

A Proper Milking Routine: The Key to Quality Milk

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Milk quality is a world wide issue. The consumer has demanded a better quality product so it is the dairy producers and dairy industry's obligation to meet that request. All consumers have choices and if the dairy industry does not meet their needs, they will buy other products.

Milk quality is dependent on three key areas. These areas are the milking routine, the cows and their environment, and the milking equipment. I refer to the interaction of these three areas as the "Mastitis Triangle." A common reason why many milk quality programs fail is people fail to look at all three areas together and all causes of the problems are not identified.

The milking routine is critical to the production of quality milk. People need to clearly understand there is huge economic differences between different regions of the USA so the significance of a quality milk can be different in all these areas. In my opinion, money should not be the driving force to producing quality milk because research has clearly shown herds with lower SCC do make more profit by the production of more milk. Under most circumstances, the milking routine can be the key reason for the production of quality milk. The secret is to make sure every one on the dairy farm clearly understands the importance of a consistent milking routine and implements this routine at every milking. On the vast majority of the dairy farms that I consult with, fine tuning the milking routine is necessary to get to the new level of milk quality every one wants. To have success in changing a milking routine, you have to implement procedures that clearly demonstrate the need for change. When the milkers can clearly understand the need for change, you are much more likely to succeed in the implementation of any change.

When evaluating a dairy during milking, the most important factor that I look for is consistency of the milking routine. Having a milking routine that every one can follow at every milking is very important. Once you have evaluated milking practices long enough to understand their normal routine, the next thing to look for is timing.

Recent studies have clearly demonstrated that regardless of which region of the country a dairy farm operates, there are definite economic benefits to having a good milking routine with the right timing. Their studies showed the ideal lag time from the start of the milking routine to unit attachment was 60 seconds. On many of the dairies I consult at, there is a wide variation in lag time depending on who is doing the milking and many of the cows do not have adequate let down prior to unit attachment. I call this "over milking" at the start of milking. A quick and easy way to determine if the proper lag time has existed is to examine the teats prior to unit attachment. If the teats are swollen with milk, you know the stimulation and lag time is good. When the teats are empty, you know the units are being applied too soon and there is a greater chance of udder health problems and longer milking times. One of the hardest things to accomplish on a dairy is to develop a milking routine that every one understands and can easily follow. Many of the milkers have milked at various other farms and tend to utilize the skills they had acquired from those farms. It is not uncommon to see three or four different routines on each farm. I try to look at the advantages of each routine and then develop a routine that gives the dairy the best of what is already being done and will lead to better milking performance and milk quality.

Every milking routine should start by having the milkers wear milking gloves. In my experience, hands are a common source of bacteria to the cow's udder. Hands are a common source of Staph Aureus which

is a common contagious bacteria affecting most farms. Wearing gloves is important, however, keeping the gloves clean is equally important. Gloves can be cleaned periodically by sticking them in a bucket of warm water and sanitizer or by using automatic faucets to clean them in a parlor. Milking with clean gloves is an important way to reduce the level of mastitis on any dairy operation. If milkers are not using gloves, I feel it is enough of a reason to terminate them from employment.

Every milking routine must properly sanitize the teat skin and teat end. There are many different ways to accomplish this, however, most dairies are now using predip to sanitize the teats. Predipping is an excellent way to control environmental bacteria as well as Staph Aureus, which tends to colonize on the teat skin. In order to make predipping more successful, two things must happen. The predip must cover the entire surface of the teat that will be inside the teat cup during milking and be on the teat long enough to kill the bacteria. My goal is to have 75-90% of the teat surface covered with predip and have it on the teat for a minimum of 20-30 seconds. An easy tool to use to see if teats are getting proper coverage is to use a white paper towel and wrap it around the teat and see how much of the teat has been covered with dip. DO NOT assume the teat has been properly sanitized just because a teat dipper is being used.

