

Obesity/Hepatic Lipidosis (Fatty Liver Disease)

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Obesity with resultant hepatic lipidosis is one of the more common nutritional diseases seen in pet birds. A commonly used term to describe this condition is 'fatty liver disease.' It is particularly common in budgerigars due to the high-fat seed diet these birds normally consume. It is also seen quite frequently in cockatiels and Amazon parrots. Baby cockatoos being hand fed a formula that is too high in fat can also develop the condition. Not only can a high fat diet lead to obesity, but the fat can bind to calcium, leading to lowered blood calcium. Seed is also low in vitamin A, which can lead to lowered resistance to disease.

Even more detrimental, fat infiltration can severely compromise the functioning of the body's organs. Two organs that are particularly affected are the liver and the heart. Over time, as fat that has accumulated in the bloodstream infiltrates the liver, the amount of functional liver tissue decreases, and liver function is greatly compromised. This condition, called hepatic lipidosis, can also result in the liver becoming quite enlarged. Fat may also accumulate around the heart, interfering with normal function. Due to the excessive weight, the bird may be unable to fly or may tire easily.

The following may be characteristic signs of hepatic lipidosis:

- *Obesity.* The bird may be overweight, with fat deposits on the chest and abdomen, so that the bird has a boxy chest or abdomen.
- *Overgrown beak.* With hepatic lipidosis, the beak sometimes grows rapidly and abnormally. Technicians should be trained to recognize signs of hepatic lipidosis, so that when an owner brings a bird in for a beak trim, he or she can recommend an examination with the practitioner if there is evidence of the disease. The beak trim should be cautiously done on birds suffering from hepatic lipidosis, as they can easily become stressed or die during the routine procedure due to the abnormal liver condition.
- *Black spots on the beak and toenails.* Due to the compromised liver function, the bird's blood may not clot properly, and black spots may be seen on the beak and toenails. The spots are areas of hemorrhage, like bruising.
- *Enlarged fatty liver.* Though an enlarged liver cannot always be detected with the naked eye, it can be palpated manually during a physical examination. In small avian patients, the liver can be seen through the skin if the feathers and skin are moistened with a small amount of alcohol.

Most birds that show all or most of these clinical signs are in serious condition. A high fat level may disrupt the body's normal metabolism, compromise the functioning of its organs, and

subject the bird to secondary disease. The bird may not be able to withstand even simple stress, and sudden death can occur.

However, the disease can be detected before it gets to a serious state through regular physical examinations that include blood testing. Many times, the blood tests will show lipemia, anemia, and icteric plasma, indicating liver disease.

Identified early, the disease can be treated with nutritional management. Ideally, it can be prevented entirely through proper nutrition with an adequate homemade or commercially prepared diet, such as a formulated diet. If the bird is on an all seed or high fat diet, dietary change to a more balanced diet is of utmost importance. A conversion to such a diet needs to be done carefully as some birds do not readily accept such change. In more severe cases medications may be prescribed, such as colchicine/probenecid used as a “liver sparing” drug.

Adapted from *Essentials of Avian Medicine: A Guide for Practitioners, Second Edition* by Peter S. Sakas, DVM, MS. Published by the American Animal Hospital Association Press. (2002)