

Prudent Use of Antibiotics

Calf health – disease prevention and treatment

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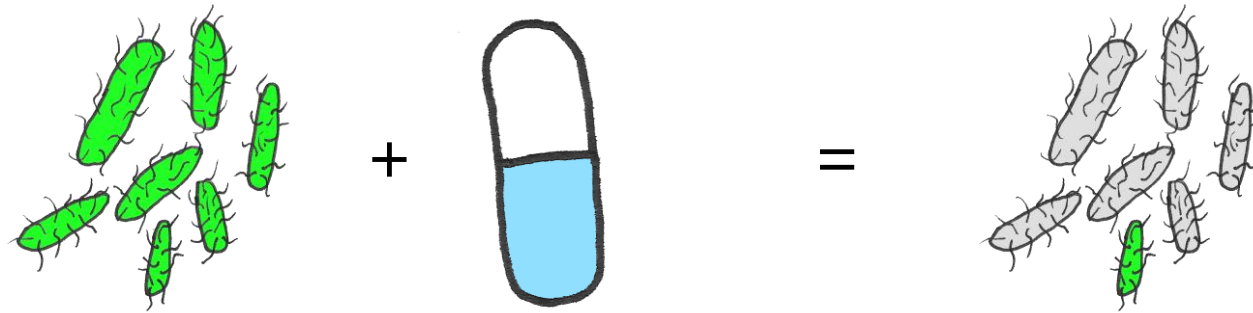
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Anne Kock Flygaard

Veterinarian

What are antibiotics? And why do we use them?

