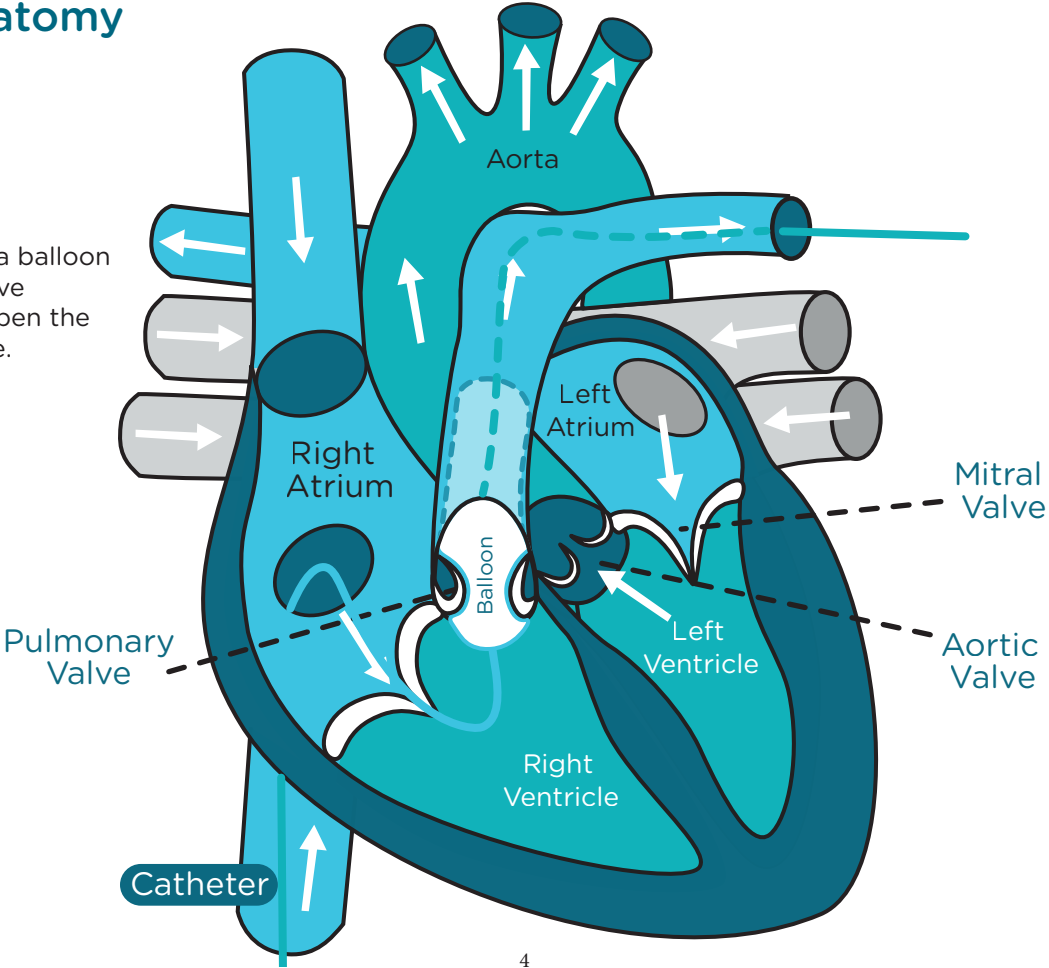
How can my vet help?

Your vet may be able to spot a heart murmur or abnormal heart rhythm when they see your dog during a routine check-up.

Depending on the condition, there are often medications/surgical procedures that can help.

Heart Anatomy

In this example a balloon and catheter have been fitted to open the pulmonary valve.



Conclusion: Are there any healthy flat-nosed dogs?

As adorable as these dogs can be, they're usually uncomfortable in their own skin. This is down to years of human interference and selective breeding.

Because they're so prone to health problems, we urge owners of brachycephalic breeds to take extra care when choosing a pet insurance policy. Your vet will be able to advise further.

Sadly, it's incredibly rare for a short-snouted or flat-muzzled dog not to need the help of a vet at some stage in their life.

It should however, be noted that brachycephalic breeds are often some of the most characterful dogs which, combined with their appearance, leads many owners to buy them.

Our final message

Be aware of the health issues discussed in this booklet, and of what you can do to help your dog live as healthy a life as possible.

Your vet is always there to help!

www.myfamilyvets.co.uk





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