

Open Teat Lesions: They are not all Herpes

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Objectives

- Discuss how to score skin condition and open lesions on teats
- Present multiple case studies where open lesions have been a significant problem
- Outline possible prevention steps that can be taken
- Discuss NMC survey on this topic

Teat Skin Condition Scoring

- Primarily focused on the medium to longer term change of teat skin condition
- Recommended to score greater than 20% of the herd representing all lactations and stages of lactation

Meiri, G.A., F. Neijzenhuis, W.F. Morgan, D.J. Reinemann, J.E. Hillerton, J.R. Barnes, I. Olmstead, M.D. Rasmussen, L. Timms, and J.S. Britt. 2001. Evaluation of bovine teat condition in commercial dairy herds: 1. Non-infectious factors. Pages 347-351 In Proceedings of the 2nd International symposium on mastitis and milk quality.

Teat Skin Condition Scoring

- How and when to score:
 - More objective is to use a gloved hand and run a finger down the barrel of the teat feeling for friction
 - Typically done after milking since combined with short term scores
 - Original paper makes a comment that may be more accurate before milking due to wetness after milking

Teat Skin Condition Scoring

- Categories (from TCI paper)
 - Normal (smooth sheen, soft, healthy skin)
 - Dry (scaly, flaky or rough skin but with no cracking)
 - Open lesion (chapped, cracked, blackspot; record specific description)

Longer Term Effects

Dry Teats



Longer Term Effects

Open Lesions



Teat Skin Condition Scoring

- When is there a problem?
 - No guideline listed for dry skin
 - Statement that in the absence of cracks and sore, just dry skin does not seem to influence new mastitis infection. Still true??
 - If open lesions are greater than 5% of cows with one or more teats with an open lesion is a problem

Click on Teat Condition Portfolio



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Investigating Teat Condition Health Using
the NMC Teat Condition Portfolio - NMC
2020 Annual Meeting - Orlando, Florida

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Teat Condition Portfolio
a resource for NMC members



Keyword Search Search

Investigating Teat Condition Health Using
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2020 Annual Meeting - Orlando, Florida

Open Lesion Case Studies

- 2400 cow dairy
- Mixture of deep bed stalls and waterbeds
- Fresh manure solids and hydrated lime
- Open lesions predominantly a problem in the deep bed stalls
- Rotary parlor
- Iodine pre-dip (10% emollients) and post-dip with 20% emollients

Open Lesion Case Studies



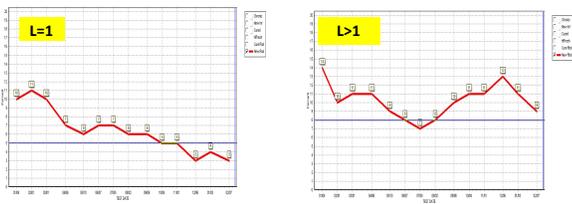
Open Lesion Case Studies



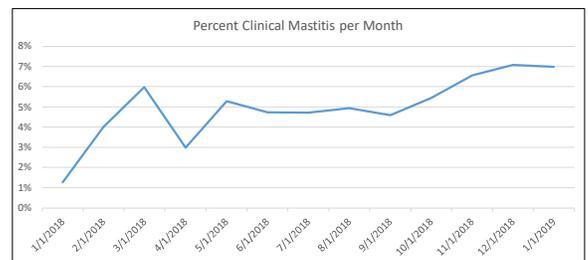
Open Lesion Case Studies Post-Milking Teat Evaluation – Long Term

Categories	GOAL	FARM DATA
	Percent of cows with one or more abnormal teats	Percent of cows with one or more abnormal teats
Teat End Score	<20%	39%
Teat Skin Condition	<20%	42%
Open Lesions	<5%	18%
Total Cows Scored	>20% (of milking cows)	460 cows

