A Heartbeat Away (From Wellness)

By Leonard P. Martineau, PhD, LMBT, RYT

Resting Heart Rate (RHR) refers to the number of times that an individual’s heart beats at rest. It is determined by counting the number of beats in a 60-second interval. A ‘normal’ (average) resting heart rate range is from 60-80 beats per minute, but can vary considerably.

This article will focus on the following sections:
• RHR and aerobic fitness
• What affects RHR?
• Progressive relaxation

RHR and Aerobic Fitness
As the human heart is strengthened (through aerobic training), it becomes larger and stronger. With a free-flowing circulatory system, the heart needs fewer beats (per minute) to circulate the blood throughout the body. A lower RHR is often associated with aerobic fitness.

The lowest RHR that I have ever witnessed was a resting 38 – while performing an exercise test on a marathon runner at the University of Rhode Island’s Human Performance Laboratory. Just think about it: the individual with a ‘resting 38’ has a heart that is beating half as many times as the average person. His high level of aerobic training contributes to the superb functioning of his heart.

What affects RHR?
Have you ever awoken from a bad dream? Was your heart racing? Has your heart ever felt ‘heavy’? Many factors can affect RHR.

If a person were to drink a cup of coffee, or smoke a cigarette, or even think an anxiety-producing thought, his/her RHR could rise by 10-15 beats per minute. Imagine what happens when a distressed student, working on a last-minute project, consumes a heavy dose of sugar and caffeine (in the form of a ‘Monster’ soda). Chronic distress (if not dissipated through cathartic endeavors like dancing, laughing, singing and exercise) can take its toll on our most important organ.

By the same token, we can care for our heart and reduce our RHR by making small alterations in our posture, breathing, and thoughts.

Try this experiment:
After closing your door, putting on some soft, relaxing music, or visualizing a pleasant experience (at the beach or in the mountains):

1. Count your resting heart rate by palpating your carotid or radial pulse for 15 seconds, and then multiply by four. Write down your current RHR.
2. Sit up straight in your chair.
3. Uncross your legs.
4. Retract your shoulder blades, a bit.
5. Allow the arms to rest easily in your lap.
6. Lengthen the back of the neck, by allowing the crown of your head to reach for the ceiling.
7. Focus on the breath, and siiiiiiiiiiiiiiilow down.

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The Influenza Vaccine - What You Need to Know!

By Betty Jones, MA, RN, CMA (AAMA) Department Chairperson, Medical Assisting, Phlebotomy and Health Promotions

How many times have you heard someone say, “I don’t want to take the flu vaccine because I am afraid that it will give me the flu.” How would you as a healthcare professional respond to that statement? How do you feel about the new requirements for healthcare professionals to take the Flu Vaccine?….. A discussion on influenza can become quite lengthy. For this article, let’s review a few facts about Influenza and the flu vaccine that you can share with individuals who have questions about taking the vaccine.

FACTS ABOUT THE FLU
Influenza (flu) is a very contagious disease that spreads around the United States every winter. The flu season is usually between October and May – that’s quite a span of months! The CDC (Centers for Disease Control and Prevention) continues to recommend vaccination as long as flu viruses are still circulating. Unfortunately, the strain of the virus may vary from year to year. Each upcoming season’s flu vaccine will protect against the three influenza viruses that research indicates will be most common during the season.

The flu is caused by the influenza virus and can be spread through coughing, sneezing, and close contact. This means you can be exposed to the virus without knowing it. Most healthy adults may be able to infect others beginning one day before symptoms develop and up to 5 to 7 days after becoming sick; maybe an even longer period of contagiousness for young children and individuals with weakened immune systems.

The flu has a higher occurrence in young children, people 65 and older, pregnant women, and people with certain health issues such as heart, lung, or kidney disease, or a weakened immune system. The flu can also lead to pneumonia and make the individual’s existing medical conditions worse.

It is alarming when you realize that thousands of people in the United States die from the flu every year, and many more are hospitalized. The 2013-2014 CDC Seasonal Influenza Report states, “Over a period of 31 seasons between 1976 and 2007, estimates of flu-associated deaths in the United States range from a low of about 3,000 to a high of about 49,000 people. During a regular flu season, about 90 percent of deaths occur in people 65 years and older.”