- Antibiotics kill bacteria – but are not always necessary



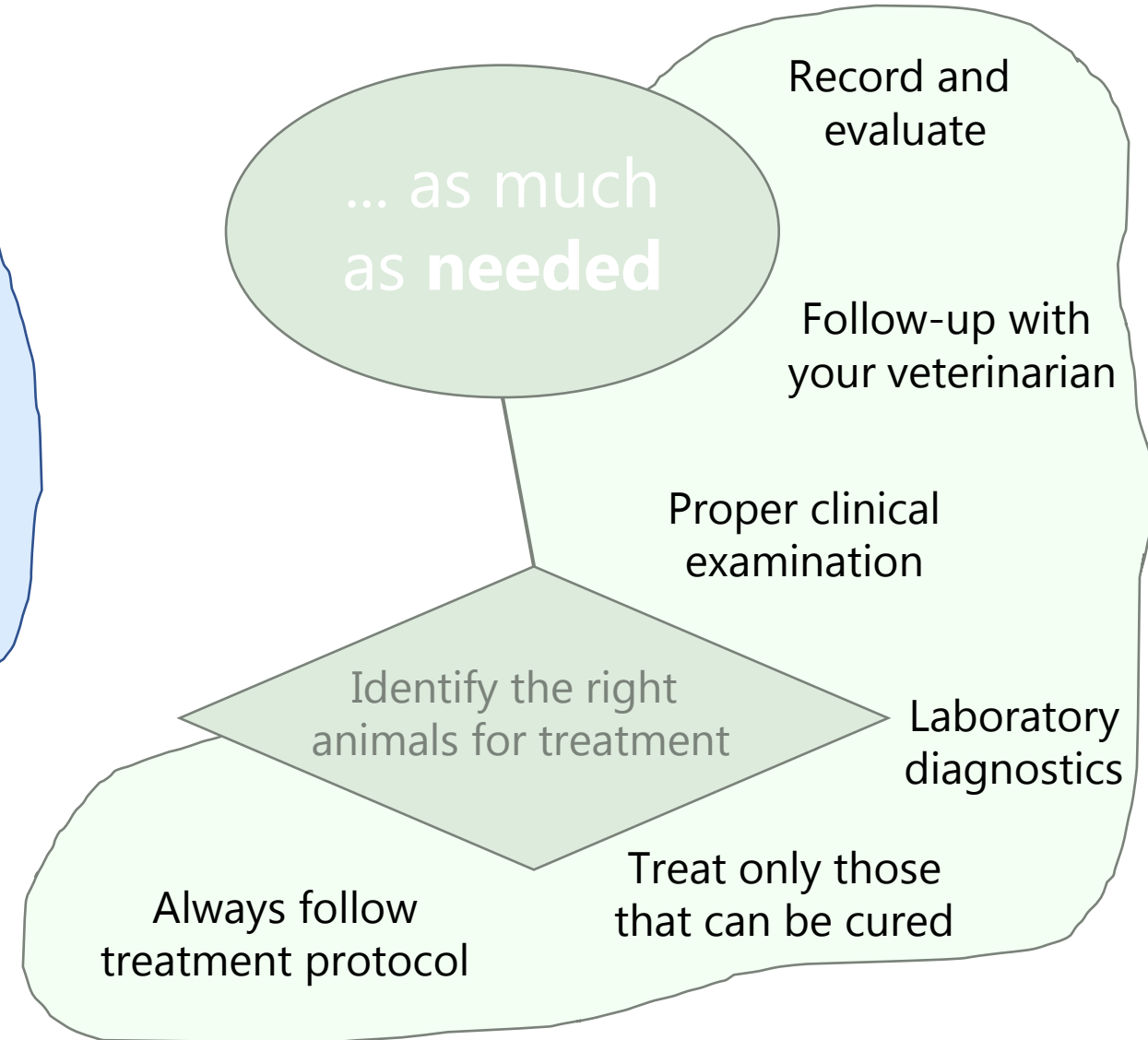
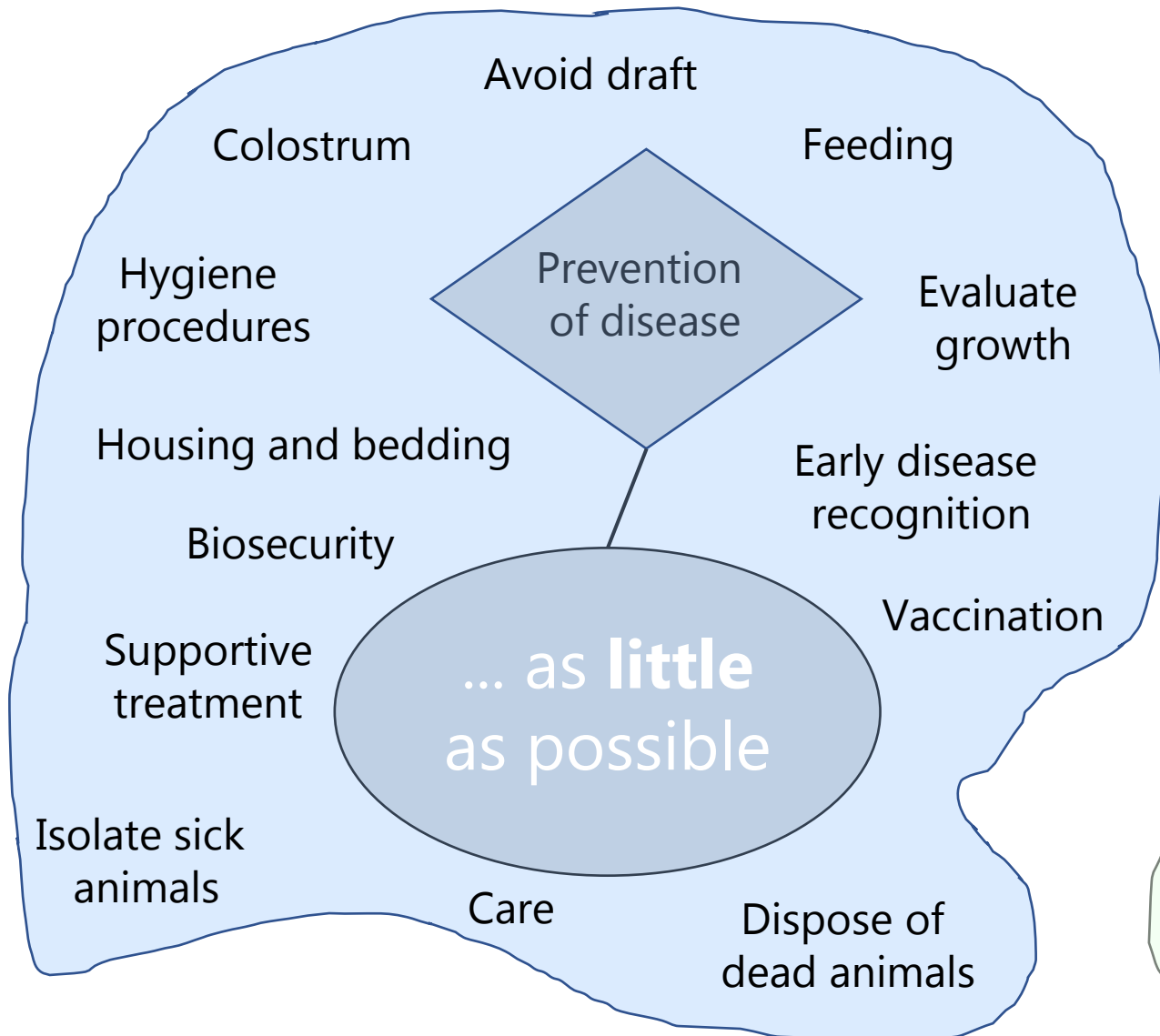
- Antibiotics do NOT ...
 - ... kill virus (e.g. those causing diarrhea)
 - ... kill parasites (such as cryptosporidium)
 - ... treat inflammation
 - ... relieve pain
 - ... save a dying, dehydrated animal alone

