DELIVERY OF CARDIOPULMONARY RESUSCITATION IN THE MICROGRAVITY ENVIRONMENT. M. R. Barratt* and R. D. Billica*. KRUG Life Sciences and Medical Operations, NASA Johnson Space Center, Houston, TX.

INTRODUCTION. The microgravity environment presents several challenges for delivering effective cardiopulmonary resuscitation (CPR). Chest compressions must be driven by muscular force rather than by the weight of the rescuer's upper torso. Airway stabilization is influenced by the neutral body posture. Patients will consist of crewmembers of varying sizes and degrees of physical deconditioning from space-flight. Several ACLS protocols were designed to accommodate these factors. The MTC flight in parabolic flight, and on a recent shuttle flight. METHODS. Utilizing study participants of varying sizes, different techniques of CPR delivery were evaluated using a recording CPR manikin to assess adequacy of compressive force and frequency. Under conditions of parabolic flight, methods tested included conventional positioning of rescuer and victim, free-floating "airlift". The hardware planned for use during the MTC flight was utilized to increase the fidelity of the scenario and to evaluate the prototype equipment. Based on initial KC-135 testing of CPR and ACLS, changes were made to the vestibular flicker stimulus in order to accommodate the space environment. Other constraints to delivery of ACLS on board Space Station Freedom. METHODS. In order to evaluate the effectiveness of terrestrial ACLS, the medical team conducted simulations during parabolic flight onboard the KC-135 aircraft. The hardware planned for use during the MTC phase of the space station was utilized to increase the fidelity of the scenario and to evaluate the prototype equipment. Based on initial KC-135 testing of CPR and ACLS, changes were made to the vestibular flicker stimulus in order to accommodate the space environment. Other constraints to delivery of ACLS on board Space Station Freedom. METHODS. In order to evaluate the effectiveness of terrestrial ACLS, the medical team conducted simulations during parabolic flight onboard the KC-135 aircraft. The hardware planned for use during the MTC phase of the space station was utilized to increase the fidelity of the scenario and to evaluate the prototype equipment. Based on initial KC-135 testing of CPR and ACLS, changes were made to the vestibular flicker stimulus in order to accommodate the space environment. Other constraints to delivery of ACLS.