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What is DXA?

Dual-energy X-ray Absorptiometry (DXA) is a form of x-ray technology that was originally used to measure bone density, fracture risk, and pediatric development. This technology has been adapted for use in measuring body composition. DXA is rapidly growing and gaining acceptance as the premier measure of body composition due to impressive accuracy and low demands of clients or patients.

What Are The Pros & Cons?

Pros:

- Simple, quick, noninvasive
- High accuracy Standard Error $\pm 1.4\%$
- Negligible effort on part of the patient
- Bone mineral density (BMD) measurement

Cons:

- Mild exposure to radiation (equivalent of cross country air plane flight)
- Requires physician's script
- Test is not free

What is DXA?

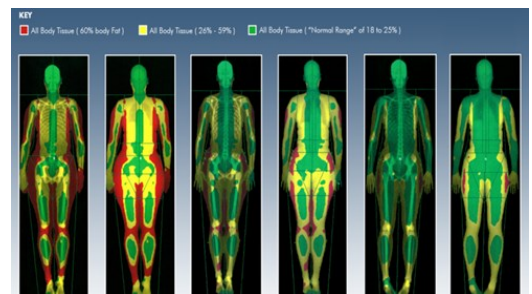
By Rich LaFountain

How Does This Technology Work?

This machine works similar to clinical x-ray imaging, but it is not as strong. DXA uses an invisible beam of two different, low level, x-ray fields to quantify density differences between bone and soft tissues within the body. Bone and soft tissues, such as fat and muscle, absorb varying levels of signal. The difference between bone, fat, and fat-free mass is quantified from the differences in signal absorption.

How Should I Prepare For A DXA Scan?

On the day of the exam eat normally, as you would any other. You should avoid taking calcium supplements for at least 24 hours

Consensus:

DXA is a quick and painless measure of body composition; adapted from clinical bone density measurement that gives very detailed information about body composition. This device has limited drawbacks and is the first choice for researchers when seeking to correctly noninvasively measure body composition.

By: Rich LaFountain

Myths of Exercise: Debunking Some of the Most Popular Fitness Lies

By Jessica Dicke



Myth: Doing crunches will get rid of my belly fat.

Fact: Crunches and other ab workouts will help to strength the muscles in your midsection, which in turn could help with posture, lower back pain, and eventually looking good in your swimsuit. But until you get rid of that layer of fat on top of your belly, you won't see any definition. Spot reduction is a myth stating that fat can be targeted for reduction from a specific area of the body. Instead of fueling this myth, try 30 minutes of cardio with your ab workout to burn calories and maintain strength!



Myth: Working out will boost my metabolism for the rest of the day.

Fact: Your metabolic rate increases during an exercise bout to account for the extra energy needed to perform the movement. To what extent this rate increases depends on the intensity and duration of the workout. This is also true for the amount of caloric burn after the workout is performed. The American College of Sports Medicine found that a 30-60 minute walk or a 20-30 jog (at 8-10mph) resulted in a return to baseline metabolic rate within the first hour of recovery. This may account for only 10-30 additional calories burned. In athletes who performed higher intensity, longer duration exercises, the post-exercise metabolic rate remained elevated for a longer period of time.

So, the average gym-goer, who does considerably less strenuous exercise, should not count on the additional hour of boosted post-exercise metabolic rate for caloric burn.



Myth: Muscle can turn into fat when you stop working out.

Fact: Muscle and fat are completely different types of tissue with different functions. When strength training, you can gain muscle through muscle tissue hypertrophy. Similarly, when you stop training the muscle is lost due to atrophy. You do not lose these muscle cells (and they do not turn into fat), they are simply shrinking in size.



Myth: Low intensity exercise burns more fat.

Fact: There is a grain of truth in this statement- High intensity exercise burns a higher proportion of carbohydrates than fat. So yes, you may burn less fat with high intensity exercise, but overall you will burn more calories! Looking at the bigger picture, if weight loss is your goal, low intensity exercise may not be the best option for burning those unwanted excess calories.

