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Exercise and Heart Rate are we Fit and Healthy?

Being just into the start of the New Year 2015, we should be thinking of our health and fitness. Many of us have made a New Year's Resolution to lose weight and be more fit, but do we really know the difference between these two subjects? The thought for this newsletter came to me from a news column by Gretchen Reynolds, Ph.D., a fitness and science writer for the New York Times, February 11, 2014 article under the heading Ask Well. It talked about several formulas that exist regarding "maximum safe heart rate," using variations of 220 beats minus your age. Is there any research data backing up these formulas?

This article brought to mind two books about exercise, fitness, and what should be our good health. The first of these books was written by a health and fitness expert of his day Covert Bailey. Mr. Bailey had numerous advanced degrees from universities, but the one he was most proud of was his master's degree in Biochemistry from MIT. This book titled "Fit or Fat", had sold more than 500,000 copies when it was first published and released by Houghton Mifflin Company in 1977.

The second book was from a friend and colleague of mine Philip Maffetone, DC, who practiced Applied Kinesiology in New York. His interest and participation in running led him to write this book titled "Everyone is an Athlete": A Professional Approach to Exercise and Sports, David Barmore Publishing, 1989.

Both of these books will help you understand exercise and its connection to good health and proper dieting and control of body weight. The concepts of Aerobic and Anaerobic exercise will be explained and how this can be used to increase your fitness as well as your general good health. These factors are all based on measurement of heart rate.

First factor is the resting heart rate the norm has been considered 72, but it may range between 60 and 80. The more fit the individual the lower the rate will be. If you see a competitive long distant runner it would not be unusual to find the resting rate in the 30's, for myself my resting rate is usually 48. What this means is that my heart does the same job in 48 beats per minute that another individual is doing in 72 beats per minute. This should mean that my heart should last longer because it is working more efficiently.

The maximum heart rate has been studied for at least 100 years and the top level has been stated to be 220, however current research levels show the low range at 203.7 and a high range of 217. A recent research study in Norway by Dr. Wisloff, which consisted of 3,320 men and women from ages 19 to 89, showed the maximum high range at 211. A formula consisted $(211 - 0.64 \times \text{your age})$, so to give you an example if you are 50 $\times .64 = 32$, $211 - 32 = 179$, would put your pulse level at 143 beats per minute, this need to be maintained for 15 minutes or more to get the aerobic benefits and this requires a warm up period of at least 5 minutes and a cooling down period of at least five minutes so total time is 25 minutes. You want to maintain your MAP beat level of 143 and not go above or below this level by 5 beats. The best way to accomplish this is using a heart monitor which is worn around the chest and this is broadcast to a watch that you can see the constant heart rate. Polar is one of the companies that make these types of monitors.

Aerobic exercise means supplying oxygen at the same rate as you use it and when you do this you are not out of breath and you will be burning fat which supplies your endurance or slow twitch muscles which are your legs. Therefore the aerobic activities are usually running, walking, bicycling and dancing etc. Anaerobic exercise means that you will require to be using more oxygen then you can supply for normal breathing, this in turn means you build up an oxygen debt, and are most likely to be somewhat out of breath. Anaerobic activities are weight lifting, sprinting, racket ball, and basketball are some examples of these exercises. You should remember that anaerobic exercise will burn glucose or sugar as the energy source for fast twitch muscles.

You should also remember you need to balance both types of activities so as to avoid injuries and you can do aerobic and anaerobic exercise to excess. Though Applied Kinesiology testing we can easily determine if there is an over loading in either form of exercise. There are specific nutritional requirement for each type of exercise and it is too complicated for me to explain this in the space of this newsletter. So I would suggest that you invest in both of these books, and check with Amazon.com.

Another related topic can be found in Newsletter-#31 "Diet and Weight Loss/Body Mass Index", check my website paulsprieser.com, and click patient information banner topic button.