POST MORTEM TECHNIQUE

Victoria Roberts BVSc MRCVS

Being able to do a simple *post mortem* on poultry which die is a useful aid to knowledge, and may prevent others from dying if the correct treatment can therefore be administered. The same principles apply to chickens, ducks, geese, turkeys, guinea fowl, pheasants, peacocks and quail.

Essential equipment: facial mask, rubber gloves, newspaper, sharp knife, strong scissors, good light.
Optional equipment: camera or smart phone.

Lay the corpse on its back, tail towards you, wings and legs extended sideways, on a table covered in newspaper, in good light. Don rubber gloves and make a small incision in just the skin of the soft abdomen just above the vent. See Diagrams 1 and 2 for a general idea of the internal anatomy.

Extend the incision carefully to each side of the abdomen. You will find it is very full of intestines and the more observant will see the thin and shiny walls of the air sacs. Split the skin with your fingers or the knife up and over the sternum to the crop area and pull sideways to expose the breast meat. Take the scissors and cut carefully along the sternum side of the ribs on the right hand side of the bird as you see it, towards the head until you reach the coracoid, the main bone supporting the wings. Cut through this. Repeat this on the left side.

Place your right thumb (if right handed) under the edge of the sternum closest to you and pull the sternum steadily towards the head, holding down the lower abdomen with your left hand. If you have made the side cuts correctly, this pull should not need too much strength and the sternum is left vertical.

The bird should now look like Diagram 3 with all the organs exposed. The table below will tell you what is normal and what is abnormal. Unless normal is known, nothing else can be deduced. Once the intestines and liver have been inspected, remove them and place on one side. Under the intestines is the oviduct and ovary or testes. Under these are the paired kidneys. The main leg nerves can be seen if the inner thigh muscle is carefully pared away close to the body. The lungs are fixed to the spine. If you suspect a problem further towards the head, remove the heart and split the trachea with the scissors all the way to the beak, inspecting the crop contents as well. If cause of death is suspected vermin, look under the skin and on the muscles for bruising.

There are now many laboratories which know about birds and can search for bacteria and internal parasites. Consult the technicians if you wish to submit samples as there are protocols to be observed. A bacterial infection of the liver is likely if it is discoloured and if it has circular blotches, suspect blackhead, especially in turkeys. If the lungs are grey, suspect aspergillosis. Intestinal worms can sometimes be seen with the naked eye. The camera is for recording interesting conditions, digital images can be swiftly emailed to an expert for their opinion.

Normal	**Abnormal**
Skin and muscles: no bruising	Bruising
Intestines: thin walled, grey/green in colour	Purple, enlarged, sloppy
Caeca: blind ended, squishy	Thin walled, purple
Gizzard: hard, shiny, purple, yellow lining	Soft, small, no lining
Proventriculus: soft, smooth, mucus inside	Thin walls, enlarged, sloppy
Liver: shiny, dark purple, smooth	Blotched, spotty, discoloured
Spleen: light purple, smooth, round, marble size	Blotched, enlarged
Heart: covered in whitish sac	Much fluid within sac
Oviduct: thin tube	Thickened walls, enlarged, full
Ovary: many yolks graded in size	No yolks
Testes: smooth, cream coloured	None, lumpy
Kidneys: long, dark purple, lumpy	Enlarged, pale
Nerves: white, smooth, flat	Enlarged, lumpy
Lungs: bright pink, frothy	Grey
Trachea: smooth inside, little mucus	Red gapeworm, much mucus
Crop: thin walled, dry inside	Sloppy, putrid

Table 1: Normal and abnormal internal organs of poultry

It is important to work through the whole process. You may find one thing wrong and think that was the cause of death, but it may not have been. Anything abnormal which was unlikely to have killed the bird is known as an incidental finding. There may have been more than one cause of death. Also, it is possible for all the organs to look normal, but the bird is still dead – known as a healthy corpse! There are several changes which always occur after death, so try and use a fresh corpse to minimise these and not confuse yourself (roadkill is useful to practise on).

Dispose of the corpse legally when you have finished. Do not be tempted to eat a bird which has not been killed for the purpose.

This *post mortem* of poultry is a simple technique which can be performed by anyone and should further your knowledge of your birds.