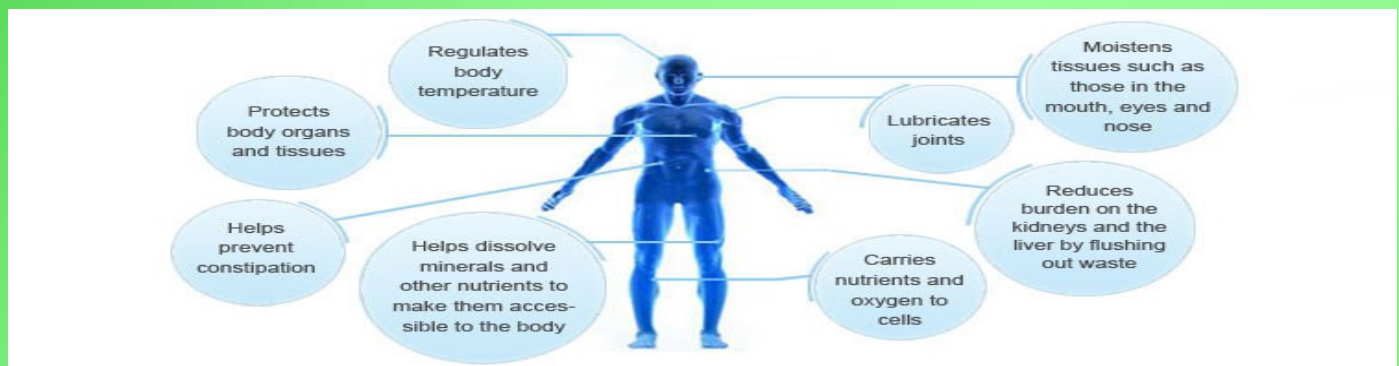
Side note: low intensity exercise is great for achy, stressed joints. Keep this in mind when starting an exercise program.

Water for Life

By LaKeesha Leonard

We exercise for different reasons: to be healthy, to feel better, to firm and tone our bodies, etc. Many of us have become disciplined enough to more or less follow a nutritious diet in efforts to meet the same goals that we have for exercise. Some of us have even invested in nutritional supplements such as protein powder or amino acids. However, too often the single most important commodity we can have on our journey of health is taken in daily only in deficient amounts. By now you may have learned along the way that the body is about 70% water. Your muscles, your blood, your brain cells are mainly comprised of water. Even your bones are approximately 25% water.

Water is involved in every function of the body. In an excerpt titled "Water and You", Dr. Don Colbert, MD used his experience as a Florida resident to analogize what happens in our body when we don't get sufficient amounts of water. When Florida doesn't receive adequate amounts of rainfall the local government rations out water consumption. For example, lawns can only be watered on certain days and during certain times of those days. When our body gets dehydrated, it too begins to ration out water and as a result fails to function as sufficiently as it should. Many of the ailing symptoms that people experience regularly (e.g. headaches, joint pain, digestive issues, etc.) may be due to inadequate water intake.



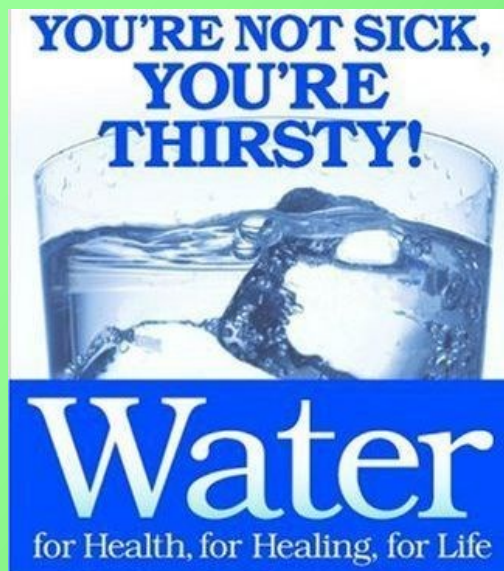
Water is even a key factor in managing your weight. First, dehydration leads to water retention thereby contributing to excess weight. Additionally, dehydration can contribute to poor metabolism. When you are dehydrated your body temperature slightly decreases and causes your body to store fat as a way to maintain normal body temperature. Drinking adequate amounts of water can also add to the feeling of fullness and help prevent overeating.

So, now that you're convinced, how much water should you drink daily? Perhaps like me you were taught some time during your primary or secondary education health classes that the standard is 8 cups (64oz) per day. While that may be a decent goal starting off, sufficient water intake varies among individuals according to body mass. A slightly more sophisticated (yet simple) recommendation, rather than the blanket recommendation of 8 cups, is to divide your body weight (in pounds) in half. That number reflects the amount of water (in ounces) you should take in daily. For example, if you weigh 150 pounds, you should drink 75 ounces daily, which is equivalent to just under 9.5 cups. The more you weigh, the more water your body requires.

References and suggested readings:
Don Colbert, MD, *The Seven Pillars of Health* (Lake Mary, FL: Siloam, 2007).

