



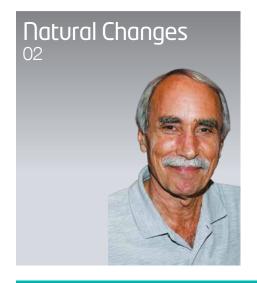
In this Issue...

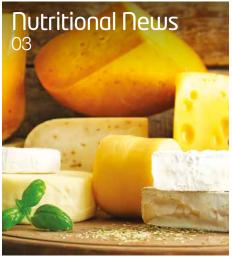
Body Weight Workout Tis the Season for Giving

The Sunshine Vitamin



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Natural Changes

Change is (often) good. Change is (usually) hard. Change is healthy. Change is scary. These four basic statements about change are true for most people. Change can be a wonderful tool in the art of arowing young that helps us all grow and become our best selves. But changing our lives and ourselves isn't always easy; change is scary, because it often means venturing into previously unknown or unexplored territories of life.

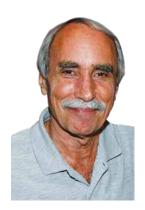
It has been said that the only constant in the universe is change—but we needn't promote change just for the sake of change. Many things that we have in our lives, cultures, societies, businesses, and human organizations are good as they are. With time, all of them will inevitably change, but the time scale may be even longer than a human lifespan.

It is my sincere hope that the articles we choose to include in The Art of Growing Young magazine help people all over the world find change a little less scary. Whether you are reading about the nutritional benefits of a particular food you have never tried or learning tips on how to start a new exercise regimen, I hope you are gaining knowledge that increases your confidence. The more knowledge and confidence you have, the easier it is to make healthy changes in your life—no matter how big or small those changes are.

The way you choose to think about change also plays a big role in how hard and scary you perceive making changes to be. If you have a generally positive outlook on life, you will find making changes easier. If you tend to be a pessimist and dwell on the negative aspects of your life, change will seem much more daunting.

Viewing change as an inevitable force for good in your life with a focus on all the positive things, people, experiences, and ideas that have come from making positive changes will help you live a life in which you are continually adapting and changing for

As new science emerges and we learn new things about the body, we will all have to change to adopt the best possible lifestyles for our minds and bodies. Practicing the art of growing young, engaging in lifelong learning, and maintaining a positive outlook will all help make these changes a natural, easy part of life instead of something to be worried about.



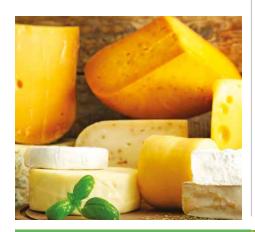
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Dwight L. McKee Scientific Director

Nutritional News

Fat More Fat!

Dairy lovers can now eat full-fat options without guilt. The very latest in fat research has shown there is no significant link between dairy fats and cause of death. The study specifically looked at heart disease and stroke, both of which were long thought to be closely associated with daily fat intake. After decades of dieters trying to avoid fat at all costs, nutritional experts are now agreeing that fat is actually a healthy part of your diet. Because fat is a healthy, natural source of energy you need, the key is to consume amounts of fat relative to the amount of physical activity you partake in every day.3 The deadly (and obesity-causing) combination is a high dietary intake of fat (even healthy fats) with large amounts of refined carbohydrates, such as sugars especially those such as glucose and sucrose that stimulate insulin production.





Families That Eat Omega-3s Together May Be Happier

A recent article published in the journal Aggressive Behavior shows that when parents feed their children foods rich in Omega-3 fatty acids, everyone benefits. These long-chain, healthy fats positively impact mood and behavior in children, which has now been shown to have a cascading impact on family life—parents and children arque less.2

Your Children Really Are Listening

It may feel like your children are ignoring you when you tell them to eat their vegetables, but take heart because science says otherwise. A study of 1,246 adolescents titled. "How Food Rules at Home Influence Independent Adolescent Food Choices" found that when adolescents are given healthy eating rules at home, they are more likely to make healthy choices when away from their parents.4

Beat the Blues with Art

Feeling blue this winter? Try picking up a paintbrush for some emotional relief. A new study of more than 1,000 people in South West England found learning or practicing a form of art such as painting or drawing can boost mood and feelings of wellbeing.



The Importance of Water

in the afternoon? Take a trip to the water cooler. New evidence shows that even mild dehydration can cause a range of subtle effects that make it harder to stay alert and concentrate on tasks. It takes feeling these negative consequences. 1 To



- ¹ Wittbrodt, Matthew T., and Melinda Millard-Stafford. "Dehydration Impairs Cognitive Performance." Medicine & Science in Sports & Exercise, 2018, 1. doi:10.1249/mss.000000000001682
- ² Portnoy J, Raine A, Liu J, Hibbeln JR. Reductions of intimate partner violence resulting from supplementing children with omega-3 fatty acids: A randomized, double-blind, placebo-controlled, stratified, parallel-group trial. Aggr Behav. 2018;1-10. https://doi.org/10.1002/ab.21769.
- ³ Marcia C de Oliveira Otto, Rozenn N Lemaitre, Xiaoling Song, Irena B King, David S Siscovick, Dariush Mozaffarian; Serial measures of circulating biomarkers of dairy fat and total and cause-specific mortality in older adults: the Cardiovascular Health Study. The American Journal of Clinical Nutrition, nqy117, https://doi.org/10.1093/ajcn/nqy117 4 Wang, Jennifer, et al. "How Food Rules at Home Influence Independent Adolescent Food Choices." Journal of Adolescent

Health, Volume 63, Issue 2, Pages 219-226.

https://www.jahonline.org 5 Diane M Crone, Rachel C Sumner, Colin M Baker, Elizabeth A Loughren, Samantha Hughes, David V B James; "Artlift" arts-on-referral intervention in UK primary care: updated findings from an ongoing observational study, European Journal of Public Health, Volume 28, Issue 3, 1 June 2018, Pages 404-409, https://doi.org/10.1093/eurpub/cky021

Body Weight Workout

Body weight training is seeing an increase in popularity. In all areas of life, people are seeing the benefits of minimizing and keeping things simple—and exercise and fitness is definitely seeing that trend too. Body weight workouts are an inexpensive, effective way to get fit during winter.

Body weight workouts are basically what the name implies—using your own body weight to create resistance and weight to challenge and strengthen your body. The classic example of a body weight exercise is the good, old-fashioned push-up. Essentially, a push-up entails using the weight of your torso to strengthen your arms, abdomen. back, and shoulders.

There are so many benefits to incorporating your own body weight into your exercise routine. A primary reason why many people opt for body weight training is that it's inexpensive and most likely free. Because there is no equipment needed and no reason to go to the gym, it is also convenient.

When you take away the time and cost barriers of buying expensive equipment or subscribing to a gym membership, then there are less excuses not to participate.



Additionally, during the colder months, it is easier to do this sort of exercise in the comfort of your own home or even a hotel room if you travel for work or while on a vacation.

Another benefit to body weight fitness is that it is good for beginners or people restarting an exercise routine.

You can start off with less intense exercises and then increase intensity or add more challenging variations as you deem appropriate. It also takes away the intimidation factor or self-consciousness that many feel when initiating or restarting an exercise program.

It's also good for beginners. Because you aren't using weights or working with equipment, you have a less likely chance of injuring yourself.

