

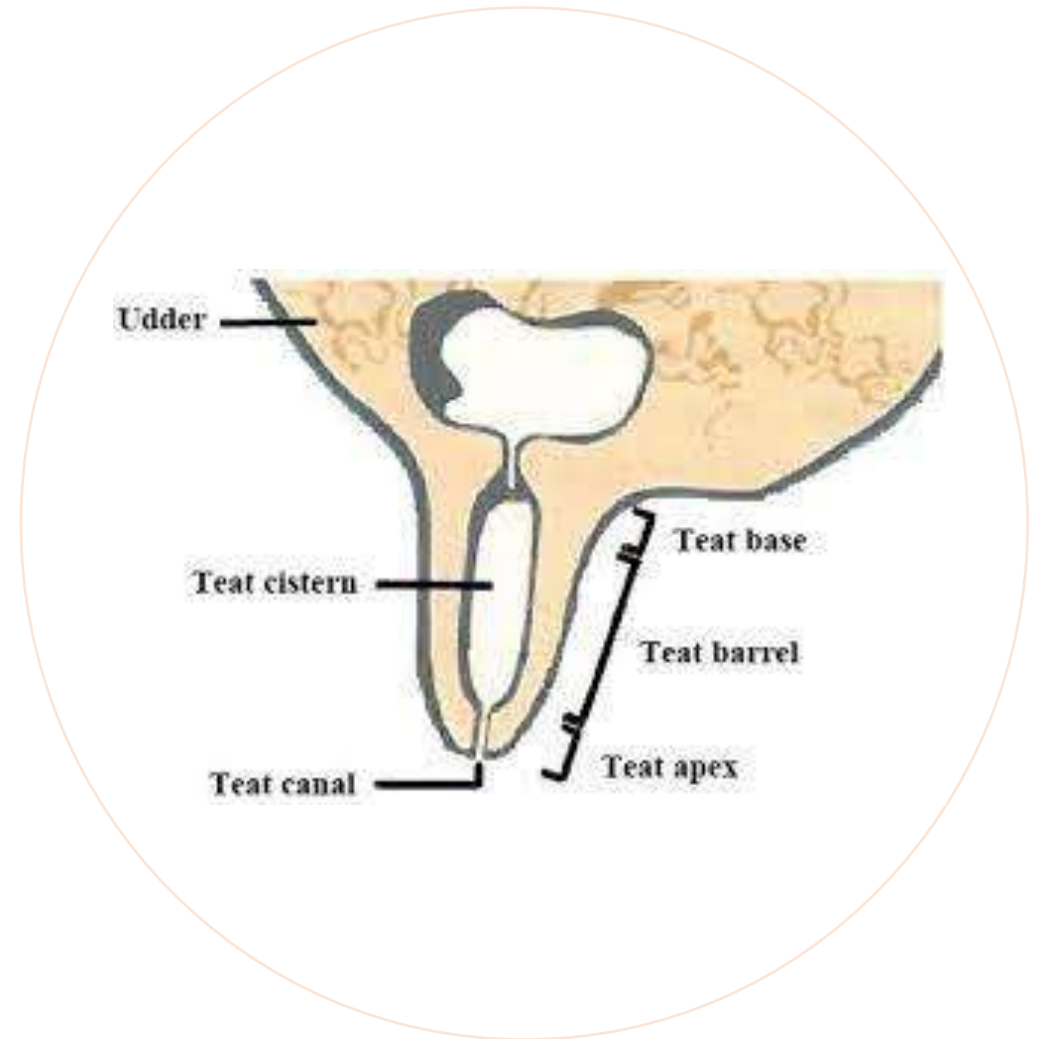
INSTRUCTION USE OF INJECTORS INTO TEAT CANAL (Level 3)

Topic	Training & information Content
9.1	Introduction to Animal health (Prevention vs curative health care)
9.2	Health signals
9.3	Biosecurity of dairy farms
9.4	Tick born diseases (Prevention and treatment)
9.5	Worm infections (Prevention and treatment)
9.6	Vaccination schedule and planning
9.7	Mastitis prevention and treatment
9.8	California Mastitis Test
9.9	Usage and storage of veterinary medicines on dairy farms
9.10	Administering of medicines to dairy cows
9.11	Instruction use of injectors into teat canal
9.12	Key performance indicators (KPIs) for monitoring health status of dairy herd



1. You will learn about (learning objectives):

- ❑ How to apply intramammary treatment.
- ❑ Hygienic procedures for application.



