Exercise and Blood Pressure

Introduction:

Every day there are new findings, new medications and more discussion about blood pressure. High blood pressure is extremely dangerous and often times, if gone untreated can lead to heart attacks or even death. There are so many medications on the market today to aid in the lowering of blood pressure. However, there is one thing that can be done without any out of pocket cost to the person who needs it, exercise. Exercise is quite possible the most effective tool that people have. By increasing the heart rate, in turn pumping more oxygenated blood throughout the blood stream, a person can decrease their blood pressure. It takes some time of continuous exercise regime. However, with time the patient and doctor will notice a decrease in their blood pressure. Along with decreasing blood pressure in those who need it, exercise does something else that may be even more important than lowering blood pressure, prevent it. Prevention is the best medicine. Along with elevating the heart rate and giving it a "work out", weight loss due to exercise will take pressure off of the heart as well since there is less body mass and fat to pump through. I decided to do my project on this subject because I have always been interested in exercise. The benefits are amazing and this was one more benefit I wanted to learn more about. I was amazed to see how exercise really could help tremendously in aiding blood pressure.

Section One: Background and Problem Statement:

Web site #1: "Healthy People 2010" (Score 23)

http://www.healthypeople.gov/Document/html/uih/uih_bw/uih_4.htm#physactiv

This Web site is designed to give guidelines about how one should live the healthiest life possible. There was an enormous amount of information. The links on the site were also very useful, however, could have been better organized. The site search did not work very well and I found the organization a bit confusing when looking for a specific area. As a whole the site is very helpful to the public and professionals alike. It is a government site so it is very reliable as well.

Web site #2: "Exercise: A drug-free approach to lowering high blood pressure" (Score 28)

http://www.mayoclinic.com/health/high-blood-pressure/HI00024

I found this site extremely useful. There were so many links to relevant topics that were easy to follow. There is an enormous amount of information. The only issue I could see would be too much information. I can see someone becoming overwhelmed by the amount on information that is in front of them on the screen but other than that it was a great site.

Web site #3: "Exercise and Blood Pressure" (Score 29)

http://www.americanheart.org/presenter.jhtml?identifier=10860

This Web site was very comprehensive and easy to use. The American Heart Association is a respected group and their information is very reliable. The information was easy to understand and easy to get to. There were numerous links and the site is updated constantly. Over all it was fast-loading and nicely organized.

Web site #4: "Exercise and Resting Blood Pressure" (Score 16)

http://www.unm.edu/~lkravitz/Article%20folder/restingbp.html

Although I was able to find a lot of information about the topic, I question the integrity of it. The author, Professor Kravitz has many awards and his research is backed up with articles however the site is not organized very well and is hard to find things. There are links everywhere and it is hard to see where they lead. It had information that was some of the most useful but getting to it was tricky.

Section 2: Research

Web site #1: "Clinic and ambulatory blood pressure responses after resistance exercises" (Score 11)

http://www.ncbi.nlm.nih.gov/pubmed/19209079?ordinalpos=18&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

This article may have been useful to someone that can follow specific research but I found it extremely hard to understand. It gave a clear conclusion but that was about the only thing that I could understand. The search engine "pubmed" is also extremely hard to understand and navigate to the exact articles that are needed. The research was done on 15 healthy participants testing their blood pressure before and after different exercises and after periods of rest. The experiment found that simply doing an exercise for a 24 hour period was not enough to effect blood pressure but that effects were seen on people that had higher blood pressure levels before working out.

Web site #2: "The aftereffects of dynamic exercise on ambulatory blood pressure" (Score 19)

http://www.ncbi.nlm.nih.gov/pubmed/11689735?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DiscoveryPanel.Pubmed_Discovery_RA&linkpos=5&log$=relatedreviews&logdbfrom=pubmed

The article discusses the results of an experiment done at UCONN where there were 23 sessions of 34 participants all of which were non-Hispanic, over-weight and unmedicated. Their blood pressures varied between normal and high. The conclusions were that people that started doing exercise with the highest starting blood pressure gained the most and were able to bring down their blood pressure post-exercise.