SYMPTOMS OF THE FLU
Individuals with the flu may experience fever and chills, sore throat, muscle or body aches, fatigue, cough, headache, and runny or stuffy nose. Some individuals may experience vomiting and diarrhea.

The flu is different from a cold. Symptoms of the flu usually come on suddenly. Most people recover from the flu within a few days to less than two weeks. Some however, will develop complications such as pneumonia, bronchitis, sinus and ear infections from the flu. Some may have severe enough symptoms to require hospitalization.

Some important points to remember if you are sick with a flu-like illness include:

• If you get the flu, antiviral drugs are a treatment option. Check with your doctor promptly if you have a high risk condition and/or you get flu symptoms.
• Stay home for at least 24 hours after your fever is gone (except to go to the doctor if needed). This means that the fever must be gone for 24 hours without the use of fever-reducing medications.
• Cover the mouth and nose with a tissue when coughing or sneezing and discard the used tissue in the trash can. Avoid spreading germs by touching your eyes, nose and mouth.
• Wash your hands with soap and water. If soap and water are not available, be sure to use an alcohol-based hand rub/lotion. Hand washing is

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Gaston College Earns Second Place in the Gaston Cup Series!

By By Adele Earls, Student Success Counselor – Title III

Gaston College staff and faculty continue to log miles in the Gaston Cup series! The second annual Gastonia Grizzlies 5K was held in July at Sims Park. A little rain couldn’t dampen the excitement of our participants and our small group from Gaston yielded some big accolades! Congratulations to Sarah Terrio, Sherry Lingafelt, Gayla Green and Bruce Cole for placing in their age groups!

The Gaston Cup is a series of fitness events where companies from across the county compete against each other in an effort to raise health awareness, improve physical fitness and create a spirited competition among regional businesses. Gaston College has participated in all four events so far: Run for the Money 5K, Cherry Blossom 5K, the Gastonia Grizzlies 5K and the Labor Day 5K. As a result of our participation, commitment to fun and exercise, and our hard work, we are now in second place in the medium business division! Way to go Gaston College!

The Labor Day 5K, affectionately titled “The Burn”, kicked off in its inaugural event on September 1 at Crowders Mountain. Sarah Terrio won first in her age group and Gayla Green placed second in her age group on this 1.5 mile trek up Crowders Mountain and back down again. The last event in the Gaston Cup series is the Spencer Mountain 5K and 10 miler on November 8. This event offers many flat run areas, a few rolling hills and a completely downhill finish for the 10 miler. We will have registration forms at the Benefits Fair on September 25. Participants can also register online at the Gaston County YMCA website at http://www.gastonymca.org/locations/central/. You do not need to be a YMCA member to register.

With plenty of time to train for the 5k in November, won’t YOU consider joining us for the Gaston Cup series? You are welcomed to WALK or RUN! We want you to participate, have fun, enjoy a healthier lifestyle and challenge yourself. Time limits are generous (usually an hour or more) and participants of every fitness level will find this an accomplishable goal! Walking is highly encouraged. It provides low impact exercise which burns calories, increases metabolism, and energizes you.

Don’t forget about our awesome prizes! Each Gaston College participant receives a free gift for completing the event, plus your name is entered into the drawing for additional awesome giveaways! Lastly, if you participate in 3 or more of the Gaston Cup events, you will be entered into the GRAND

PRIZE drawings for $150, $100 and $50!!!!!!!

If you have any questions, contact Jacob Surratt at 704.922.2283 or Adele Earls at 704.922.2296.
The Pros and Cons of CrossFit

By Jacob Surratt, MS, ACSM-HFS, ACE-CPT

Fitness fads and trends come and go. We have seen the ThighMaster, ab-chair, ab-belt (even worse), BowFlex, shake weight, and I can go on for days. However, in the past few years we have seen a fitness trend gain more popularity that seems here to stay: CrossFit. I have had many conversations with clients, students, colleagues, and even family members who would like to try CrossFit, but are unsure if it is right for them. I will take a few moments to answer the most common questions, and provide the pros and cons of CrossFit, that will hopefully allow us to make an informed, educated decision.

