

# The Five Minute Postmortem — A Simple Approach to Field Diagnosis

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Performing a thorough postmortem in the field requires following some methodical approach, ensuring that no organ system or portion of the animal is left unexamined. Few instruments or tools are required to perform a necropsy (Table 1) and the procedure should be complete in 10 - 15 minutes.

Table 1. Necropsy Equipment

Axe	Buffered formalin
Knife	Heavy gloves
Steel	OB suit
Formalin cups	Strong back

Identification of the animal and noting any abnormal findings on the external carcass is the first observation one should make. By entering the carcass on the right side the rumen can be avoided. Any abnormal findings including epistaxis, diarrhea, hyperemic conjunctiva, excessive salivation, etc, should be duly noted. External orifices including the mouth and tongue should be examined at this time. To open the carcass, a ventral midline incision using a sharp knife should be made from the jaw extending caudally to the rectum. Note that rendering companies become reluctant to pick up carcasses if the hide is excessively damaged. Using the forelimbs for leverage, the skin from the neck to the mid thoracic and abdominal region should be reflected toward the dorsal part of the carcass. Continuing caudally, the hind limb should be used for leverage allowing exposure of the coxofemoral joint. Once exposed, it can be excised thereby releasing the limb from the carcass and allowing it also to be reflected dorsally.

Using the axe, the rib cage may be removed by making precise incisions in the sternum cartilage and following a line along the dorsal attachment of the ribs to the spinal

cord. After cutting the diaphragm with the knife, the rib cage can be easily removed exposing the thoracic cavity. The abdominal body wall and all major body systems are now exposed for examination. It is important at this point to systematically examine the carcass internally. Initially, the "pluck" should be removed. This includes the larynx, esophagus, trachea, lung, heart, pericardial sac and associated lymph nodes. Each of these may be individually examined. Moving caudally, the following organs and organ systems are examined:

1. Liver and posterior vena cava
2. Forestomachs
3. Intestinal tract
4. Kidney and Urogenital system
5. Musculoskeletal system including joints

The brain can be easily removed by removing the top of the cranium using the axe. An imaginary line is drawn from the occipital area over the orbit of the eye, extending toward the nares. If reasonable care is taken with the axe, following this line will allow removal of the cranium without damaging the brain and brainstem. Care should be taken not to cut too deeply with the axe, but rather just loosen the cranium. It can then be easily peeled off.

In conclusion, the field postmortem is relatively simple and does not require much time to complete. If a comprehensive postmortem is done, a tentative diagnosis can be made in the majority of cases. A common mistake veterinarians make is to not completely open the carcass but rather take the "window" approach and only peer into the carcass where they feel pathology may exist. As one of our esteemed university professors has remarked: "Practicing veterinarians will make far more mistakes in an examination by not looking than not knowing".

## Bovine Spongiform Encephalopathy in the UK: An Update

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Bovine Spongiform Encephalopathy, BSE, was first diagnosed in England in November 1986. It is a slow disease and the incubation period varies between two and

five years, and so mainly affects cows. It is suspected that the disease is caused by a Scrapie like virus. As with other spongiform encephalopathies, the outcome is invariably

fatal. In June 1988, the disease was made notifiable. This requires any farmer suspecting an animal with BSE to report this fact to the Ministry of Agriculture.

Clinical symptoms are variable but progressive. The first noticeable sign is weight loss and a drop in milk yield. The animal becomes apprehensive starting off being last to enter the parlour, then totally refusing to enter the parlour, or to cross doorways. Animals may then start kicking on handling. Production loss is due to the animal being nervous so that feed intake is reduced. Muscle tremors are also evident.

As the disease progresses a characteristic high stepping hind leg gait becomes evident. Animals are reluctant to walk on concrete as they tend to slip and fall down, and may scramble across the yard on all fours in an attempt to get up. Animals may become very aggressive if cornered. Finally the animals become ataxic, recumbent and eventually die.

Symptoms can develop over a period of days or weeks. Many cases are seen shortly after calving, as dry cows are not observed for long periods of time and signs of the disease are easily missed. Differential diagnosis includes hypomagnesemia, nervous acetonemia and listeriosis. Blood magnesium levels are used to differentiate hypomagnesemia from BSE.

A Ministry veterinarian will examine all reported suspect animals, and if BSE is diagnosed clinically the animal is euthanized with xylazine and pentobarbitone. The head of the animal is removed and sent to the State Veterinary Laboratory for disease confirmation by histological examination of the cerebral cortex where there is a characteristic vacuolation of the medulla.

The remainder of the carcass is removed and incinerated. The accuracy of clinical diagnosis, as confirmed by

histological examination is 87%. Compensation is paid by the Ministry of Agriculture up to an agreed maximum based on average market prices and the condition of the affected animal.

BSE has also been diagnosed in Ireland, Switzerland, France and Sultanate of Oman. In Ireland, once BSE has been diagnosed, the entire herd is slaughtered and compensation paid.

To date, over 36,000 cases of BSE have been confirmed on 13,463 farms in England and Wales. The incidence is somewhat sporadic with some farms unaffected, whereas others have been severely affected. Table 1 shows the disease incidence since 1988. It is expected that the number of confirmed cases for 1991 will be double that of 1990, resulting in one percent of the national dairy herd in England and Wales being slaughtered.

Table 1. Summary of BSE Reports From June 1988 to December 1990

	1988	1989	1990
Reports	2517	8446	17326
Slaughtered	2377	8056	16635
Confirmed	2185	7136	14161

**It is suspected that BSE was transmitted through feeding ruminant proteins back to cattle. This feeding practice has been banned since August 1988. There have only been two cases of BSE confirmed in cattle born after this ban was introduced. One of these cases was due to the feeding of old "contaminated" feed, and the other case as yet is unexplained. The incidence of BSE is expected to peak in mid 1992.**

## Herd Health for the Beef Cattle Operation!

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To be able to use herd health programs effectively, they must be SIMPLE & FIT the cattle OPERATION. How do we keep herd (animal) health simple? Know what a HEALTHY HERD is! A healthy herd exists when the RESISTANCE LEVEL of the animals remain above the DISEASE CHALLENGE LEVEL.

If these levels intercept, for any reason, sickness occurs; if the resistance level drops to below the disease chal-

