**Nutrition and Chronic Conditions**

Canine obesity is a nationwide epidemic affecting over 50% of American dogs. Even worse, dogs affected by obesity are more prone to arthritis, diabetes, high blood pressure, and cancer. According to the Association for Pet Obesity Prevention (APOP), decreased life expectancy is also linked to obesity in pets, and unfortunately, among all pets that veterinarians ultimately classified as obese, many owners initially identify their dog’s weight in the normal range

Clearly nutrition plays a role in avoiding or treating obesity. However, studies have shown that nutrition can play a role in treating other heath conditions as well. The following information shows just some examples of the relationship between nutrition and health. These examples are provided for informational and educational purposes only, and are not intended to take the place of veterinary advice for treating health conditions.

**Allergies**

An allergy is an acquired and exaggerated defensive reaction by an animal’s immune system to something that it perceives as being foreign and potentially dangerous. There are four different types of allergies: contact, injection, inhalant and food. While the first three types may benefit from nutritional support, food allergies are managed almost exclusively with diet. This might sound easy, but determining exactly what the dog is allergic to can be a lengthy process.

Typically food allergies are determined by introducing an elimination diet containing a single protein that the dog has not been exposed to (a ‘novel’ protein) and a single carbohydrate. Novel proteins are often salmon, kangaroo, rabbit or ostrich. A careful log of the dog's symptoms is kept throughout the process and everyone in the dog's life must diligently support the process. The dog cannot have ANY food other than the elimination diet throughout the process. This means treats, table foods, flavored medications, supplements and chew toys are all off limits until the culprit ingredient has been determined. Once the allergen is determined that ingredient must be consistently avoided for the remainder of the dog’s life.

Food allergies can be tricky for other reasons as well. A food allergy is an immune response, while a sensitivity is a much more simple physiological response. The difference between these two is often invisible to the layperson. Anti-inflammatory treatments, such as steroids are routinely used to treat immune responses, yet these medications have not been shown to be useful in treating food allergies. Additionally, dogs with food allergies may have other types of allergies as well, making diagnosis very difficult.

**Arthritis, Joint/Ligament Injuries and Chronic Pain**

The common indicators of arthritis are limping, difficulty with movement, an increase in sleeping hours, stiffness of the joints, weight gain, a decline in energy levels, behavior changes, a drop in flexibility, exhibiting pain and discomfort when touched, and being less likely to jump, run, or climb. If these symptoms persist for more than a week the dog should be taken to a veterinarian to be evaluated for arthritis. A proper diagnosis typically includes a physical exam and possibly X-rays. According to the Arthritis Foundation one in five dogs is affected by arthritis. Large dogs are at greater risk for arthritis but no breed or mix is risk-free. Dogs that participate in many popular dog sports are prone to joint and ligament injuries, though an injury of this type can easily happen in the backyard as well. Injuries to joints or ligaments in young dogs can lead to arthritis as the dog ages.

Weight management and Nutritional supplements can aid in cartilage production. One of the omega-3 fatty acids found in fish oil, EPA, can help ease the inflammation associated with arthritis. Chondroitin and glucosamine are two additional supplements that may also be recommended to improve the joint health in dogs. Specialized foods and treats that include these supplements are available as well and may be recommended to treat arthritis and support recovery from joint and ligament injuries.

**Bladder Stones and Other Bladder Diseases**

Bladder stones can composed of different types of minerals and other substances. For example, calcium oxalate bladder stones are primarily composed of calcium while struvites are primarily composed of magnesium and phosphates (phosphorus). Bladder stones may start out small, but over time can grow in number and/or size, causing issues such as urinary accidents, discolored urine, and urination straining. A veterinarian can identify the type of bladder stone and recommend a food that may help to dissolve the stone.

For some dogs a special diet may help prevent bladder stones or other bladder diseases so even dogs not currently suffering from these conditions may benefit from a diet that is lower in calcium and phosphorus.

**Chronic Diarrhea**

It's not uncommon for a dog to occasionally suffer from bouts of diarrhea. When diarrhea becomes chronic it's important to know what type it is in order to properly treat it with diet. With small bowl diarrhea dogs produce large amounts of soft stool but only a few times per day. Large bowl diarrhea is caused by abnormalities centered in the colon and results in a dog straining to produce small amounts of very watery stool frequently throughout the day.

A diet high in both soluble and insoluble fiber can be helpful in treating large bowl diarrhea while small bowel diarrhea often responds to a bland, low fat, easily digestible diet. Foods such as canned pumpkin and sweet potatoes are suggested for treating both types of diarrhea and dogs usually welcome these foods as additions to their diets.

**Hypertension and Heart Disease**

Dogs often have issues with heart disease if their diet isn't properly balanced. In this way canines and humans are very similar. One key factor to heart disease in dogs is sodium (salt) intake. Increased sodium in the diet causes increased levels of sodium circulating in the blood. Elevated levels of sodium cause water retention in the blood vessels and elevated blood pressure. As blood pressure increases the heart enlarges to overcome the increased pressure in order to pump blood from the ventricles.

A low sodium diet is generally recommended to treat heart disease and may help to prevent it in healthy dogs. Since a dogs sodium needs are quite different that a humans, table scraps can be a culprit in increased sodium levels in dogs.

**Pancreatitis**

Pancreatitis develops when the pancreas becomes inflamed, causing the flow of digestive enzymes to be released into the abdominal area. When this occurs, the digestive enzymes will begin to break down fat and proteins in the other organs, as well as in the pancreas. In dogs, dietary fat is known to be associated with the development of pancreatitis and can stimulate the secretion of a hormone that induces the pancreas to secrete its digestive hormones. Pancreatitis is often treated by adjusting fat intake and feeding a low fat diet that is easily digestible.