Healthy Calves:
Doing Five Things Very Well

1. **Helping the dam grow and deliver a healthy calf.**
2. **Helping the dam produce top quality colostrum.**
3. **Protecting the newborn from pathogens.**
4. **Harvesting clean colostrum and keep it that way.**
5. **Using colostrum to build newborn immunity.**

1. Helping the dam grow and deliver a healthy calf.

- Providing a late lactation ration that avoids excessive conditioning.
- Providing a late gestation first-calf heifer ration that avoids excessive conditioning but adequate protein.
- Considering lactation and frame size, breed dams to bulls most likely to avoid dystocia problems.
- Providing a close-up ration that encourages dams to continue eating adequate amounts the last week before calving.
- Providing adequate space for close-up dams before and during calving (in group housing, pack space and feed bunk space).
- Providing experienced and timely assistance to dams having trouble calving.

2. Helping the dam produce top quality colostrum.

- Providing adequate resting space for close-up dams before calving.
- Providing a close-up ration that encourages dams to continue eating adequate amounts the last 10 days before calving – period of rapid antibody concentration in the udder (colostrogenesis).
- Using a vaccine that best meets the immunity needs of the farm; vaccinate dams long enough before calving to stimulate the production of colostral antibodies before colostrogenesis begins.

- As soon after calving as practical, harvesting the dam's colostrum before the antibody declines. Researchers found that colostrum collected at 6, 10 and 14 hours after calving had 17%, 27% and 33% less antibodies compared to colostrum collected at 2 hours after calving.
- To avoid excessive loss of colostrum by leaking, consider milking the dam as soon after calving as possible. If oxytocin is used to promote uterine involution, consider milking the dam when the oxytocin is administered.

3. Protecting the newborn from pathogens.

- Keeping the calving area as clean as is practical.
- Rinsing feces from the calf's head and mouth during the birthing process.
- Protecting the calf's mouth. The most common route of infection for a newborn calf is "fecal-oral." Once the calf gets up, plan to protect her from manure – on you, on the dam, on the bedding, in the barn, wherever.
- Protecting the calf's navel. Dip as soon as possible after birth with seven percent tincture of iodine (alcohol solution).
- The third most common route of infection for a newborn calf is nasal. The lower the concentration of airborne pathogens the lower the calf's risk of infection.

4. Harvesting clean colostrum and keeping it that way.

- Doing a super job of udder preparation prior to harvesting colostrum. Remember the fresh cow teat routine, "dip, wipe, dip, wipe, scrub."

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- Milking colostrum into a clean, sanitized bucket or container.
- Keeping external contaminants out of the colostrum.
- Feeding colostrum right away. Alternatively, start chilling colostrum immediately after milking it from the dam to get it below 60 degrees within 30 minutes. If an ice bath is not practical, try freezing water in clean plastic bottles and placing them directly into the colostrum. Use by volume 1 part ice to four parts of colostrum. Click HERE for tips on chilling (URL is http://atticacows.com/library/newsletters/ColostrumChillingR19163.pdf)
- Keeping colostrum below 40°F until we are ready to feed it. On the other hand, consider freezing excess amounts that will not be used in 2 days.
- Once warmed for feeding, getting colostrum into calves in less than one-half hour.
- Periodically sampling colostrum as fed to calves. Have it cultured to determine the kinds and quantity of bacteria present.

5. Using colostrum to build newborn immunity.

- Feeding sooner is better.
- Feeding more is better.
- Many antibodies per quart are better.
- Lots of energy and protein in colostrum promote calf health.
- Passive transfer failure: when the calf has too little immunity acquired from colostrum to protect her from pathogens that will make her sick.
- Measuring passive transfer failure – the serum from a 2 to 7 day calf blood sample can be used to measure success/failure of passive transfer.
- Immunity goals are 90% calves above blood serum total protein of 5.2 and 80% calves at 5.5 and above (PDHA 2016 standards).

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