



Fitness Focus

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Exercise, Diet, and Depression

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As the cold and drab days of winter drag on, you may find yourself falling deeper and deeper into a state of lethargy. Your new years resolutions are taking a back seat to the more comfortable couch seat, and your zest for your exercise program and clean eating regimen waning to a mere short walk to the telephone to make a take-out order. How long have you been feeling this way? Have you noticed a nagging sense of doom, a difference in your desire to be with others, or a dropping off in your productivity at home or at work? Having the awareness to notice these changes in yourself can make the difference between being able to seek help and implement change or miss out on potentially rewarding experiences and suffer needlessly.

Depression can rear its head in many ways. For some it may be spurred by an environmental or psychosocial trigger such as a major loss, be it of a loved one, a friend, or a job; an illness; or a major change in life (i.e. pregnancy, divorce, a move). In these cases, depression may be situational, causing short term psychological stress and functional impairment but to a degree that is not considered "normal." In other cases, depression may be related to brain chemistry and thus more genetically determined. With either type, diagnosis requires a two-week period of the following symptoms: feelings of sadness or loss of interest in activities once considered enjoyable, in combination with a few other symptoms such as feelings of worthlessness or guilt; fatigue; loss of concentration, appetite; weight changes; sleep disturbance; decrease in speed of movement; or suicidal ideation. Obviously there are varying degrees of depression; however, none should go overlooked.

Treatment options abound, and while one person may need an invigorating workout to feel better, the next may require clinical intervention to prevent harm. Interestingly enough; however, whether one has been diagnosed with depression and requires medications or is experiencing a brief episode of sadness, both individuals can benefit from making changes to their exercise routines and diets.

Exercise has been shown to decrease anxiety, relieve stress, improve self-esteem, and enhance sleep. Every one of these factors can be related to depression! Pharmacological treatment, that which utilizes medications, as well as psychotherapy, aid in decreasing the symptoms associated with depression. Exercise, however, has been shown to be as powerful a modulator as both. Because of the risks associated with medication management and the high likelihood of an individual making the decision to stop taking his/her meds without doctor approval or assistance, exercise would appear to be the perfect adjunct to other forms of treatment.

Think about the benefits that you derive from exercise. Your heart pounding

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weight training session, your mountain hike with your best friend, or your relaxing jog through the park on a breezy summer day can create various mechanisms of treatment for those with depressive symptoms. For example, focusing on your goal of pressing 40 pound dumbbells on the incline bench, or mastering the correct form for the barbell squat can positively divert your attention away from negative thoughts. Spending time with your best friend and receiving positive reinforcement and praise for your efforts increases your feelings of worth, well-being, and improved mood. Combining your social time with exercise further augments the physiological response to exercise with the creation of feel-good endorphins and a positive change in brain chemistry.

If you are considering exercise to combat depression, keep the following in mind as you begin planning. Remember that you want the exercise you choose to be enjoyable and an activity that will lend itself to more positive feelings, not those that mimic what you are currently experiencing and leave you feeling discouraged.

1. Identify activities that you enjoy? What activities were you once involved in that you felt competent at?
2. Do you prefer to be involved with others or participate in individual activities? Would it be in your best interest to be with others rather than alone?
3. What types of activities would fit into your schedule, and what is available to you based on cost, time constraints, and other obligations?
4. Begin using exercise as a coping skill. Identify for yourself and/or with your therapist, what your triggers are for negative feelings. Develop alternative, more appropriate and positive behaviors to engage in that will assist in minimizing these feelings.
5. Identify who might be willing or able to support you in taking on a new activity and practice asking for their support. This may be a friend, colleague, family member, group, or online support.
6. Devise a reward system for accomplishing goals, trying something new, or making an effort.
7. Incorporate variety to minimize boredom and keep exercise fun.
8. Relieve yourself from perfection. Anticipate that you will not do everything 100%. You may feel exhausted or sad one day and not have the energy to exercise. During these times keep in mind that exercise is a wonderful antidote, but remember that it is not considered a failure to miss a day. Use the tired feelings as reasons to get up and move the following day.

Exercise is obviously a powerful modulator of depressive symptoms. What about diet? Many studies suggest a strong link between nutrition and depressive mood states.