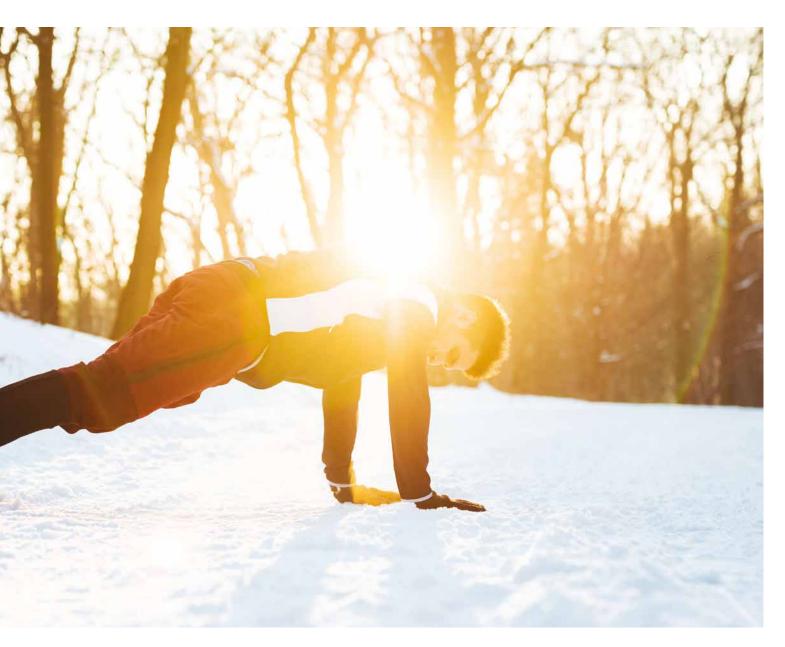
That's not to imply that it is risk-free. With any exercise program, there is the chance of overexerting or overextending yourself. It is essential to know and respect your limits. Furthermore, utilizing a full-length mirror to monitor proper form is a good idea so that you aren't putting your body into a compromising position. Studying online videos that specifically emphasize proper form is another option.





Booking a session with a personal trainer (or enlisting a friend for free who has more extensive knowledge about exercise) might be worthwhile to create a strong foundation before you head off on your own.

Some basic foundational information on body weight workouts involves the concept of push versus pull. The dichotomy of the two actions most often works different muscles or one muscle group in different ways.



This helps strengthen the whole body. For example, a push-up works the triceps of the upper arms, while a pull-up works the biceps.

Examples of pull-focused exercises include abdominal crunches or sit-ups, contralateral limb raises (belly on the floor, lift up your right arm and left leg, alternate) or Superman (the same concept but extend all four limbs backwards at the same time), chin-ups or pull-ups and side leg raises.



A simple internet search of "body weight exercises" will bring up dozens of exercises with explanations and photos to help inspire and guide you. It is important not to do the same exercises every time, because your body craves new muscle challenges.

Cold Weather Myths

We've all been brought up on myths about the cold, but what's true and what's not?

Winter is just getting started. It's common for many of us to shudder at the idea of the long and dark days, trudging through the snow, feeling more sedentary, or even isolation or cabin fever. But there are many benefits to the winter season that we can embrace. It's important to acknowledge the myths that reinforce our beliefs that winter and cold weather is a dreaded time of year. When we unwrap and address these myths, we can welcome the weather more readily.



Myth:

You shouldn't exercise in the cold.

Working out in the cold weather has many benefits, including getting outside and in nature, boosting your mood through movement, and exposing you to winter sun. Even though it's not strong enough to produce much vitamin D, winter sun has other benefits that researchers are just beginning to discover.

According to one study, it can help runners perform better. Marathon runners of all abilities had better running times with lower temperatures.¹

Myth:

Allergies aren't a problem during the winter.

During the winter, we spend a lot more time indoors. Roughly 20 percent of people who suffer from allergies are sensitive to indoor allergens. To make matters worse, some allergens can actually increase during the winter. Examples are pet or animal allergies. When all of us are trapped inside, that includes the dog. Windows closed can mean a stuffier environment and perhaps lower air quality, which in turn can exacerbate allergies.

If your cold-like symptoms persist beyond a week and a half, or if they clear up when you take an antihistamine (e.g. loratadine or cetirizine), make an appointment with an allergist to review your symptoms.

Myth:

Cold weather causes hair loss.

Many people swear they lose more hair in the colder months and that their hair is thicker in the summer. However, a significant research study demonstrated the opposite!² The researchers analyzed the biological factors associated with the hair loss of more than 800 women over the course of six years and found that the seasonality of hair loss heightened in summer (with the second-place season being spring).

1 Ely, MR, et al. "Impact of Weather on Marathon-Running Performance." Medicine and Science in Sports and Exercise U.S. National Library of Medicine, Mar. 2007, www.ncbi.nlm.nih.gov/pubmed/17473775

Perhaps that makes sense when we think about our furry companions dog and cat owners will attest to summer shedding of fur and a winter thickening. That said, it is important to care for hair over the winter to prevent breakage and weakening due to dru scalps.

Myth:

Alcohol will keep you warm.

There is no doubt we feel a sense of warmth when we sip winter drinks such as hot toddies and mulled wine. But that sensation can be misleading. When we drink alcohol, our blood rushes to our skin, which creates the feeling of warmth. But that blood is leaving our internal organs for the skin!



So, when we drink alcohol, our core body temperature actually decreases. Alcohol also decreases our body's ability to shiver in order to create extra heat.

Myth:

Cold weather makes us fat.

While it is true that many people are more sedentary during the winter months and that the holiday season is full of fattening temptations, cold weather actually helps us shed the extra pounds! Scientists have analyzed how a certain kind of fat, brown fat, can help burn other kinds of body fat.3 It was long thought that infancy was the only time in life when humans had brown fat. This insulating fat is important in bodytemperature regulation (specifically warming) for newborns who are unable to shiver to keep themselves warm. It turns out that adults have it too and being exposed to the cold helps trigger the fat burning.



² Kunz, M, et al. "Seasonality of Hair Shedding in Healthy Women Complaining of Hair Loss." Dermatology. U.S. National Library of Medicine, Apr. 2009, www.ncbi.nlm.nih.gov/pubmed/19407435

³ Ouellet, V, et al. "Brown Adipose Tissue Oxidative Metabolism Contributes to Energy Expenditure During Acute Cold Exposure in Humans." The Journal of Clinical Investigation. U.S. National Library of Medicine, February 2012, www.ncbi.nlm.nih.gov/pubmed/22269323



Myth:

We are lonelier during the winter.

There are few things more socially invigorating than "park life"—the time we spend in public spaces (plazas, piazzas, parks, malls, etc.). People-watching, music, fresh air, and the sounds of humans enjoying their leisure time all contribute to the joy of spending time in common areas.

Ulhile this does decrease in the winter, there is some evidence that in winter we reach out to people we care most about for longer chats and conversation.4

Researchers analyzed the duration of over one million mobile phone calls and found that the length of phone calls increased with bad weather. They also found that the number of contacts decreased. In other words, we engage in more meaningful and intentional social interactions in colder/rainy/ snowy weather.

Myth:

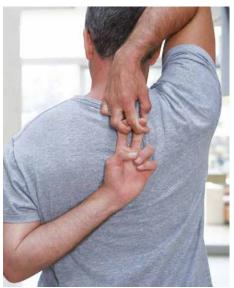
Year-round warm weather makes you happier.

If not for the bad times, we wouldn't appreciate the good times. The same goes for cold weather versus warm weather. While the idea of basking in the sun and warmth of the Caribbean in an endless summer may sound appealing, in reality the winter can help us appreciate the spring and summer more.

Myth:

Our bodies are achier in the winter.

An injury from running or other strenuous exercises often requires rest, elevation, and icing the area. Applying ice to a swollen joint or strained muscle helps bring down inflammation. The same goes for cold exposure to our bodies. Cold weather has a positive effect on achy joints and muscles because of the anti-inflammatory response. If you're feeling achier in the colder weather, it could be because of lack of movement.



Even if you don't feel inspired to do a full workout, getting up from a seated position every hour and moving your joints around for five minutes or doing mild stretching can have a positive effect on your joint and muscle comfort.

