

Lawrence Livermore National Laboratory
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Explanation of procedures being done at Category E

Procedures:

28 Guinea Pigs: Toxicity studies using these animals were conducted to evaluate optimal antidote treatment regimens. This involved challenging animals with an organophosphorous nerve agent (OPNA), followed by administration of antidotes at various times and sequence after OPNA exposure to determine the optimal treatment to reactivate peripheral and central nervous system inhibited acetylcholinesterase (AChE).

The current standard of care for OPNA poisoning uses the AChE reactivator pralidoxime chloride (2-PAM Cl) together with atropine and/or midazolam or diazepam. By altering the time and sequence at which each compound is administered the optimal treatment for maximum efficacy can be achieved.

In these studies, analgesics/sedatives cannot be used as they may affect the binding of the OPNA to the cholinesterase or may bind to/affect the activity of the drugs (2-PAM/atropine/midazolam). No relevant literature exists to demonstrate that an analgesic/sedative will not confound the results from this study. This study was designed with literature in mind to directly compare to other groups of interest.