



## SAFETY ASSESSMENT

# Adapting Our Methods for Pig Welfare

### Overview/Abstract:

Charles River's commitment to the 3Rs – reduction, replacement, and refinement in our use of animals – shines through in the work of every employee who demonstrates the utmost in humane care. Knowing they are supported and encouraged to pursue these goals, they devise new approaches and processes that improve our ability to care for the animals in our labs. Seeing some challenges in the dosing of minipigs, one of our senior animal technicians sought a better way.

### Situation/Challenge:

Traditionally, dermal dosing of minipigs requires four staff – three handlers and one dosing technician – and a sling garment for the animal. In preparation for dosing, the dermal dose of test compound would be readied in the dosing lab closest to the animal room. Handlers would then collect an animal, carry them to the lab, and place them in the sling for dosing while a second handler ensured the pig stayed calm and remained within the sling. Only then could the dosing technician apply the test compound to the pig's flank. All handlers wore protective sleeves and gloves to prevent compound transfer at any time during dosing or transport. This procedure would take about 5 minutes.

Julie, one of Charles River's senior animal technicians, saw that this method entailed several challenges. To begin, pigs dislike being handled. Moreover, they gain weight over the course of a 9-month study and so become heavy to lift and transport. When this procedure is performed numerous times over the course of days or weeks, it can be time consuming for staff and stressful for the animals.

After observing and participating in the traditional process, she was keen to develop a better way to perform dermal dosing.

### Solution:

Having once been involved in a study where minipigs were clicker-trained to walk into a dosing pen (and back to their home pen) with an apple as a treat, Julie thought a similar incentive/reward system might work. However, due to the extensive nature of the training and the time it took to complete dosing, she soon realized that this, unfortunately, was not a feasible approach. The idea stayed in her mind, however, and when she was charged with overseeing the dermal dosing on a new study, she thought she still might use the concept of reward in a way that would alleviate stress for the animals. Taking advantage of the pig's natural desire to eat, Julie and the project's study director agreed to adjust the animals' feeding schedule. With a few more changes, her innovative approach was ready to test.

First, all dosing and computer equipment was stored on a trolley that could be moved to the pigs' location. The new method required just one technician to administer the dose and one to identify the animal and verify test article volume. Once the pig was identified and the test item container/volumes checked by both staff, the assisting technician would place the pig's food on the floor as the dosing technician proceeded to administer the test compound to the animal's flanks. No sling was necessary to keep the animal in place. Distracted by the food ration, the pigs were unconcerned with the dosing regimen.

EVERY STEP OF THE WAY

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### **Results/Conclusion:**

Everyone on the study saw numerous advantages to the new process. In addition to reducing the required staff by half, the process allowed technicians to dose simultaneously with a care task, completing dosing in less time than it takes to feed. Since the test item was consistently applied in this manner, it was easy to verify that the animal received 100% of the dose according to protocol. And, because the pigs did not need to be handled, the staff no longer had to lift heavy animals, and there was no risk of compound transfer in the process. Despite the administrative benefits of this new approach,

the greatest advantage of this method, of course, was happier pigs. Being dosed while eating kept them stress-free and more engaged with their technicians. Our senior animal technician's creative approach, then, was a success to be shared and celebrated.

In recognition for her contribution to her team and to Charles River's animal welfare protocol, Julie was given an award for Humane Care and Use. Her innovation represents some of the best of what we do every day in keeping with our organization's core values to care, lead, own, and collaborate.