



# **Identification and Management of At-Risk Pre-fresh Cows**



# **IDENTIFYING RISK FACTORS**

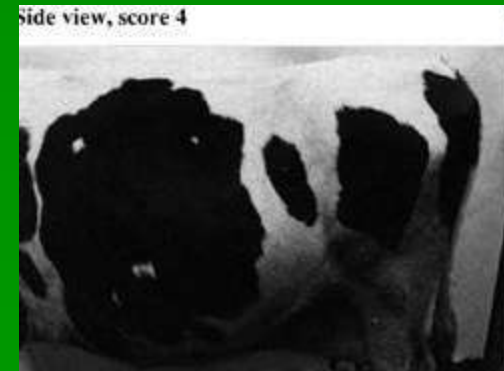
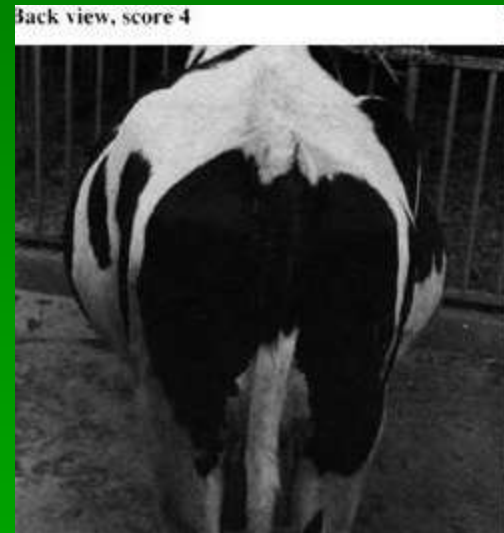
# OBSERVE THE GROUP

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- Overcrowding
- Stall comfort
- Bunk space
- Floor surface
- Water availability
- Group/Pen moves

# OBSERVE THE COW

- Body condition
- Lameness



# REVIEW COW HISTORY

- Previous pre-calving issues?
  - Calving problems
  - Milk fever
  - Ketosis
  - RP
  - DA
  - Mastitis

# REVIEW COW HISTORY

- Previous DHIA history
- Last lactation SCC
- Dry-off SCC



# **INDIVIDUAL COW EVALUATION**

# Steps toward identification

- Visual observation
  - Overweight, lame
  - Sunken eyes, not chewing cud
- Physical Exam
  - Take her temperature!!
    - If fever  $>102.5$  rule out mastitis, pneumonia, enteritis



