



Fitness Focus

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SOUND SLUMBER

Kori L. Propst, MS; Personal Trainer, Lifestyle and Weight Management Consultant, Licensed Professional Counselor

Ahhh the power of sleep. Sound sleep that is. Our need for sleep has not changed over the years, yet our ability and willingness to sleep has declined. Many of us are operating on fumes, barely able to keep our eyes open throughout the day, our energy zapped from less than recuperative sleep or just a lack of time spent in slumber. Sleep is our charger—like a cell phone has a battery charger, we require a certain amount of time spent sleeping for the purpose of resetting, fine-tuning, and restoring for optimal operation.

Every system in our bodies uses sleep: during rest memories are being organized; new things learned are being processed; the immune system is producing new killer cells for future battle against infections; growth hormone is being used to repair tissue (think about your last brutal leg workout!), build new tissue, and combat the effects of stress. Without adequate sleep, you do not think as clearly, memory is compromised, decisions are more difficult to make, reasoning declines, and your body's chemical reactions respond in a way that increases your risk of heart disease, stroke, diabetes, even and overweight/obesity.

Modifying your sleep regimen does not need to be complicated, but like anything, it requires consistency. Follow these strategies for optimal recovery and a good night's rest!

1. **Get up at the same time every day.** Too many individuals think that since it's the weekend, they need to sleep in....catch up on sleep. Unfortunately, you can't play catch-up with sleep. By sleeping a few extra hours on the weekends, your body's clock gets out of sync. I get up on the weekdays at 4:30am. My body is so used this routine, that by 8:30pm I'm ready to go to bed, and on Sat. morning, whether I stayed up a little later or not, I'm up at least by 5am. No alarm clock necessary!
2. **Take an hour.** Or 30 minutes. But take some time before hitting the sack to wind down and make the transition from harried business person to cozy burrito wrapped up in bed! Your mind and body need some time to prepare for relaxation.
3. **Make YOURSELF and your sleep a priority.** We expect so much of ourselves as employees, parents, significant others, family members, friends, etc. We cannot be our best in these roles if we do not get adequate sleep. If you are in bed with someone who snores, help him/her get help. If the dog keeps you awake, put him in another room.
4. **Ditch thinking that you need to do and be everything for everyone.** Make a to-do list and scratch each item off one-by one. If you must keep a pencil and paper by the bed, use it before shutting off the light. Get those stressful thoughts and worries out of your head.
5. **Go home at quitting time.** Not 2 or 3 hours later than everyone else. You may think that you'll get more done by burning the midnight oil, but you'll

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actually be far more productive, accurate and faster after a good night's sleep.

6. **Make it dark.** Cover up your clock and any other electronic lights in your sleeping area. Even dim lights can tell your brain that it's time to wake up.
7. **Ditch the electronics.** Turn off your cell. Shut off the computer. Leave no chance for electronics to get in the way of sleep.
8. **Ban the booze.** While alcohol may relax you, taken in before or close to bed time, it can keep you in a lighter, less recuperative stage of sleep.
9. **Be comfortable.** If your mattress is uncomfortable, get a new one! It doesn't have to be fancy—it just has to allow you to sink into a restorative sleep and wake up without soreness, aches, or pains.
10. **Be cool.** Turn down the thermostat. Take a bath. Cooler temps signal your body to sleep. Your core temp decreases after a hot bath.
11. **Take a nap.** One nap up to 90 minutes in length between 1 and 4 pm can reduce your sleep debt, boost performance, and won't affect nighttime sleep. Take a 20 minute snoozer if you're at work!
12. **Exercise.** You were wondering where on the list this would be, weren't you? Activity can reduce the time it takes to fall asleep an average of 12 minutes and increases total sleep time by 42 minutes. The brain releases serotonin with exercise, which encourages sleep. Low levels are associated with anger, depression, and anxiety. Avoid vigorous exercise close to bedtime; however, to allow energy levels to decline.
13. **Ditch the news.** Focusing on the chaos going on in the world just prior to going to bed can spark your body's arousal mechanism, making it difficult to fall asleep. Avoid scary or exciting books too.
14. **Practice relaxation.** Consider yoga, medication, tai chi, biofeedback, guided imagery, or prayer to learn to quiet your mind and nervous system.
15. **Play.** Get together with friends. For women being with others can raise oxytocin, which decreases the stress hormone, cortisol.

