

**Human Anatomy and Physiology 2**

**NURS142**

**Effect Of Hyperactivity On Heart Rate**

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**Objectives**

**Obtain resting heart rate mean value.**

**Obtain hyperactive heart rate mean value.**

**Compare mean values of resting and hyperactive heart rate.**

**Observe results for any abnormalities.**

**Introduction**

**The heart normally beats in a regular rhythm and rate, depending on the work of the body at any moment. The normal range of pulse rate is (60\_100) beats/minute. In medical books we’ve learned that exercises or any activity increases the pulse rate due to highly demanded oxygen by muscles, which is important to make ATP that provides energy. However, In our lab we did an experiment to discover the relationship between activities and pulse rate, and its effects.**

**Results**

|  |  |  |
| --- | --- | --- |
|  | **HR in the rest** | **HR in the hyperactivity** |
| **1** | **69** | **126** |
| **2** | **75** | **119** |
| **3** | **72** | **111** |
| **4** | **78** | **117** |
| **5** | **78** | **110** |
| **6** | **84** | **120** |
| **7** | **72** | **115** |
| **8** | **69** | **100** |
| **9** | **88** | **125** |
| **10** | **83** | **110** |
| **11** | **92** | **128** |
| **12** | **85** | **120** |
| **13** | **87** | **136** |
| **14** | **70** | **128** |
| **15** | **90** | **150** |
| **16** | **80** | **92** |
| **17** | **84** | **124** |
| **18** | **72** | **108** |
| **19** | **84** | **120** |
| **20** | **68** | **84** |
| **M** | **79** | **117** |
| **SD** | **8** | **14** |
| **SEM** | **2** | **3** |

**The HR in the rest = 79 +/- 2 (20)**

**The HR in the hyperactivity = 117 +/- 3 (20)**

**Discussion:**

In this experiment, we conducted heart rate at rest and at hyperactivity using the radial artery by putting the tip of our index and third finger and feeling the pulse between wrist bone and the tendon on the thumb side of our wrists.

**Heart rate at rest:**

We obtained heart rate at rest. In a sitting position, we set the timer for a one full minute and placed the two fingers on radial pulse site and obtained our heart rate (beats per minute) and recorded the result of heart rate at rest as shown in the table.

**Heart rate at hyperactivity:**

We obtained heart rate at hyperactivity. We exercised on treadmill for 2 minutes and then we set the timer for a one full minute and obtained heart rate from radial pulse and recorded it as shown in the table.

After obtaining heart rate at rest and hyperactivity we did calculations to obtain mean values of heart rate at rest and at hyperactivity in our class, and we did calculations to obtain standard deviation (SD) and standard error mean (SEM). As shown in the table, all values of resting heart rate are normal and within the normal range of resting heart rate for adults which is (60-100 beats/min) but there are slight differences in values of students due to difference in the condition of each student. Result of mean value for resting heart rate is 79 beats/min and it is normal because normal range of resting heart rate is (60-100 beats/min). there is a noticeable increase in heart rate values at hyperactivity and the mean value of heart rate at hyperactivity is 117 beats/minute and it is higher than the mean value of resting heart rate and this is because During hyperactivity and exercise the oxygen demand of our muscles increases and muscles require more blood. As a result, the heart beats faster and contracts more forcefully and this increased work in the heart results in increased cardiac output and more blood supply to the muscles.

**Conclusion:**

In this lab we have tried 2 tests that’s related to Heart rate, the first test was about measuring the heart rate in rest status, whereas the second one was about measuring the heart rate after doing an effort, So we’ve exercised on treadmill for 2 min for every person and then we set the timer for a one full minute and obtained heart rate from radial pulse and recorded it.