K.E. D'Anci, I.H. Rosenberg, "Water, Hydration, and Health", *Nutrition Reviews*, 2010 Aug; 68(8): 439-58

Barbara Levine, RD, PhD, "Hydration 101: The Case for Drinking Water", *Health and Nutrition News*, http://www.myhealthpointe.com/health_nutrition_news/index.cfm?Health=10. Accessed September 10,



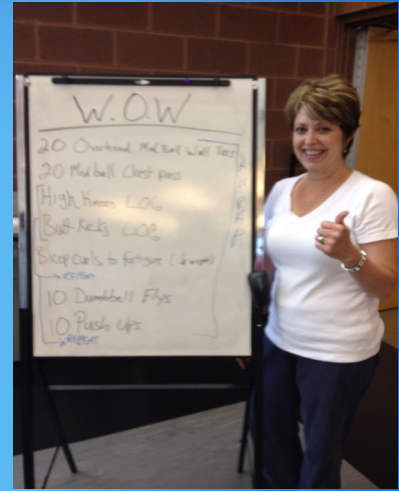
A Note From Emily Martini

Greetings

Fall is here and the cold weather is upon us. As we all look to be indoors more for our workouts, there may come a time where we get bored and are looking for more. Have you tried one of our group fitness classes? How about the workout of the day? Although I cannot provide unlimited group fitness classes, I can provide an unlimited wealth of knowledge from our wonderful graduate students in Health and Exercise Science.

Look for some announcements regarding weekly onboarding and small group work from our graduate students. We want to make sure we are reaching out to everyone that may have questions regarding their workout, or are looking to add to or change their routine.

Here is a photo of one of our members-Tina Rossi. She tried the workout of the week and gives it a thumbs up!



Autumn 2014 Schedule

Event	Time	Place
FSFP		
Morning General Conditioning	M-F 6:00-7:55am	PAES A22
Noon General Conditioning	M-F 11:30-1:25pm	PAES A22
Evening General Conditioning	M-R 4:30-6:25pm	PAES A22
Group Fitness		
Yoga	Monday 12:00-1:00pm, Thursday 5:15-6:15pm	PAES A275
Water Aerobics/lap swim	MWF 12:30-1:30pm	RPAC Pool
Morning Circuit training	T/R 6:30-7:20am	PAES A22
Evening Boot camp	Wednesday 5:30pm	PAES A22
Group fitness classes are held during regular academic term only		

Fall Recipe

Lauren Blake, RD

Creamy & Comforting Tomato Coconut Soup

As the weather starts to cool down, our bodies begin to crave comforting, wholesome foods. This soup is made from real, simple ingredients and nourishes from the inside out. It is a creamy tomato soup using coconut milk as the base AND a secret ingredient to add protein and extra creaminess. Any guesses?

If you guessed chickpeas you were right! Chickpeas are so versatile and a great way to add some extra protein to creamy soups. This soup tastes like a grilled cheese dipped in tomato soup. It is loaded with flavor and perfect for a crisp fall day. It's seriously so good. Campbell's should be so scared right now. J

Enjoy with a crusty slice of French bread for maximum deliciousness!

Click the link to see the recipe! <http://www.wholelivinglauren.com/new-blog/2014/9/29/tomato-coconut-chickpea-soup>



Ask The Expert

By Dr. Steven T Devor, PhD

The Benefits of Leading a Physically Active Life

Contributed by Steven T. Devor, Ph.D., FACSM. Associate Professor of Exercise Physiology, The Ohio State University, and Exercise Science Advisor for Balanced Family Academy

As busy adults with children we all share similar goals of having optimal daily health, increased energy to keep up with our kids, and leading a lifestyle that sets a positive healthful example. And even though our children are young now we all want to live as long as possible with a high functional capacity. One well known path to obtain all of these goals, and many more, is very simple; look no further than increased levels of daily physical activity and structured exercise.

The well-documented health benefits of physical activity and regular exercise are hard to ignore. And the benefits of regular exercise are for the taking, regardless of your age, sex, or physical ability. Below are seven important ways that becoming more physically active and incorporating daily exercise into your routine can improve your life and the lives of your children.

1: Exercise prevents and treats many diseases

Many of us are concerned about unhealthy weight gain, heart disease, or high blood pressure. No matter what your current weight, being more physically active will burn more calories, help to increase high-density lipoprotein (HDL), or "good," cholesterol, and decreases unhealthy triglycerides in your blood. These exercise related health benefits help to keep your blood flowing smoothly and your vascular system healthy, which decrease your risk of cardiovascular diseases and high blood pressure. Indeed, regular physical activity and exercise can help prevent or manage a wide range of health problems and concerns, including stroke, metabolic syndrome, type 2 diabetes, depression, and certain types of cancer, and arthritis. It is not an overstatement at all to declare: Exercise is medicine.