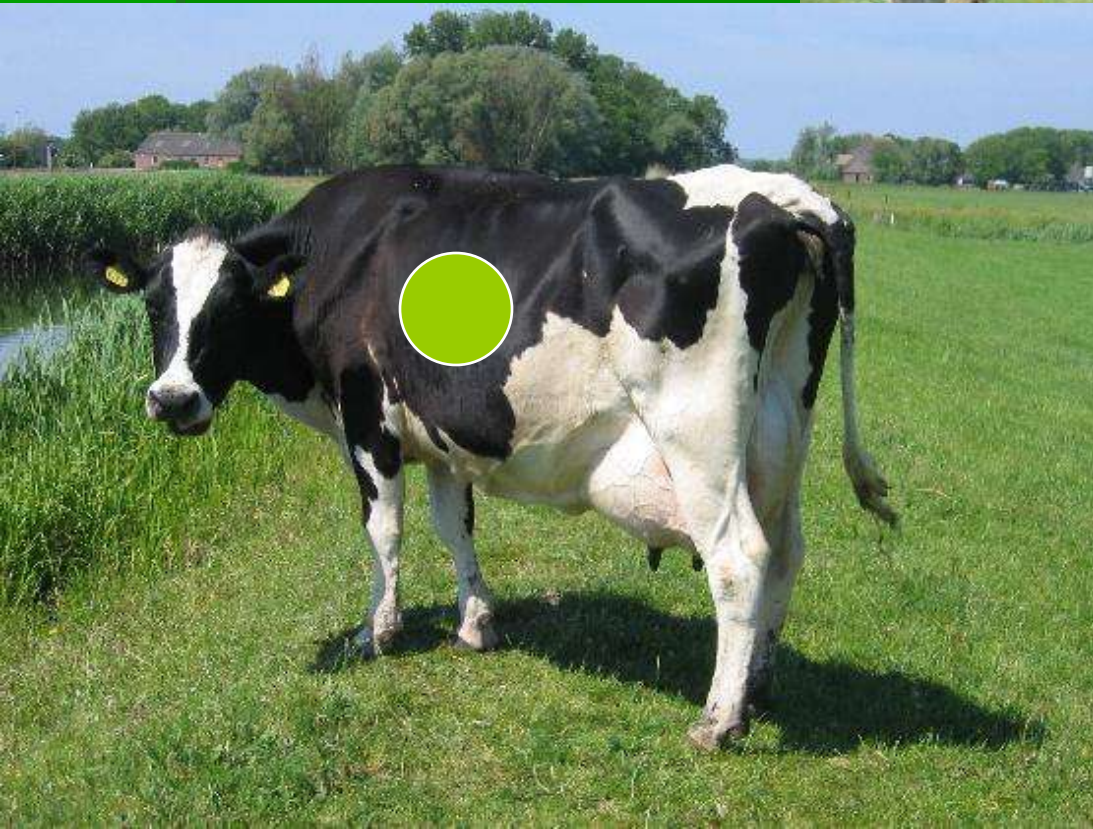
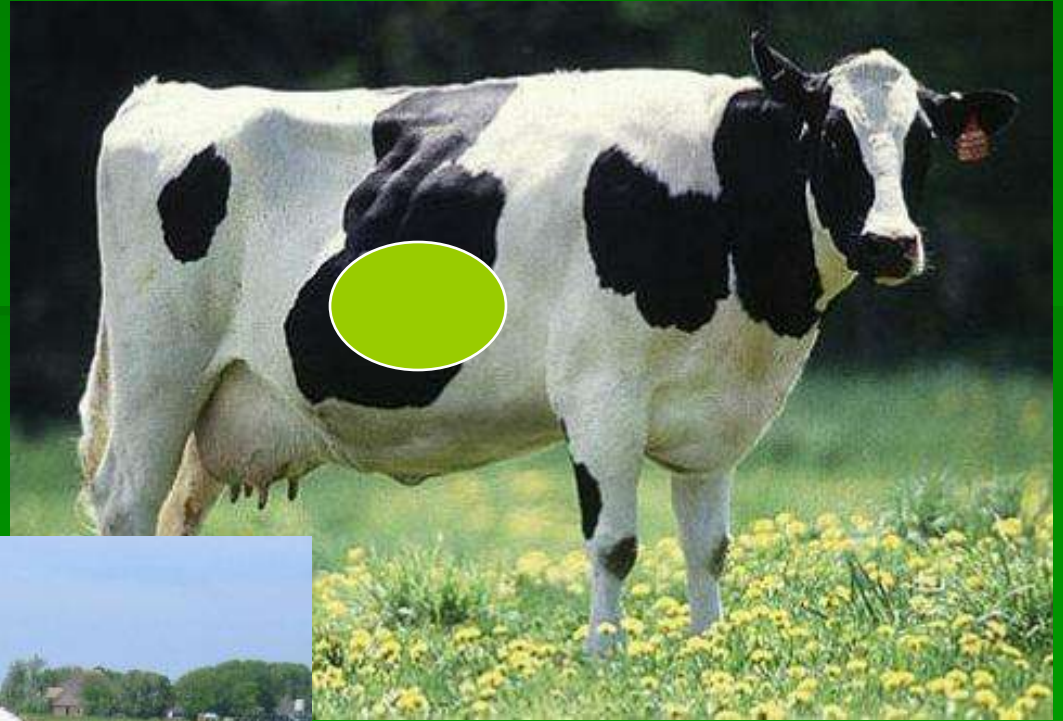


# Physical exam

- Listen
  - Rumen turning over?
    - >3 think indigestion
    - <1 hypocalcemia, ulcer, surgical abdomen?
  - DA pings
    - Left vs. Right
  - Lung sounds/rate of breathing
    - Normal is 10-30 per minute
  - Heart rate/sounds
    - Clear, strong, beating 40-80 bpm