Why should we reduce the use of antibiotics?

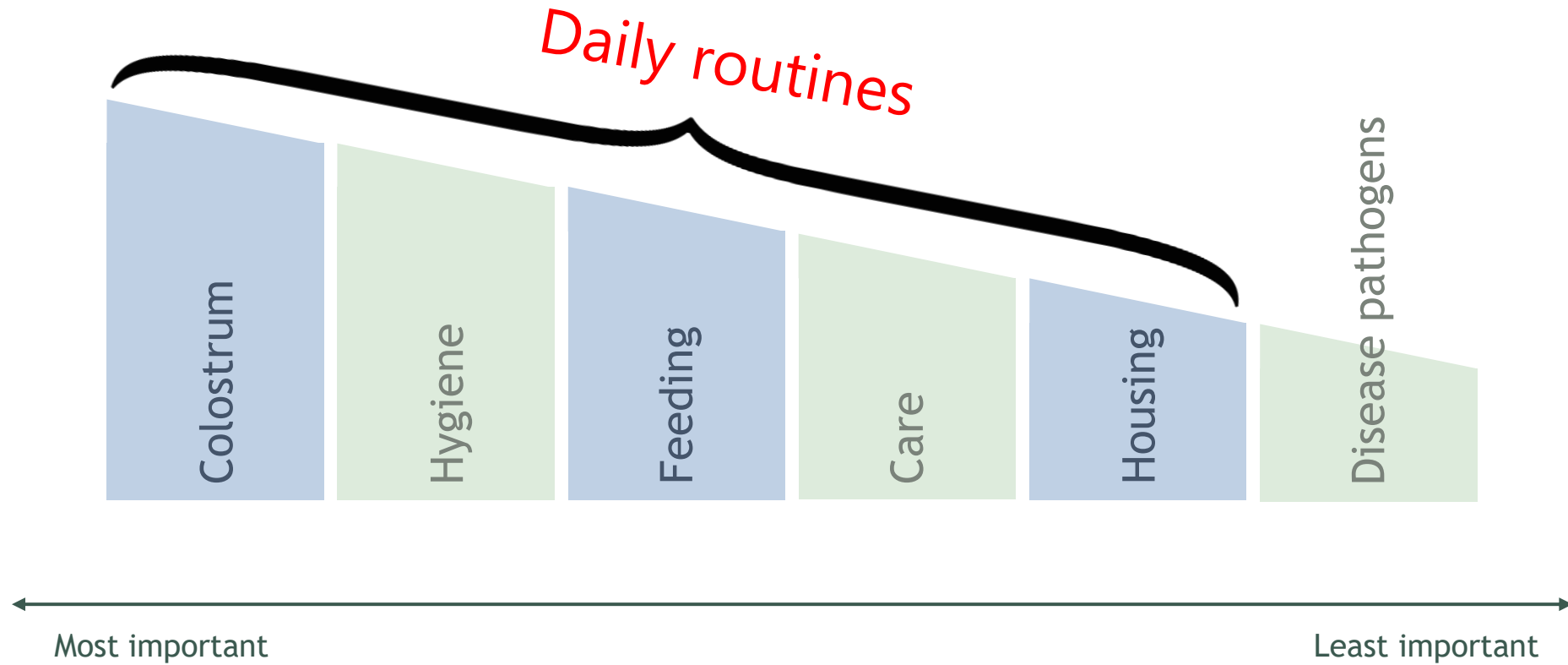
- Over-treatment can harm the treated animal
 - Antibiotics kill the good bacteria as well as the bad
- Risk of resistance development
 - Save antibiotics for when they are truly needed
- Protect the environment from antimicrobial residues
 - Protect the nature from unnecessary chemicals



