

Comparison of Lung Volumes and Estimated VO_{2max} in College-aged Wind Musicians Versus Aerobic Athletes.

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It is well known that aerobic athletes and musicians have higher dynamic lung functions than the general population. There is a gap in the current literature comparing the lung volumes of college-aged aerobic athletes to the lung volumes of college-aged wind musicians. **PURPOSE:** To compare the lung volumes (SVC, FVC, FEV_1 , MVV) and VO_{2max} between college-aged Division II athletes and physically inactive wind musicians. **METHODS:** Subjects (n=21) were recruited based upon age and medical criteria. Athletes (n=11) were defined as individuals who accumulated at least or more than 150 minutes of moderate intensity aerobic activity per week and participated on an aerobic based athletic team. Wind musicians (n=10) were defined as individuals who played a wind instrument at the collegiate level who did not meet aerobic exercise guidelines. Three respiratory tests (SVC, FEV_1 , MVV) were performed to assess lung volume using a spirometer. VO_{2max} was also estimated using an 8-minute treadmill walk test that elicited a heart rate between 50% and 85% of their maximal heart rate. Collected results were analyzed using a two-tailed independent t-test and Pearson correlations. **RESULTS:** There was a significant difference in VO_{2max} ($p=0.013$) between groups with the athletes (42.1 ± 7.2) having higher values than musicians (30.44 ± 11.9). There were no significant differences in the other lung volumes between groups. However, there were strong positive correlations between FVC and SVC ($r=0.927$), as well as, MVV and SVC ($r=0.911$) with musicians. There were also strong correlations between FEV_1 and FVC ($r=0.980$), FEV_1 and SVC ($r=0.946$), and FVC and SVC ($r=0.937$). **CONCLUSION:** The VO_{2max} results were greater in athletes when compared to wind instrument musicians. Interestingly, physically inactive musicians had similar lung functions as athletes. This difference could be attributed to athletes training their cardiorespiratory system and not solely their respiratory system.