Web site #3: "Effect of Aerobic Exercise on Blood Pressure" (Score 22)

http://www.annals.org/cgi/content/abstract/136/7/493

The article is based on many trials of Meta-analysis of random people to combine all of the trials in the end in a pool. It was then observed that aerobic exercise led to largest drop in blood pressure. There was a decrease in blood pressure in all of the participants over time even those who did not have high blood pressure.

Web site #4: "Short term effect of dynamic exercise on arterial blood pressure" (Score 23)

http://circ.ahajournals.org/cgi/content/abstract/83/5/1557

This article took 6 men with slightly higher blood pressure and 6 controls. They found that after exercise, blood pressure was lowered for up to twelve hours and it is recommended that exercise be used to lower blood pressure in unmedicated patients as a means to control the problem and prevent it from getting worse.

Section 3: Statistics

Web site #1: "Effect of Aerobic Exercise on Blood Pressure" (Score 22)

http://www.annals.org/cgi/content/abstract/136/7/493

Out of 54 trials, adults that did not exercise before saw a 3.8 mm Hg decrease in systolic blood pressure and a 2.6mm Hg decrease in diastolic blood pressure after exercising regularly. There was a decrease in every participant even if they did not have high pressure previously. All types of exercise were found to lower blood pressure.

Web site #2: "Hypertension and exercise" (Score 16)

http://www.unm.edu/~lkravitz/Article%20folder/hypertension.html

About 25% of the U.S. population suffers for high blood pressure. The regular prescribed exercise regime for patients with high blood pressure is 20-60 minutes 3-5 times a week. This low and moderate program can help reduce blood pressure without causing excess stress on the individual's body.

Web site #3: "Exercise Lowers Blood Pressure more when combined with weight loss" (Score 24)

http://www.lifeclinic.com/focus/blood/articleView.asp?MessageID=337

Since weight and blood pressure often go hand in hand this study proved that the combination of weight loss and exercise decreased blood pressure considerably. The exercise program alone decreased blood pressure by 4mmHg, however, when it was combined with a weight loss program is was down nearly 7mmHg.

Web site #4: "A Drug Free Approach to Lowering Blood Pressure" (Score 28)

http://www.mayoclinic.com/health/high-blood-pressure/HI00024

By being more active, even if that included mowing the lawn of walking dog, one can lower their systolic blood pressure by 5 mm Hg. Blood Pressure should be below 120/80 mm Hg. Blood pressure usually increases with age so it is important to regularly exercise to keep this from increasing with age or weight.

Section 4: Consumer Information

Web site #1: "Healthy People 2010" (Score 23)

http://www.healthypeople.gov/Document/tableofcontents.htm#volume1

This Web site would be good for a person that does not need numbers or anything in depth. It has very little information and most of it is common sense. This would be helpful for someone preventing high blood pressure, as it does not address exercise and blood pressure specifically but rather exercise as a whole on one's body.

Web site #2: "American Heart Association" (Score 29)

http://www.americanheart.org/presenter.jhtml?identifier=3034814

This Web site is must more in depth than the Healthy Living Web site and answered all of the most common questions that people would have. The Web site covered everything that you could imagine and was extremely user friendly. All of the links were relevant and led to more information that was all very easy to read.

Web site #3: "Effect of Aerobic Exercise on Blood Pressure" (Score 22)

http://www.annals.org/cgi/content/abstract/136/7/493

I was only brought to this site through Google Scholars. I don't know how one would find it without that but I was hard to navigate. It is based on articles

and book, many with which the whole cannot be seen. There was a lot of information but it is more focused towards professionals than the general public. Someone just wanted to lower their blood pressure and learn more about it would not benefit from this Web site.