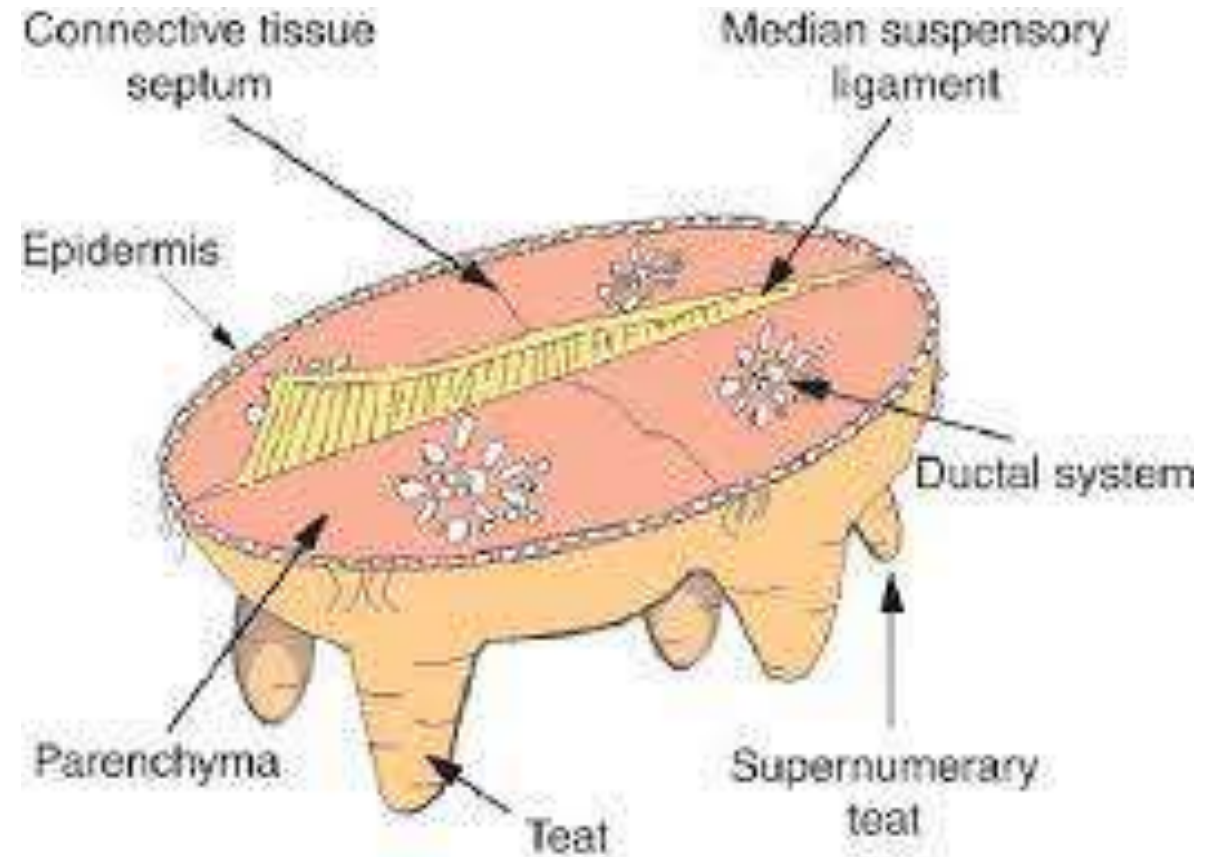
2. Introduction

- Intramammary tubes are used for;
 - Treatment of mastitis
 - Or as prevention of mastitis as drying off treatment.
- When the bacteria are sensitive to the antibiotic, treatment can be very successful. That's why sampling and testing is a very good thing to do.
- Drying off treatment was standard in many dairy countries. Realizing that antibiotics are special, it nowadays is only done when necessary.