⁴ Santi Phithakkitnukoon, Tuck W. Leong, Zbigniew Smoreda, Patrick Olivier. Newcastle University. "Close call: Bad weather drives up phone calls to our nearest and dearest." ScienceDaily. www.sciencedaily.com/releases/2012/10/121010172126.htm.

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Daily BioBasics nutritional drink provides a refined combination of ingredients to support you in staying at your physical and mental best.

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Food supplements should not be used as a substitute for a varied diet

Tis the Season for Giving

We all lead busy lives in which we are very focused on ourselves and our own needs and wants. But intentionally focusing on the needs of others and participating in altruistic activities is good for—well—ourselves. Research shows that when we go beyond ourselves and focus on the needs of others, it benefits our health and wellness.

A generous spirit releases feel-good hormones. When we are helpful and kind, there are actual physiological changes in our brain. Serotonin, a neurotransmitter and hormone that is partly responsible for feelings of contentedness and calm, secretions increase when we perform acts of kindness.

Oxytocin is a hormone most famously released during labor, birth, and breastfeeding. It is also released during lovemaking and orgasm. However, you don't have to have a baby or even a romantic partner to experience the benefits of oxvtocin. When we initiate and experience positive interactions with others, our bodies release oxytocin. Among its many beneficial activities in the human body, oxytocin is good for your cardiovascular system.1 lt works by dilating the blood vessels, which aids in lowering blood pressure.

One study looked at older adults and found that those who volunteered at least 200 hours a year decreased their chances of developing high blood pressure by roughly 40 percent.²

Those who volunteered a lesser amount of time did not experience the same benefits.

Kindness and altruism can slow the effects of aging. Again, oxytocin is the contributing factor. Oxytocin reduces inflammation in the body and fights off a free radical attack.

One study focused on a concept called "compassion meditation" and analyzed immune response laboratory values in different groups.3 The group that was assigned a six-week practice of compassion meditation saw better physiological indicators of reduced stress levels in their blood tests. Another study looked at how volunteering lowered a key inflammation marker, C-reactive protein (CRP), in the bodies of older adults.4



Beyond the physical benefits, there are also the benefits of social interactions on our spirit and the spirits of those around us.

Personal emotional health and social communal health also benefit when we engage in altruism and kindness.

The giving of ourselves to others creates a stronger sense of connectedness. Even if you will never see the person again whom you let into your lane during heavy traffic, their friendly thank-you wave will boost your spirit and theirs. It helps them remember to be kind to others. In other words, the sense of giving becomes contagious and has a ripple effect.5

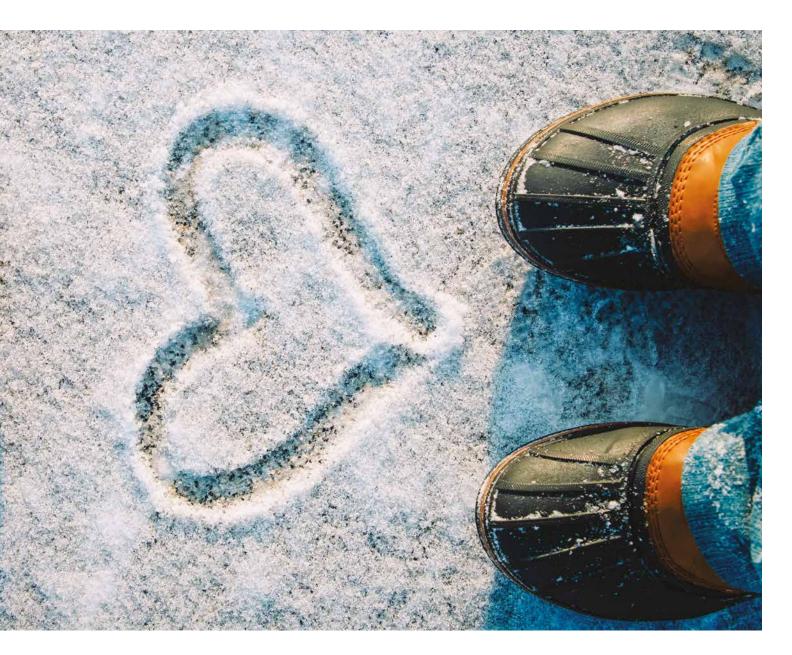


¹ Hamilton, David R. The Five Side Effects of Kindness: This Book Will Make You Feel Better, Be Happier & Live Longer. Hav House, 2017.

Speed Rodlescia S, and Sheldon Cohen, "A Prospective Study of Volunteerism and Hypertension Risk in Older Adults." Psychology and Aging, U.S. National Library of Medicine, June 2013, www.ncbi.nlm.nih.gov/pmc/articles/PMC3804225/. ³ Pace, Thaddeus W.W., et al. "Effect of Compassion Meditation on Neuroendocrine, Innate Immune and Behavioral Responses to Psychosocial Stress." Psychoneuroendocrinology, U.S. National Library of Medicine, January 2009, www.ncbi.nlm.nih.gov/pmc/articles/PMC2695992/.

⁴ Kim, Seoyoun and Kenneth F. Ferraro. "Do Productive Activities Reduce Inflammation in Later Life? Multiple Roles, Frequency of Activities, and C-Reactive Protein." The Gerontologist, vol. 54, no. 5, 22 Aug. 2013, pp. 830–839, doi:10.1093/geront/gnt090.

⁵ Hu, Tian-Yi, et al. "Helping Others, Warming Yourself: Altruistic Behaviors Increase Warmth Feelings of the Ambient Environment." Frontiers in Psychology, U.S. National Library of Medicine, September 2016, www.ncbi.nlm.nih.gov/pmc/ articles/PMC5011126/



Volunteering contributes to a greater sense of purpose.
Throughout life, we are consistently redefining our needs for a meaningful and purposeful life.

At times, we define our purpose in the work we do. Other times, we define ourselves by our familial obligations—such as being a wife, husband, or parent. However, being a consistent volunteer gives a sense of meaning to our lives, depending on the time commitment offered.



Kindness and consideration are often easy and simple. We don't have to go abroad to a developing nation to volunteer, or even invest weekly time into a project (although those are excellent things to consider doing if you are so inclined).

Random acts of kindness and everyday acts such as giving your seat to a pregnant woman on the train or bringing over leftover dessert to a neighbor can help foster a spirit of altruism.



Fat, the Misunderstood Macronutrient

For years, fat was portrayed as the enemy of health. Entire decades went by during which food developers and marketing campaigns promised us all of the taste with none of the guilt (i.e., fat). Fat was seen as something to avoid at all costs in order to remain fit and healthy. But in recent years, nutritionists, health advocates, and even conventional medicine practitioners are recognizing the importance of healthy fats. The trouble is that popular understanding surrounding the fear of fat is going to take a long time to change to the new normal—that fat is an essential component of a healthy diet.

The trouble is that popular understanding surrounding the fear of fat is going to take a long time to change to the new normal—that fat is an essential component of a healthy diet.

Protein is the foundational macronutrient for building muscle. Carbohydrates are essential for energy production. But why is fat important in the overall scheme of a healthy lifestyle?

Fats, also known as lipids, are usually water insoluble and aid in producing proteins, helping store the body's energy, and assisting in maintaining hormonal balances in the body. It has suffered from a bad reputation largely because we also refer to fat as the not-so-pretty stuff that forms around your waist or under your chin. When deconstructing the misconceptions of fat, it is imperative to recognize that cosmetic fat is different than dietary fat—and that one does not equal the other.

There are good and bad fats, but there are exceptions to the rules. Fats contain fatty acids that include omega-3, -6 and -9. The numbers 3, 6, and 9 refer to the carbon number at which the first unsaturated double bond between carbon atoms occurs. Fats also are divided into saturated, unsaturated, and trans. While saturated fats are generally seen as bad fats, coconut and palm oils are exceptions and should not be lumped into the group with those in a cheeseburger.

