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U.S. ARMY MEDICAL EVACUATION INTERIOR SPACE STUDY

ÉTUDE DE L'ESPACE INTÉRIEUR PENDANT L' ÉVACUATION AÉROMÉDICALE EN L'ARMÉE DE TE TERRE DES ÉTATS-UNIS.

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Introduction: A recent analysis by the U.S. Army Medical Evacuation (MEDEVAC) Enterprise identified a need for new design guidelines for MEDEVAC critical care flight paramedic's (CCFP's) workstations in Army rotary-wing aircraft. The objectives of this study were to determine the adequacy of space available for CCFPs to perform advanced medical treatment on simulated critical care patients (manikins) in existing MEDEVAC aircraft.

Methods: Three flight medics wore motion capture suits while performing 43 critical flight paramedic-level medical tasks that were determined to be space consuming. Then, 17 CCFPs were tested to determine the vertical litter spacing required to accomplish the medical tasks adequately.

Results and Discussion: Approximately 75 percent of the medical tasks were successfully accomplished by CCFPs in the UH-60, while 91 percent of the tasks were successfully completed in the HH-60M medical interior. The 2nd percentile medic's neck angle was 66 degrees, on average, for 94 percent of the time during all tasks and scenarios. Surprisingly, the 99th percentile medic's neck angle was much lower (by 28 degrees), and the back angle was slightly higher than the 2nd percentile medic, suggesting that medics assumed complex postures to accomplish patient care tasks. Ergonomic specifications should be considered when designing vehicle medical interiors. Future studies will assess the workload involved in monitoring and treating 1-3 patients simultaneously, and will provide critical information on the design of U.S. Army aircraft medical evacuation interiors.