**BACKGROUND**

- Astronauts and cosmonauts may experience symptoms of orthostatic intolerance during re-entry, landing, and for several days following landing from short- and long-duration spaceflight.
- Presyncope symptoms have been documented in ~20% of short-duration and greater than 60% of long-duration flyers on landing day specifically during 5-10 min of stand tests or 80° head-up tilt tests (Meck et al. 2001; Lee et al. 2015). No countermeasures employed during these tests.
- Current operational countermeasures to orthostatic intolerance include fluid loading prior to and whole body cooling during re-entry as well as compression garments that are worn during and for up to several days after landing.
- Both NASA and the Russian space program have utilized compression garments to protect astronauts and cosmonauts traveling on their respective vehicles. A previous report from our laboratory demonstrated the efficacy of these garments in hypovolemic subjects (Platts et al. 2009; Figure 1).

**METHODS**

- Ten subjects will be recruited to participate. Subjects will be selected to span the range 5th to 95th percentile in body size so as to represent the range of astronauts who might participate in spaceflight.
- A trained technician will measure the circumference of each subject's legs every 1.5 in from the feet to the top of the thigh (Figure 5). Additional measurements will be taken along the torso ending just below the breast-line. From these, custom garments will be constructed.

**REFERENCES**