

Optimus

Optimus Mission & Vision

To provide research-based, life-style interventions designed to reduce the risks for chronic diseases.

We strive to provide a positive, safe, and comfortable environment to help you achieve your personal health and wellness goals.

Optimus staff members are experienced health and wellness professionals. Optimus has state of the art fitness equipment for total body conditioning and various services to better your health and fitness.

HOURS

Monday-Friday:
6am-1pm and 4-7pm
Saturday: 7am-noon

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Bi-Monthly Newsletter for Optimus: The Center For Health

Volume 4, Issue 4

Good Workout, But Wow Am I Sore! What's This all About?

By Tom LaFontaine, PhD

What is Muscle Soreness?

Most of us have experienced muscle pain and soreness ("myalgia") after exercise, particularly when beginning an exercise regimen. This myalgia is normal and referred to as Delayed Onset Muscle Soreness (DOMS). In fact, some soreness following a workout is expected and is part of the muscle-conditioning process.

DOMS is common but can be annoying, particularly among those who have little previous experience with exercise. DOMS also may occur when experienced exercisers add a new sport or exercise to their program or who engage in a particularly stressful session of greater than usual duration and/or intensity. DOMS appears 12-24 hours after exercise, peaks in intensity within 36-48 hours, and subsides without treatment within 72-96 hours.

Many experts believe DOMS is the result of microscopic tearing of muscle fibers, the contracting units of muscle. After strenuous, unaccustomed exercise this tearing can be quite significant. However, DOMS is usually part of the adaptive process leading to enhanced strength, endurance, and fitness. Optimus Personal Health Fitness Mentors (PHFM) are knowledgeable and competent in progressing members towards their health and fitness goals in a



safe, effective manner. They adhere to key principles of exercise physiology listed below.

1. The Principle of Individual Differences which simply means people respond differently to exercise; for example, genetic studies show that people increase their maximal exercise capacity by 5-50% in response to the exact same aerobic program.
2. The Principle of Overload says that a greater than usual load is required for a training adaptation to occur.
3. The Principle of Progression implies that the overload needs to be applied in a gradual and systematic manner - thus the term "Progressive Resistance Exercise", for example.
4. The Principle of Adaptation refers to the body's ability to adjust to increased physical demands. The adaptation process partially explains why beginning exercisers often experience DOMS that diminishes with continued gradually progressive exercise.
5. Principle of Use/Disuse describes the classic "use it or lose it" concept in that with regular exercise the body's systems improve function and fitness and without regular exercise, function and fitness are lost!
6. The Principle of Specificity states

that exercising a given body part or system improves that part or system. This explains why Optimus PHFMs challenge clients with a variety of exercises and modes.

How can DOMS be treated and/or prevented?

Although some DOMS is inevitable, it often can be prevented or minimized. Some of the methods listed below may be beneficial.

1. Doing the same exercise or regimen at a lower intensity and duration within 36-48 hours may be the best treatment for DOMS.
2. Mild stretching including gentle yoga may be helpful - try one of our yoga classes.
3. A cool bath or a contrast bath (warm then cool, repeat) may help.
4. Adhering to a 6-10 minute aerobic warm-up can be helpful (start slow and gradually increase your exertion to 11-13 on the RPE scale or Zone 2 heart rate if you have been tested - see the article on page 2 for an explanation of the RPE scale)
5. Performing a mild aerobic recovery cool-down (always recommended) may help.
6. Massage may be helpful - visit with Janene Sun, Optimus Massage Therapist.
7. With weight training, it is advisable for general muscle fitness training to do a session every 48

Good Workout, But Wow Am I Sore! (Continued)

hours and utilize a light, medium, heavy pattern (consider working with an Optimus Professional PHFM for guidance to optimize

your program and benefits).
8. Adhere to the well defined principles of exercise physiology listed above and do not increase loads by

more than 5-10% per week. This progression needs to be even slower in more de-conditioned and older exercisers who may

have cardiovascular, metabolic, and/or orthopedic issues to work with.

Congratulations to Tom LaFontaine



In June, Tom LaFontaine co-authored with a colleague, Paul

Sorace, MS, ACSM RCEP, two columns in the National Strength and Conditioning Association journal, Volume 32, pages 97-104. The articles were in the Special Popula-

tions and the One on One Columns, respectively, and were titled *Personal Training Post-Bariatric Surgery Patients: The Surgery Basics and Exercise Benefits,*

and *Personal Training Post-Bariatric Surgery Patients: Exercise Recommendations.*

Congratulations, Tom!