Prudent use of antibiotics - calves

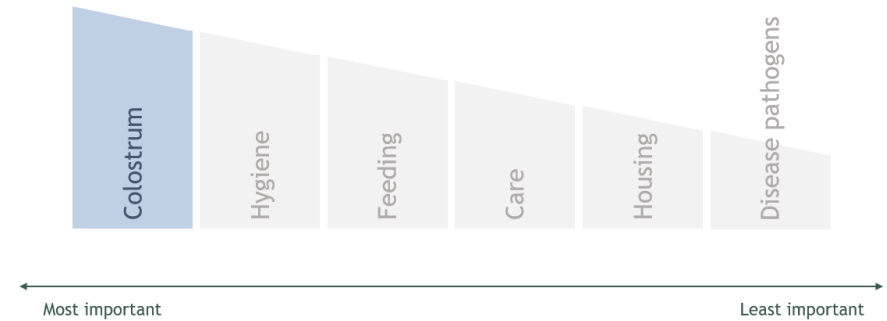


Calf health - important factors



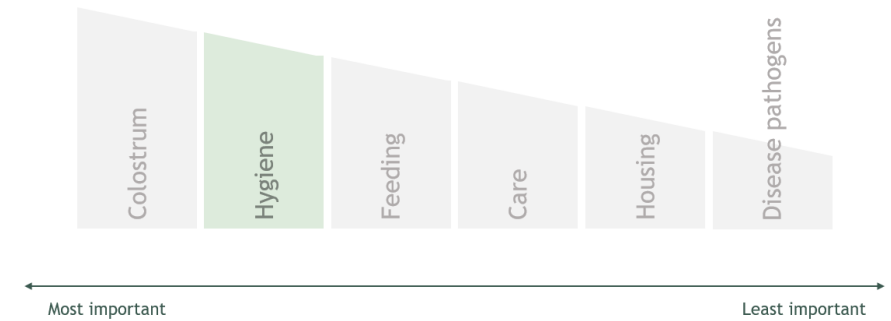
Colostrum (first milking/råmælk)

- Dry cow management and feeding
 - **Quality** of colostrum
 - **Amount** of colostrum
- Feeding the newborn calf
 - **Good quality** (brix% \geq 22%)
 - **Right amount** (10% of body weight ~ 4 liters)
 - **In due time** (as soon as possible, preferably within 6 hours)
 - **Clean** (bacteria in colostrum can reduce absorption up to 50%)

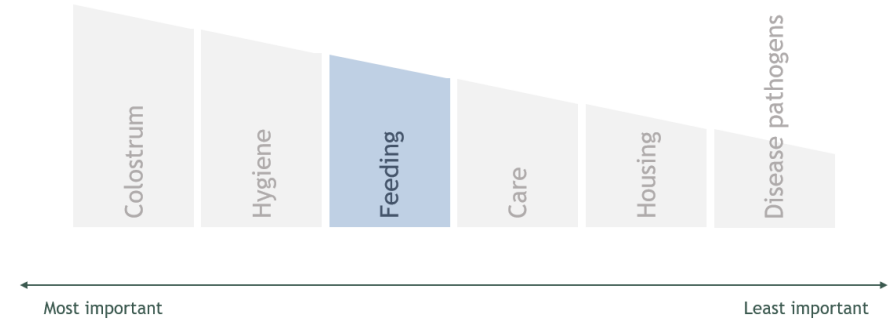


Hygiene procedures

- Clean bottles and bowls
- Clean bedding
- Clean equipment and handling
 - Buckets, feeding bottles and tubes, clean hands/gloves, etc.
- Clean boxes
 - Between calves: wash, dry, disinfect, flame sterilization
- Clean milk
 - Heat to 40-42 °C and feed to calves immediately
 - Avoid bacterial growth



Feeding



- Milk feeding

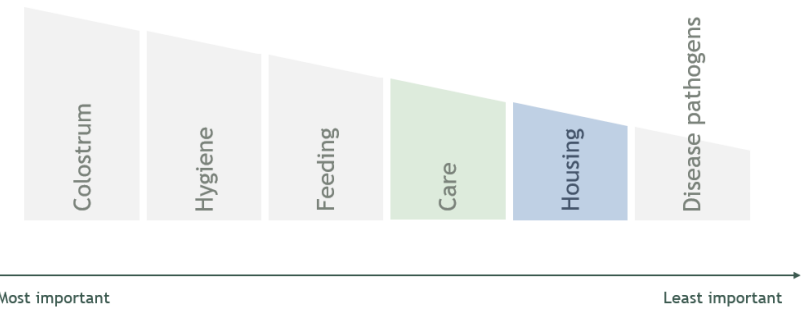
- Same percent dry matter every day (12-14% depending on farm)
- Same time every day
- Correct milk temperature at feeding (40° C)
- 2-3 times a day
- 8-10 liters in total a day (preferably) the first 4 weeks
- More milk in cold weather
 - ~ another 0.5 liters for every 5° C below 10° C