3. Anatomy of the Udder

- The quarters of the udder are strictly separated.
- Infections do not spread through the inside of the udder. The teat canal is the only port of entrance.
- So treating only the affected quarter is sufficient. This is done as follows;



4. Step 1: Mark and record

- Start by tagging the animal and record the cow ID and treatment type into a logbook.
- You can put a ribbon or rope around the leg.
- You can also colour the cow with a marker or blue spray.
- All these are done to make sure the milker recognizes the cow and can withdraw the antibiotic milk.
- Keeping records is very valuable for monitoring and managing your farm.



5. Step 2: Clean hands

- Wear disposable gloves, or at the very least, disinfect your hands thoroughly before proceeding.
- Latex gloves are clean.
- Bacteria will not attach as easy on latex compared to skin.
- In the Netherlands majority of farmers milk cows with latex gloves on.



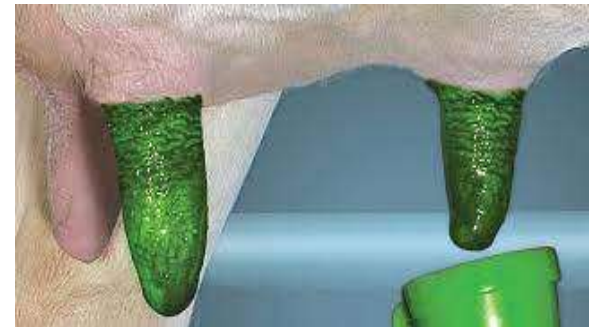
6. Step 3: Milk out

- Milk out the quarters completely.
- Frequent milking is still the best cure for mastitis. Milking the cow each hour will often be better than antibiotic treatment.
- By milking the cow, you remove most of the bacteria.



7. Step 4: Dip teats

- Dip teats in a disinfectant.
- Maintain contact for 30 seconds and wipe teats dry.
- By doing this, you avoid bringing in bacteria from the teat skin into the udder.
- Many mastitis causing bacteria are living on cow skin.
- The disinfectant needs time to kill the bacteria, so the longer, the better.



8. Step 5: Disinfect teats

- Disinfect the end of each teat with a clean alcohol swab. Repeat as needed, until swab remains clean.
- A clean tissue or cotton swab drenched in alcohol (spirits or even strong liquor will do).
- So you do this as extra security on top of step 4.



9. Step 6: In the right order

- Disinfect teats in the order illustrated alongside: finish with the nearest teat to avoid contaminating it with your wrist or sleeve.
- Try to avoid this anyway. Clean working is crucial.



10. Step 7: Sample

- When treating a lactating cow, collecting a milk sample before milking and treatment in case testing is required.
- Sampling after starting treatment does not make sense anymore. When treated with antibiotics, it will be hard to isolate bacteria.
- Milk samples do not have to be tested immediately. They can stay good, when put into a freezer. Bacteria will not die in the freezer.



