

research are major operative procedures.”<sup>3</sup> Thus, IACUCs may determine whether a laparoscopic surgery or other procedures involving only a small opening in a body wall, without an associated permanent physical or physiological impairment, constitutes a major or minor surgery. If viewed as minor, using that animal for a second procedure could subsequently be approved by the IACUC without the qualifiers of a necessary component of the original study, provision of veterinary care, or specific permission from the USDA.

With the appropriate use of modern anesthetics and analgesics, the pain and distress associated with a small incision through the body wall depends on the nature of the procedure that is subsequently performed. Small incisions should not be viewed a priori as “exposure” or as disqualifying an animal from use in another surgical study.

Sincerely,

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## Use of a Body Condition Score Technique to Assess Health Status in a Rat Model of Polycystic Kidney Disease

Dear Editor,

We read with great interest the recent article in the March issue of *JAALAS* by Hickman and Swan.<sup>3</sup> The results of this study demonstrate that body condition score is an effective noninvasive tool for assessing the health status and wellbeing in a rat model of polycystic kidney disease. This study emphasizes the importance of empirical study of the evaluation criteria within a specific animal model, as the standard approach used to score mouse body condition required modification to accommodate the fat deposition in obese rats.<sup>3</sup>

This finding is relevant to more general considerations of the potential impact of obesity on rodent models, as discussed in recent articles in the *Proceedings of the National Academy of Sciences*<sup>1</sup> and *Nature*.<sup>2</sup> These articles describe how the use of sedentary, overweight, glucose intolerant rodents as control animals can influence studies of immune function, carcinogenesis, and neurologic disorders. These articles effectively make the point that the type of control animal used (that is, a healthy, normal weight control versus an obese, glucose intolerant control) can

skew interpretation of the experimental results. This is of critical concern in drug development, where therapeutic interventions may be effective in sedentary, overweight animals, but ineffective, or produce different side effects, in normal weight, active subjects.<sup>1</sup>

As the authors of the *PNAS* article demonstrate, dietary energy intake and exercise level may be critical variables influencing experimental outcomes due to the numerous signaling and metabolic pathways that are affected by dietary intake and exercise.<sup>1</sup> Standard housing for rodents provides ad libitum access to food and limited floor space without access to a means of voluntary exercise (like a running wheel).<sup>4</sup> These conditions encourage continuous weight gain.<sup>1</sup> As the authors point out, our knowledge of how diet and exercise affect basic biological processes and disease pathogenesis needs to be expanded.<sup>1</sup>

As laboratory animal veterinarians, animal care professionals, and investigators, we need to critically evaluate the environmental conditions of research animals and how weight and exercise level may impact the collection and interpretation of experimental data. The modification of the body condition score technique to accommodate genetically obese rats, as described by Hickman and Swan, is a good example of addressing experimental issues that arise when working with obese research animals.<sup>3</sup>

Sincerely,

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## Letters to the Editor

Letters discuss material published in *JAALAS* in the previous 3 issues. They can be submitted through email ([journals@aalas.org](mailto:journals@aalas.org)) or by regular mail (9190 Crestwyn Hills Dr, Memphis, TN 38125). Letters are not necessarily acknowledged upon receipt nor are the authors necessarily consulted before publication. Whether published in full or part, letters are subject to editing for clarity and space. The authors of the cited article will generally be given an opportunity to respond in the same issue in which the letter is published.