Right DA →



←Left DA

# Physical exam

- Rectal exam:
  - Consistency of manure
  - Fetus position/rule out torsion
- Check for ketosis
  - DA? NEB?
- Dehydration score:
  - Sunken eyes
  - Skin tent

# Assessing Dehydration

	<b>Skin Tent</b>	<b>Eye Position</b>	<b>Mucous Membrane s</b>
<b>Mild (4-7%)</b>	Slightly Prolonged (2-3 sec)	Slightly recessed	Moist, shiny, not tacky
<b>Moderate (8-10%)</b>	Prolonged (3-6 sec)	Obviously sunken	Dull and tacky
<b>Severe (&gt;10%)</b>	VERY prolonged (>6 sec)	Severely sunken	Dry surface

# Pre-calving exam

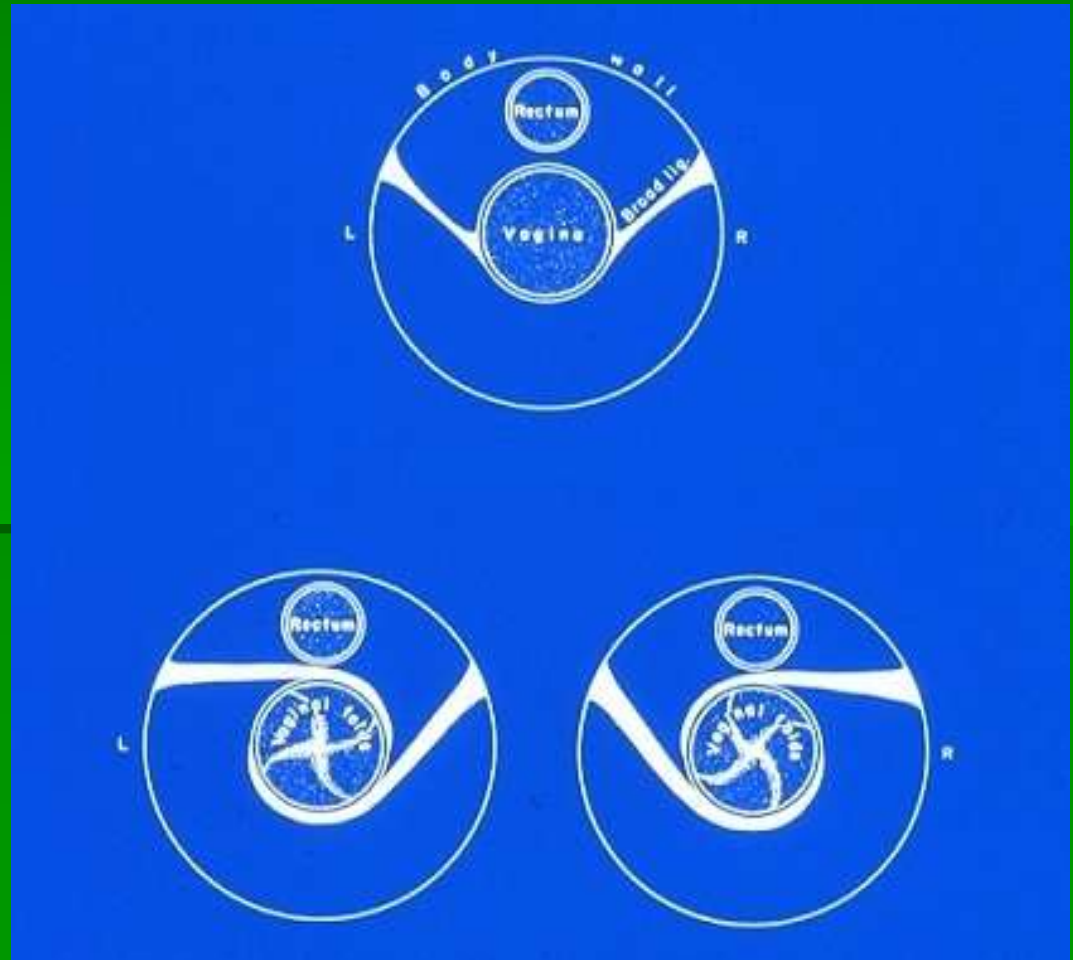
- MUST do if:
  - Placenta or blood is present prior to calving
  - If cow has been calving for hours with no sign of progress
- Clean vulva with soapy water, insert sleeved arm vaginally
  - Feel for amount of cervical dilation
  - Take note of calf position/viability
  - Identify if uterine torsion present

