



Pigeon Diseases / Remedies

Pigeon Pox

This is a mosquito-borne infection. The disease spreads slowly from Pigeon to Pigeon by progresses very fast in infected birds. The virus infects the mucus membranes and dry skin mostly. There is a worldwide geographic distribution. The lesion on the skin is a wart-like nodule followed by a scab. When the mucus membranes are involved, the disease is called wet pox. All ages of pigeons can become infected. Since there is not effective treatment, fanciers can only rely on vaccination to control the disease. Several vaccines are available: Nobivac, Chevivac, Columbovac.

Since the vaccine is a liver, attenuated virus is mishandled the virus can be killed and a true vaccination is then not possible. The vaccine must be kept under 7C, will not prevent the virus from dying. Vaccine must not be used if the dated has expired. Any healthy pigeon older than four weeks can be vaccinated. Remember that immunity is not permanent. Pigeons must be vaccinated yearly. The area of vaccination will form a nodule after 7-10 days. If no scab or nodule forms, it may be due to a killed vaccine (cold cycle broken), improper applications or an already immune pigeon. If the vaccination did not “take”, those pigeons should be revaccinated. Pigeons should not receive medication, especially de-worming agents, at the time of vaccinating. This is very important: All susceptible pigeons in the loft must be vaccinated at the same time or the virus will spread to the susceptible pigeons. Do not race pigeons for a t least four weeks after vaccinating. This is a must to prevent spreading to other pigeons and to allow the vaccinated pigeons to recover from the effects of the vaccine. If you have a pox outbreak, vaccinate in any case to prevent the spread of the disease.

Haemoproteus Columbae (Pigeon Malaria)

Taxonomic Classification
Phylum: Protozoa
Suborder: Haemosporina
Family: Plasmodiidae

Domestic pigeons are definitive hosts, possibly wild pigeons and other columbiform birds.

Intermediate hosts are Hippoboscids (louse-flies) and Culicoides (midguts).

Haemoproteus: The pigeon is infected when bitten by Hippoboscid or Culicoides.

Sporozoites enter the blood and invade the endothelial cells of the blood vessels.

Schizonts are formed in the endothelial cells. Schizonts undergo multiple fission and form 15 or more cytomeres. Cytomeres now grow and the host cell enlarges (Hypertrophies). Endothelial cells now break down and release cytomeres, which accumulate in the capillaries to release merozoites. Merozoites enter the red blood cells (erythrocytes) and become macrogametes and microgamonts after 25-30 days.

Hippoboscids and Culicoides ingest the macrogametes and microgamonts with a blood meal. In the stomach of the insect the microgamonts exflagellate to form four or more microgametes which fertilize the macrogametes to form zygotes. The zygotes crawl to the midgut wall and form oocysts. Oocysts mature and form sporozoites which break into the body cavity and pass to the salivary gland to be injected into the new host when the next blood meal is taken.

Infected pigeons show no signs and this is usually an incidental finding. Heavy infections can cause restlessness and anaemia and the pigeon's racing ability is impaired.

Diagnosis is made by identifying gamonts in a peripheral blood smear. Quinine is the treatment of choice. Primaquine this drug will not cure but only suppress the infection in the pigeon, thus alleviating the signs. Chloroquine: will also only suppress the infection. Given in combination with triple-sulfa, a cure may be reached.

Pigeon Paramyxovirus Type 1

Avian Paramyxovirus Type 1 (PMV-1) is a highly infectious, acute disease in pigeons. This virus infects the lining membranes of the intestinal and respiratory tracts, as well as cells of the nervous system. Signs in the bird include depression, loose droppings, twisted necks, paralysis, and mortality.

As with all viral diseases, there is no specific treatment. Infected birds can only be given supportive care while they are recovering from the disease. Supplementation with vitamins and electrolytes, keeping the birds warm and reducing unnecessary stresses are all good ways to help the bird's immune system fight off the virus and recover from the disease. Control of the disease is through biosecurity (preventing the virus from entering your loft) and vaccination. Vaccine for pigeon PMV-1 contains a killed PMV-1 virus from pigeons. It has been tested and is protective against the disease.

Although the vaccine is an inactivated, oil emulsion product, it can cause problems or not work if it is misused. Since it is a killed product there are no living organisms in the product, so it will not produce PMV-1 disease or bacterial infections. Instead, the vaccine stimulates the immune system to produce protective antibodies to fight off disease if the bird contracts the live virus. When injected into the bird, the body slowly breaks the oil emulsion down over a long period. This slow break down releases virus to the immune system. The oil also stimulates the immune system to produce more antibodies (increased protection) than if the virus was injected alone.

As with all vaccines, always follow the manufacturer's instructions on the storage and proper use of the product. The vaccine should be refrigerated, but not frozen. Both hot and freezing temperatures can cause the oil emulsion to break and fail to produce protection. A broken vaccine will have two layers of fluid in the bottle. There will be a light brown, watery layer on the bottom, with a white, milky layer floating on top. There will be a reaction at the injection site. This reaction is normal and consists of swelling. If you do a post-mortem examination on a vaccinated bird, you will see a yellow, cheesy material that looks like a bacterial or fungal infection at the site of injection. If the birds were vaccinated properly, this material will be sterile. The yellow material is immune cells coming into the area and processing the vaccine to produce antibodies. The vaccine should be injected into the free space under the skin in the

lower part of the neck. If it is injected into the neck muscles or into the skin you will get a very severe reaction and possibly mortality. If the vaccine is injected into the spinal cord, the bird will die within about an hour. There is not much space under the skin and improper injections can easily occur. It is recommended that two people work together when vaccinating to help decrease the chance of improper injection. One person holds the bird while the other injects the vaccine. Care must be taken not to pass through both layers of skin and inject vaccine outside the bird.

A very important fact to remember about oil emulsion vaccines is the problem of self injection. The oil stimulates the immune system of the bird to produce a good antibody response. Although bird species can handle this oil, mammals do not handle the reaction to the oil as well. When oil emulsion vaccines are injected into humans, the reaction from the immune system is very severe. If self injection occurs, you should seek medical attention from a surgeon experienced in the care of hand injuries immediately. Time is extremely important. Do not delay treatment. It is best to use extreme caution when using oil emulsion vaccines to prevent self injuries.

Vaccine should be administered using a new, sterile needle and syringe. Washing and reusing needles and syringes is not a good practice. It will not save you a lot of money and the potential for problems is great. You should use a ½ inch, 20 gauge needle to vaccinate. Remove the vaccine from the refrigerator and allow it to warm to room temperature. Gently shake the vaccine before use. Alcohol should be sprayed on the neck feathers to wet the feathers and help keep them out of the way. Grasp the skin on the mid-line of the back of the neck low, toward the body. Push the needle through the skin into the pocket between the skin and neck muscle (subcutaneous space). There is resistance when the needle goes through the skin and then the needle will slide easily through the skin if you are in the correct space. If you do not feel this difference in resistance, you may be in the skin or muscle. The vaccine should not be injected into the skin or muscle. The needle should be wiped with an alcohol swab between birds. A permanent record of vaccination should be kept, including the serial number of the vaccine.

When a bottle is first opened, you should use the entire contents. It is not recommended to refrigerate the unused portion for later use. To do this, you risk the chance of allowing the vaccine to become contaminated with bacteria and/or fungus. Even if you use a very clean technique and a new sterile needle you can introduce small numbers of bacteria and fungus into the vaccine bottle. When the contaminated vaccine is placed back into the refrigerator, these organisms can multiply and reach high numbers by the time you use the rest of the vaccine. When you inject the old vaccine, you can get severe bacterial or fungal infections at the site of injection.