Results:

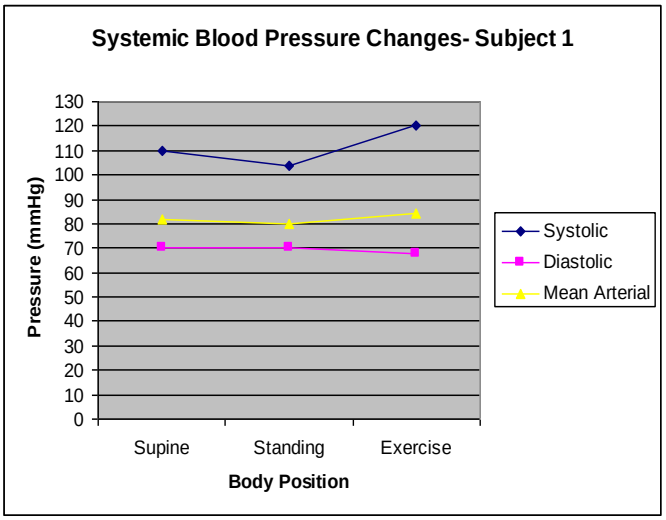

Figure A. Systemic Blood Pressure Changes-Subject 1: subject exposed to three conditions and blood pressure components tracked for each

In Figure A, the subject's diastolic and systolic blood pressure was measured for each of the three conditions. Systolic blood pressure (SBP) is the pressure measured in the arterial system during left ventricular ejection. Diastolic blood pressure (DBP) is the pressure in the arterial system during ventricular filling. Systolic BP is the higher number because it represents the work the heart must perform to overcome the pressure stored in the arteries, whereas diastolic pressure is simply the resistance encountered by the blood while flowing from the arterioles into the capillaries. Mean arterial pressure (MAP) was calculated using the measurements of systolic and diastolic pressure. This is simply a measure of the average pressure in the subject's system. The formula for this is: MAP= .3 (SP – DP) + DP. A significant increase seen in systolic blood pressure, coupled with a slight decrease in diastolic pressure during exercise explains the slight increase in mean arterial pressure at this point on the graph.

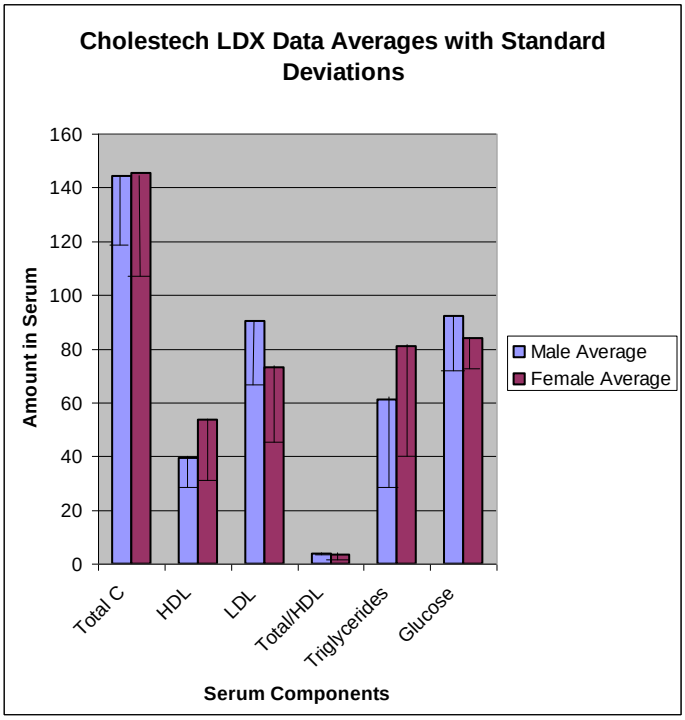

Figure B. Cholestech LDX Data Averages for Males and Females: Each component analyzed by Cholestech and averaged with standard deviation bars added to denote variability.

Figure B represents an analysis of blood samples from 4 males and 8 females. The categories were total cholesterol (total C), high density lipoproteins (HDL), low density lipoproteins (LDL), the ratio of HDL and total C, a measure of triglycerides and blood glucose. Individual female and male data were totaled, then divided by 8 and 4, respectively, to find the averages. Standard deviation was found through the use of a function in Microsoft Excel.

Discussion:

At rest, in both the supine and standing positions, subject 1's blood pressure was below 120/80, but not below 90/60 (see Fig. A), indicating a normal blood pressure that is neither hypertensive or hypotensive. This is to be expected for an average, healthy college female. An observation we found interesting was the drop in blood pressure between the supine and standing positions. This measurement was contrary to our expected result, as we assumed blood pressure would increase upon standing up. However, the subject did report slight dizziness immediately after standing, indicating a temporary hypotensive state with possible blood pooling in the legs. This condition is