



Game Bird & Poultry Health Fact Sheet

Blackhead

What is it?

Blackhead is known as Histomoniasis and is caused by a parasite called *Histomonas meleagridis*. It is a parasite which infects several types of birds including chickens, game birds, and guinea fowl but in particular turkeys, who are susceptible to the disease.

It is a very fragile organism and can infect birds via several different ways;

Within the Heterakis gut worm. When birds are infected with the Heterakis gut worm and then ingest *Histomonas*, the Heterakis worm can ingest the *Histomonas* within the bird's intestines. As the worm then lays eggs, the *Histomonas* it has ingested is shed in this egg ready to re-infect or cause fresh infections in other birds.

When the infected Heterakis egg is ingested by birds, it will hatch into an adult worm within the caecum (found at the end of the intestine), and here it will release the *Histomonas* where it causes part of its pathological damage.

The significance of this process is that worm eggs can survive in the environment for years. So, this worm is a possible route of fresh infection, as well as repeat outbreaks at later dates, even years later. Any subsequent poultry reared on this ground are vulnerable to infection.

Within the earthworm. The earthworm acts as a transport host as the Heterakis gut worm larvae can hatch within them. As above if these Heterakis worm larvae are infected with the *Histomonas* parasite then the earthworm is also infected. So, if the bird consumes this infected earthworm, it is then infected with worms and *Histomonas*.

Cloacal drinking. This is in particular applicable to turkeys who sample their environment via their vents. Birds often take samples of their environment to expose their immune system to bugs present in that area in an attempt to make protective antibodies against certain diseases. Unfortunately this also acts as a route of infection. So, if *Histomonas* is present within organic matter in the bird's environment, it is possible to enter the body via this cloacal drinking. The parasite is then present within the birds gut ready to establish an infection.

Quill Productions Veterinary Services

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Once the *Histomonas* parasite is within the bird, it burrows into the wall of the caecum causing a typhlitis (inflammation of the caeca) which releases an exudate, forming solid core within the caecum. The parasite then travels via the bloodstream to the liver where it causes severe damage.

Chickens can act as carrier animals as they can carry a low levels of Blackhead without showing clinical signs.

Symptoms / Clinical Signs

- Despite the name, a black head is rarely seen with this infection but it is so named as the heads can become cyanotic (deprived of oxygen and so dark in appearance). There are however several other conditions which can cause this

- Yellow diarrhoea

- Lethargic birds which suddenly die

- High mortality



Picture showing abscesses on the liver caused by the *Histomonas*

Diagnosis

Diagnosis can be made on post mortem where the lesions on the liver are pathognomonic. The cores within the caecum are also indicative but can be caused by other diseases such as *Coccidiosis* so your vet may take further samples if only caecal cores are observed.

A worm egg count can be useful to establish whether the *Heterakis* worm is present. It is important to do a count before and after worming to ensure the burden has been reduced adequately as repeat treatment may be required due to the quick life cycle of the worm. As mentioned previously, worm eggs in the environment can act as reservoirs of infection.



Treatment

Unfortunately there is no licensed treatment for Blackhead however, in certain cases a combination of antibiotics can help to control the infection.

Heavy culling of unwell birds and good environmental control can sometimes be successful alone in managing an outbreak.

Routine treatment for worms would also be advisable in order to reduce one of the methods of transfer.

Prevention

- Do not keep chickens and turkeys together
- If possible, do not rear any poultry on ground where Blackhead infections have arisen as there is a high chance of re-infection via the Heterakis worms and earthworms that survive in the earth (it is reported that infected Heterakis eggs can survive in the environment for up to 12years!)
- The use of oregano based products administered via drinking water or feed can help promote good gut health. It is thought that this can help to reduce the chance of a Blackhead infection
- Organic acids such as Aqua Acid are proven to have a beneficial effect on gut health
- Ensuring your birds are only able to have access to good quality clean water is very important. Hydrocare is an example of an effective water sanitiser
- Earthworms play an important role in the lifecycle of the Heterakis worms, reducing damp areas in the shed or reducing water entering into the sheds will help to reduce to exposure of your birds to earth worms. Using drying up powders such as Quill Ultra Dri powder are good ways to keep housing dry and unfavourable to earthworms
- Histomonas can live within the eggs of the Heterakis worms, so it is important to worm your birds regularly

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