Have you noticed how much better you feel and how much more positive your outlook is when you are feeling satisfied from a healthy meal? When your blood sugar drops too low, your brain goes into storage mode—imagine a generator kicking on because the electricity went out! Not only is it important to stay on a schedule to keep your body fueled appropriately, but it is imperative to use fuel that will sustain you and provide optimal levels of nutrients. Another analogy – every couple hours you throw a log on the fire to keep it burning, right? You stoke the flame....same goes for your body!

Few individuals actually consume an adequate diet- by adequate I mean balanced foods that provide vitamins, minerals, and a blend of the appropriate nutrients including carbohydrates, protein, and fat. In addition, due to the high levels of preservatives used in processed foods and the high consumption of

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these foods with non-natural ingredients typically found in convenience or fast foods, we reduce the positive impact of nutrient-rich foods.

Based on research linking diet and depression, I would recommend the following for maximizing your nutrition to enhance mood and well-being:

1. Make sure you are consuming an adequate amount of lean protein. Results from a 2000 study published in the journal *Psychopharmacology* (155(2): 123-7) showed an inverse relationship between tryptophan and depression (when tryptophan levels decrease, depressive symptoms increase). Tryptophan is an amino acid found in protein. Most adults should be consuming at least 1g/kg of body weight if not more for increased lean mass.
2. Consume fats from unsaturated sources. Foods like walnuts, avocados, and salmon all contain unsaturated fats which have been shown to have heart-healthy benefits and anti-artery clogging powers. Omega-3 fatty acids are important as well. Low body fat levels and/or a lack of healthy fat consumption may be associated with depression.
3. Eat plenty of fruits and vegetables the represent each color of the rainbow. The more colorful your diet, the more antioxidants you are getting from your food. Antioxidants serve as protective factors to your body, fighting off pollutants and toxins.
4. Get your B's! The B vitamins have shown to be significantly important in mood improvement and overall feelings of better mental health. A 1995 study in the journal *Neuropsychobiology* (32:2, 98-105) explored the use of vitamin supplements to influence mood. The dosage given to the participants was 10 times that of the daily recommended dose; however, even after 3 months when the blood status of the vitamin levels plateaued, participants reported continued improvement in mood. Riboflavin (B2), pyridoxine (B6), and thiamin(B1) levels were linked with this change. B-vitamin deficiency has many symptoms, many mimicking depression. The best B vitamins are found in foods, primarily animal products.
5. Bask in the sun...and get your vitamin D. You don't need the sun to get your vitamin D, and it's especially difficult in the winter months to do so, but it's critical for calcium absorption and maintenance of strong bones. Studies have shown that a deficiency in the winter months can significantly impact mood states, oftentimes leading to seasonal affective disorder, and D supplementation has been shown to relieve both anxiety and depression in this condition (*Clinical Rheumatology*, July 2006).

Finally, it is imperative that if you are experiencing symptoms of depression, that you seek attention from your physician. You may be able to combat the feelings associated with it by making changes to your diet and exercise program, by taking medications, or by learning about how YOU are impacting your situation. Therapy is often very empowering and gives participants a sense of mastery over their condition. Alternative therapies abound as well, such as chiropractics, yoga, and biofeedback.

If you are working with a personal trainer or other health professional, share with him/her what you are experiencing. They may refer you to a trusted colleague or someone within your community who can help. They can also tailor your program to better meet your needs!

Resources

WebMD Depression Health Center

www.webmd.com/depression/default.htm

National Institutes of Mental Health

www.nimh.nih.gov/health/publications/depression/complete-publications.html

Fitness Facts Stay in know about current research!

Who Really Uses Anabolic Steroids?

Nearly 2000 men were recruited from various strength training and supplement Internet sites, e-mails and print media to complete an anonymous web-survey to determine the real motivation and characteristics of anabolic steroid users in America. **The results WILL surprise you.**

The typical user is NOT the high school-age male or female athlete. In fact, only 6% of those surveyed reported being motivated by sports or bodybuilding.

Researchers identified the most common characteristics of anabolic steroid users as: Caucasian (88%), having a college education (74%), "white"-collar employment, average age of 31 years (range was 18-76), and having above-average income (\$60K-\$80K).

