



Construction of a pig model for training students in taking intravenous blood samples

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Because of the stress response of pigs during restraint, time spent on blood sampling should be as short as possible. A realistic swine model which allows students to practice methods such as blood sampling, before collecting blood from live pigs, was therefore developed. The idea for this model originated from the University of Veterinary Medicine Vienna and was realized as a co-operational project with the Skills Laboratory of the University of Veterinary Medicine Hannover.

The first step was the production of a pig torso using a frozen pig as a basis, which was moulded by plaster.



Side view of the fixed animal in the right position to take intravenous blood



Ventral part of the pig plastered



Plaster model finished with reconstructed ears

In a second step this plaster model was lined with fiberglass mats. This prototype was used to form a further model without the aperture of the thorax. To close this thoracic gap a life-size silicone insert was constructed. This resembled the anatomy of the pig, and consisted of a trachea, veins and arteries made of caoutchouc tubes. These tubes were filled with coloured fluid to simulate successful blood sampling. The pig model could also be used to teach intramuscular injection in a silicone pad in the neck behind the ear and nose swab sampling of the nasal passages.



Silicone block with reconstructed trachea and respective vessels made of caoutchouc

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Pig model from inside with the fixed silicone block



Exterior view of the finished pig model