Web site #4: "Hypertension and Exercise" (Score 16)

http://www.unm.edu/~lkravitz/Article%20folder/hypertension.html

This Web site is very easy to navigate with a ton of information and experiments done by the author himself. While the sources all Doctors of exercise science their credibility is still in question as it is a very small group of individuals from which information is gathered but in all the site is easy to use and informative.

Conclusion

Section One: Background and Statement

Best Web Site: "Exercise and Blood Pressure"

The site had all the information needed and was very user friendly. It answered all of the questions that anyone would have with ease in navigating.

Worst Web Site: "Healthy People 2010"

While the Web site is good for people that are looking to live a healthier lifestyle it does not help people that are looking for this particular Web site. It was also really hard to navigate and the search would never find anything I typed in even if it was exercise.

Section Two: Research

New Information I learned:

Blood pressure is such a huge problem. I did not thing that exercise was going to have that large of an impact on blood pressure as a whole so quickly after starting a program.

Section Three: Statistics

New Statistics I learned:

25% of the United States population has high blood pressure. With regular exercise blood pressure can be reduced by 5 mm Hg.

Section Four: Consumer Information

Best Web Site: "Exercise and Blood Pressure"

This Web site was just the best overall and the easiest to use. It was very reliable and the search function was very easy to use and helpful. This was the most user-friendly site that I came across.

Worst Web Site: "Hypertension and Exercise"

This is a university site and is geared to the students of one professor. While the information was very useful the layout was horrible and it was hard to tell if it was really reliable since all of the articles and findings were from one professor and his colleagues. I would not recommend this site unless you need to for a purpose.

This project was very helpful in learning just how much exercise can help people in their every day lives. While doing all of this research I found that it was much more progressive to exercise before the onset of high blood pressure. It is known that blood pressure is somewhat hereditary and it could happen to anyone. As with anything, prevention is the best prescription. With regular exercise and keeping one's weight down, blood pressure should not be an issue for the average person.

Back to Betty C. Jung's Web site	**http://www.bettycjung.net/**
Back to Web site Critique Reports Directory	**http://www.bettycjung.net/Pch201wsreports.htm**

Presentation Outline

by Amy Montalbano

- **Background/Problem Statement**
  - **Why is your topic a Public Health Issue?**
    - **The topic of Blood Pressure and the effect that exercise has on it is a serious Public Health Issue. Over 25 % of Americans suffer from High Blood Pressure. High Blood Pressure can lead to stroke, heart attack and death. It is important to know the ways in which you can prevent or help treat this problem without the use of drugs.**
  - **Definition:**
    - **High blood pressure is also known as Hypertension and is when blood pressure is in a constant elevated state. There are two types of hypertension, essential and secondary. Essential means that there is no medical cause for the problem and about 95% of people have this classification where as secondary is due to another problem such as kidney disease.**

- **Statistics**
  - **Most interesting finding:**
    - **The study done at UCONN involving 34 participants in 23 different trials showed that people that started with the highest level of blood pressure saw the largest decrease in blood pressure.**
  - **Why is it interesting?**
    - **This is interesting because you would expect that those people that were the most in danger would not decrease that much so quickly as they probably did not have to do that much exercise to get the number down since they were used to being sedentary.**

- **Research**
  - **Most interesting finding:**
    - **The most interesting fact that I found in the research was that when an exercise program was combined with a weight loss program the individual's blood pressure dropped by**

7mm Hg as opposed to just exercise which only dropped it 4 mm Hg

- **Why is it interesting?**
  - **This was interesting because it showed the correlation that weight has to do with blood pressure as well. Becoming a healthier person altogether can actually almost reverse the high blood pressure.**

- **Consumer Information**
  - **Most Interesting information:**
    - **A person does not need to go on a crazy exercise program to make a difference. Thing such as walking the dog and mowing the lawn can be counted as exercise for a person who is not used to doing them**
  - **Why is it interesting?**
    - **It is amazing how little it takes to so much for your body. With Blood Pressure leading to Heart disease, stroke and death why not just pick up the lawnmower and do yourself some good.**