Similarly, naturally occurring trans fat (conjugated linoleic acid, or CLA) found in whole-fat grass-fed dairy or grass-fed beef is considered healthy,1 whereas partially hydrogenated vegetable oil is a trans fat that you should avoid at all costs.

These man-made trans fats are literally metabolic poisons. In addition, a labeling loophole allows food producers to label any portion of packaged food as having "zero grams" of trans fats if there is less than 500 mg present. So 499 mg of trans fat per serving (which might be made artificially small) can be labeled as zero grams of trans fat. Thus, if one of the ingredients listed on the package is partially hydrogenated vegetable oil, and the nutrition facts say zero grams trans fats, avoid that food product. You should also avoid mass-produced vegetable oils, as often they have been processed in ways that damage their unsaturated fatty acids.

Examples of healthy fats are extra-virgin olive oil, whole-fat uogurt, and the fat in avocados, fish, pasture-raised eggs, nuts, and seeds.

Some foods lie in a middle ground because of their higher content of saturated fats, but they can still be included with moderation in your daily, healthy diet—these are grass-fed beef and pork, dark chocolate, whole milk, and cheeses.

Whole-fat dairy deserves special attention in the changing understanding of fat and health. Current research is proving that there is no association between full-fat dairy and poor cardiovascular outcomes.2 In fact, often with lower-fat dairy, which is more processed and less pure, food manufacturers add sugar to compensate for the lack of taste.

Omega-3 fatty acids still reign as the most-acclaimed form of healthy fat. These fats, which include EPA and DHA (eicosapentaenoic acid and docosahexaenoic acid, respectively), cannot be made by the body and therefore need to be consumed. Their beneficial contributions to cardiovascular health and immune system optimization are well known.3

Unless you're eating wild-caught fattu fish a few times a week, it is wise to consume a high-quality omega-3 supplement.

Omega-3s are particularly helpful for brain and mental health. A recent study showed that when children receive omega-3 supplements they had less disruptive behavior, which in return had a more calming effect on the parent-child relationship.4 Research has shown that the optimal ratio of omega-6 fats (such as linoleic and arachidonic acid) to omega-3 fats (such as EPA, DHA, and alpha-linolenic acid) is 4:1. Because many seeds used for vegetable oils have been hybridized to primarily produce oleic acid rather than linoleic acid (omega-6), many people are no longer getting adequate linoleic acid in their diet - and it is an essential fatty acid—meaning it must be provided in the diet, as our bodies are not capable of making it from other fatty acids. Safflower and sesame oil that don't say "hi oleic" on them are good sources of linoleic acid. Oleic acid has a bit of a "halo," as it's the predominant fatty acid in olive oil, which we know is good for us. However, olive oil is good for us due to the polyphenols it contains, not because of the oleic acid, which is not an essential fatty acid; it is simply a source of energy.

¹ Risérus, U., L. Berglund, and B. Vessby. "Conjugated Linoleic Acid (CLA) Reduced Abdominal Adipose Tissue in Obese Middle-aged Men with Signs of the Metabolic Syndrome: A Randomised Controlled Trial." International Journal of Obesity and Related Metabolic Disorders. August 2001. https://www.ncbi.nlm.nih.gov/pubmed/11477497 ² De, M. C., R. N. Lemaitre, X. Song, I. B. King, D. S. Siscovick, and D. Mozaffarian. "Serial Measures of Circulating Biomarkers"

of Dairy Fat and Total and Cause-specific Mortality in Older Adults: The Cardiovascular Health Study. American Journal of Clinical Nutrition. July 2018. https://www.ncbi.nlm.nih.gov/pubmed/30007304. 3 Swanson, D., R. Block, and S. A. Mousa. "Omega-3 Fatty Acids EPA and DHA: Health Benefits throughout Life." Advances in Nutrition. January 2012. Accessed August 13, 2018. https://www.ncbi.nlm.nih.gov/pubmed/22332096.

⁴ Portnoy, J., A. Raine, J. Liu, and J. R. Hibbeln. "Reductions of Intimate Partner Violence Resulting from Supplementing Children with Omega-3 Fatty Acids: A Randomized, Double-blind, Placebo-controlled, Stratified, Parallel-group Trial." Aggressive Behavior. May 2018. https://www.ncbi.nlm.nih.gov/pubmed/29781086





Most likely, you are not getting enough vitamin D. Vitamin D deficiencies are very widespread in developed societies.1 And believe it or not, even most people who live in sunny areas like Arizona, Florida, California, and even the warmer areas in Europe have lower levels of this muchneeded nutrient, because few people spend enough time with their skin exposed to the sun without sunscreen on most days. In the hottest desert areas of the Middle East, vitamin D deficiency is endemic in the population; most cover their skin while in

It's important to get your vitamin D levels checked at least annually and discuss with your health care provider the best way to supplement. Vitamin D is an important factor in nearly every bodily function—from reproductive health, conception, and pregnancy to immune protection, brain function, and bone strengthening. The gastrointestinal (gut health), renal (kidneys), endocrine (hormones), musculoskeletal (bone and muscles), immunological (disease-fighting), and cardiovascular systems all depend on adequate vitamin D in order to function at their optimal levels.

Vitamin D is not only a vitamin but also a hormone. It is often referred to as the "sunshine vitamin" because it is synthesized in the skin through shortwave ultraviolet light in sunshine exposure. It is available in some foods, but the best way to get it is via sunlight.1

Endocrine system

Vitamin D plays an essential role in the endocrine system largely because it is a hormone. The thyroid, a gland located in the neck area, regulates metabolism, growth and development, body temperature, and sleep. It also plays a key role in a healthy perinatal period—the time from conception through breastfeeding.

There is an association between vitamin D deficiency and chronic thyroid conditions like Hashimoto's thyroiditis and Grave's disease.² Both of these also happen to be autoimmune diseases, along with other autoimmune conditions such as rheumatoid arthritis, lupus, and multiple sclerosis. Vitamin D deficiency increases the risk of many autoimmune diseases.

1 Nair, Rathish, and Arun Maseeh. "Vitamin D: The 'Sunshine' Vitamin." Journal of Pharmacology and Pharmacotherapeutics.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3356951/. ² Bozkurt, N. C., B. Karbek, B. Ucan, M. Sahin, E. Cakal, M. Ozbek, and T. Delibasi. "The Association between Severity of Vitamin D Deficiency and Hashimoto's Thyroiditis." Endocrine Practice. May/June 2013. https://www.ncbi.nlm.nih.gov/

³ Urashima, M., T. Segawa, M. Okazaki, M. Kurihara, Y. Wada, and H. Ida. "Randomized Trial of Vitamin D Supplementation to Prevent Seasonal Influenza A in Schoolchildren." The American Journal of Clinical Nutrition. May 2010.

https://www.ncbi.nlm.nih.gov/pubmed/20219962

Mansouri, Ladan, Kristina Lundwall, Ali Moshfegh, Stefan H.

