

Effects of Environment on Leg Volumes
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BACKGROUND

Currently there is no data from the same subject population, or in most cases any population, on the effects of posture or small pressure changes on total leg volume.

PURPOSE

To obtain leg volumes by girth measurements from a selected population under the following conditions:

Standing

Lying, Immediate

Lying, 30 Minutes

Lying, 2 Hours

Lying, 6 Degrees Head Down; 2 Hours

Lying, Body Immersed (Horizontal, Face Out) in Water; 2 Hours

Lying, Body Immersed (Horizontal, Face Out) in Water; 20mm Hg Abdominal Pressure

Lying, 2 hours; 20mm Hg Counter Pressure, Leg

Before and After Exercise

PROTOCOL/PROCEDURES:

The studies will be done at the South Shore Harbor Fitness Center (SSHFC) under the direction of Dr. Eugene Coleman. They will be under the continuous surveillance of a qualified medical technician and the direction of Dr. Coleman and myself and will be under contract for this study with subjects paid.

Subjects are members of the SSHFC staff or students, physically active, males 20 - 30 years old. They will have all aspects explained and demonstrated and will be measured for body size, weight, body fat (immersion weight), and exercise tolerance in the certified facilities of the SSHFC.

Leg volumes will be calculated from repeated standard girth measurements. The standard protocol is, after weighing and voiding, girth measurements at :

- 0 Standing, Immediate
- 0 Lying, Immediate
- 0 Lying, 30 Minutes
- 0 Environment Chosen; at 30, 60, and 120 Minutes
- 0 Lying, Supine
- 0 Upright
- 0 Exercise; Measurements will be made Supine, immediately after Exercise and upon Standing

(Note: Leg exercises, repeated weight lifting and jogging, were done at levels well within the usual and regular exercise regime of these subjects) Subjects void, will be weighed and have erect blood pressures/heart rates pre and post test.

HAZARDS

The test conditions included no additional hazards other than those encountered in the usual activities of these selected subjects. Water and body temperature is monitored and controlled to avoid thermal stress. The counter pressures used were no greater or even less than those routinely experienced by these selected subjects in Scuba suits and other exercise activity garments. The tests will be terminated immediately on any reason by the subjects or by the monitor. Subject discomfort of any nature is understood reason for termination.