2: Exercise improves your mood

Almost everyone can benefit from increased feelings of happiness, or receiving an emotional lift. Or perhaps you need to blow off some steam after a stressful day at work or home. A quick workout or a brisk 30-minute walk is your key to feeling less stressed and possibly working through some problems. Physical activity stimulates various brain chemicals that may leave you feeling happier, focused, and more relaxed. Exercise not only increases blood flow to the brain, it releases endorphins, your very own natural antidepressant. Exercise also causes the release of other neurotransmitters, like serotonin, which lift mood. As exercise becomes more of a regular habit you may also begin to feel better about yourself and have an improved outlook, which can boost your confidence and improve your self-esteem. Becoming more physically active and exercising daily can create a positive, life altering, feedback loop for everyone in your family.

3: Exercise boosts energy

If you often feel fatigued and a bit run down by your daily "need to do" chores, it may seem counterintuitive, but by increasing your daily exercise will make you will feel less exhausted by the daily to-do list. Regular physical activity and exercise improves your muscle strength and will increase your endurance. Exercise and physical activity results in increased amounts of oxygen and nutrients being delivered to your tissues, and helps your entire cardiovascular system work more efficiently. The combination of increased strength and a more robust heart and lungs will give you more energy to lead your life and tackle the day to day routine.

Ask the Expert

Continued from page 6

4: Exercise helps to control weight

Simply moving around more every day and having a structured exercise regimen can help prevent excess weight gain or help maintain your successful weight loss. When you engage in daily physical activity, you increase the number of calories you burn. And the more intense the activity, the more calories you burn. The best news is that you do not need to set aside large chunks of time for exercise to reap the known weight loss advantages. The American College of Sports Medicine recommended daily dose of physical activity is 30 accumulated minutes. And these 30 minutes can be gathered in as little as three 10-minute bouts, they need not be continuous to reap the known weight loss and health benefits. If your schedule prevents an actual structured workout, be sure to become more active throughout the day in simple ways; just move around more. For example, park at the back of the parking lot, always take the stairs, and get up from your seated position at work every 30 minutes. Being on the lookout for other ways to incorporate more movement into your day will benefit you in the long run.

5: Exercise can help to increase physical intimacy

Often times busy parents that are not physically active enough are simply too worn out or tired to enjoy physical intimacy any longer. Research indicates that increased amounts of exercise can leave you feeling energized and looking better, which may have a positive effect on your sex life. Additionally regular bouts of physical activity can result in enhanced arousal for women. Finally, men who exercise routinely are significantly less likely to have problems with erectile dysfunction than are men who do not make time to exercise.

6: Exercise helps enhance sound sleep

Many adults struggle nightly with falling asleep or sleeping soundly for an adequate amount of time. Increased amounts of daily physical activity and exercise can help you fall asleep faster, deepen your sleep, and help you waken more rested. The only thing to be careful with is to not exercise too close to your bedtime or you may find you are so energized that sleep will be difficult.

7: Include your entire family

Many families often forget that simple outdoor play time, with everyone involved, can not only be healthy but also a great way to spend quality family time. Choose games and activities where everyone can participate; they need not be highly structured. Simply kicking or throwing a ball, playing tag, or hide and seek provides opportunities to relieve some stress and enjoy the feeling of being outside and hearing your kids laugh. Find something physical you enjoy and get to it regularly. And if you become bored simply try something new.

Take home message on physical activity and exercise

Increasing your daily levels of physical activity and exercise are some of the best ways to increase feelings of well being, increase the health of all your family members, and share quality time together. Set a goal of obtaining a minimum of 30 minutes of physical activity and exercise every day. If weight loss or specific athletic goals are your desire it is likely you will need to exercise more. However, many of the health benefits associated with exercise are garnered by meeting the minimal requirement of 30 minutes per day. If it has been some time since you were involved in any sort of structured exercise, and have any health problems, it is always wise to check with your family physician first to get the go ahead.

Finally, if there is one question I am frequently asked as an exercise physiologist it is 'what is the best form of exercise' or 'what exercise should I do in order to be most efficient'. For me, the answer is simple for both questions. The best form of exercise is the one you enjoy doing. If you love what you are doing you will want to stick with it, and then all of the benefits can be yours.