- Introduce to concentrated feed from early life

- Water



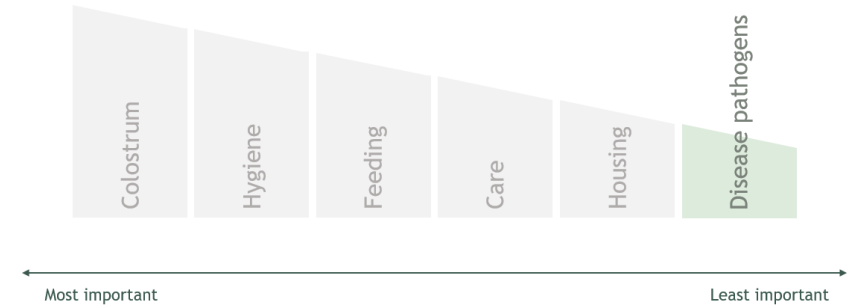
Care and housing



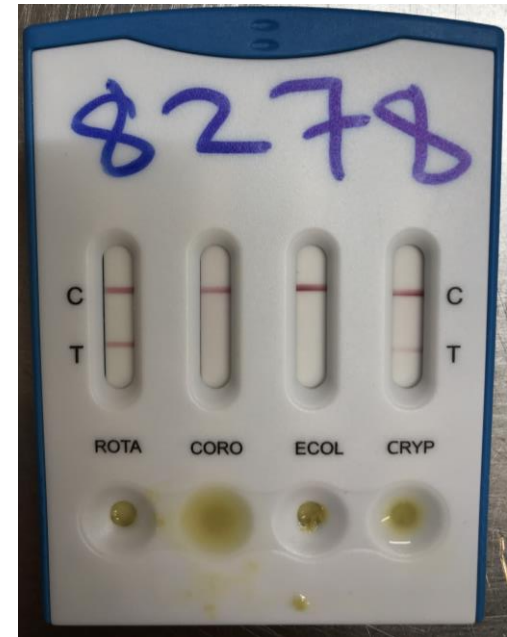
- Calves stay in the same groups – don't mix
- Calves should be housed away from cows (disease prevention)
- Enough bedding to cover calf's legs when laying down
- Avoid draft and high humidity
- Calf coat in cold weather ($< 10^{\circ}\text{C}$), only on dry calves
- Reduce stress – "one thing per week"
- Calves love routines and schedules



Disease pathogens



- Remember – antibiotics are for bacteria only!
 - No effect on virus or parasites
 - Don't forget painkillers
- Diagnostics
 - Know your enemy
 - Have your veterinarian help you
- Vaccination
- Biosecurity
- Avoid transfer to healthy animals
 - Isolate sick animals in an empty pen



Disease recognition and treatment



- Clinical examination
 - Temperature (fever $>39.5^{\circ}\text{C}$), nasal discharge, eyes, ears, cough, feces consistency, laying down, eating/drinking, general well-being
- Diarrhea and pneumonia are most common diseases in calves
 - Virus, bacteria and parasites
 - Calves can have symptoms without having a bacterial infection
 - Laboratory diagnostics – know your enemy
- Treat only the curable
 - Electrolytes and painkillers when calves are sick
 - Antibiotics only when diagnostics identify a treatable bacteria
 - Euthanize the lost causes
- Follow treatment protocol
 - Record and evaluate
 - Follow-up with your veterinarian



Treatment and care of sick calves

Painkillers

Feeding/milk

Away from draft

Electrolytes

Prevention of
future cases

Water

Isolate from healthy animals

Clean bedding

Dry and warm

Activated charcoal
for diarrhea

Antibiotics



Keep in mind ...

- Prophylactic treatment with antibiotics is not allowed
 - Decided by EU law
- We often treat when symptoms are at their worst
 - Symptoms might have disappeared even without antibiotics
- Prevention of disease means less need for treatment
 - Better animal welfare – better economy
- Select the right animals for treatment
 - Only the curable animals, that directly benefits from treatment
- You need to pass a medicine course to treat production animals
 - Talk to your boss