Kate Walker Qualifies for World Drug-Free Powerlifting Championships



Kate Walker, Optimus member and Yoga instructor, qualified Saturday, June 26, for

the World Drug-Free Powerlifting Federation Championships, to be held Nov 13 and 14, in Castle-Blayney Co Monaghan, Ireland.

Kate did a 99 lb bench press, a 154 lb squat, and a 231 lb deadlift!

Using the Rating of Perceived Exertion Scale to Monitor Exercise Intensity

By Tom LaFontaine, PhD

By now most of you have noticed the new Rating of Perceived Exertion (RPE) scales we have placed on the wall on either side of the TVs. This is a valuable subjective assessment tool that can be used to monitor your personal exercise intensity. Individual subjective ratings of perceived exertion correlate with heart rate and oxygen utilization. The greater the effort the higher the heart rate and use of oxygen.

The RPE scale was developed by Dr. Gunnar Borg, PhD, a Swedish Psychophysicologist, in the 1950s. When Dr. Borg originally developed the scale he used college males and found that when the subjects were resting comfortably their heart rates averaged about 60 beats per minute (bpm) and when they exercised at their maximum intensity, the average heart rate was close to 200 bpm. Thus when using the scale (repro-

duced below) during exercise, the subjects could estimate their intensity using the cue words. If they rated the effort 12, or between very light and somewhat hard, their heart rate was approximately 120 bpm. Adding a zero to the numbers on the scale at any given rating of the effort approximates the heart rate at that level of effort in a 20-year-old. Subsequent studies have shown that when subjects of any age use the scale their heart rates are typically between 60% to 80% of maximum when rating their subjective effort between 12 and 15 on the scale or light to hard. Most persons will terminate exercise if their subjective effort reaches 18-19.

Typical sensations experienced during exercise include increased breathing, perspiration, and muscle effort. When people reach an intensity where talking becomes somewhat uncomfortable

but remains doable (and we know many of you enjoy talking while exercising!), persons typically rate the effort between 12 and 15. In Exercise Physiology, we call this the "Talk Test". Below is a description of how to use the scale:

"While exercising on one of the cardiovascular equipment pieces, pay close attention to how light or hard you feel the workload is. This feeling should reflect your perception of your body warmth, heart rate, breathing, and muscle effort. Consider the overall effort you perceive combining all perceptions and feelings of the physical effort. Don't focus on one perception such as breathing or leg fatigue but rather on your total inner feeling of how hard or light the exertion is. Try not to over or underestimate your perceptions of the exertion and be as accurate as possible".

Rating of Perceived Exertion Scale

- 6
- 7 very, very light
- 8
- 9 very light
- 10
- 11 fairly light
- 12
- 13 somewhat hard
- 14
- 15 hard
- 16
- 17 very hard
- 18
- 19 very, very hard
- 20

Battaglia Makes his Targets at Optimus!



John Battaglia, Doctor of Ministry, 47-year-old pastor of the Christian

Chapel Church, was referred to Optimus by Pat Gruber, a long-time Optimus member and good friend of John's. On December 24, 2009, John completed a Metabolic Exercise Test administered by Tom LaFontaine, PhD. Based on the test results, John set specific and objective goals to achieve within the next 4-6 months. John also met with Hannah Holzum, RD, LD, regarding healthy dietary changes to compliment his exercise. John did exceptionally well adhering carefully to the guidelines established by the exercise test and dietary tips provided by Hannah.

On June 3, 2010, Tom administered a follow-up exercise test which clearly documented the

remarkable improvements John had made. In effect John has achieved 90% of his initial goals! The table summarizes the progress John has made.

Presently John is in the Phillipines on a church mission and will return to Optimus in late July. We look forward to continuing to work with John and assisting him in achieving his health, fitness, and disease prevention goals.

John achieved a loss of 32.4 lbs, most of which was body fat and increased his exercise capacity by 30%. John's maximal oxygen uptake is now equivalent to that of the average male at age twenty-seven! These are outstanding short-term improvements.

John has established new goals, and when he returns from his mission trip in the Phillipines, he will focus his attention on achieving these

Parameter	Pre (12-24-2009)	Post (6-3-2010)	Initial Goal
Bodyweight (lbs)	214.8	182.4	<185
Body Mass Index	30.0	25.4	<25.0
% Body Fat	27.1	17.8	<17.0
Fat Weight (lbs)	58.2	32.5	<30.0
Maximal Oxygen Uptake (milliliters/kg body-	29.9	39.0	>40.0
Heart Rate @ Zone 2/3	126-140	133-148	NA

and further enhancing his health and fitness.

