

Nordic Guidelines for Mastitis Therapy

Agreed in unanimity at The NMSM Annual Conference
June 12, 2009, Ideon Science Park, Lund, Sweden

General policy

- Only acute clinical mastitis cases should be chosen for treatment decision.
- Subclinical mastitis in general has too high self-cure or too low cure rate in proportion to the treatment costs during lactation.*
- Subclinical mastitis should instead be treated during the dry period.
- Pronounced restrictive use should be regarded for *cephalosporins* and *quinolones*.

** Exception from this rule could be made in herds during eradication of *Streptococcus agalactiae*.*



NMSM
Nordiske Meieriorganisasjoners
Samarbeidsutvalg for Mjølkvekvalitetsarbeid



Actions that always should be made regardless of treatment decision

Evaluate prognosis

- If replacement animals are at hand culling should always be considered an alternative if prognosis is doubtful (ex. several quarters infected).
- A comparison between the cost for culling vs. the estimated cost for treatment should always be made.

Biosecurity actions

- Analyze if future effective segregation is possible if the case is a contagious mastitis.
- Drying of chronically infected teats could be used, if remembering it is not the same as segregation.

Bacteriologic culturing

- The main purpose is to continuously monitor the mastitis pattern of the herd.

- A certified mastitis laboratory is considered the best choice.
- Home culturing could be valuable if correction of drug choice can be expected.

Supportive treatment

- Milk the cow, using the milking machine, once or twice more per day.
- Move cows in loose housing to a sick pen for optimal cow comfort, cubical hygiene, watering and feeding.

Additional treatment on demand

- Oxytocin injections for enhancing milk let-down.
- Fluid therapy intravenously or orally.
- Non-Steroid Antiinflammatory Drugs.

Animal Welfare

- Cows with highly affected physical conditions and great pain should be treated as soon as possible with the drugs available.
- Also, in these cases the same principles for antibiotic choice as presented in this policy should be considered as far as possible.

Treatment follow-up

Evaluation of treatment outcome by the veterinarian:

- Should always take place within 4-8 weeks.
- Repeat the calculation of long-time prognosis and cost for culling.
- Decide further bio-security actions.

- Use somatic cell count, clinical symptoms and animal condition in the evaluation.
- If needed, do bacteriological culturing or PCR, and always send these samples to a certified mastitis laboratory.

Antibiotics needed for mastitis therapy in the Nordic countries

- Penicillin G.
- A β -lactamase resistant antibiotic.*
- An antibiotic with effect on gram-negative bacteria legal in the country.

* Only in case of severe animal welfare conditions.

Antibiotic Treatment

Gram-positive bacteria, β -lactamas-

First choice	Treatment with Penicillin G.*
Second choice	Only supportive therapy, no antibiotics.

Gram-positive bacteria, β -lactamas+

First choice	Only supportive therapy, no antibiotics.
Second choice	Treatment with a β -lactamase resistant antibiotic.*, **

Gram-negative bacteria (*E. coli*)

First choice	Only supportive therapy, no antibiotics.
Second choice	Treatment with an antibiotic effective against gram-negative bacteria.*

Gram-negative bacteria (*Klebsiella spp.*)

First choice	Treatment with med Quinolones.*
Second choice	Treatment with Trimetoprim Sulfa.*

- * Supportive treatment should be added.
- ** Only in case of severe animal welfare conditions

Treatment length

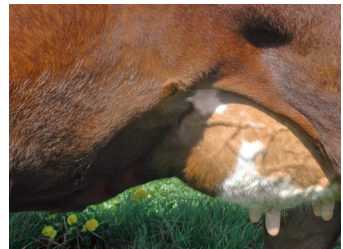
<i>S. aureus</i> *** and <i>Str. uberis</i>	5 days
Other gram-positive bacteria	4 - 5 days according to severity and herd.

*** If the clinical symptoms in the udder are considered better but not cured after 5 days, the treatment could be extended for another 1 - 2 days..

<i>Klebsiella spp.</i>	3 days
Other gram-negative bacteria	3 days
No growth	Stop the antibiotic treatment

Remark: If the animal does not respond to the chosen treatment despite correct antibiotic and dose and protocol, the diagnosis should be confirmed at a certified mastitis laboratory as soon as possible.

The Nordic Health Profile comprises restrictive use of antibiotics, disinfectants and hormones.



Nordic Guidelines for Mastitis Therapy

The Nordic Health Profile:

- A well-designed data base for correct registration of milk production and animal health.
- Preventive health service and breeding strategy based on this database.
- Stall design and management according to highest possible animal welfare demands.
- Restrictive use of antibiotics, disinfectants and hormones.
- Climate concern and economically sound market rules.
- Zero-tolerance for use of growth stimulating substances.

Seminars: NMSM Annual Conference,
June 11-13, Molde 2008¹

NMSM Animal Health Group
Meeting, December 10-11,
Oslo 2008²

Decision: NMSM Annual Conference
June 10-12, Lund 2009³

¹ **Participants:** Liv Sølverød, Kerstin Plym-Forshell and Knut-Ove Hennum NO, Jørgen Katholm and Erik Rattenborg DK, Laura Kulkas FIN, Jonas Carlsson, Ylva Persson and Håkan Landin SE.

² **Participants:** Liv Sølverød, Knut-Ove Hennum and Anne Cathrine Whist NO, Jørgen Katholm and Erik Rattenborg DK, Laura Kulkas FIN, Ylva Persson and Håkan Landin SE.

³ **Participants:** Liv Sølverød and Anne Cathrine Whist NO, Jørgen Katholm and Erik Rattenborg DK, Laura Kulkas FIN, Charlotte Sandgren, Jonas Carlsson and Håkan Landin SE.

Leaflet compiled by DVM Håkan Landin, Swedish Dairy Association, Chairman of the NMSM Animal Health Group 2008-2009.

Produced by The Swedish Dairy Association, 2011.

The NMSM Animal Health Group, Manifest 2005-04-25

NMSM Animal Health Group has defined The Nordic Health Profile.

This profile is aiming to secure an ethically sound dairy milk production from healthy COWS.

These Guide Lines fully corresponds to the mastitis policy proposed by the Swedish Society of Veterinary Medicine, officially accepted at the annual conference of the Swedish Veterinary Association, May 19th 2011.



svensk mjölk
SWEDISH DAIRY ASSOCIATION

WWW.SVENSKMJOLK.SE
+46 771 19 19 00