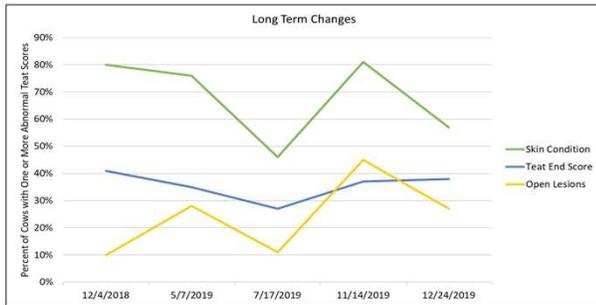
Open Lesion Case Studies



Open Lesion Case Studies



Open Lesion Case Studies



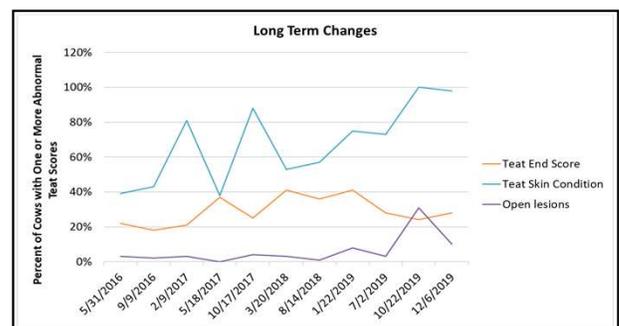
Open Lesion Case Studies

- 3500 cow dairy
- Deep bed stalls with new sand
- 2 Double 24 parallel parlors
- Iodine post-dip with 10% emollients

Open Lesion Case Studies

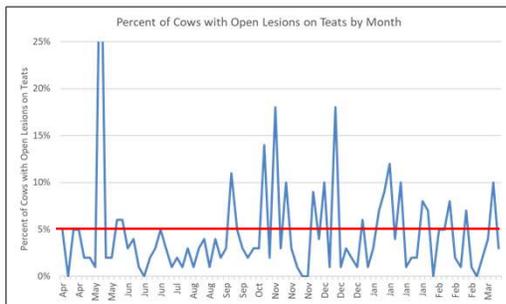
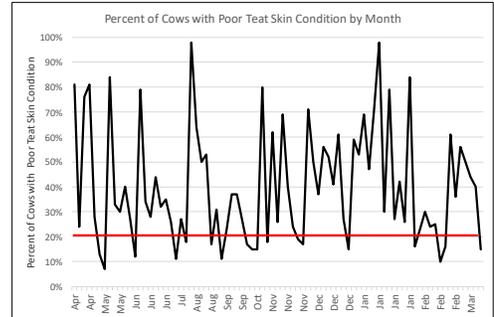
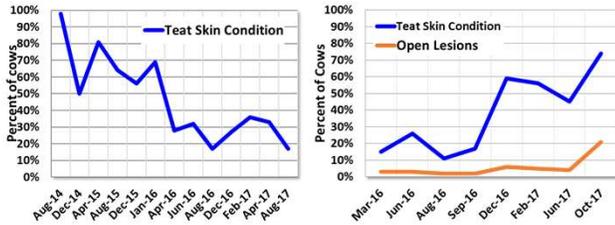


Open Lesion Case Studies



Teat skin condition challenges

- Large differences between herds in teat skin condition
 - Many of these are present even through the summer



Literature on Open Lesions

- Very little in the literature on this topic
- Review article on this at:
 - Virkler, P.D., and Wieland, M.: 2023 Teat Open Lesions Can Lead to Challenges at Milking Time on Dairies in the Northeast United States *J Am Vet Med Assoc.* Mar 29;261(S1):S103-S108. DOI:10.2460/javma.22.12.0567
- Risk of Mastitis outlined in:
 - Wieland, M., Basran, P.S., Virkler, P.D., and Heuwieser, W.: 2024. An observational study to investigate the association of teat skin condition with clinical mastitis risk. *JDS Commun.* DOI:10.3168/jdsc.2024-0577.

Cuts and Abrasions



Images from NMC Teat Condition Portfolio

Chemical Damage

Contact with strong acid or alkali chemicals



Image from NMC Teat Condition Portfolio

Chemical Burns



Open lesions associated with chemical burn from dips



Frostbite

Exposure to extreme cold with moisture on end of teat.