John states, **"All the Optimus staff are friendly and helpful, and the environment cultivates encouragement and achievement. Working with Tom and Hannah has been motivating.**

They offer clear and proven directions that if followed bring significant results. Optimus has been a positive experience and I look forward to my next level of development." Congratulations John from all the staff and, I'm sure, members of Optimus!

Don't Ignore the Signs and Symptoms of A Stroke

By Tom LaFontaine, PhD

A recent study indicated that 67% to 75% of adults experiencing possible symptoms of stroke may ignore them or not consider them serious. This is in spite of the fact that the consequences of stroke can be death or permanently disabling injuries. The symptoms and signs of a stroke include:

- Numbness or weakness on one side of the body
- trouble speaking or understanding speech
- Difficulty with vision
- Trouble walking
- Severe headache.

The National Stroke Association recommends remembering the word "FAST" to promptly recognize the signs and symptoms of stroke and take fast action.

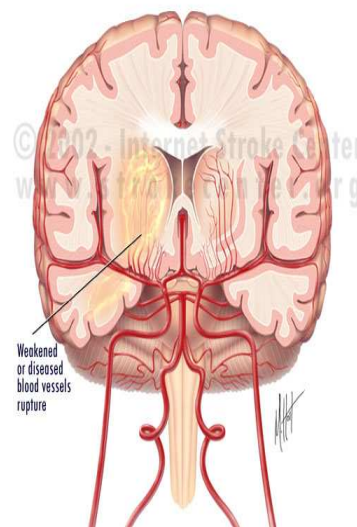
- F = Face. Ask the person to smile and see if one side of the face droops.
- A = Arms. Have the person raise both arms to see if one arm drifts down.
- S = Speech. Have the person repeat a simple sentence to see if they can.
- T = Time. If the person shows any signs of stroke, call 911 immediately.

Although it is critical to recognize the signs and symptoms of an impending stroke, it is even **MORE** critical to practice preventive measures. A recent study found that ten modifiable risk factors account for over 90% of strokes.* These factors include high blood pressure, smoking, body fat

around the waist, physical inactivity, diabetes, stress, and depression, all factors that everyone can improve, thus reducing personal risk for a stroke.

The mission of Optimus is to provide research-based lifestyle programs to reduce the risk for chronic diseases. Take advantage of the nutrition and exercise services provided by Optimus' professional staff!

*O'Donnell MJ, et al. Risk factors for ischemic and intracerebral hemorrhagic stroke in 22 countries (INTERSTROKE study): Lancet 2010;DOI:10.1016/S0140-06736(10)60834-3. Available at: <http://www.thelancet.com>



Circulation of the brain showing area of damage— A Stroke!

Nutrition Corner: Bone Up on Calcium

By Hannah Holzum

Did you know that roughly 75% of American adults do not consume the recommended amount of daily calcium? While 99% of the calcium in your body is stored in your bones and teeth, the remaining 1% plays several important roles in your body as well.

Calcium helps maintain blood pressure, releases neurotransmitters (which send signals to cells in your body), and is essential for muscle contraction. It is also a component in the production of enzymes and hormones that regulate digestion, energy, and fat metabolism.

The recommended amount of calcium is 1,000 milligrams per day for adults aged 19-50 and 1,200 milligrams for adults aged 51+. The body only absorbs about 40%

of the calcium consumed. This drops to 28% in post-menopausal women, which can lead to osteopenia and osteoporosis. Factors that improve calcium absorption include adequate amounts of dietary vitamin D, phosphorus, magnesium, and protein.

If you don't like milk, there are other foods that contain calcium. Some of these foods include yogurt, cheese and even leafy green foods such as spinach and kale. Below is a list of foods that provide calcium.

Milk (1 cup)	300mg
Yogurt (1 cup)	350mg
Swiss cheese (1 oz)	250mg
Cottage cheese (1 cup)	200mg
White beans (3/4 cup)	120mg

Tofu (3/4 cup)	350mg
Instant oats (1 pack)	165mg
Almonds (1/4 cup)	90mg
Cabbage/bok choy (1/2 cup)	190mg
Turnip greens (1/2 cup)	100mg
Kale (1/2 cup)	100mg
Broccoli (1 cup)	170mg
Orange (1 cup)	100mg

Vitamin D is essential in promoting calcium absorption in the body. Vitamin D also helps with immune function, bone health, and reduction of inflammation. While Vitamin D is hard to find naturally in foods, many foods today are fortified with Vitamin D to aid in calcium absorption.