# Identifying uterine torsions

- Visual signs (may not be present!)
  - Straining, acting painful, no progress calving
- Vaginal exam
  - Feel vaginal folds twisting
  - May or may not feel cervix or calf
- Rectal exam (definitive ID)
  - Feel broad ligament stretched across where you would normally feel for the calf



# Uterine torsion



# **MANAGEMENT & TREATMENT**



# “Milk Fever”/Down Cows

- Check for predisposing factors
  - Calving issues
    - uterine torsion, twins
  - Systemic disease
    - mastitis, pneumonia, hemorrhagic bowel syndrome
  - Injury, Cancer
- Milk Fever Stages
  - STAGE 1: able to stand, mild ataxia, tremors, restlessness, feet shuffling
  - STAGE 2: unable to stand but able to stay sternal, low body temp, cold extremities, S-shaped curve to neck
  - STAGE 3: unresponsive to stimuli, lose consciousness, unable to stay sternal, bloat, coma, death



# “Milk Fever”/Down Cows

- If Down:
  - IV Calcium products
- If Standing:
  - SQ Calcium
  - Fresh cow pump mix
  - Calcium tube products
- Follow-up
  - Cow up and eating
    - Continue calcium therapy through calving
  - Cow does not get up or is refractory to treatment
    - Call veterinarian for further evaluation and treatment

# Ketosis

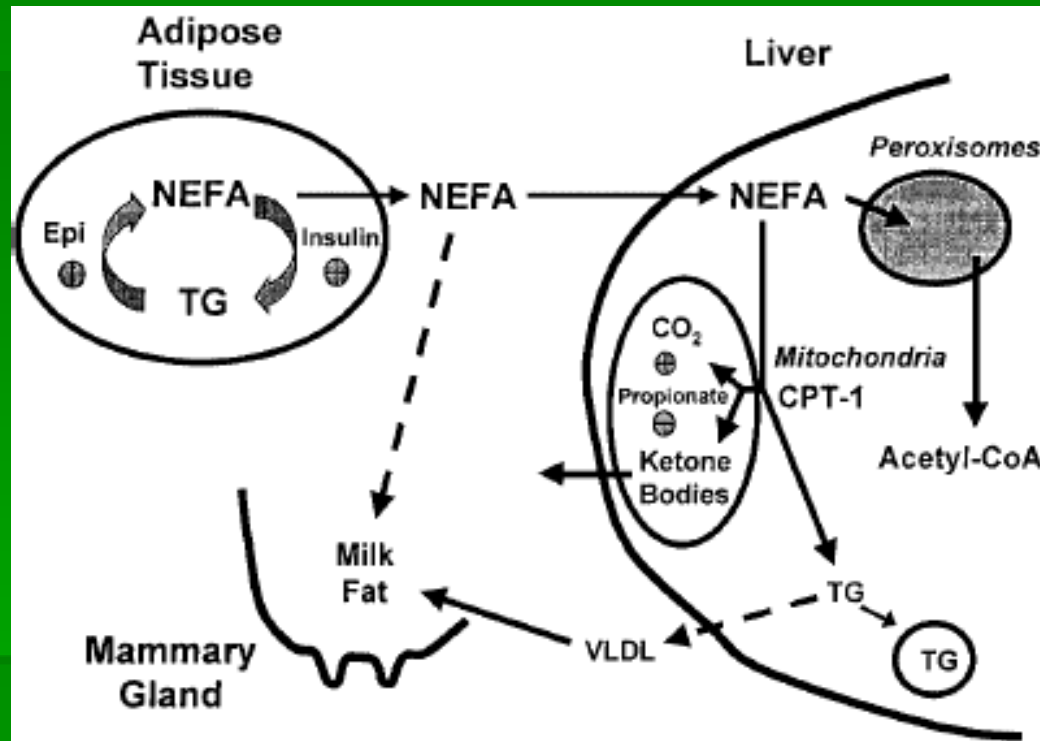


Figure 2. Schematic representation of relationships among lipid metabolism in adipose tissue, liver, and mammary gland. Plus signs (+) indicate stimulatory effects, minus signs (-) indicate inhibitory effects. Dashed lines indicate processes that occur at low rates or only during certain physiological states. Abbreviations: epi = epinephrine, TG = triglyceride, VLDL = very-low-density lipoproteins, CPT-1 = carnitine palmitoyltransferase 1.