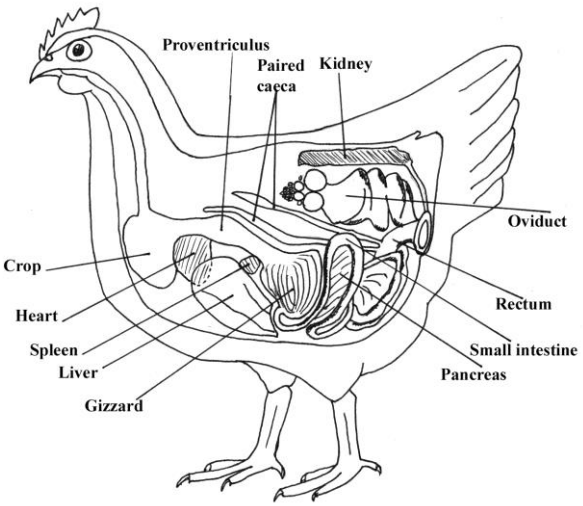


Diagram 1: Digestive system and internal organs. Drawn by Victoria Roberts and taken from her book *Diseases of Free-Range Poultry*, Whittet 2009, by kind permission of the publisher.

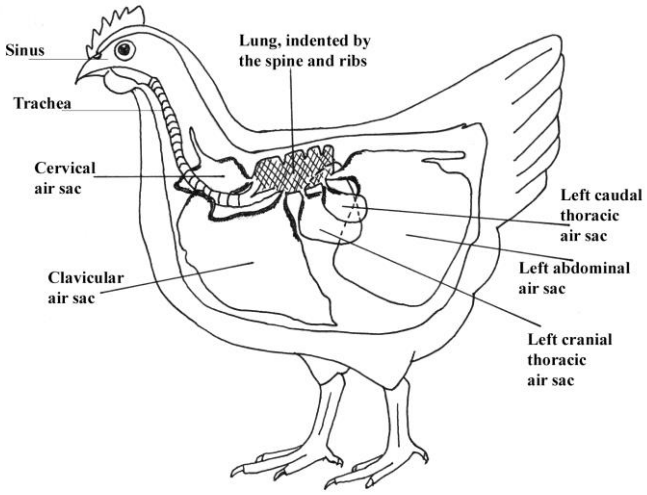
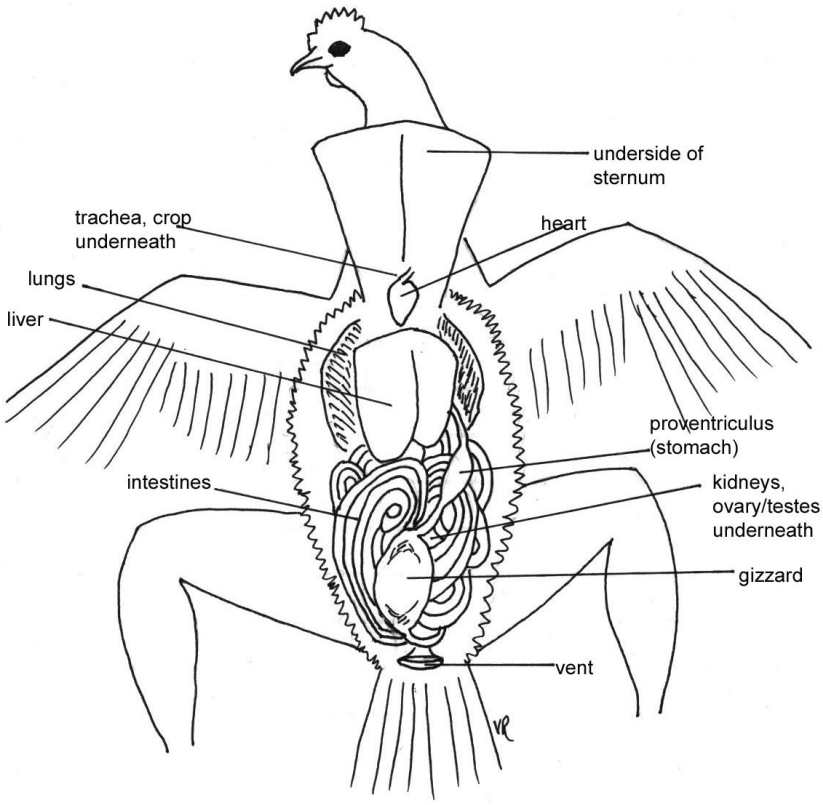


Diagram 2: Left lung and air sacs. Drawn by Victoria Roberts and taken from her book *Diseases of Free-Range Poultry*, Whittet 2009, by kind permission of the publisher.



Post mortem view: Drawn by Victoria Roberts