



Puppies continue to grow and develop for months or years after birth. Giant breeds may not reach full adult size for 18 months or 2 years. During this growth period they are at particular risk from bone and joint disorders. Some of these are inherited such as hip and elbow dysplasia. Damage can also result from traumatic injury.

Why is bone injury in pups serious?

Puppies and young dogs have enormous healing potential and bone fractures, once treated, can heal rapidly and completely. When a puppy is born the ends of each bone are soft and it is from these soft parts that the bone continues to extend as the puppy grows. These areas are called the *growth plates*. Because the growth plates are softer they are a weak point of the bone in the growing animal. Once a dog reaches adult size the growth plates close and become bony. Any damage to the growth plates of bones prevents the bone from growing normally. If this happens to the bones in the leg this can have severe consequences and limb shortening or deformity can result.

What damages growth plates?

Sometimes, surprisingly mild trauma, eg a knock or bang to the leg that does not break the skin can cause injury to the growth plates. For this reason, traumatic injury to the bones or joints of puppies and young dogs should always be reported to the veterinary surgeon. It may be necessary to monitor the injury over weeks and months to ensure that limb deformity is not occurring. If growth plate damage is suspected treatment must be started early to limit the adverse effects of interruptions in bone growth. The area most at risk is towards the lower end of the front limbs, around the carpus (or wrist) joint, above the paw. This is an important growth plate responsible for increasing the length of the forelimb is present just underneath the skin where it is very vulnerable to injury.

Can diet affect bone growth?

A balanced diet is very important for the development of healthy bones. Dogs fed a diet which does not contain enough calcium do not develop strong bones. Puppies fed an all meat diet may develop bone disease (also known as 'Butcher's dog disease' and sometimes incorrectly called 'rickets'). However, it is important to stress that a balanced diet is the key to a healthy puppy and feeding excess calcium supplements can be as dangerous as not giving enough.

Puppies with weak bones caused by poor diet have painful legs and are often lame and miserable. Sometimes their bones are so weak that they fracture easily. The condition can be easily managed by changing to a healthy balanced diet and keeping the puppy rested for several weeks to prevent further damage to the bones before they get stronger. Unfortunately if the disease is not recognised early significant damage may be done to the bones and this may limit the animal's ability to develop normally even when the diet is corrected.

What is panosteitis?

Panosteitis is a painful condition of bones which most often affects German shepherd dogs but can affect any growing dog. Typically a puppy will be lame on one leg for a week or so and then gets better only to develop problems with another leg a short time later. The condition can be diagnosed on an x-ray and most cases get better on their own with medication to relieve pain. Puppies grow out of the condition and by 1 year of age it would be unlikely to cause problems.

What other diseases affect growing puppies?

Some puppies are born with genetic conditions passed from their parents. These conditions are often more common in some breeds than others. There are few genetic diseases that just affect the bone but several affect the development of the joints. The best known inherited joint disease is hip dysplasia.

Special scoring schemes for hip and elbow dysplasia have been developed - these allow the early detection of the condition so that the individual can be treated and to prevent the affected animal from being used for breeding and passing the condition on to its puppies.

The early months of a puppy's life are important for its later development. A healthy diet and regular exercise are essential to development. If you are getting a puppy for the first time discuss

Bone problems in young dogs



your concerns with your vet and they will be able to give you advice on all aspects of your puppy's care.

If you want any other information on health issues concerning your dog please contact Hampden Veterinary Hospital on 01296 423666 and we will be happy to advise you.