Swine are considered to be one of the major animal species used in translational research, surgical models, and procedural training and are increasingly being used as an alternative to the dog or monkey as the choice of nonrodent species in preclinical toxicologic testing of pharmaceuticals. There are unique advantages to the use of swine in this setting given that they share with humans similar anatomic and physiologic characteristics involving the cardiovascular, urinary, integumentary, and digestive systems. However, the investigator needs to be familiar with important anatomic, histopathologic, and clinicopathologic features of the laboratory pig and minipig in order to put background lesions or xenobiotically induced toxicologic changes in their proper perspective and also needs to consider specific anatomic differences when using the pig as a surgical model. Ethical considerations, as well as the existence of significant amounts of background data, from a regulatory perspective, provide further support for the use of this species in experimental or pharmaceutical research studies. It is likely that pigs and minipigs will become an increasingly important animal model for research and pharmaceutical development applications [1)].

1)
Swindle, M. M., Makin, A., Herron, A. J., Clubb, F. J., & Frazier, K. S. (2012). Swine as Models in Biomedical Research and Toxicology Testing. Veterinary Pathology, 49(2), 344–356. https://doi.org/10.1177/0300985811402846