Race Recovery Kori L. Propst, MS, Licensed Professional Counselor; Certified Personal Trainer & Lifestyle and Weight Management Consultant

Many of you are training for races currently or have participated in some already. As spring turns to summer, opportunities abound for challenging yourself with marathons, triathlons, or other activities. While we focus our efforts on training to be our best for the event, we often think less about what should follow the race and how we can best recover. Use these guidelines for optimizing your body's potential after your event!

1. Remember that both doing NOTHING in regards to activity AND getting right back on the road or track and busting out another race will damage your body. Your muscles, joints, tendons, and nervous system require rest. Weight bearing events create tears and significant stress on your joints. You risk significant injury by not resting. However, complete inactivity may prolong soreness and stiffness and can cause a rapid decline in fitness level. Light activity increases blood flow to aid in removal of waste products.
2. The point of rest is to help return you, physically and mentally, to a state of readiness to perform again. This involves sleep, optimal nutrition, and fluid replacement.
3. After your event use these signs/symptoms to discern your readiness to return to light activity:

- a. Take your heart rate in the hours and days following your event, right after standing up. If it's higher than normal, your nervous system has not recovered.
 - b. Weigh in to ascertain whether you are dehydrated. If you weigh less than normal, you are not rehydrated and not ready to resume activity.
 - c. Before exercising again, do a warm up. Ask yourself how difficult it feels. If it's abnormally taxing, you have not fully recovered.
 - d. Determine how other obligations with work, home, family are affecting you and how they may prolong your recovery. Are they affecting your mental state?
4. Experts disagree on whether to engage in light activity that emphasizes the muscles groups that were used during the event. By using opposing muscle groups, you may reduce monotony and experience a nice change of pace. By doing lighter, less intense exercise with the same muscle groups, you keep blood flowing and help to eliminate lactate build-up.
 5. Rehydrate and obtain nutrition within the first 1-5 hours after your event. Optimal for recovery is glycogen restoration, which will occur fastest immediately after, when you are depleted. Complex carbs that are fast absorbing are most beneficial. Research shows that the following regimen is optimal for post-race nutrition:
 - 1 gram of protein AND 1 gram of carbohydrate per kg of bodyweight (immediately after event)—1 lb is 2.2 kg
 - 10 grams of carbohydrate per kg of bodyweight (within 24 hours after event)
 - Eat complex carbs every 2 hours with some salt to replace electrolytes + drink fluids with sodium (right after & for the next few days after)
 - If you gain weight quickly, pay careful attention to what you are eating. Your metabolism will increase 24 hours after a race, but will not stay elevated to compensate for the increase in food. Overindulging in rich foods, like those that you avoided during training, will increase the likelihood of weight gain. Have a splurge meal following your event, then get back on track.
 6. Sleep, get a massage, stretch a lot, and bask in the glory of your completed goal!

Source: Gerard, Jim. *Ace FitnessMatters* May/June 2008

Relevant Research

Increased Muscularity Results in Stronger Bones

Hip fractures present one of the greatest concerns for people with Osteoporosis. The latest statistics show that 25% of women over 50 who suffer a hip fracture die within 1 year. **Exercise has long been shown to help reduce the risk of hip fractures by increasing bone mineral density while improving core strength and balance.**

A recent study suggests that women might also want to pack on the muscle. Researchers at the University of Iowa reported that **lower-body muscle mass was**

a better predictor of hipbone mineral density than either strength or physical activity level.

Fifteen hundred men and women over age 50 were evaluated for quadriceps strength and **lower-body muscle mass**. Although hip **BMD and quadricep strength were related, the relationship was not consistent**. The relationship between **lower-body muscle mass and Hip BMD was maintained** even after age, race, and sex were accounted for.

