

Abstract

The purpose of this study was to determine if pilots are at risk for computer vision syndrome (CVS) as computer display technology becomes commonplace in modern cockpits and simulators. A review of computer vision syndrome respect to causes and effects is provided. Display technology used in aircraft and simulators are outlined.

Ergonomics and human factors for pilots in aircraft and in simulators are discussed in relation to video displays. A survey of 178 individuals was conducted to determine if there is a statistically significant link between exposure to computer displays and three categories of symptoms of CVS on the flight deck and in the simulator. A statistically significant relationship was found for eye-related symptoms and computer display cockpits ($\chi^2 [2, 175] = 7.002, p = 0.03$). A relationship was also found for posture-related symptoms and computer display cockpits ($\chi^2 [2, 175] = 6.00, p = 0.049$). No statistically significant relationship was found between vision-related symptoms and computer display cockpits ($\chi^2 [2, 175] = 1.065, p = 0.58$), simulator usage and CVS symptoms ($\chi^2 [1, 109] = 0.707, p = 0.70$), as well as simulator usage versus vision-related symptoms ($\chi^2 [1, 110] = 1.584, p = 0.21$, with Yates' correction). Analysis and interpretation of the findings are presented. Potential mitigations and preventative measures are suggested.