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## Uterine Lavage: A New Look At An Old Technique

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For many years practitioners, including myself, have attempted to treat acute toxic metritis by flushing a variety of solutions into the uteruses of affected cows. We have relied primarily on the dilution effect of our solutions or their antibacterial activity to induce recovery. Frequently, the stress of adding additional pressure to the uterine lining as we pumped gallons of fluids into these cows was more than the animal's health could tolerate.

Over time our practice introduced many modifications including modifying the ends of the nasogastric tubes to minimize the trauma to the uterine wall, multiple ports for the discharge of water from the end of the tube, dual tubes (one input, one output) and even calf drenching kits.

### *Current Procedures*

The equipment we currently use has been constant for nearly two years and appears to be effective and present the least risks. It includes:

1. Tieman flexible rubber rectal catheter
2. Foal nasogastric tube — 3/8" O.D.
3. Recycled 500 ml Dextrose container
4. Storage vessel for disinfectants
5. 22 inch infusion pipette

The flexible rubber human rectal catheter is the only part of the apparatus that is presented to the uterus. Any other product in our experience is capable of causing injury to the friable infected uterine wall. The clear foal nasogastric tube is excellent for viewing the character of the fluid being removed from the uterus. The recycled dextrose container functions as a dipper, a funnel and as a reservoir for examining the discharged fluids.

### *Possible Risks*

Perforation of the uterine wall with the lavage equipment, rupture of the uterine wall from excessive fluid pressure, reflux of the fluid through the oviducts, and physical or chemical irritation of the uterine mucosa are potential consequences of *mishandled* equipment and supplies. Our *earlier* use of unguarded plastic nasogastric tubes, pumps,

calf bags and failing to remove the large quantities of fluids that we poured into the uterus, frequently left the health of our patients compromised.

It would be irresponsible of me not to make you aware that there are risks to the patient associated with this procedure, even under well-managed situations, and that you have an obligation to make your client aware of them. Your client must be well informed and it is he/she that accepts the risks NOT YOU. Compromises on the equipment appear to compound the risks, in my opinion. Therefore, the numerous modification of tubes and ends that have been tried by our practice are noted to encourage you NOT to consider them as suitable adaptations of the equipment presented. Hopefully, you will not have to re-live our failures.

If the tubes are intended for use on several farms, care must be taken to eliminate the potential for their being vectors for infectious disease. Ideally each farm should have its own set of tubes although this has never seemed practical. Our area is brucellosis free and with normal sanitation and respect for disinfectants, I am not aware of a situation in which the tubes were a vector for any disease transfer, however it is a concern.

### *General Principles*

Uterine lavage can be safely used to remove the toxic degradation products of retained fetal membranes and the frequently accumulated toxic fluid if: the fragility of the infected uterine wall is respected; small volumes of rinsing solutions are used and are not allowed to remain and stress the integrity of the oviducts; and medications are left in sufficient concentrations to be effective and are not overcome by the environment in which they are left.

Three principles must be observed:

1. If a lavage tube can be pushed through a wet paper bag, it should NOT be used in the uterus.
2. What goes in as a rinse should come out.
3. Volumes of rinse solution added at any one time should not exceed 1500 ml and not accumulate to > 4500ml in a cow that is 9-10 days post-partum.