1. What is CrossFit?
According to the official CrossFit website (crossfit.com) CrossFit is primarily a fitness regimen that provides methods to increase work capacity through a variety of methods and exercises, mainly through varied functional movements performed at high intensity.

2. What is a WOD?
WOD stands for “workout of the day” which is a workout posted on the main CrossFit website for each day of the week. Each workout is different, but is centered on the main functional movement patterns and high intensity challenges. This means that the intensity of each workout is varied by requiring the participant to complete the workout in a certain time, with a certain amount of reps, or in as many rounds as possible.

3. What exercises are primarily involved?
Pushups, pull-ups, burpees, squats, deadlifts, muscle ups, Olympic lifts (hang cleans, snatches, clean and jerks), rope climbs, rowing, running. Most all of these exercises are performed at your own body weight, or with free weights, dumbbells, kettlebells, or medicine balls.

4. Does CrossFit work?
That depends. CrossFit has been proven to exponentially increase strength and work capacity, but has also been shown in the same research to be high risk. Although representatives of CrossFit deny it, many participants can be at risk for orthopedic injuries such as rotator cuff tears or strains, and lower back problems.

5. How Do I Start a CrossFit regimen?
It is highly recommend to read the How to Start Guide on the CrossFit website. This article provides the basic steps to starting a CrossFit routine on your own, or in a CrossFit affiliated facility.

6. Common CrossFit Lingo:
WOD- Workout Of the Day
AMRAP- As Many Reps (or Rounds) As Possible
Pood - Russian measure used for kettlebells; common ones: 1 pood =36 lbs; 1.5 pood = 54 lbs; 2 pood = 72 lbs. Approx db equivalents are 35, 55, 70
Tabata - For twenty seconds do as many reps of the assigned exercise as you can - then rest 10 seconds.Repeat this seven more times for a total of 8 intervals, 4 minutes total exercise.

Pros
• Variety of exercises and workouts
• Proven increase in strength
• Metabolic, high intensity workouts, designed to burn calories
• Incorporates functional movements
• Incorporates variety of exercise equipment and modes of exercise (swimming, running, rowing, walking)
• Can be performed anywhere
• Designed for group settings (promotes accountability and social support)
• Individual based competition (time based criteria)
• Exercises are very specific to the needs of military,
The Pros and Cons of CrossFit (continued from page 4)

- Cross Fit certified professionals are not required to have any educational background in Physical Education, Exercise Physiology, Athletic Training, or Kinesiology.

The CrossFit movement has taken our country by storm because it looks cool, is challenging, can be completed in a short amount of time, and does provide increases in strength and endurance. But with any high intensity exercise routine there are risks. Crossfit is heavily based on Olympic style lifts. These lifts are designed to be performed using high weight and low reps for more speed and explosiveness. CrossFit often suggests that a participant complete these lifts using high weight and high reps. The combination of high weight and high reps can be a recipe for injury, unless modifications are made based on the individual’s own fitness level.

So what should you do? Proceed with caution; be sure to do your homework when starting a new fitness routine, and as with everything else in life, use moderation. Too much exercise at too high an intensity can be detrimental. Exercise is like taking a very hot bath. If you jump in too quickly you will get burned pretty badly. However, if you ease into it, it can be very enjoyable and provide great benefits.

Influenza... (continued from page 2)

vital to preventing the spread of germs in any situation.
- Be sure to clean and disinfect surfaces and objects that may be contaminated with germ like the flu virus.

FIGHTING THE FLU
The best way to prevent the flu is by getting vaccinated each year. The CDC recommends that everyone six months of age and older should get a flu vaccine as soon as the current season’s vaccines are available. “Over the last 50 years, seasonal flu vaccines have had very good safety track records. Over the years, hundreds of millions of Americans have received seasonal flu vaccines. The most common side effects following flu vaccinations are mild” (CDC). Flu vaccines cause antibodies to develop in the body about two weeks after vaccination. These antibodies will provide protection against infection with the viruses that are in the vaccine. Any recommendations for NOT getting the flu vaccine come from the individual’s health care provider.