In my consultation practice, fore-stripping is a critical step in the production of quality milk. In a recent study done by a national milking machine manufacturer, it was clearly shown that cows that are fore-stripped will have higher flow rates and milk close to one minute faster. In other words, you can spend a few more seconds prepping a cow because the shorter milking time will make up more than that difference. My experiences have shown that herds that fore-strip will have faster milking, lower SCC, and actually get more milk production. Fore-stripping should be done either as the first step prior to predipping or immediately after predipping. The argument for fore-stripping after predipping is the milkers will work the predip into the teat skin and do a better job of cleaning the teats. The only thing that matters to me is to make sure the teats are never fore-stripped after drying because the teats are then re-contaminated with bacteria and the lag time will be too short.

The most important step in both the cleaning and stimulation of the teat is drying. The drying towel removes the most bacteria from the teat and provides extra stimulation to the teats. The secret to successful drying is to make sure the teat end is wiped dry. If the teat end is not properly cleaned, the dairy will have more problems with environmental mastitis. When wiping the teats dry, the milkers must make an actual pass across the teat end. If the milkers wipe the teats dry in a circular motion, it is very easy to wipe the teat ends dry without spending any additional time.

The best way to monitor how good of a job the milkers are doing cleaning the teat ends is to wipe the teat ends with an alcohol pad prior to unit attachment. Often times, the teat walls are very clean, however, the teat end is still covered with manure. The teat end is the most important piece of real estate on any dairy operation.

Once the teats have been properly cleaned, the units need to be put on the teats with as little air admission as possible. The more air that is leaked in during attachment, the more irritation there is to the udder and milk quality can suffer. If properly trained, 95 out of 100 teat should have the teat cups put on without any audible air leaks. I understand this is being picky, however, it does make a difference in the total milk quality program.

After proper unit attachment, every milker needs to take a few seconds and properly align the unit on the udder. The key is to make sure the unit hangs squarely on the udder so liner slip is minimized. Poor unit attachment is a common cause of poor milk outs and liner slip. It doesn't matter if you have a parlor or stanchion barn, unit alignment must be done.

All units need to come off when the cow is done milking. Many dairies are now using automatic take offs (ATO) which have been very beneficial. ATO's bring consistency to milking regardless of who does the milking. The key is to make sure the ATO's are properly set so they come off when the cow is done milking and do not over milk the cows. New studies that are currently being done clearly show the benefits of not over milking cows. The best way for you to evaluate whether cows are being properly milked out is to do strip yields immediately after the cow is milked out. Take a kitchen measuring cup and strip out all the milk left in the udder. If there is less than 250 ml of milk evenly distributed in the udder, the cow is milked out. By doing strip yields, you can also determine when cows are milking out unevenly because many times one quarter has most of the milk left when the unit comes off. When you have done many strip yields, you will find many units don't come off the cow soon enough because there is only 50 to 75 ml of milk left in the udder. The simple task of strip yields can answer many questions.

Once the units are removed from the cow, I would like to see the teats dipped with an effective teat dip. My idea of proper teat dipping is a teat that has 75-90% coverage on the entire teat. Since the milking machine is one of the best washing machine ever built, the teats are bathed with milk during the milking process. In my mind, the key reason to teat dip is to remove the milk film left on the teat after the machine comes off. If milk film is left on the teat, the film will provide food for bacteria to grow especially in facilities with organic bedding. Convincing milkers to slow down and get good coverage is one of the biggest challenges I face. Many people feel that since they are dipping, they must be doing a good job. The secret is not to splash the dip on but to squeeze the dip on getting excellent coverage. Using the white paper towel to check teat coverage is a great tool to show teat coverage with the post dip.

An excellent way to monitor a good milking routine on a dairy is to look at the milk filters after milking. If the filters are dirty, it is clear that teats are not being properly cleaned. If the filters are full of garget, it is clear clinical milk is being missed. If there is lots of bedding on the filter, there may be too many fall offs or teats are not being properly cleaned.

Once the milking routine has been properly evaluated and a new routine has been developed, the new routine should be typed up and a copy given to every employee. Another great practice is to post the milking routine in the parlor or milk house so people are reminded of what is expected from them. I have found the most success in implementing a new milking routine when everyone who milks cows is given a chance to discuss the changes and give their input. Keeping everyone involved is the secret to milk quality success.

A good milking routine is the key factor in the production of quality milk. If the right routine is implemented on any dairy operation, the farm should milk cows faster, get more milk, have better milk quality, and be more profitable.

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[Back to NMC Home Page](#)