

The Basic Clinical Exam: Key to Early Identification of Sick Animals

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Finding and treating sick animals early is the key to maintaining a safe, nutritious food supply. On dairies, this begins with a basic physical exam of the cow. Frequently a staff member, trained by the herd veterinarian, identifies cows that appear abnormal and conducts a basic exam.

The goals of a *Physical Exam Program* include:

1. Identify sick cows early,
2. Treat sick cows early,
3. Prevent spread of diseases,
4. Protect the food supply, and
5. Improve animal welfare.

Besides these common goals, dairy employees may be the first to see abnormal symptoms that may indicate a foreign or emerging disease. Anytime unfamiliar symptoms are seen, the herd owner, veterinarian or manager should be notified.

To conduct a basic physical exam, learn the normal characteristics of a cow. For example, the cow's normal heart rate is 60-70 beats per minute; respiration rate is 30 breaths per minute; temperature is 101.5 to 102 °F; and rumen contractions occur once or twice per minute.



Figure 1: Use a stethoscope to check heart, lungs and rumen for abnormalities.

Once you determine that a cow is “abnormal”, use your powers of observation to determine what the problem is. Some potential disorders include: ketosis (urine or milk analysis), displaced abomasum (DA), mastitis, metritis and endometritis, lameness (feet and legs), lesions (mouth, feet, or teats), other common diseases (IBR, BVD, leptosporosis, PI₃, etc.), and unusual symptoms that could indicate foreign or new diseases.

Grouping of Animals

Depending upon the dairy there are a number of different groups of animals that require differing amounts of attention. Typically, calving and recently calved or “fresh” cows receive the most attention on dairies. Today many dairies conduct a brief physical exam on every cow for the first ten days after they calve.

After the initial intense observation, most animals enter the lactating pens, where they continue to be observed on a daily basis for abnormal behavior. If any abnormal signs are detected, these “non-stressed” animals will then be evaluated further.

Each dairy has its own guidelines for isolating and monitoring recently purchased animals as well as those that have undergone some type of stress. Increased monitoring and evaluation are indicated whenever an animal is subject to a stressor. Some common stressors include: weaning, weather changes, pen moves, and other management changes.

Whether the stress comes from metabolic stress, grouping changes, heat stress, overcrowding or unsanitary conditions; the cow uses more and more of her resources to deal with the stress. As a result there are decreasing resources for her to use for production. As these multiple stressors are stacked upon each other, the cow finally reaches a breaking point where she becomes ill. Fresh cows are even more susceptible to disease because their immune system is depressed. This makes them more likely to be infected by disease causing organisms such as salmonella, clostridium, and pneumonia.

Identifying Diseases

For daily monitoring, focus your attention on four main areas:

1. Temperature,
2. Appetite,
3. Uterine discharge (particularly fresh cows), and
4. Hydration status.

Develop a systematic approach to check the following:

- ✓ Attitude - Look at the eyes and ears. Sunken eyes and droopy ears indicate a sign of something wrong. Sick cows typically seek solitude, lie down in corners of the corral and move slower with less energy than healthy cows. Grade her as alert, mildly depressed or depressed.

- ✓ Appetite – Watch for cows that don't come up to the feed bunk to eat. Look at how much of the feed in front of a cow was eaten. Compare her to herd mates in the same pen. Grade her as aggressive, normal or not eating.
- ✓ General Appearance – Panting and excessive salivation can be signs of the animal not feeling well. Compare her behavior to other animals.
- ✓ Hydration - Use a skin test to check for hydration. Look at her eyes, if they are sunken she is dehydrated.
- ✓ Temperature - Digital thermometers provide rapid readings. In most herds, temperatures between 101 and 103 °F are considered normal. Temperatures less than 100 °F are too low and over 103 °F are too high. These values may be adjusted for particular conditions, such as summer heat stress. The first 10 days after calving is particularly critical. Frequently, temperatures are taken daily for these animals. Temperature increases can be the first sign of illness such as metritis, mastitis, or pneumonia. Cows with milk fever, DA, ketosis, or indigestion may have abnormally low temperatures.
- ✓ Feet and Legs - Look to see if the cow is standing and walking normally, if not identify the cause. Check for lesions. Hoof warts occur frequently. If you don't recognize the lesion, contact the herd owner, veterinarian or manager as this could be a sign of Foot and Mouth Disease, which is a highly contagious, reportable disease.
- ✓ Udder - Check the udder for abnormal signs. Swelling indicates the cow may have mastitis or it could be udder edema in cows that recently calved. Lesions on the udder again need to be identified and the herd owner or veterinarian should diagnose what they are. Examine the teats for lesions. Tell the herd owner or veterinarian about blister like lesions.

