

# Clean Matters

Proper syringe and needle care protects animals and product effectiveness.

by **Heather Smith Thomas**

**C**lean needles and syringes are crucial, and proper techniques are imperative to ensure no contaminants enter an animal when it receives an injection for any purpose, like vaccinations, treatment with antibiotics or vitamin supplementation.

Beef Quality Assurance (BQA) guidelines include the use of clean syringes and needles for any type of injection to minimize the risk of contamination or infection at the injection site. Sterile, disposable syringes and needles used just once on one animal are the safest to avoid contamination (and prevent transfer of blood-borne diseases). However, many producers process multiple animals at once and use multi-dose syringes. If care is taken when filling them (using a sterile needle each time you draw the product from the bottle), and needles on the syringes are changed every time you refill, contamination is kept to a minimum.

It is also important to properly clean any syringes after use if they will be used again. Syringes used for vaccinating cattle or administering injectable drugs, such as antibiotics, should always be clean before filling them. Make a habit of thoroughly cleaning them after each use and store them in a clean, dry place, so they are ready to go for next time.

## Immediate and thorough

The sooner you can rinse the syringes after use, the better, according to Rachel Endecott, Grey Horse Consulting — formerly an Extension beef cattle specialist at Montana State University.

“It will be easier to get everything out,” Endecott explains.

In years past, with glass syringes, people took them apart and boiled all of the pieces; this still works. “I think the newer syringes with nylon/plastic barrels are also durable enough to withstand boiling water, but most people don’t boil them; they just rinse them thoroughly,” Endecott says.



Here's a multi-dose syringe cleaning kit: distilled water for rinsing, cooking spray to lubricate the O-ring, dish soap and resealable bags.

“Don’t leave syringes sitting on the counter for a week, or until next year, and then try to clean them. The sooner you can get them clean, the better — even if it’s just a quick rinse and then cleaned more thoroughly later that day when you have more time. Leaving residue in them to dry and solidify makes it more challenging the next time you clean them.”

It is important to avoid using disinfectants because residue from them can deactivate modified live vaccines, Endecott says. “My tip for cleaning a syringe is to clean it until you think it’s clean, and then do it one more time like that last rinse when washing dirty clothes.”

Nora Schrag, DVM — assistant clinical professor, Kansas State University College of Veterinary Medicine — says repeat-dosing syringes (multi-dose syringe guns) are a bit more difficult to clean, but they always need to be cleaned.

“A good rule of thumb is to clean them with regular soap and hot water on the outside, and sometimes just hot water on the inside,” Schrag says. “If you’ve used a vaccine that’s very thick, take the syringe apart completely and clean it with soap and water, and then rinse thoroughly with clean water.

“You should use distilled water to rinse, so it won’t leave any deposits or residue from the water. Many people have hard water (with minerals in it) and MLV vaccines are very sensitive to mineral deposits and disinfectants. The minerals in hard water will mix with the components of the vaccine sometimes and cause some problems. You also don’t want to clean a syringe with disinfectant and then use it for a MLV vaccine, or the vaccine will be deactivated. You just need the syringe to be clean. You can use soap and water, and then rinse it with distilled water.

“The final step is to boil some distilled water or heat it in a microwave for two minutes to get it boiling. Put the recently cleaned syringe back together. Then suck up the boiling water and blow it out the end of the syringe, three times. After you’ve done that, the syringe is not perfectly sterile (not like it would be in an autoclave), but it is very clean and safe to use to vaccinate cattle.”

After syringes are thoroughly rinsed with boiling water, Schrag and her crew put them in Ziploc® bags to store in a cabinet so they won’t get dusty.

“Don’t tighten the Ziploc or it will seal dampness inside,” Schrag says. “Leave it open enough to dry out. After a day or so when it’s all dry, seal it up. Then we can put that syringe in our treatment box or wherever we will be using it next or storing it until the next use. Then when we pull it out, it’s clean and ready to go.”

Sometimes syringe plungers need to be lubricated after many uses. “We’ve gone away from using mineral oil for lubrication because mineral oil tends to break down the O-rings over time,” Endecott says. “Glycerin or vegetable oil are the most recommended lubricants, these days.”

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#### Needle care

Most needles should not be reused. The exception might be “transfer” needles for rehydrating MLV vaccines.

“Some vaccines come with disposable plastic ones, but if you have a metal one that you always use for transferring the sterile solution into the vaccine vial, don’t forget to clean it after use,” Endecott says. “It has residue in it, and over time some dry residue buildup means it won’t flow as well.”

Even though you think it’s clean because that’s all you use it for, she says it still needs to be rinsed, just like your syringes, after you are done working cattle.

“If you have more than one type of vaccine you are mixing up during a day, it’s a good idea to have a separate transfer needle for each type,” Endecott adds. “After use, a person can simply rinse and boil these needles.”

Years ago, many people rinsed and boiled used needles, especially ones used only for the occasional antibiotic injection. Today, however, disposable needles are cheap, and it’s better to simply use a new needle, especially for vaccinating.

“If you have a non-disposable needle that you’ve used for treating one animal and plan to keep it on hand for later, rinse it immediately after use, especially if you’ve injected an antibiotic that is thick and viscous. Otherwise, that material will solidify in the needle,” Endecott says. She advises rinsing it thoroughly and then boiling it before the next use. **HW**

**Editor’s Note:** Heather Smith Thomas and her husband, Lynn, have ranched near Salmon, Idaho, for more than four decades. She also writes cattle articles that appear in numerous U.S. and Canadian cattle publications, including *Hereford World*. She is the author of numerous books, including “The Cattle Health Handbook.”