

Explanation of the E pain category procedures producing pain and distress and reasons pain relieving agents cannot be used.

A study of high velocity low amplitude spinal manipulation (HVLA-SM) used 6 cats in pain category E. The animals were injected with nerve growth factor (NGF) into the multifidus muscle and then undergo a nonsurvival electrophysiology recording under anesthesia several days later. Creation of a localized area of trunk hypersensitivity is a key component to this study as it mimics the primary clinical reason individuals seek spinal manipulation and the purpose of this project is to determine muscle spindle response changes to spinal manipulation following trunk chemosensitization via NGF injection. Pilot studies in rats showed any discomfort is localized primarily to the site of injection. Since video recording of facial expression will be conducted in order to establish a feline grimace scoring behavioral assay, analgesics cannot be used.

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A study for developing an adenovirus-vector vaccine for SARS-CoV-2 used 64 hamsters. Some animals were infected with SARS-CoV-2, and then co-housed with vaccinated and unvaccinated animals to study disease transmission and vaccine efficacy. The study examines the effect of the vaccine on both virus replication and immune mediated disease so drugs altering the immune response cannot be provided.

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A study of the Cystic fibrosis transmembrane conductance regulator (CFTR) used 67 ferrets. All animals were exposed to cigarette smoke, and no theoretical alternatives exist that can replace in vivo modeling of CFTR. Exposure of cigarette smoke is expected to cause some amount of discomfort that is well tolerated. Since, the whole study involves several episodes of smoke exposure, and to keep physiologically relevant, anesthesia cannot be administered during smoke exposure.