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EFFECTS OF DAILY CENTRIFUGATION ON SEGMENTAL FLUID DISTRIBUTION IN BED-RESTED SUBJECTS

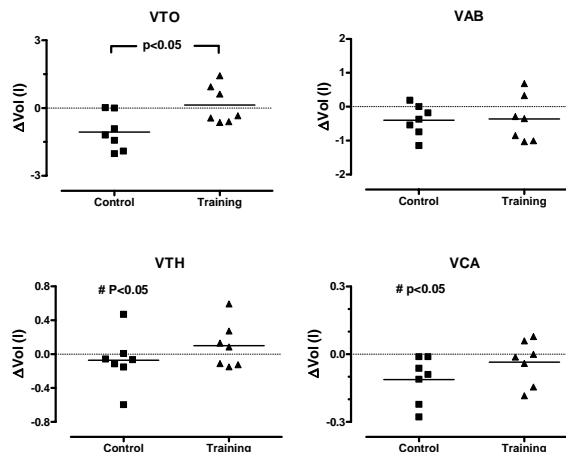
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The effect of daily centrifugation on segmental fluid distribution have been studied during 21 days of 6° head down bedrest. One group (N=7) underwent no countermeasure while the other (N=8) received a daily, one hour, dose (2.5 gz at the foot, decreasing to 1.0 gz at the heart) of artificial gravity (AG) training on the Johnson Space Center short radius centrifuge. Fluid shifts of thoracic (VTO), abdominal (VAB), thigh (VTH), and calf (VCA) regions were measured by the tetrapolar segmental body impedance technique. *Results:* Untrained subjects reduced their total volume from 18.9±0.5L to 17.9±0.9L (MN±SE, P<0.05) while trained subjects maintained their total volume. In untrained, control, subjects after bed rest, there was a trend toward reduced volume in all segments, with significant reductions in thigh and calf (fig, P<0.05). Trained subjects maintained volume in all segments. Our data indicate that artificial gravity treatment counteracts bed rest-induced hypovolemia. *Supported by the NASA AG-Bed Rest Pilot Project. We thank the Cardio and Centrifuge Teams for their support.*



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