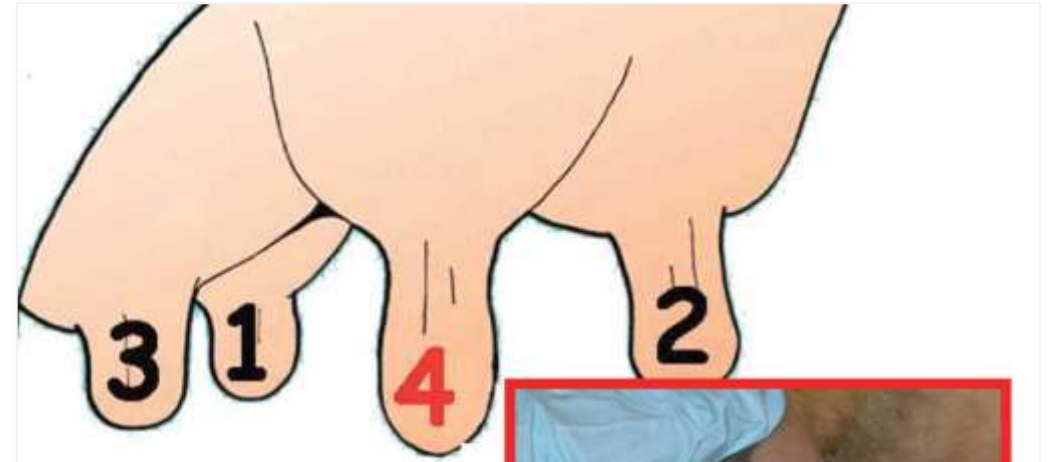
11. Step 8: Work clean

- Make sure not to touch anything with the cannula prior to insertion.
- Use the insertion tip supplied with a short cannula to avoid damaging the teat canal keratin.
- Hygiene is key.
- The teat canal is very sensitive and will be hurt easily, increasing the chance on mastitis.



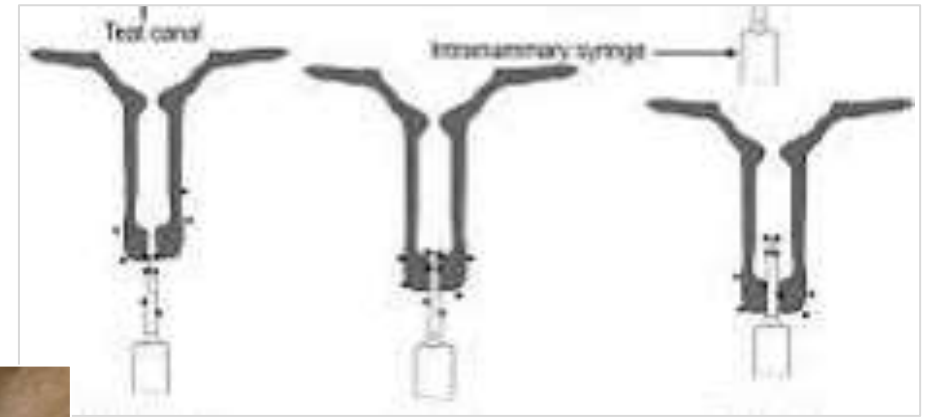
12. Step 9: Use the right order

- Start treatment with the nearest teat.
- Again to avoid contaminating it with your wrist or sleeve.
- Try to avoid this anyway. Clean working is crucial.



13. Step 10: Infusion

- Gently infuse the antibiotic preparation in the quarter.
- Make sure to empty the tube completely and massage the base of the quarter to ensure penetration of the antibiotic preparation.



14. Step 11: Dip to finish

- Apply teat dip, ensuring complete coverage.