Surprisingly, only 11% of respondents reported participating in any form of organized sport.

Instead of achievement being the primary motivator, **most claimed increases in muscle, strength or physical attractiveness** to be the main reason for using anabolic steroids.

Although a **significant reduction in use of steroids** by high school students has been reported (down 35% between 2002 and 2005), there is a new concern as the average age of first use was ~25 in this cohort.

Due to the media attention given to **sports scandals, popular belief is that anabolic steroids are only a problem for athletes.** As such, the majority of efforts to curb steroid abuse has focused on young male athletes, and has not addressed the main population of users. **This perception must change if illegal steroid use is to be curbed in our society.**

Cohen, J. et al. (2007) A league of their own: demographics, motivations and patterns of use of 1,955 male adult non-medical anabolic steroid users in the United States. Journal of the International Society of Sports Nutrition. 4:12

Low Bone Mass Common in Women Runners

Weight-bearing activities are known to promote increased bone mineral density (BMD), especially in women under 30. Therefore, it would be logical to conclude that the impact-nature of running would improve BMD. A recent study, however, found that intercollegiate female runners have the lowest bone mineral density (BMD) than athletes in other sports.

Researchers at Michigan State University collected data from 99 female NCAA division 1 athletes in 12 sports and **compared BMD values controlling for body mass and menstrual dysfunction.** Compared to all other sports, runners had lower total BMD and BMD at the pelvis and lumbar spine. **Although not significantly different from runners, swimmers**

presented with lowest BMD in the legs.

If running is an intense weight-bearing activity that should increase BMD, **what factors are voiding the projected gains?** The researchers speculate that calorie intakes in female runners may be insufficient relative to the costs of higher volumes of training. **They also cite the possibility of a high incidence of eating disorders and low** calcium intake in long-distance runners.

The results of this study should encourage athletic trainers **to be aware of the concerns for stress fractures and bone injuries in this population.** Coaches and parents should address psycho-social factors that are contributing to undertraining while emphasizing the need **to prevent osteoporosis in youth.**

Mudd, L.M., et al (2007) Bone Mineral Density in Collegiate Female Athletes: Comparisons among Sports. Journal of Athletic Training. 42(3):403-408

Reprinted from Fit Bits, Exerciseetc.com

Talk to the Trainer



In this section our readers get a chance to ask Kori, an On The Run Fitness trainer, questions regarding fitness. In each issue we will post questions that our readers have sent in. To ask Kori a question or get some advice please email <mailto:kori@ontherunfitness.com>

DO THE DIET COLA?

Dear Kori,

I have a good friend who heard that diet pop affects your metabolism and I would like to find some documentation for her if it's true. Do you know? Thanks!

Dear Reader,

Great to hear from you...

Your friend likely heard the recent news story regarding diet soda and artificial sweeteners and how they may contribute to weight gain/ a change in metabolism.

I am not a dietician or a physician, but I do have some thoughts on the subject based on what I understand about metabolism.

Certain individuals react negatively to artificial sweeteners. They can become shaky, their nervous systems seemingly going into overdrive. This might be an effect of the caffeine that they are also likely consuming in the sodas. Many individuals are highly sensitive to caffeine.

Caffeine is a diuretic. If the body is dehydrated from caffeine because we aren't consuming enough other liquids, the metabolism is affected. Our bodies cannot

function effectively when there is not enough water in the system. When we are dehydrated we might also mistake this feeling for hunger and end up eating more, increasing the amount of calories we are consuming, and consequently, experience weight gain.

If we drink caffeinated diet sodas on an empty stomach to try and curb appetite, which many people do in an effort to lose weight, we may end up eating more later because we have let our blood sugars drop to an abnormally low and dangerous level. We may feel shaky, light-headed, and sweaty- all symptoms of hypoglycemia.

One final thought- those who are obese or overweight often have a history of dieting, their weights yo-yoing up and down. When this occurs, the metabolism slows. They also have a problem of overeating and/or waiting too long in between meals and then feeling ravenous and eating too much in one meal. When too much food is consumed in one sitting, the body goes into fat storage mode. If a person who is obese or overweight eats too much, what's not to say they are not over-consuming diet sodas also? Anything consumed in excess will be detrimental to our health.