Immune system

Vitamin D deserves as much attention as any other vitamin or mineral, such as zinc and vitamin C, for its crucial role in protecting us from respiratory illnesses, particularly in the winter when we are faced with even less sunlight exposure. Vitamin D decreases inflammation and boosts white blood cells for better immune response. One study demonstrated that vitamin D supplementation reduced the incidence of the flu in school children.3

Inflammation is a contributing factor in almost every chronic illness, from cardiovascular diseases to depression to cancer. Vitamin D controls the spread of cytokines, which are involved in inflammation initiation and persistence as chronic inflammation.4

Some research suggests that childhood asthma may be due to vitamin D deficiency in the first year of life.5

Researchers are also pondering the possibility that vitamin D deficiency can extend to the prenatal time based on the maternal levels passed on in utero. Robust levels of vitamin D in pregnant moms are crucial to optimizing development of their

Gastrointestinal system

The theme of all these systems being symbiotic and vitamin D's role in crosslapping between systems continues with gut health. Studies have demonstrated the anti-inflammatory and pro-immunological properties of vitamin D as they relate to the gastrointestinal tract, particularly as they relate to the mucosal lining of the entire tract.⁶ While probiotics are getting their due time in the spotlight for their role in the gut microbiome, vitamin D deserves similar attention. Scientists have noted that vitamin D supplementation is associated with an improvement in bowel symptoms and the return of four different strains of healthy gut bacteria.7

Jacobson, Joachim Lundahl, and Jonas Spaak. "Vitamin D Receptor Activation Reduces Inflammatory Cytokines and Plasma MicroRNAs in Moderate Chronic Kidney Disease – a Randomized Trial." BMC Nephrology. May 2017. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5434555/. ⁵ Litonjua, Augusto A. "Childhood Asthma May Be a Consequence of Vitamin D Deficiency." Current Opinion in Allergy and Clinical Immunology. June 2009. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2897155/.

Sun, Jun. "Vitamin D and Mucosal Immune Function." Current Opinion in Gastroenterology. November 2010. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2955835/. Gominak, S. C. "Vitamin D Deficiency Changes the Intestinal Microbiome Reducing B Vitamin Production in the Gut. The Resulting Lack of Pantothenic Acid Adversely Affects the Immune System, Producing a 'Pro-Inflammatory' State Associated with Atherosclerosis and Autoimmunity." Medical Hypotheses. September 2016. https://www.ncbi.nlm.nih.gov/pubmed/27515213.



Reproductive system

If you're trying to conceive (or know someone who is), a vitamin D supplement may be a helpful addition to the daily routine. While still a new field of research, vitamin D supplementation has played a positive role in IVF (in vitro fertilization) conception.8 Furthermore, vitamin D boosts the quality of a male's semen.

Pregnancy and fetal/child health

Vitamin D is very necessary during the peripartum period. Evidence suggests that deficiencies in it can augment the potential for developing preeclampsia (hypertension during pregnancy) or gestational diabetes.9

In addition to mom's health, the developing baby needs it for skeletal growth, organ development, and lung health optimization. Babies born to mothers with vitamin D deficiencies are at a higher risk for being preterm and having lower birth weight, as well as experiencing longer-term consequences such as lower intellectual abilities and poorer lung health.10

8 Lerchbaum, E., and B. Obermayer-Pietsch. "Vitamin D and Fertility: A Systematic Review." European Journal of Endocrinology. May 2012. https://www.ncbi.nlm.nih.gov/pubmed/22275473. Siely, Mairead, Andrea Hemmingway, and Karen M. O'Callaghan. "Vitamin D in Pregnancy: Current Perspectives and Future Directions." Therapeutic Advances in Musculoskeletal Disease. June 2017 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5466149/. 10 Hart, P. H., R. M. Lucas, J. P. Walsh, G. R. Zosky, A. J. Whitehouse, K. Zhu, K. L. Allen, M. M. Kusel, D. Anderson, and J. A. Mountain. "Vitamin D in Fetal Development: Findings from a Birth Cohort Study." Pediatrics. January 2015. https://www.ncbi.nlm.nih.gov/pubmed/25511121.

Often, breastfeeding mothers are told that they need to supplement their breast milk with vitamin D drops. Breast milk is the perfect food for infants and contains all that a growing newborn needs, nutritionally speaking. The need for vitamin D supplementation is not a defect in breast milk, but lies more in the daily recommendation of vitamin D a breastfeeding mother should consume. 11 According to some research, lactating mothers should consume 6,400 IU of vitamin D daily.

Beyond breastfeeding, newborn and infant care puts a strain on both parents' health. Mothers and fathers alike experience pretty intense sleep deprivation, stress, and decreased energy during the first year of a child's life. Vitamin D should be at its optimal level to mitigate the consequences of the stressors so that the immune system and hormonal balance stay in healthy form.

How do you know whether you are deficient in vitamin D? The best way to truly know is through the aforementioned blood test. Talk to your health care provider about ordering a 25-hydroxy vitamin D test. Clinical signs of suboptimal or deficient levels include fatigue, moodiness, depression, or illnesses that seem to linger (such as the common cold). Since these are relatively common symptoms for many different issues, the lab test is truly the gold standard for knowing.

11"Vitamin D and Breastfeeding: An Interview with Bruce Hollis, PhD • KellyMom.com. "KellyMom.com, 15 Jan. 2018, kellymom.com/nutrition/vitamins/vitamin-d-and-breastfeeding/. In addition to sunlight and supplementing, foods that contain higher-than-normal levels of vitamin D include fatty fish (such as sardines and salmon), egg yolks, and fortified foods such as many milks, orange juice and some cereals. However, vitamin D fortified foods only supply about 10 percent of a person's actual vitamin D needs, typically 200-400 IU of vitamin D. Enough sun exposure to turn the skin slightly pink (known as the "minimal erythemic dose" of sunlight), stimulates production of 10,000 to 20,000 units of vitamin D3. For people who are not regularly exposing most of their skin to nonwinter sun for 30-60 minutes on most days, a good way to calculate vitamin D requirements is 1,000 IU of vitamin D per 10 kg body weight per day.

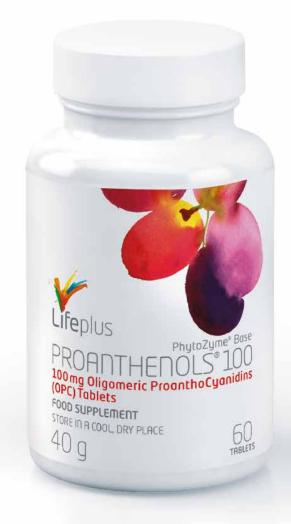
People who should not supplement vitamin D without careful supervision by a knowledgeable health care professional include those with any type of lymphoma or lymphocytic leukemia or granulomatous diseases (such as sarcoidosis, tuberculosis, or granuloma annulare). In such cases, it is essential to measure not only the blood level of 25 hydroxy-vitamin D, but also 1,25 di-hydroxy vitamin D (the activated form, which is about 1,000 times more potent than 25-hydroxy vitamin D).

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Enord supplements should not be used as a substitute for a varied diet



Cat's Claw

Cat's claw—also known by its Spanish name "Uña de gato" or its scientific names *Uncaria tomentosa*, *Uncaria rhynchophylla* or *Uncaria quianensis*—is a large, woody vine that has its botanical origins in Peru and the pan-Amazon basin. Its name is based on its physical characteristics that include its claw-like thorns that grow along the vine.

It can support the immune system, support healthy joints, increase comfort in people suffering from chronic pain, support healthy blood pressure, support the immune response to viruses and other infections, support healthy digestion, and support a healthy inflammatory response, especially within the gastrointestinal tract.

Cat's claw's immune-supporting properties were highlighted in a study that demonstrated an increase in white blood cells of subjects given a cat's claw extract.1 White blood cells are a pivotal part of the body's ability to fight against infection. Another study showed improved immunological response—by key laboratory values—in adults who got the pneumonia vaccine and simultaneously took cat's claw supplements.2

Thankfully, so much is being covered in current health media about the essential role the gut plays in our overall health and how that relates to our immune system. Laboratory studies reveal that cat's claw has both free-radical scavenging properties as well as abilities to promote and support a healthy inflammatory response.3 Many people report relief from leaky gut issues, a healthier inflammatory response within their large and small bowel, as well as supporting mild digestive issues with the use of cat's

Problematic issues in our gastrointestinal system are often due to unhealthy inflammation of the mucosal lining.

