

USE OF NON-PENETRATING CAPTIVE BOLT FOR EUTHANASIA OF NEONATE, SUCKLING AND WEANED PIGLETS UP TO 9 KG

PROJECT LEADERS

**Tina Widowski, University of Guelph
and Suzanne Millman, Iowa State University**

PROJECT OBJECTIVE

To investigate the effectiveness of the modified design of the non-penetrating captive bolt for euthanasia of neonates, as well as older piglets.

The Zephyr-E is a highly effective and humane method of euthanasia for piglets weighing up to 9 kg. It is now available for use on farms.

FINAL RESULTS

Overall, the Zephyr-E non-penetrating captive bolt is a highly effective and humane, single step method of euthanasia for piglets weighing up to 9 kg. It provides a practical, science-based alternative to blunt force trauma for euthanasia of young piglets.

During the experiments, application of the Zephyr-E consistently resulted in immediate, sustained insensibility until death for all piglets. Skull fractures and subdural and parenchymal hemorrhage were present in all piglets indicating that the device induced severe traumatic brain injury leading to death. For all piglets, loss of sensibility was immediate, involuntary movement ceased in less than 5 minutes and cardiac arrest occurred in less than 15 minutes.

The device is now commercially available. It is safe for the operator and comes with training material.

