

Potassium Chloride Euthanasia Procedure in Equids

Where to obtain KCl:

Potassium chloride crystals can be obtained from Amazon as well as the majority of scientific product companies.

Estimated amount of KCl needed:

A dose of 40 grams of KCl crystals per 1000 lbs is sufficient for most horses. At ISU, large cattle are euthanized with approximately 75-80 grams of KCl. If no scale is available, 1 tablespoon of KCl is approximately 20 grams.

Materials needed to create a KCl solution:

- KCl
- Tablespoon or gram scale
- Container and stirring utensil
- Mortar and pestle (or some other method to grind KCl)
- Catheter (preferred) or large bore needle
- 60 cc syringes
- Anesthetic protocol of your choice



Preparation of KCl solution:

Use a mortar and pestle (or some other method) to grind the KCl crystals into a coarse powder. Skipping this step will increase the time it takes for KCl to dissolve in water. Dissolve approximately 40 grams (2 level tablespoons) of KCl crystals in 120 mls of hot water. If your water is mineral-rich, it may slow or even prohibit the KCl from dissolving completely. If this is the case, use distilled water. Once KCl is dissolved, draw it up as needed in syringes. Maintain the KCl solution at room temperature to avoid precipitate formation. If precipitate forms, rewarm and remix the solution.

Administration of KCl to euthanize:

Consider placing an IV large-bore catheter prior to anesthetizing the animal to ensure venous access and rapid administration of KCl. Once the animal has been anesthetized and you have confirmed it is not sentient, rapidly administer the IV KCl bolus. Clinical death typically occurs in less than 3 minutes following administration of the bolus.

If the client is present during euthanasia, consider communicating what they should expect to witness following administration of KCl. During and following administration, some muscle movement and fasciculation may be noted which is attributed to KCl's depolarization effect on muscle fibers. Agonal breaths are not uncommon and can occur up to approximately 5 minutes following KCl administration.

For questions, please contact:

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