The following is a report written by Louise Atyeo, which was previously printed in a Club Bulletin. In it, Louise outlines the seminar she attended on 10th May 2015, given by Dr Jean Dodds, on canine thyroid disease, vaccinations and nutrigenomics.

Our thanks to Louise for allowing us to make this available to share on our Club website.

Seminar on Canine Thyroid Disease by Dr Jean Dodds

I had a personal reason for wanting to attend the seminar as I had lost my Wheaten 6 months earlier and, from information that I had read, had a feeling that he probably had an underactive thyroid. Although my vets had tested him twice in the previous 12 months and declared that he was ok, and although he didn't have the classical symptoms of lethargy, loss of hair, and weight gain, I had read some links posted on Facebook and had begun to wonder whether this was his problem. Things that I had put down to major upheavals during his formative 'teenage' time started to look more like the symptoms described. As well as the well-known ones they included amongst other things hyperactivity (even as Wheatens go he was hyperactive), lack of attention, sudden aggression (in his case towards other dogs) and seizures. Sadly his first seizure was also his last as, not recognising what was happening to him, I went to try to calm him and he bit my leg and hand. With family and grandchildren to consider I had to take the devastating decision to have him put to sleep.

Dr Dodds started the seminar by describing the work that is carried out at Hemopet, which is a national canine blood bank which she has established in California. She works there with retired racing Greyhounds, using them for blood donations, and running an adoption service for them. Hemopet also carries out diagnostic testing for thyroid function and now for food sensitivities and intolerances.

Years of research into thyroid function has shown that the tests normally carried out by vets (for T4 and TSH) which were developed for testing human thyroid function, may only be 70% accurate in dogs. Dr Dodds has developed an expanded range of tests which can more accurately diagnose thyroid disease. Up to 80% of hypothyroidism cases are caused by Autoimmune Thyroiditis which is an autoimmune disease and is hereditary. This is indicated by elevated levels of Thyroglobulin Autoantibodies (TgAA).

The levels of hormones tested can also be affected by a number of things so this has to be taken into account when interpreting the results. Sight hounds have a naturally low T4 level, which is also lower in older dogs. Rabies vaccine can raise TgAA levels so testing shouldn't be done within 45 days of the vaccine. Levels will also be affected in very fit dogs trained for endurance work. As well as autoimmune thyroiditis there are other things which can affect thyroid hormone levels particularly if the dog is ill. Too much iodine in the food can reduce thyroid activity particularly in young dogs as it increases the potency of TgAA. The thyroid can also be physically damaged with heavy collars and if a dog has a tendency to pull on a collar it is better to use a harness on it to prevent damage to the thyroid.

Dogs with autoimmune thyroiditis also tend to have a predisposition towards other autoimmune diseases and shouldn't be bred from. Because classic symptoms don't show until 70% of the thyroid has been destroyed, testing should be carried out where there is a family history of thyroid disease. This should be started at puberty and then annually until the dog is at least 3 years old, at which point it can be bred from if still negative.

Thyroid disease can cause many symptoms as the thyroid gland is responsible for producing hormones which regulate the metabolism of all the body's cellular activity. Symptoms to be aware of include bilateral hair loss, dry scaly skin, muscle wastage above the eyes, testicular shrinkage, infertility, irregular heats or complete absence of heats, a slow heart rate of less than 68 beats per minute at rest, arrhythmia and cardiomyopathy, gastrointestinal conditions, slipped stifle, seizures, and behavioural changes such as sudden aggression, fearfulness and phobias, and anxiety.

Treatment is simple and inexpensive. If the disease is treated early enough it can stop the thyroid gland being destroyed. The dog is given a twice daily dose of thyroxine, but because it will bind to calcium and soya it shouldn't be given with food but should be an hour before or three hours after a meal.

Dr Dodds introduced Lorna Kennedy who works at Manchester University and has been doing research to identify genetic markers for hypothyroid disease. She has shown that it is a complex disease with lots of different genes involved as well as environmental factors. Even if the dog carries the genes for the disease they may not show any disease symptoms if they don't get exposed to an environmental trigger. Triggers can include viral infection, vaccinations or diet. When antibodies are produced to fight infection there can be cross reactions which will lead to autoimmune disease if the dog carries the genes for the disease. Because it needs an environmental trigger, it will only ever be possible to predict the risk of getting the disease. Further research is required to bank blood samples from puppies and keep life-long health records for them, in the hope that with enough results to analyse the exact environmental triggers may be identified.

After a break for lunch, Dr Dodds continued with some interesting facts about vaccinations. To obtain herd protection 70% of the canine population needs to be vaccinated. 3-4% of dogs who are vaccinated suffer from vaccinosis, which is not a sudden acute reaction to the vaccine but a longer term reaction to the virus or to the chemicals contained in the vaccine.

Some dogs are non-responders and will always be susceptible to the disease. This is a genetic trait and the dog shouldn't be bred from. However unless a titre test is done after the puppy vaccinations it isn't possible to tell if the dog has responded to the vaccination. Titre tests show if the dog has produced antibodies to the virus in the vaccine. Titre tests can also be used instead of automatically giving annual or 3 yearly vaccinations, to show whether the dog is still immune to the diseases before giving boosters. Vaccinations shouldn't be given if the dog is already ill, or if a bitch is due in season, pregnant or lactating. Distemper and Rabies vaccines don't shed, but Parvovirus does so the vaccinated dog should be kept away from susceptible animals for 2 weeks.

The last area of interest to be covered was Canine Nutrigenomics. This is the study of how different foods can affect the body at the cellular level and gene expression. Dr Dodds has studied how functional foods can target genes. These foods include berries (but not strawberries), medicinal mushrooms, milk thistle, coconut oil, omega 3 fatty acids, pomegranate, raw honey, turmeric, probiotics and spirulina. Because of the effect on gene expression these superfoods can determine how healthy your dog is.

Dogs can also develop an intolerance to certain foods causing either itchy skin or irritable bowels. Because the intolerance builds up it is possible for the dog to have been eating the food for some time before any symptoms start to show. Some foods to try to avoid are glutens, foods with high iodine content, peas and soya. In some countries glandular tissue can be left in raw meat where the throat is left in the meat, although in the UK it has to be removed for BSE control.

Hemopet have developed a simple salivary test which tests for 24 of the most common foods found in dog foods. By identifying which foods the dog is intolerant to, it becomes easier to change the diet to one which is suitable for them. This was illustrated with pictures of dogs before and after identifying their food intolerances, showing dramatic improvements once the diet had been adjusted.

Throughout the day Dr Dodds lightened a serious subject with a series of funny and heart-warming stories and case studies, both highlighting the issues being discussed and demonstrating the importance and the effects of the correct treatment to help and in some cases save our furry best friends. Unfortunately this was too late for my beloved boy, but hopefully spreading awareness amongst other owners will help to save other dogs who suffer in the same way. The hardest part I can foresee is persuading vets, who have not had the fortune to hear or read about the work that Dr Jean Dodds has done, to look at these diseases in a different way.