The diet soda/metabolism study was done on rats. We have to be careful taking the results at face value. The results weren't conclusive, as we don't know if it would apply to humans.

I hope this helps!

MAXIMIZE YOUR WORKOUTS!

Dear Kori,

I have read much about the timing of meals. I do 6 meals a day. But what about timing in relation to your workout? Some folks say don't eat for 3 hours before a work out and 1 hour after. Some I have read say you have to eat prior to early morning workouts after not eating for 8-10 hours...

What is your opinion for those of us who workout early in the morning before work (for me it's 5:30 am). Should I eat something prior to hitting the weights and/or treadmill? If so, what would you suggest? The Water is a given, but I have also heard 1/2 cup of coffee is good prior to workout as the caffeine boost is a good jump start to your workout as well? Thoughts on that?

One more question if I can squeeze it in? When I am doing cardio and weights in the same session - which should I do first? Does it matter?

Dear Reader:

Hi! And thank you! You ask some incredibly thoughtful questions-- not enough active individuals take these things into consideration! They are keys to your progress!

I am in adamant disagreement regarding the "don't eat before your workout" philosophy. This is actually the MOST important time to take in nutrients, as your body needs fuel to get through the workout! Without fuel, your workout will be flat, unmotivating, and your muscles will be left asking, "what the heck do you want from us?" It's like trying to drive your car on an empty gas tank! My recommendation is to eat upon waking (in your case, this would be your first meal of the day, and your pre-workout meal). The most appropriate food in this case is a low glycemic carbohydrate and whey protein. You want a carb source that will "stick with you" so to speak (slow burning), and a protein source that your muscles can use immediately. A good choice: oatmeal and whey.

Following your workout (and you want to wait no longer than an hour after your workout), you should consume a higher glycemic carb and whey protein. A higher glycemic carb will help to replenish glycogen stores lost during your workout. A good choice: bagel and small protein shake. Limit fat in this meal; fat will slow down absorption.

Depending on what your nutrition consists of (your pro, carb, fat) you will divide the remaining macronutrients throughout the day.

So in terms of order of importance: 1- Preworkout; 2- Postworkout

Caffeine is a great stimulant, and unless you are highly sensitive to it, a good addition into your pre-workout routine to lessen feelings of fatigue and increase energy.

Studies have shown that completing your cardio AFTER your weights increases levels of growth hormone-- this is a good thing, as GH aids in fat burning AND protein synthesis. For those who are strapped for time, I say "get in your cardio whenever you can." If fat burning is your goal, alternating longer more steady-state (steady heart rate) cardio sessions (30-60) minutes with HIIT (high intensity interval training) sessions (20-30 min) would be most beneficial. HIIT requires more recovery time. Interval training has been shown to increase metabolism for a longer period of time following the workout also. What a great benefit!

Personally, I find it less boring also.

Fill up on Fiber

We constantly hear about the benefits of fiber, yet few actually consume the recommended amount of 25-35 grams per day. My clients who are keeping food logs are also tracking their fiber intake—if they are eating enough, they are getting ample amounts of fruits, vegetables, whole grains, and legumes! Need more reasons besides regularity, increased sense of satiety after eating, lower blood sugar response, a greater sense of fullness, and lower cholesterol to eat fiber? Well, **diets in fiber have also been linked to lower rates of endometrial cancer!** In an article presented in the January 2008 issue of the American Journal of Clinical Nutrition, researchers found that women who had the highest intakes

of fiber (above 15 grams) were less likely than women who had the lowest intakes (below 5 grams) to develop endometrial cancer. High fiber intake aids in more speedy movement through the intestine, thereby possibly reducing estrogen concentrations in the body through faster removal of the compounds needed to make estrogen.

On The Run Fitness



On The Run Fitness owners- Matt Biedron & Kris Barrow

Matt and Kris are both Loveland residents and have 14 years combined fitness experience. They founded On The Run Fitness as a way to help as many people as possible achieve fitness in their community. On The Run also prides itself on a real approach to fitness and does not and will not endorse any short cuts or gimmicks.

Enhancing the lives of Northern Colorado residents one workout and one meal at a time!

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