# Type II Ketosis/Fatty Liver

- BCS > 3.8 = at risk
- Ketosis (urine, BHBA)
- Decreased feed intake
- Dullness
- Stiff manure
- Absence of fever
- Rule out displaced abomasum
- Rule out primary illnesses (i.e. mastitis, pneumonia)



# Type II Ketosis/Fatty Liver

- Supportive care
  - Pumping
  - Probiotics
  - Propylene glycol drench
  - IV Dexelytes + B Vitamins
- Treatment of primary disease
- Surgical correction of DA
- Induction of calving
  - Twins

**Get her to eat!**

# Diarrhea



[www.johnes.org/gif/photos-beef/Diarrhea-Ig.jpg](http://www.johnes.org/gif/photos-beef/Diarrhea-Ig.jpg)

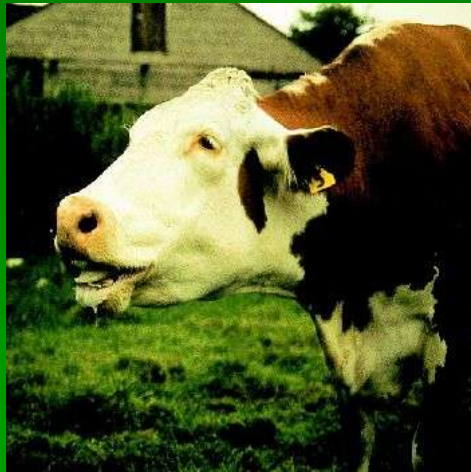
- Rule out primary cause
  - Feed-related
  - Infectious- Salmonella, Clostridium
  - Johne's disease
  - Parasites
- If fever present, take sample to test for Salmonella
- If otherwise healthy, but diarrhea irresolvable consider Johne's disease testing
- Probiotics/Biomas
- Supportive fluid therapy!
  - Hypertonic saline
  - Oral electrolytes
- Anti-inflammatories
- If Salmonella suspected
  - Antibiotics:
    - Ceftiofur 2x dose
  - Vaccination (SRP)
- If Clostridial disease suspected
  - Antibiotic:
    - Penicillin
  - Vaccination - antitoxin

# Oral electrolytes

- Fresh Cow Pump Mix
  - Calcium propionate
  - Magnesium sulfate
  - Sodium phosphate
  - Potassium chloride
- Polylites IV
  - Dextrose
  - Sodium chloride
  - Sodium citrate
  - Potassium chloride
  - Calcium lactate
  - Magnesium
- Propylene Glycol
- Glycerol



# Pneumonia



Severe respiratory distress in a cow with atypical pneumonia. By permission from Blowey RW, Weaver AD, Diseases and Disorders of Cattle, Mosby, 1997

- Signs/Symptoms:
  - Fever
  - Listlessness
  - Nasal discharge
  - Increased respiratory rate/effort
  - Dehydration
  - Stiff movement





# Pneumonia

- Antibiotics
  - Ceftiofur
  - Oxytetracycline
  - Penicillin/Ampicillin
- Anti-inflammatories
  - Banamine IV
- Supportive Fluid Therapy
  - Hypersaline
  - Dexelytes
- Probiotics
- Immune stimulants
  - MuSe
  - Vitamin C



# Mastitis

- Take sterile milk culture
- Treat Intramammary
  - Dependent on: appearance of milk and gland, previous culture results, presence of systemic illness
- Supportive Therapy
  - Fluids:
    - IV Hypersaline, Dexelytes
    - Calcium IV or SQ
    - Oral fluids
  - Anti-inflammatories:
    - Banamine IV
  - Systemic Antibiotic
  - Immune stimulants
    - MuSe
    - Vitamin C

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