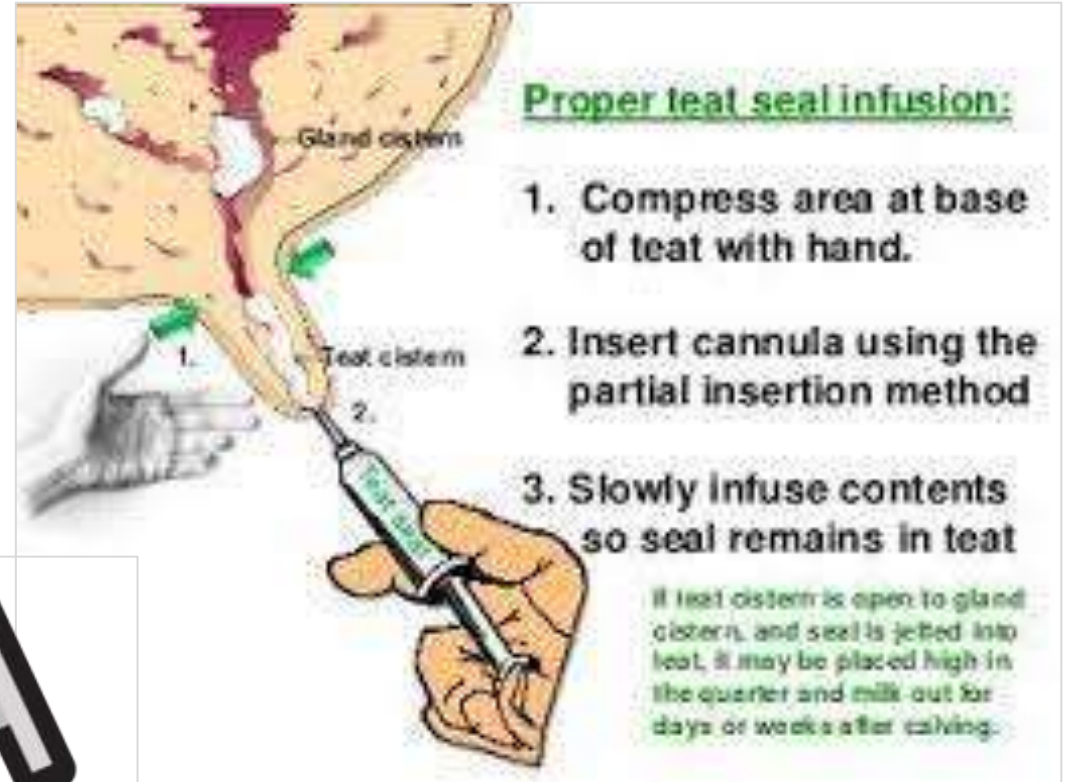
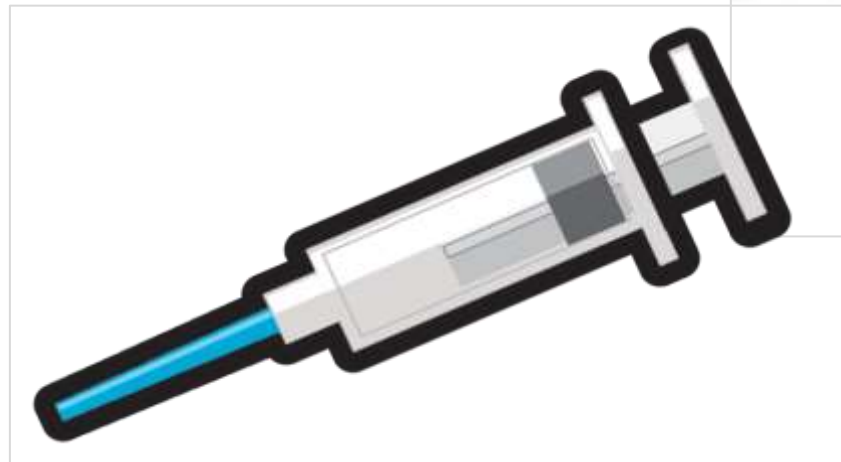


15. Partial insertion method

- Partial insertion (3 mm) of a long cannula avoids pushing in bits of the bacteria contaminated keratin into the teat cistern. It also avoids dilating the sphincter muscle.



Tip: When using a long cannula, pinch it with your fingers 3 mm from the tip before insertion.



16. Take home messages: Recommendations

1. Use only products approved for intramammary infusion.
2. Make sure the environment is clean and restrain the cow as needed.
3. Prepare all the necessary material: teat dip, gloves, clean towels, sampling tubes, antibiotic tubes, alcohol swabs.
4. Proceed carefully to avoid introducing pathogens into the teats and prevent damaging the interior of the teat canal.
5. Identify the treated cow. Avoid contaminating the milking machine or milk with the antibiotic.



Be aware that milk from cattle treated with antibiotics should be withdrawn. The withdrawal time is written on the label of the tube. Antibiotics can be a hazard to human health and disturb dairy processing.