

Basic Cow Physical Exam: *Performing the bovine RUMBA*

Modified from Dairy Cattle Husbandry 302 <http://dairynutrient.wisc.edu/302/page.php?id=28> SMP 9/7/2010

Below are the major steps for performing a basic adult cow physical exam and provides examples of questions to ask with the reason for asking them. Use this sheet to practice the basic physical exam and diagnostic process.

Item	Y/N	- Ok +	Information Use
1 - History			
How long has she been sick?			Is this a sudden and severe (acute) or is this a "slow and progressive" (chronic) disease?
Is she the only one sick?			An individual cow problem vs. herd problem?
Date of calving / DIM?			<30 DIM disorders → RP, hypocalcemia, ketosis, mastitis, metritis, indigestion, DA, etc. > 30 DIM infection diseases → pneumonia, BVD, IBR, etc.
Vaccination history? Herd disease history			Helps rule-out diseases that were vaccinated against
Parity / Age ?			Parity > 1 = higher risk of milk fever & other metabolic diseases
Treatment received, if any?			Allergic reaction to a drug or its carrier?
How has she been eating lately? DMI = "dry matter intake			How much effort did she make to eat compared to penmates? Partial drop in DMI → Ketosis or milk fever, DA? Not eating at all → severe DA volvulus, TRP, peritonitis? Erratic or aberrant intake pattern → sign of pain

2 – GENERAL VISUAL APPEARANCE			
Haircoat and abdominal fill			Clean vs. soiled, off color, patchy; normal vs. distended or gaunt
BCS (Body Condition Score)			Excessively fat → Ketosis, "fatty" liver Excessively thin → chronic condition
Abdominal conformation from behind			"Papple", gaunt, bloated, fluid filled abdomen, "pregnancy"
Alertness, ear and head position			Ears down and dull → Not feeling good
Abnormal nose, eye, or vaginal discharges			Infectious condition or irritation
Skin lumps, bumps or sores			SQ abscess, lymphoma, or parasite?

3 - MUSCULAR-SKELETAL			
Uneven weight distribution on feet			→ Hoof, foot or leg problems
Arched back when standing or walking			→ foot problems, such as laminitis due to previous acidosis

4 - TPR (Temperature Pulse Respiration)			
Temp (100 - 102)			Low grade temp (102-103.5) → chronic inflammation due to mastitis, peritonitis, metritis, etc. High fever (temp > 104) → acute peritonitis, pneumonia or mastitis, metritis
Respiration rate (12-36 breath/min)			Pneumonia - choppy, forced breathing with high temp.
Heart rate (60-70 beat/min)			Listen for heart murmur, look for jugular pulse

5 - LEFT SIDE EXAM			
Breathing (see above)			Breathing should appear effortless when standing calmly
Ping test in broad quadrants/slosh			Positive test → Left DA (not as critical as right DA)
Rumen contraction 3/2 min (1-2/min)			No contraction → pain, acidosis, hypocalcemia
Rumen feel (doughy, gas)			Distinct liquid, solid and gas layers → healthy rumen function.

6 - UDDER			
Red, swollen, painful and hot quarter			→ Acute mastitis

Cold and hard quarter			→ Gangrene
Milk appearance			Watery, garget (clots) → clinical mastitis
CMT (California Mastitis Test)			Positive test → Subclinical or clinical mastitis

7- RIGHT SIDE EXAM

Ping test in narrow center quadrant (Rib cage area) and fluid slosh			Positive test → Right DA (surgical emergency)
Ping test in para-lumbar fossa			Positive test → Cecal or colonic gas (indigestion)
Wither pinch			Positive test → Hardware disease , pleuritis, renal pain
Left and right Xyphoid test			TRP or Abomasal ulcer

8 - HEAD AND NECK

Sunken eyes			→ Dehydration and / or pain
Vision, normal/abnormal globe			Visual pathway
Mucus membranes			Color –pink, icterus, pale, muddy, injected
Teeth grinding			→ Acute pain
Licking, compulsive chewing			→ Nervous ketosis
Nostril discharge			→ Respiratory diseases (IBR, Pneum.)
Lymph nodes			→ Chronic infection
Lump on jaw (Bottle Jaw) midline verse asymmetrical			→ Congestive heart failure, kidney disorder or infection, hypoalbuminemia
Droopy ears (and arched back)			→ Acute pain
Cold ears			→ Confirm milk fever, indicates hypocalcemia

9- MUCUS MEMBRANES

Color			Pink, icterus, muddy
Moisture			Normal moist, tacky - dehydration
Vaginal or prepuce			Color, odor, prolapse

10 – MANURE / RECTAL / UTERINE EXAM

Amount of feces			No feces → Intestinal, cecal obstruction / twist
Firm feces to constipation			→ Low intake / High fiber, ketosis, lead poisoning
Slimy & NH3 smell / abundant urine			→ High protein diet
Watery (diarrhea)			→ Rumen acidosis / Poisoning / Infections
Watery and smelly with elevated Temp			Salmonella, dysentery, BVD infections
Fecal blood – “tarry” (brown/black)			→ Coagulated blood from upper gi tract infection/ulcer
Fecal blood – “Red”			→ Frank hemorrhage - rectal or colonic bleeding
Rectal palpation - Pelvic canal and repro tract, rumen, intestines and left kidney			→ Ovarian cyst, pregnancy (test), confirm a right DA, metritis

11 - URINE

Keto stick			If purple → Ketosis
Ph measurement			Anionic balance
Urine character – clear, yellow?			Abnormal color, debris, blood, consider reproductive tract

12 – SAMPLING for further CULTURE and DIAGNOSTIC TESTS

Milk			→ Strep., Staph., coliform or Mycoplasma species
Milk Urea Nitrogen			→ Excess crude protein in ration
Inversion of milk fat to protein ratio			Combined with other signs → Rumen acidosis
Feces			→ Johnes’ disease
Urine			→ Bladder infection
Blood			→ Serum protein, mineral profile, NEFA
Nasal swab			→ IBR

Common disorders that you are well on your way to diagnosing after completing the above steps:

- Ketosis
- Pneumonia (respiratory infection)
- Hardware disease
- Milk fever (hypocalcemia)
- Metritis
- Acute or chronic mastitis
- Right Displaced Abomasum (emergency)
- Acute or subacute rumen acidosis
- Laminitis
- Any combination of the above disorders