Knuckling Over and Flat Feet

Knuckling over and flat feet, more often than not, are caused by dietary imbalances, slippery floors, growth spurts, stress and/or illness. Both knuckling over and flat feet can be caused by the same processes. Every Great Dane puppy is different. Some puppies will never have this problem, whereas others may struggle with it their entire puppyhood.

When your puppy is beginning to knuckle over, you will most often see their front legs begin to tremble and shake when they are sitting or standing. If not caught at this stage, their front legs may start to bow out. If your puppy is beginning to get flat feet, you will notice that their toes are not as tight together. If not caught early, flat feet can progress into weakened pasterns and loose, floppy, deformed feet.

The good news is, both of these are extremely simple to fix!

<u>Dietary Imbalances</u>: It is extremely important to evaluate the diet that you choose to feed your puppy. Most puppy foods are not formulated for giant breed puppies and will cause your puppy to knuckle over or to get flat feet. Any food you choose should be at or less than 1.2% Calcium and Phosphorus. NEVER add Calcium to your puppy's diet. If your puppy's diet is at adequate levels and they are still encountering this problem, see the section on Vitamin C supplements.

<u>Slippery Floors</u>: Slippery floors can cause puppies to slide around in excessive amounts which can cause weakening in their tendons and ligaments. Make sure that you have rugs that your puppy can utilize.

<u>Growth Spurts</u>: Sometimes, you can do everything right, and your puppy will hit a growth spurt and they will encounter this issue. See the section below on Vitamin C supplements.

<u>Illness/Stress</u>: Sometimes, puppies get sick or stressed. We vaccinate and do everything we can to prevent this, but it can still happen. When this happens, the body reverts its energy to healing and away from supplying the body with the necessary nutrients it needs for proper growth. When they return to proper

health, this should resolve but supplementing Vitamin C will help them to return to normal growth at a faster pace.

Vitamin C Supplementation

WZ Great Danes supplements ALL of our Great Danes with 1000 mg of Vitamin C until they are at least 12 months of age. Vitamin C is produced naturally by the body but can be depleted in times of growth, illness, injury, and stress. Dogs supplemented with Vitamin C are better able to resist diseases, as well as better recover from diseases and injuries. Vitamin C also helps to maintain collagen health, which can aid in prevention of degenerative joint disease and joint dysplasias.

If your puppy is beginning to knuckle over or get flat feet, it is important to first evaluate the cause. In addition to solving the underlying problem, you can supplement your puppy with up to 2000 mg of Vitamin C a day. The results are not always instantaneous. If you catch it early, you may notice results in as little as a few days. If your puppy has a more severe case, it may take up to a month to fully resolve the issue.