



*animals*



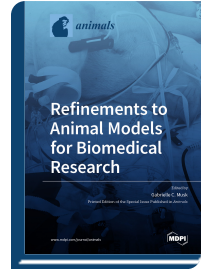
*Special Issue Reprint*

## **Refinements to Animal Models for Biomedical Research**

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There is some talk about an antibiotic Armageddon, wherein untreatable post-operative infections and similarly untreatable complications after chemotherapy will occur. The now famous “O’Neill Report” suggests that, by 2050, more people could die from resistant bacterial infections than from cancer. We are still learning about all the subtle drivers of antibiotic resistance, realizing that we need a single “whole health” coordinated policy. We ingest what we sometimes feed to animals, yet there does not seem to be any new classes of antibiotics on the horizon. Maybe there is something that has been around forever that could come to our rescue: bacteriophages. Nevertheless, we have to do things differently. We must use antibiotics appropriately and for the correct indication, duration, and dosage with good practice and stewardship. While by no means comprehensive, this book covers many topics regarding antibiotic stewardship. It also addresses older antibiotics, new combinations, and even new agents. Last but not least, this book features two excellent articles on bacteriophages. Refinements to animal models used in research for either human or animal benefit must be an ongoing aim for anyone working in this context, whether it be as an animal carrier, an animal user, a veterinarian, or an official. Unfortunately, the details of refinements are often overlooked in publications describing the research outcomes. This book includes manuscripts published in the Animals Special Issue “Refinements to Animal Models for Biomedical Research”. In this contemporary resource, we included 12 peer-reviewed papers that cover a range of approaches to the concept of refinement.



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