A simple method for identifying individuals at increased risk for a hip fracture can help reduce the mortality associated with Osteoporosis. This study provides insight into such a method. **In addition, exercise professionals should rethink program design for older clients to include improvements in both lower body muscle mass and strength for osteoporosis patients.**

Segal, N.A. et al (2008) Muscle Mass Is More Strongly Related to Hip Bone Mineral Density Than Is Quadriceps Strength or Lower Activity Level in Adults Over Age 50 Year. Journal of Clinical Densitometry.

Maximal Strength Training Improves Running Economy

Researchers from Norway have strengthened the ties between maximal strength training and running economy. Running economy is one of three components essential to performing well, **the other two being maximal oxygen consumption and lactate threshold.**

Well-trained male and female runners either participated in strength training 3 times per week for 8-weeks or served as controls. **The strength training group performed 4 sets of 4 repetition maximum (RM) half-squats.** Both groups completed their normal endurance training routines.

The strength training group increased their 1RM in the half-squat by 33.2%. **Their rate of force development increased by 26%, their running economy improved by 5%, and their time to exhaustion at maximal aerobic speed improved by 21.3%.** VO₂max and bodyweight remained unchanged.

Because endurance activities are mostly dependent on aerobic metabolism it would seem to make sense to think that performance would be determined by training the aerobic energy systems. **However, the ability to produce joint actions at submaximal intensities, as in running, is related to maximal strength.** This study has supported the need for strength training in the runner and has also found that **running does not interfere with the ability to gain strength.**

Storen, O. et al (2008) Maximal Strength Training Improves Running Economy in Distance Runners. Medicine and Science in Sports and Exercise. May 2. (ePub ahead of print)

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>

I've felt incredibly fortunate over the last year to be the sole writer for this newsletter. Having been given the opportunity to reach out to you, the readers, my goal every couple weeks was to incorporate as much holistic wellness information as I could in these few pages. As a counselor and a fitness enthusiast, I understand the benefits that come with including both mind and body practices. My hope is that you have taken this information and applied it in your own lives, taken comfort in the fact that many of you have similar struggles, and learned that there are amazing people out there who are willing and able to be sounding boards, guides, and supporters for you as you traverse the choppy waters toward your goals!

I am sad, and yet jumping out of my skin with excitement, to say that I will be leaving this newsletter. I have accepted the position as Wellness Director for The Diet Doc in Evansville, IN and will be leaving mid-June. May 10 I garnered my pro-cards in both bodybuilding and figure and so am now a professional natural bodybuilder, which means more competitions with greater status. Being in the Midwest, I will no longer have to travel as far for these competitions. I feel blessed and grateful for the opportunities that have been afforded me, and I want to thank each of you for supporting me through this journey. Both of these accomplishments have been dreams of mine for quite some time.

So I bid you farewell. What I have learned through this experience is to keep plugging away. Do your best, and good things will come to you. Talk to people; learn from them. Ask questions. Be a sponge. Each one of us has choices. Live your life each day the way you want your life to be!

I encourage you to please keep in touch with me. I'd love to hear from you. I can be reached at the following email address: koripropst@yahoo.com. Be well!

Test Your Knowledge Kori L. Propst, MS

Answers to last week's questions:

1. Name two reasons why resistance training is important during weight loss. **Weight-bearing exercise minimizes the loss of lean tissue as you lose weight. By increasing lean mass through resistance training, you also increase your metabolism, as muscle burns calories, unlike fat.**
2. You're out to breakfast one weekend & as a side with your whole grain pancakes the menu says you will be getting bacon, eggs, and hashbrowns. You're eating healthier, cleaner, and want to continue with your weight loss. How can you modify this meal to meet these goals? **Ask for egg whites or egg substitute cooked without butter or oil instead of whole eggs. Substitute lean ham instead of bacon or sausage. Get a fruit cup or sliced tomatoes instead of hashbrowns. Don't forget to bring**

your calorie-free spray butter instead of using their full fat version!

3. You have decided that you want to lose weight and get healthier. You know that goal-setting is going to be imperative to keep you on track and motivated. Identify a goal that is realistic, achievable, and measurable.
I will complete 20 minutes of cardiovascular exercise between 65-75% of my max heart rate 5 times per week.

On The Run Fitness



On The Run Fitness owners- Matt Biedron & Kris Barrow

Matt and Kris are both Loveland residents and have 16 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!

On The Run Fitness

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