Because of the support of a healthy inflammatory response, cat's claw can be utilized as a way to help many of these chronic conditions within the GI tract move to a more healthful status.

In terms of supporting healthy joints, one small study of participants with osteoarthritis of the knee (swelling and pain with activity) and a control group who received a placebo showed the people taking the placebo experienced no improvement in function, whereas the group that received cat's claw supplements experienced less pain with activity.4

Similarly, there was a study of people with rheumatoid arthritis who were receiving conventional treatment who were "supplemented" with a specific formulation of cat's claw or a placebo.5

The group that received the cat's claw reported greater joint comfort and smaller joint size than those who received the placebo.6

⁴ Piscoya, J., et al. "Efficacy and Safety of Freeze-Dried Cat's

of the Species Uncaria Guianensis." Inflammation Research,

Claw in Osteoarthritis of the Knee: Mechanisms of Action

U.S. National Library of Medicine, Sept. 2001,

Cat's claw may have promising benefits for cardiovascular health. It helps maintain healthy blood flow and also has some natural calcium channel-blocking activity, which helps support healthy blood pressure.7

In terms of supporting a healthy immune function, laboratory studies have shown that cat's claw appears to synergize with various antiviral therapies.

Other laboratory tests showed that cat's claw can decrease the tendency of herpes viruses to mutate (one of the ways that viruses develop drug resistance) and also showed other viral-inhibiting properties—though the clinical significance of these laboratory findings is as yet unknown.8

Another small study with no control group showed a positive effect of cat's claw supplementation on the white blood cell counts of people living with HIV.9

www.ncbi.nlm.nih.gov/pubmed/12120814.

¹ Sheng, Y., C. Bryngelsson, and R. W. Pero. "Enhanced DNA Repair, Immune Function and Reduced Toxicity of C-MED-100, a Novel Aqueous Extract from Uncaria Tomentosa. Journal of Ethnopharmacology. Feb. 2000, https://www.ncbi.nlm.nih.gov/pubmed/10687868. ² Lamm, S., et al. "Persistent Response to Pneumococcal Vaccine in Individuals Supplemented with a Novel Water Soluble Extract of Uncaria Tomentosa, C-Med-100." Phytomedicine, U.S. National Library of Medicine, July 2001, www.ncbi.nlm.nih.gov/pubmed/11515716. ³ Sandoval, M., et al. "Anti-Inflammatory and Antioxidant Activities of Cat's Claw (Uncaria Tomentosa and Uncaria

www.ncbi.nlm.nih.gov/pubmed/11603848. ⁵ Mur, E., et al. "Randomized Double Blind Trial of an Extract from the Pentacyclic Alkaloid-Chemotype of Uncaria Tomentosa for the Treatment of Rheumatoid Arthritis. Journal of Rheumatology, U.S. National Library of Medicine. Apr. 2002, www.ncbi.nlm.nih.gov/pubmed/11950006. ⁶ Tabassum, Nahida, and Feroz Ahmad. "Role of Natural Herbs in the Treatment of Hypertension." Pharmacognosy Reviews, Guianensis) Are Independent of Their Alkaloid Content. U.S. National Library of Medicine, 2011 www.ncbi.nlm.nih.gov/pmc/articles/PMC3210006/. Phytomedicine, U.S. National Library of Medicine, May 2002, ⁷ Yano, S. et al. "Ca2 Channel Blocking Effects of Hirsutine, an

Indole Alkaloid from Uncaria Genus, in the Isolated Rat Aorta.' Planta Medica, U.S. National Library of Medicine, Oct. 1991, www.ncbi.nlm.nih.gov/pubmed/1798789. 8 Caon, T, et al. "Antimutagenic and Antiherpetic Activities

of Different Preparations from Uncaria Tomentosa (Cat's Claw)." Food and Chemical Toxicology., U.S. National Library of Medicine, Apr. 2014, www.ncbi.nlm.nih.gov/ pubmed/?term=cat's claw. herpes.

⁹ Erowele, G I, and A O Kalejaiye. "Pharmacology and Therapeutic Uses of Cat's Claw." American Journal of Health-System Pharmacy, U.S. National Library of Medicine, 1 June 2009, www.ncbi.nlm.nih.gov/pubmed/19451609.

How to Prevent Meningitis in Your Teenager

Meningitis is an inflammation of the brain and spinal cord that is caused by bacteria or viruses. The germs that lead to meningitis are passed through sharing items such as drinking cups and silverware, as well as through kissing and being around a contagious person who is coughing and sneezing.¹

The age demographics most at risk are teenagers and university students (who make up about one-third of the people who get meningitis each year), followed by young children. The reason these two groups are most at risk is because of their tendency to be more physically close. Teenagers are often in close proximity to each other since it is such an important social period in their lives. University students living in dormitories or shared housing are also physically in each other's space and sharing items that can be a means for contagion.1

As previously mentioned, meningitis is caused by either bacteria or viruses. Viral meningitis does not require antibiotics, but a medical evaluation is essential to differentiate a viral cause from a bacterial one, the latter of which requires antibiotics. Viral meningitis, if caused by one of the herpes viruses, can be treated with medications, but for most cases there are no specific medications, only supportive care (if severe).

High-dose pulses (for three days) of vitamin D, vitamin A, and vitamin C may be helpful, though there have been no clinical trials that have tested this.

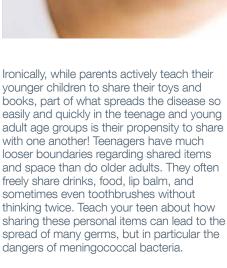
Bacterial meningitis can be caused by a number of different bacteria, though meningococcus is the predominant one and can be more complicated in terms of recovery. Bacterial meningitis is often more serious than viral meningitis is, though both need immediate and swift medical attention. Of those who get sick, between 10 and 15 percent will die. Of the survivors, 20 percent will suffer from lifelong complications such as brain damage or hearing loss.²

Prompt diagnosis through a culture of the spinal fluid and appropriate IV antibiotics dramatically reduce the risk of neurological damage or death. However, not everyone who contracts bacterial meningitis will become sick; therefore, you may not even know that vou've been exposed. Such exposure without illness boosts natural immunity.



Other ways of preventing the spread of meningitis include good hand hugiene.

Because the disease can spread via the air (such as a sneeze or a cough) or by touching things that an infected person has touched, it's imperative to wash hands after social situations, before meals, and after using the restroom. It is also wise to wash hands after a shopping outing, going to a restaurant, or riding on public transportation, because the spread of illness can often happen when we put our hands to our mouths and face.

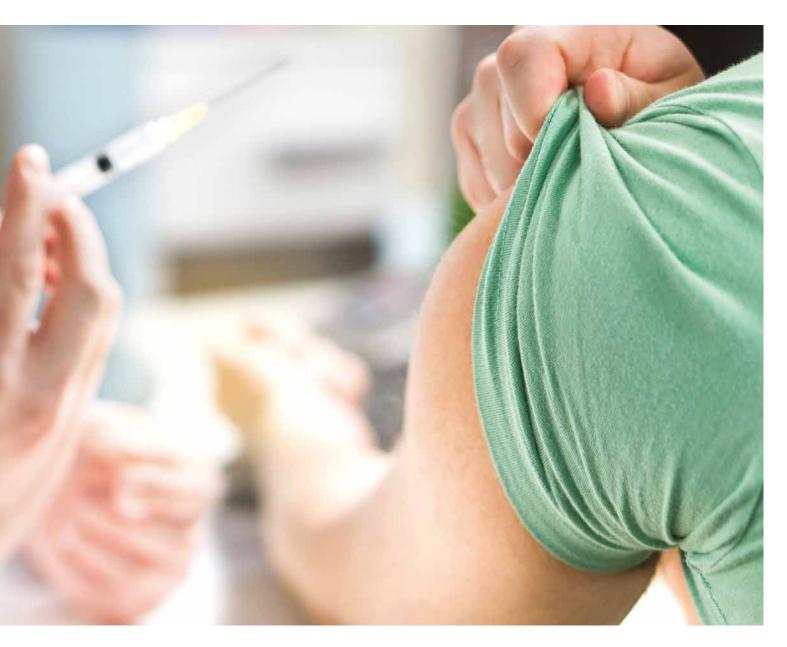


It's natural for teenagers to start experiencing all the emotions of love. University students are experiencing new love-related freedoms they may not have previously explored. Meningitis is easily spread through kissing.