Vaccination is very important for health care workers and other people who take care of high risk people. The vaccine is a valuable way of providing some protection for individuals who may be exposed to the flu and also helps prevent spreading the flu from person to person. The CDC provides a wealth of information on the flu vaccine, influenza, and other communicable diseases. The article identified in the following statement is simple and to the point, “For additional information about actions – apart from getting vaccinated and taking medicine – that people and communities can take to help slow the spread of illnesses like influenza (flu).” See the CDC’s Everyday Preventive Actions on the following two pages.

SOURCES

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.


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Everyday Preventive Actions That Can Help Fight Germs, Like Flu

**CDC recommends a three-step approach to fighting the flu.**

CDC recommends a three-step approach to fighting influenza (flu). The first and most important step is to get a flu vaccination each year. But if you get the flu, there are prescription antiviral drugs that can treat your illness. Early treatment is especially important for the elderly, the very young, people with certain chronic health conditions, and pregnant women. Finally, everyday preventive actions may slow the spread of germs that cause respiratory (nose, throat, and lungs) illnesses, like flu. This flyer contains information about everyday preventive actions.

**How does the flu spread?**

Flu viruses are thought to spread mainly from person to person through droplets made when people with flu cough, sneeze, or talk. Flu viruses also may spread when people touch something with flu virus on it and then touch their mouth, eyes, or nose. Many other viruses spread these ways too.

People infected with flu may be able to infect others beginning 1 day before symptoms develop and up to 5-7 days after becoming sick. That means you may be able to spread the flu to someone else before you know you are sick as well as while you are sick. Young children, those who are severely ill, and those who have severely weakened immune systems may be able to infect others for longer than 5-7 days.

**What are everyday preventive actions?**

- Try to avoid close contact with sick people.
- If you or your child gets sick with flu-like illness, CDC recommends that you (or your child) stay home for at least 24 hours after the fever is gone except to get medical care or for other necessities. The fever should be gone without the use of a fever-reducing medicine.
- While sick, limit contact with others as much as possible to keep from infecting them.
- Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissue in the trash after you use it.
- Wash your hands often with soap and water. If soap and water are not available, use an alcohol-based hand rub.
- Avoid touching your eyes, nose and mouth. Germs spread this way.
- Clean and disinfect surfaces and objects that may be contaminated with germs like the flu.
- If an outbreak of flu or another illness occurs, follow public health advice. This may include information about how to increase distance between people and other measures.
What additional steps can I take at work to help stop the spread of germs that can cause respiratory illness, like flu?

- Find out about your employer’s plans if an outbreak of flu or another illness occurs and whether flu vaccinations are offered on-site.
- Routinely clean frequently touched objects and surfaces, including doorknobs, keyboards, and phones, to help remove germs.
- Make sure your workplace has an adequate supply of tissues, soap, paper towels, alcohol-based hand rubs, and disposable wipes.
- Train others on how to do your job so they can cover for you in case you or a family member gets sick and you have to stay home.
- If you begin to feel sick while at work, go home as soon as possible.

What additional preventive actions can I take to protect my child from germs that can cause respiratory illness, like flu?

- Find out about plans your child’s school, child care program, or college has if an outbreak of flu or another illness occurs and whether flu vaccinations are offered on-site.
- Make sure your child’s school, child care program, or college routinely cleans frequently touched objects and surfaces, and that they have a good supply of tissues, soap, paper towels, alcohol-based hand rubs, and disposable wipes on-site.
- Ask how sick students and staff are separated from others and who will care for them until they can go home.

Everyday preventive actions can help slow the spread of germs that can cause many different illnesses and may offer some protection against the flu.

