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Secure Intravenous Ear Catherization Method for Pigs

Introduction

Securing pig ear catheters often involves an extensive amount of material which adds weight to the ear while also obscuring visibility of the placement site. The goal was to develop a method that consistently and effectively secures catheters in pig ear veins, reduces the amount of material associated with traditional methods (such as wrapping the ear around a wad of gauze with tape), and increases visibility of the placement site. With the support of the veterinary staff, I applied methods of intravenous catheter placement learned while working as a patient care technician in a human hospital. Together, we refined and implemented a method for securing pig ear catheters that provides sufficient security and increased visualization of the catheter placement site as well as improve handler safety using a sedation protocol that often reduces the need for snaring.

Materials and Methods

- Lidocaine Cream 2.5%
- Isopropyl Alcohol 70%
- Medline SurePrep Rapid Dry Barrier Film, 3mL Wand
- Intravenous catheter
- T-Port or injection cap
- Super Glue (0.01oz)
- 4" x 4" 3M Tegaderm Transparent Film
- Gauze
- Drugs: Acepromazine and morphine
- Saline Flush

For our surgical procedures, sows are given 0.15 to 0.2 mg/kg acepromazine intramuscularly approximately 30-60 minutes prior to catheter placement. Topical lidocaine cream 2.5% is applied to the dorsal aspect of the ear and 0.1 to 0.25mg/kg of morphine is administered intramuscularly approximately 15 to 20 minutes prior to catheter placement. The ear is cleaned with a gauze soaked with 70% alcohol. Once dry, the SurePrep is applied liberally to the ear (Figure 1). This allows better adhesion of the Tegaderm to the skin. The catheter is then placed intravenously and the t-port is attached to the catheter hub. Superglue is applied around the hub of the catheter where the t-port is attached (Figure 2) to adhere the underside of the hub to the ear. The white plastic of the Tegaderm is peeled off and the Tegaderm placed over top of the entire catheter (Figure 3), leaving the end of the port exposed.



Figure 1



Figure 2



Figure 3



Figure 4

The clear film on top of the Tegaderm is peeled off (Figure 4), and pressed down firmly to ensure adhesion to the ear, and the t-port is flushed. The completed catheter placement is shown (Figure 5).



Figure 5

Conclusion

This method has proven effective at securing pig ear catheters with increased visibility of the placement site. The inclusion of our sedation protocol has reduced the need to snare during catheter placement while also increasing handler safety. Furthermore, our team has maintained catheter patency for over three days using this method.