² "Meningitis Explained - Meningitis Now." Meningitis Now, www.meningitisnow.org/meningitis-explained



¹ "Meningitis." Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, 9 Apr. 2018, www.cdc.gov/meningitis/index.html.



Teach your teenager to not be physically intimate with someone who appears sick, or during a meningitis epidemic at their school, as some people may be infectious before they exhibit signs of illness (a headache and stiff neck are the most prominent symptoms).

Cough and sneeze into your elbow (or a tissue, and then promptly wash your hands). Droplets of the meningitis bacteria or virus or any respiratory illness—can be distributed into the air with a cough or a sneeze. Teach your children this considerate act so as to not make others sick when they are.

If there is a case reported in your area or at your child or teen's school, immediately bring them to their health care provider and discuss options. The health care provider may suggest antibiotics or simply monitoring for signs and symptoms. If classic meningitis symptoms are present, and/or if an epidemic is known to be in progress at their school, a diagnostic lumbar puncture to measure the pressure of the spinal fluid and obtaining a sample of it for microscopic and bacterial culture examination is essential.

Teach your children to take care of their body. Teach children and teenagers to eat immune- boosting foods, avoid sugar and junk foods, and get plenty of exercise and rest. This will ensure their body's reserves are in top condition. Institutional food at many colleges and universities may not provide all the necessary micronutrients, especially for young people under the stress of studying, writing papers, and taking examinations. Therefore, basic supplementation with essential vitamins, minerals, and other micronutrients may be appropriate to maintain the immune system in top condition.



Blue Zone Living

A recent survey of more than 14,000 people across 191 countries and territories has discovered some of the happiest, healthiest places on earth to live. The study, which was conducted by InterNations, the world's largest network for people who live and work abroad, asked people to rank on a scale of 1 to 7 their health and wellbeing as it related to 43 different aspects of life abroad.

The results of the survey show some of the best places in the world to live in terms of not only overall health, but also happiness. These areas where people tend to live longer, healthier, happier lives are called "Blue Zones."

One Blue Zone in the Nicova peninsula of Costa Rica has the lowest rate of middleage mortality in the world. Yet it spends a fraction of the cost on healthcare that other countries spend. How can this be? Blue Zones have one thing in common: People in them live their lives much differently than the average Westerner.

A Danish twin study discovered that genes account for only about 20 percent of how long and how healthfully you will live. The other 80 percent is influenced by lifestyle and environment. The choices we make in life in terms of where we live, what we focus on, what we eat, and how much exercise we get are by far the biggest influencers on our health and happiness.1

Most of us can't just pack up and move to a Blue Zone, but we can learn from what these places have to offer in order to introduce the same concepts into our own lives. Bluezones.com, an online resource for adopting the longevity secrets found in different Blue Zones, indicates that one important aspect of Blue Zone living is to stop focusing on outcomes such as a desire to lose 20 pounds, and instead focus on acquiring new life-enhancing habits, skills, and experiences.2

Focusing on positive people, things, experiences, outcomes, and thoughts attracts more positivity into our lives. And with more positivity comes more chances to learn, live, and grow into the healthy, happy people we want to become.

Blue Zone cultures tend to have a similar attitude—the majority of people in them are focused on the positive aspects of their lives, which helps them cultivate even more happiness and health.

Blue Zone diets tend to be far from the standard Western diet filled with refined foods and meals eaten on the go. In Ikara, Greece, a noted Blue Zone, where people eat a typical Mediterranean diet, people over the age of 70 experience one-fifth the rate of dementia that Americans over the age of 70 do. Lifelong healthy living in a nurturing environment is great for brain health.

Technology in every form—from cell phones and computers to cars and faux foods made in large manufacturing plants—are far less common in Blue Zones than in most Western urban areas.

The result is a lifestyle in which people move more naturally—they walk from place to place—and interact with each other face to face more than they do through screens.



They eat whole foods, often fresh from gardens or local small farms.

People in Blue Zones also tend to have a strong sense of community with their neighbors and family. This provides a wonderful social safety net that helps people feel needed and cared for at the same time.

This slower-paced lifestyle has an array of health-boosting effects. More walking equates with better physical condition. Eating whole foods provides the body with better nutritional support. Social connections provide a strong sense of purpose in life. All of these add up to longer, healthier lives. And, these are all things anyone can cultivate in their own lives no matter where they live on the globe.

If you're wondering which countries the InterNations survey revealed to be the happiest and healthiest, the top five are Israel, Japan, Finland, Taiwan, and Austria. But you don't have to move to one of these places to experience the many benefits of living in a Blue Zone. You have the power to create your own personal Blue Zone in any place you live!

¹ Roundtable on Population Health Improvement; Board on Population Health and Public Health Practice; Institute of Medicine. Business Engagement in Building Healthy Communities: Workshop Summary. Washington (DC): National Academies Press (US); 2015 May 8. 2, Lessons from the Blue Zones®. Available from: https://www.ncbi.nlm.nih.gov/books/NBK298903/. ² "20 Habits For a Healthier, Happier Life." Blue Zones. May 4, 2018. Accessed August 15, 2018. https://www. bluezones.com/2018/01/20-habits-healthier-happier-life/.



Winter Skin Care

Life seems to slow down and we go inward during the cold of winter. Because of this, winter is the perfect time to do more self-care, particularly as it pertains to skin care. Just because the sun isn't shining every day doesn't mean our skin can't glow.

Make your bathroom a sanctuary. Take an hour to go through the clutter of your bathroom cabinet and shower shelf. Evaluate what you actually use regularly (weekly or more often) and toss or give away the rest. If anything is more than six months or a year old and hasn't been used, consider throwing it away. Minimizing your skin care routine is an important first step for self-care in the winter, when we spend more time inside. It not only declutters your bathroom, but also declutters your mind and boosts your energy. Add to the spa-like ambience by hanging plants in the bathroom—they will purify the air, which is good for your whole body, but particularly your skin.

Simplify your ingredients. It is becoming increasingly popular to use DIY (do-ityourself) skin and hair care products. If you're up for trying your hand at making your own beauty care products, then start off simple-no need for elaborate recipes or complicated concoctions. Wash your hair with chamomile and lavender tea. Use baking soda as a gentle skin exfoliator. Apply olive oil or warmed liquid coconut oil to the ends of your hair for a weekly deep oil treatment. Gently pat shea butter around your eyes and mouth to moisturize facial wrinkles.



Use the same shea butter for a deep moisturizing of your feet after a foot scrub.

If you'd rather stick with products you purchase, make sure they aren't doing more harm than good.

Not sure if what's inside your bathroom cabinet and on your shower shelf are safe and healthy for your skin? Visit the United States nonprofit organization the Environmental Working Group's (EWG's) website to check the toxicity and environmental impact of your cosmetics and toiletries. The EWG's Skin Deep database has tens of thousands of products listed. along with their toxicity ratings to determine whether what you're using on your skin is safe for you. You can even photograph labels in the store with a smartphone and enter it into the Skin Deep database to get immediate feedback about the relative safety or risk of individual ingredients.

Don't forget your hands. Hand hygiene is important year-round, but particularly in the winter, for the prevention of contagious illnesses.

