

## Seed and Fatty Liver Syndrome

Seed a killer? Sure is! Did you know that more birds are seen at our surgery with dietary related diseases than any infectious disease?

It is a fact that no bird lives on a dry seed diet in the wild. So why do we think that dry seed is a natural diet for them? We have been feeding birds a seed diet since we first domesticated them because grain was all that we had stored to feed them on. It is not natural to feed birds dry seed!

In the wild, parrots and finches are vegetable eaters, always preferring to eat green ripening seeds and green leafy material. The nutrients in green seed can be digested and absorbed well by our birds. Dry seed is virtually a carbohydrate and fat source. Just like fried chips for us. No wonder they love it! Birds get a variety of diseases when on a seed based diet. These include skin, respiratory, kidney, hormonal, reproductive, cardiovascular and gastrointestinal tract diseases.

One of the most common gastrointestinal tract disorders seen in birds is fatty liver syndrome or hepatic lipidosis. The liver is a very important organ and is responsible for many different functions in a bird. Some of these include metabolism of toxins, production of bile (used help break down fat), energy metabolism and storage, protein production and detoxification of ammonia (end product of protein metabolism). If a bird has fatty liver syndrome, the healthy liver cells gradually become filled with fat. Fat filled cells cannot function properly and with time the liver cells become damaged. With continued damage, these cells will eventually die and be replaced with scar tissue. The liver becomes fibrosed. There will be a gradual decline in the liver function of the bird and they will start showing signs of disease.

Birds with fatty liver syndrome will often be overweight. They may have difficulty in breathing as the liver becomes larger (due to filling with fat). The bird may develop diarrhoea, and the droppings may have a yellow or greenish colour. The beak and claws may become overgrown or distorted. Haemorrhages may also be seen in the beak and claws due to reduced production of clotting factors. Prolonged bleeding may be seen with minor trauma or during surgery. Poor feathering quality is a common clinical sign of liver disease. In cockatiels, previously white feathers may develop a yellow wash or a solid yellow colour (indicating more severe disease).

Harry Harrison, a 9 year old cockatiel, was a perfect example of what a bird with fatty liver syndrome looks like. He was presented to the clinic in October 2006 for a health check. On examination, he had scruffy, yellow, lancelet feathering as shown below. Initially, we thought that this bird had pearl pied colouring.

Several things need to be done to effectively treat hepatic lipidosis. Firstly, your bird should be put on a suitable diet. So what should we feed our birds instead of seed? An ideal diet is a pelleted diet with a selection of fruit, vegetables and wild foods offered daily. The photos below are of Harry Harrison, two years following the introduction of an appropriate diet. Just look at the difference! It was discovered that Harry was in fact a normal coloured cockatiel!

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*Harry Harrison, 2006*



*Harry Harrison, 2008*

Seeds can be offered but only to assist training or as a treat one day a week. Think of seed as a junk food, OK to have occasionally but not every day. Exercise and appropriate medications are also important in the treatment of fatty liver syndrome.