Images from NMC Teat Condition Portfolio

Thermal Damage

- Teat was burnt during the process of singeing the udder hair
- Review procedure for how udder hair is singed



Images from Dr. Rick Watters

Seasonal Teat Lesion Syndrome

- Somewhat similar in presentation to bovine herpes mammillitis
- First-calf heifers
- Many times reported to have problem with udder edema
- Dry gangrene
- Sloughing of teats
- Occurs more often in cold, wet weather

Self-Inflicted Trauma

- Primarily first-calf heifers
- Primarily Jersey or Jersey-cross
- Observed cases of self-mutilation of teats
- Chronic, slow healing lesion
- Unable to find Bovine Herpes Mammillitis Type II
- In some herds there is a seasonality to this
- Environmental conditions??

How Can We Prevent These Effects?

- Controlling the environment
 - Reduce exposure to harsh environmental conditions such as wind and major temperature fluctuations
- Bedding Management
 - Moisture content of bedding
 - pH of bedding
 - Bedding additives??

How Can We Prevent These Effects?

- Cow positioning
 - Minimize contamination of back 1/3 of stall with urine and manure
- Management system in place to minimize errors
 - Control dip distribution system on farm
 - Control other procedures such as flaming udders

How Can We Correct These Effects?

- Post-dip emollient package
 - Ask for data on skin condition from manufacturer
 - Ask for additional products from the manufacturer that may work in this application
- Dip application
 - Application method to promote good coverage of barrel of teat
 - Milker training to promote good coverage

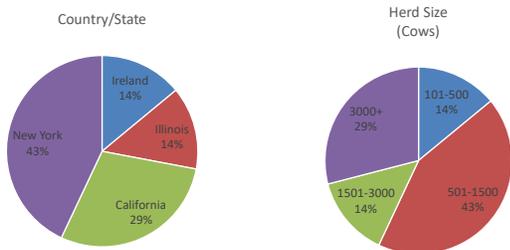
Help for the Industry

- NMC Teat Health Committee has an ongoing survey on this topic in order to gain more information about possible causes
- Anyone that is associated with a dairy that has a problem with open teat lesions is encouraged to fill out the survey at:
 - <https://www.nmconline.org/resources/>

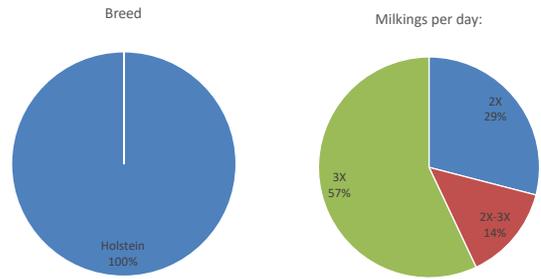
Teat Health Committee Survey

- A total of 7 completed surveys have been received
- Our goal was at least 10 and ideally many more to be able to start to pick out trends in the data and to apply statistics to the data

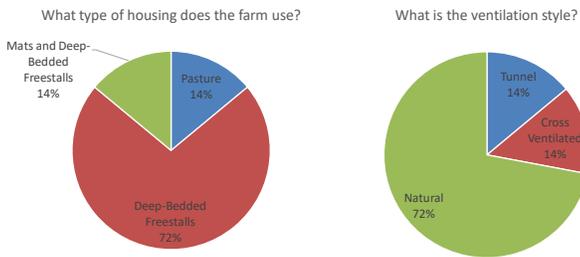
Seven Completed Surveys Preliminary Data



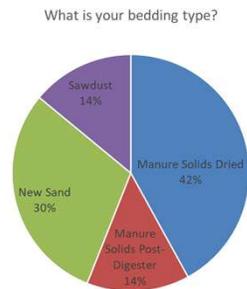
Seven Completed Surveys Preliminary Data



Seven Completed Surveys Preliminary Data



Seven Completed Surveys Preliminary Data



Environmental induced effects

- Discussion of whether any benefit of looking at udder skin and developing a scoring system for it

Environmental induced effects

- References are TCI papers:
 - 1. Non-infectious Factors
 - 5. Environmental Factors
 - 6. Teat Condition – Prevention and Cure Through Teat Dips
 - 7. Addressing Teat Condition Problems
- Winter Conditions and Teat Health: Why and What to Do. Leo Timms. NMC Proceedings 2004

Questions?

