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3D-printing tissues

Several new technologies are being developed that are promising to shift how we study, and create, tissues in the lab. Our News Editor, Ellen Neff, reports on recent commercial progress in developing 3D-bioprinting for engineering tissues using human-derived cells. As the technology moves from proof-of-principle to wider commercial adoption, it could significantly improve the use of animal models in research by not only reducing numbers, but also by refining *in vivo* pre-clinical tests using disease models.

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A DIY treadmill for rodent exercise studies

Rodent exercise studies are important to investigate behaviors and tissue that would otherwise be inaccessible using humans as subjects. In this month's Clinical Feature, Steven Bouganim and Andreas Bergdahl describe how to construct a low-cost and versatile homemade rodent exercise treadmill. Using materials widely available for exercise scientists on a budget, they provide pictures and a detailed description of the building process: from disassembling a second-hand human treadmill, to construction of a custom frame with animal lanes. With a price-tag of ~$300, they hope it will encourage others to consider building their own devices.

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A mechanism to handle change

How to handle changes to an approved protocol is an important—and sometimes confusing—consideration in animal research. The introduction of Veterinary Verification and Consultation (VVC) was intended to help researchers and IACUCs expedite the approval of changes while remaining in compliance. The questions of what is considered a significant change and when is VVC appropriate to handle those requests are addressed in a Correspondence from Lon Kendall and his colleagues at Colorado State University; it is also the topic of this month's Protocol Review.

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