But handwashing coupled with cold, dry air can be tough on our hands' skin. Place containers of rich and creamy lotion at all your sinks-bathrooms, kitchen, and laundry. It makes for a convenient reminder to keep your hands moisturized. Opt for lotions that have a citrus essential oil in them for an added winter mood pick-me-up. Carry a small hand lotion tube in your purse, and put another one in your car for more convenient reminders to moisturize your hands.

Be wary of harsh exfoliants since your hands will already be naturally sloughed with all the extra handwashing. You don't want to make your hands' skin any more prone to irritation or rawness

Add as much moisture to your life as possible.







In addition to conveniently placed lotions and creams, make sure you're adding (and not subtracting) moisture in other ways. Hydrate with cleansing citrus teas and waters. Use humidifiers and vaporizers (try finding ones with the capacity to diffuse essential oils) throughout your home.

Eat hydrating fruits and vegetables that will add more fluid to your diet—try apples, grapes, and in-season citrus, as well as greens such as spinach, kale, and chard.

Amp up the self-care routine with weekly reminders set on your calendar or phone to do a deep conditioning of your whole body using a blend of argan oil, shea butter, and coconut oil, or similar natural ingredients there are many.



Maximize Results with Better Post-Workout Routine

Don't let healthy habits end when you walk out the gym door. Your post-workout routine is as important as the workout itself for your general wellbeing.

It has been said that the activity you do during your workout is actually the easiest part of exercise. It may not feel that way when you're in the middle of a strenuous cross-training routine, but there is merit to the saying. Think about the fact that you probably spend one hour a day working out. What about the other 23 hours a day? Are you thinking about your health and fitness then?

Before you even leave the gym, cool down for a few minutes and then stretch and roll. If you are prone to soreness and cramping muscles, try using a foam roller to perform self-myofascial release techniques. This can improve flexibility, increase blood flow, promote circulation, and soothe any "knots" in soft tissue.

If you have the time, pamper yourself with a post-workout massage. You'll receive the same benefits and more!

One of the most important postworkout routines is to fill up your water bottle and sip it the rest of the day, not just during your workout.

Even if you drink water while exercising, you can still end up dehydrated after an intense workout. You need to make sure your body is properly hydrated so it can heal after a workout. Increasing your water intake can also keep you feeling alert and energized all

Don't forget to eat! Providing your body with the fuel it needs to fully recover after a workout is critical. Your body needs protein to build and repair the muscles you just used. Pre- and post-workout shakes, which provide plentiful amounts of the "branched chain amino acids" (valine, leucine, and isoleucine) are particularly helpful in supporting and building muscle tissue. Your body also needs antioxidants to fight the surge of free radicals that naturally occurs during intense exercise.



Potassium-rich snacks such as bananas can help prevent postworkout muscle cramps.

Moreover, if you don't snack on healthy foods now, it increases the chance of binging on unhealthy snacks later.

Go to bed at a reasonable time. Chances are, this step in your post-workout routine won't take place for several hours, but that doesn't diminish its importance. Your body requires good, deep sleep to fully recover after a workout if you want to have the energy to do it again tomorrow.



Equally as important, there are things you should not do after a workout. Chief among these bad habits is staying in your gym clothes for too long. Gym clothes can harbor germs and bacteria that you don't want clinging to your body.

Ditch your sweaty clothes and hop in a cool shower to reduce muscle soreness and inflammation. Not everyone likes the idea of a cool shower, even after a hot workout. That's okay. Try starting out with hot water and reduce the temperature at the end of your shower for just a couple of minutes.

Once you're out, dry off and then put on comfortable clothes to keep your muscles warm and relaxed.



Another post-workout don't: surrendering to the desire to be a couch potato. After a hard workout, it's easy to succumb to the idea that you deserve some rest. While that may be true, it isn't a license to eat potato chips while binge-watching television shows on the couch.

Light activity after a workout keeps your blood moving, which aids recovery by repairing and refueling your body.

Light activity can include a cool-down routine of walking around the perimeter of the gym a few times, or it can be something else entirely, like chopping vegetables and making a big salad in the kitchen, or walking from the gym back to your house or office.



Finally, watch what you eat during a meal. It's easy to think that you can eat an extra slice of pizza or have another helping of dessert because you exercised today.

That's a calorie trap that many of us fall into from time to time. Make your post-workout meal one of high-quality protein, healthy fats, and fresh vegetables to support your exercise routine.

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Ask the Expert

Ulhen am I too old to exercise?

You're never too old to exercise. Everyone at every age can benefit from some form of exercise. In fact, a recent study published in the American Heart Association's journal, Circulation, shows that even after years of sedentary living, it's possible to turn back the clock on heart age by getting active. This particular study looked at individuals aged 45-64 and found going from practically no physical activity to higher-intensity exercises made their hearts go from the health of a 50-year-old to the health of a 30-year-old!2 An unrelated study showed that when older people exercise, they can protect their immune systems, which naturally slow down with age.3

Vigorous exercise later in life keeps immune systems functioning on a par with much younger people's immune systems.

This isn't to suggest that 64 is some sort of age limit for beginning exercise; it's never too late to get active. If it has been years since



your last workout or if you have health limitations such as poor balance, take it slowly and consult your doctor before beginning. But there are lots of great ways to get active safely. Activities like water aerobics, tai chi, or voqa are all low-impact activities that build muscle strength and improve balance, making them perfect activities for later-in-life beginners. Even a once-daily walk around the block is a great start for many people. Go slowly and work up to more intense activities such as jogging, running, or lifting free weights.

Is it okay to drink tea instead of water?

In order to stay hydrated, it's important to drink plenty of fresh, pure water every day. The general guideline is to drink eight 8-oz glasses of water every day. However, tea makes a great addition to your daily water intake. Freshly brewed tea has been shown in multiple studies to have health-boosting benefits on your body. The latest of such research comes from the University of California, Los Angeles, where scientists looked at how green and black teas affect the body. Researchers found that the polyphenols found in these teas can alter your gut microbiome in amazing ways. These teas are capable of changing gut metabolites and intestinal microflora in a way that appears to alter energy metabolism and fight obesity.4 Because staying hydrated is such an important part of staving healthy. you shouldn't substitute tea for water. But there is ample evidence that enjoying both beverages on a daily basis can keep you looking and feeling healthy.

Is chocolate actually healthy

least 70 percent cacao) contains high levels of flavonoids that help the body fight stress brain and cardiovascular health. The nutrients in cacao appear to enhance neuroplasticity for behavioral and brain than the average chocolate bar, which is often 40 g) of dark chocolate to produce



Berk, Lee. Loma Linda University Health, https://news.llu. edu/for-journalists/press-releases/new-studies-show-darkchocolate-consumption-reduces-stress-and-inflammationwhile-improving-memory-immunity-and-mood. ² Erin J. Howden, Satyam Sarma, Justin S. Lawley, Mildred

Opondo, William Cornwell, Douglas Stoller, Marcus A. Urey, Beverley Adams-Huet, and Benjamin D. Levine, "Reversing

the Cardiac Effects of Sedentary Aging in Middle Age-A Randomized Controlled Trial." Originally published 8 Jan 2018 in Circulation 2018;137:1549-1560.

³ McDonald, Bob. "Exercise Is the Best Anti-aging Therapy | CBC Radio." CBCnews. March 9, 2018. Accessed August 13, 2018. http://www.cbc.ca/radio/quirks/exercise-is-the-best-anti-agingtherapy-1.4569842.

⁴ Henning, S.M., Yang, J., Hsu, M., et al. "Decaffeinated green and black tea polyphenols decrease weight gain and alter microbiome populations and function in diet-induced obese mice." Eur J Nutr (2017). https://doi.org/10.1007/s00394-017-1542-8.

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