For more information, visit www.cdc.gov, or call 1-800-CDC-INFO.
8. Inhale through the nose, and exhale through the mouth.
9. Allow the inhalations to take in more (and more) life-giving oxygen.
10. Allow the expirations to be passive, with (maybe) a little active ‘squeezing out’ of the air from the lungs.
11. Repeat several times.
12. Feel the air, as it flows through the nostrils and into the lungs.
13. Imagine the cleansing process of the body, as it inhales nutrients and exhales toxins.
14. Allow the realization of the complete symbiosis of life on planet earth:
   a. Animals inhaling the oxygen that plants exhale,
   b. Plants inhaling the carbon dioxide that animals exhale,
   c. Each, in complete balance with the other.
15. Return to the breath, slowing, relaxing, releasing.
16. After 30 breaths or so (about 5 minutes) retake your pulse.

Most people will experience a slight change (4-8 beats per minute), and some experience more significant changes. Remember that a four beat per minute reduction would equal a saving of two million heartbeats per year. In a recent Progressive Relaxation Session, one of our Veterinary Tech classes reduced their heartbeats by a total of 296 per minute. As a class, they would save more than 155 million heartbeats per year - via simple progressive relaxation techniques.

**Progressive Relaxation**

Jacobson’s Progressive Relaxation Technique is performed lying down on the back. The intention is to contract a muscle group for several seconds, and then, upon release of the contraction, experience that muscle group in a more relaxed state. The technique is performed in a sequential manner, such as ‘beginning at the toes and ending at the head.’

An exercise in awareness as well as one of relaxation, Jacobson’s technique allows for the relaxation of some very specific muscles in the feet, low-back, pelvis, upper-back, neck, and face. Both Judy Blan-kenship and I utilize some form of Progressive Relaxation during Yoga I, and we lead longer classes at Gaston College during each semester.

Progressive Relaxation incorporates breath awareness, and may include some visualization, meditation, or positive affirmations. You can even try it out by googling free video or audio downloads. One example is the following Progressive Muscle Relaxation Meditation video, on YouTube at https://www.youtube.com/watch?v=PYsuvRNZfxE. By practicing Progressive Relaxation (and similar techniques), you can reduce your heart rate and allow your heart to rejuvenate.

**Summary**

Resting Heart Rate (RHR) is but one indicator of aerobic fitness and overall well-being. It is affected (both positively and negatively) by several factors, both physical and mental. We can reduce our RHR by practicing very simple breathing techniques, and Progressive Relaxation can help us to experience a state of complete physical rest.

It is beneficial to become more aware of our own heartbeat, and to tap-in to the many ways that our heart rate is affected by thoughts, actions and external stimuli.

**References:**


What is a Genetically Modified Food?

By Kelly Vass, MS, RD, LDN
Instructor, Dietetic Programs

Genetics. Remember DNA, deoxyribonucleic acid, from science, the molecule that contains genetic instructions for development of plants, animals and humans? Whether referred to as genetically engineered, genetically modified (GM) or bioengineered, foods that have genes from other food inserted into their genetic code are generally regarded as safe (GRAS). Some products contain information about whether or not they contain GM ingredients while others do not.

Many consumers are passionate about whether or not to purchase and prepare GM foods for their families. Developing an end product with desired traits is the ultimate goal of genetic engineering/modification/bioengineering. Many may beg to differ that the goal of some is to increase income from the production of a limited variety crops or to increase income and empower chemical companies. This article provides information about what is a genetically modified (GM) food and is not intended to sway you for or against GM foods.

The first GM plant was a tomato plant in 1982. Commercial use of GM crops began in the mid 1990’s in the United States. GM crops accounted for nearly 50% of US cropland in 2013. In the US, GM foods primarily come from corn, soybeans and canola as an ingredient.

The benefits of GM foods may include providing an increased supply of the food, increasing the shelf life of a food, improving food characteristics, increasing the speed of plant growth, and decreasing the use of pesticides, fertilizers and water. The risk of GM food may include plant extinction, unpredictable environmental consequences, decreased resistance or increased susceptibility to some pests.

Resources for the article:
http://www.fda.gov/food/foodscience/research/biotechnology/ucm346030.htm

www.todaysdietitian.com April 2014
Genetically Modified Foods by David Yeager, p37-41.


http://www.ers.usda.gov/media/759217/aer810d_1_.pdf