For more information

on calcium and Vitamin D supplementation, please see Hannah Holzum, RD, LD. Also if you are interested in learning more about how you can improve your diet to healthier, consider purchasing some nutrition consultation sessions with Hannah!!

“Health is the thing that makes you feel that now is the best time of the year.”

-Franklin P. Adams, newspaper columnist

Feature Recipe: California Smoothie



Ingredients:

- 7 large strawberries
- 1 (8oz) container of lemon yogurt
- 1/3 cup orange juice
- Makes 1 serving

Directions:

1. Place strawberries in a plastic container and freeze for an hour.
- In a blender, combine frozen strawberries, yogurt, and orange juice. Blend until smooth.

This recipe provides more than one half of the calcium you need for a day!

Nutrients Facts (per serving):

Calories	281
Total Fat	<1 g
Carbohydrate	57g
Protein	13g
Dietary Fiber	3g
Sodium	155mg

Check Out One of Dr. Mike Mayer's Seminars:

"Do you really want to know what is going on with you and then make it better?"

July 13th 5:45-6:30pm

July 27th 12:15-12:45

"How do you get others to get help for themselves?"

August 10th 5:45-6:30pm

August 24 12:15-12:45

Member Birthdays

Optimus Staff Emails:

Tom LaFontaine:

fithealth@aol.com

Holly Delgman:

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Mason Stevens

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Aaron Horschig

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July

Sharon Millikan 7/1

Rodney Loesch 7/2

Bill Woods 7/6

Justin Winner 7/9

Gary Larkin 7/9

Janene Sun 7/11

Patt Stansberry 7/14

Ann Marie McGarry-

Papick 7/15

Judy Cunningham 7/18

Terry Dunscombe 7/22

Marie Kerl 7/22

Mary DeFroy 7/22

Connie Wolfe 7/22

Jason Swindle 7/23

Sherry Nichols 7/23

Mark Becker 7/23

Randy Adams 7/24

Kirsten Craver 7/24

Bruce Walker 7/25

Nancy Schultz 7/29

Linda Peterson 7/30

August

Pam Walker 8/6

Donna Glenn 8/6

Barb Stebbins 8/10

Becky Mathis 8/11

Aaron Bartelt 8/14

Betty Kissane 8/21

Don Dugan 8/21

Susan Gray 8/21

Tim Rich 8/22

Deborah Norris 8/22

Bri Heese 8/23

Bob Reid 8/24

Judy Freeman 8/25

Lee Landes 8/25

Linda Arnold 8/26

Louise Miller 8/29

Upcoming Local Events - Register Today!!

Parley Pratt Memorial 4 Mile

July 3rd, 7-9:30am
2500 Chapel Hill Rd, Columbia, MO

Red, White and Green Estate Run, 5K run – Mexico

July 9th, 7:30-9:00pm
Huntingfield Rd, Mexico, MO

Joker's Wild Half Marathon, Quarter Marathon, and 5K - Maryland Heights

July 18th 6:45-11am
St Louis, MO (Maryland Heights - Westport Plaza)

Show-Me State Games 5K/10K – Columbia

July 19th, 8-9am
4500 Bethel St, Columbia, MO

Tribute Triathlon

July 24th, 9-10:30am
Windsor, MO

Great Sandbagger 10K – Columbia

August 7th 7-8:30am
2200 W Nifong Blvd, Columbia, MO

The Rivalry Run/5K - Kansas City

August 28th 8am-12pm
Kansas City Power & Light District, 13th and Grand, Kansas City, MO

The Insurance Group

200 East Southampton Drive
Columbia, Missouri, 65203
573-875-4800

Mark your calendars...

JULY

- * UV Safety Month
- * Juvenile Arthritis Awareness Month

AUGUST

- * National Immunization Awareness Month
- * Children's Eye Health and Safety Month
- * August 8th-14th: National Health Center Week

WEEKLY CLASS SCHEDULE:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	6am Boot Camp	9am Boot Camp	6am Boot Camp		
	5pm Hatha Yoga		5:30pm Hatha Yoga		
**There will be no yoga on July 8th.					

Articles in *Optimus Connection* are contributed by the health and wellness professionals of Optimus. Information and recommendations presented in this newsletter are research-based and are given in the best interest of Optimus members and the Columbia community. Please contact Optimus to speak with any of our experienced staff if you have any questions or concerns regarding the content of this newsletter. Newsletter edited by Shaun Kelly and Optimus staff members.