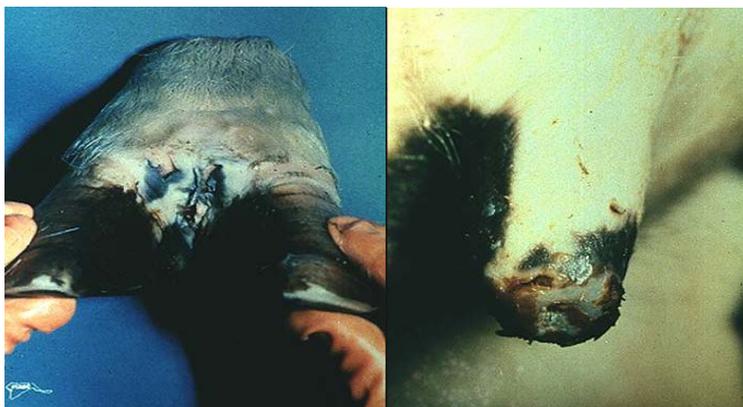


Figure 2: Look for abnormal lesions between the toes or on the teats, which might indicate Foot and Mouth Disease (Photos courtesy of Dr. Moeller).

- ✓ Uterus - Particularly for fresh cows, check to see if there are visible signs of discharge. Some discharge, called lochia, is common immediately after calving. Investigate the cause of any foul smelling discharge, an indication of a problem. Follow standard protocols for cows with abnormal discharge.
- ✓ Heart Rate - Determine the heart rate by using a stethoscope. Check both sides and listen for sounds that could indicate a heart murmur.
- ✓ Lungs - Check the respiration rate and listen for signs of congestion that might indicate the cow has pneumonia. Observe for nasal discharges or coughing.
- ✓ Rumen - Determine the number of contractions per minute. Look for abdominal distension or bloating.
- ✓ Manure - Look at the manure and decide if it is similar in appearance to that of other animals in the group. Cows that have diarrhea may be infected with salmonella, E. coli, or Johne's.

Record the disease diagnosis and treatment for each cow. At a minimum these records should include the date, cow identification, symptoms, diagnosis and treatment. Follow set protocols for treatment developed by the herd veterinarian. If antibiotics are necessary, follow withdrawal times for both milk and meat.

Do not stop the clinical exam at the first findings – you can miss other signs of disease. Try to associate all normal and abnormal signs found during the exam with common diseases. If you don't recognize something talk to your supervisor and/or herd veterinarian immediately. Follow the treatment indicated in the dairy's protocols for each specific illness. In case of no response to treatment – contact your supervisor immediately.

Events	Items1	Items2	TestDays	PrevLacts	Lactation
PEN	12	DIM	275	DSLH	113
LACT	1	DCC	113	DWBUL	154
XMAST	0	DUE	9/17/08	305ME	33180
BPWTH	8/ 3/07	RPRO	PREG	TBRD	2
				AGE	2-7
7/ 3/07	FRESH	H		10/16/07	PREG 36 DAYS
7/12/07				11/ 1/07	BULLPEN
8/10/07	LUT			11/27/07	ABORT 11/27/07
8/19/07	HEAT			12/12/07	BRED BULL P 0
8/24/07	LUT			1/21/08	PREG 40 DAYS
9/ 4/07	GNRH	ENROLL		1/21/08	BLDYMLK LR
9/10/07	BRED	11H7646	A 8	2/11/08	PREG 61 DAYS
9/20/07	BST				

Figure 3: Keep records of illness, treatment, and other events on each individual cow.

Keeping cows healthy goes beyond routine physical exams. Proper nutrition throughout the animal's life is needed to maintain her immune system. Nutrition from the close-up period immediately before calving through early lactation is particularly important. Providing early assistance in calving, if needed, is critical. Also providing a clean, comfortable environment helps minimize disease. Keeping cows standing for at least 30 minutes after milking by providing fresh feed can reduce mastitis by allowing time for the teat sphincter to close.

Routine evaluation of the cows in a herd with the basic physical exam helps identify sick animals early so that they can be treated. When treatment is needed, follow herd specific protocols and adhere to the label for meat and milk withdrawal periods.

Abnormal symptoms, which could indicate a new disease in the herd, should be reported to the herd owner, veterinarian or manager immediately. These new diseases could be a foreign or emerging disease. Rapid identification is the key to preventing spread of these diseases.

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