

GoodBye 2016

# SPA THERAPY NEWS

Hello 2017

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## Stretching for a More Pain Free Body

By Vivian Ewald, CMP & Skin Care Therapist



Stretching every day for better flexibility and may improve performance in everyday physical activities. Stretching will decrease your risk of injuries by helping joints move through full range of motion enabling your muscles to work most effectively and increase blood flow to your muscles.

### Top 10 Health Benefits of Stretching

1. Encourages an optimistic outlook by releasing stressed tight and contracted muscles which in return have increased blood flow and are relaxed. These are endorphins which also give you tranquility and euphoria.
2. Fortifies posture by lengthening tight muscles that pull areas of the body away from proper position. Stretching the muscles of the chest, shoulders and lower back will help keep the spine in better alignment and health which in turn helps relieve aches and pains and a reduced desire to hunch and slouch.
3. Enables flexibility that gives you better range of motion, better physical performance, and better sense of balance. When you are flexible it takes less energy to move from one position to another with less injury because you will have more flexible joints and fewer injuries in workouts and everyday activities.
4. Increases stamina! Stretching loosens muscles and tendons which relieve muscle fatigue and increases blood flow. Stretching can delay muscle fatigue by ensuring oxygen

is efficiently flowing in your blood which in turn increases your endurance

5. Decreases risk of injury with efficient blood flow of nutrient rich blood to the muscles, the muscles are less sore, helping the speed to recovery from muscles and joint injuries.
6. Improve energy levels! Muscles tighten when we get tired and make us feel lethargic. Stretching quickly revitalizes your energy levels.
7. Promotes blood circulation and increases blood flow to muscles. Helps reduce post recovery work out soreness and shorten recovery time and improve overall health and cell growth.
8. With the nutrient rich blood that is being moved and forced around by stretching and what it does to you tight overworked muscles, your athletic performance can improve! Muscles recover quickly with less down time, increases stamina!
9. Reduced soreness from everyday life! Stretching every day for 30 minutes will bring the relaxation and revitalization to your muscles and...
10. Help reduce cholesterol!!!

### INSIDE THIS ISSUE

- 1 Stretching for a Pain Free Body by Vivian
- 2 How to Tap into Your Breath by Krystie
- 2-5 Hydration is Essential for Skin by Jennifer
- 5-6 No Make-Up Movement by Audrey
- 6 Canine Massage by Nicole
- 7-8 Silent Conversations by Noreen
- 8-9 Pimples & Stress by Jennifer
- 9 Location information



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## How to Tap into Your Breath & Why it Matters

By *Krystie Nordman, CMP*



Here's a simple exercise. Take a slow deep breath starting at the belly; feel the belly rise, the air naturally travelling up into the chest, expanding the rib cage. Now hold for two counts. Slowly release the breath, counting to ten as we do. How do you feel? You have just taken a full diaphragmatic breath.

Much of our day is spent shallow breathing, otherwise referred to as thoracic breathing or chest breathing. It is a process, largely unconscious, by which we ONLY draw in breath from the chest cavity without fully engaging the diaphragm. The diaphragm is located below the lungs and is the primary muscles responsible for inspiration. When you inhale deeply, the diaphragm flexes downward to help draw air into your lungs. Your lungs are one of the largest organs in your body. They work together with the rest of the respiratory system to keep your body's cells supplied with the necessary oxygen. Many times when we are stressed, in a hurry, or have anxious thoughts arise, we can default to shallow breathing. Our bodies react to stress by turning on our fight or flight response, otherwise known as our sympathetic system. This is the perfect precursor to shallow breathing; it primes us to breathe with less depth and perhaps also experience rapid breathing. Maybe when you come to see me, you are in the throes of this experience. The babysitter cancelled and you are in a mad dash trying to sort out what to do next. Your session is important because your health and well-being is important. But now you have arrived to your session distracted and out of breath. Don't worry. Here's what you can do.

While the therapist's role is hands on, the patient's only 'job' is to relax. Sometimes this is easier said than done. You want to get the most benefit from your session, but you are having a hard time letting go of the events leading up to it. If you find yourself in this scenario, turn to your breath. It is your friend and ally, ready to guide you into a restful parasympathetic state. When we are under duress,

we constrict. When we relax, we expand. I like to encourage my clients to take a few deep breaths at the beginning of our session, especially when I sense some hyperactivity occurring. You can begin by simply noticing where your breath is right now. Notice it's qualities. Is it fast, rhythmic, irregular, forced or flowing with ease? Start simply by noticing. There is no judgement. When you are ready, take a full breath in starting from the belly, allowing the belly to fill and overflow to the chest. There is no prescribed amount of time this should be done for. You can go at your own pace. My recommendation is simply to slow down the process and notice the sensations of your body. After taking a few of these deep diaphragmatic breath, try scanning your body for tension. Are you clenching your jaw? Can your shoulders decompress a little deeper into the table? Now that you have tapped into your breath, the body has been signaled to relax and let go. The mind and body begin to take in the therapeutic session with more awareness. Tension begins to melt.

Taping into your breath during your session (and whenever needed):

- ✓ Increases mental and emotional clarity
- ✓ Optimizes the immune system by strengthening T-cell formation
- ✓ Activates the secretion of human growth hormone, also known as the anti-aging hormone.
- ✓ Effectively lowers cortisol, a precursor to aging and lowered immune function
- ✓ Breathe easy. You can now tap into that full belly breath at your next session to reap the benefits of a happy body and mind!

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## Hydration is an Essential part of Skin Care

By *Jennifer Nagy-Cordray, BS*  
*California Certified Massage Therapist*  
*Skin Care Therapist*



Dehydration compromises skin's immune functioning and causes it to look older and more wrinkled. Skin tissue is constantly being renewed,

and depending on the factors produced in the dermis, can be regenerated every 2-3 weeks. Targeted nutrition, both dietary and topical, can dramatically increase the moisture level of the skin. There's a "nourish from the inside-out and outside-in" story to be told here with skin hydration. Let's begin by looking at how hydration works in the skin.

## **THE BARRIER AND KEY PLAYERS**

There are two ways to keep skin moist: by stopping trans-epidermal water loss (TEWL), and by adding moisture from the outside with topical skin care products. The ingredients applied to skin can make a big difference in its hydration status, and just as with dietary nutrition, consider good, clean, topical nutrition options for the best results. The skin's barrier, often referred to as the acid mantle, holds in water and lipids and keeps bacteria and environmental pollution out. A crucial part of the acid mantle's success is its pH. The ideal pH for skin falls around 5.5, which is slightly acidic. Skin with higher pH levels tends to be dry and fragile. Although the purpose of this article is to discuss nutrition for skin hydration, the subject really can't be covered properly without a brief mention of skin pH, and the importance of not disrupting this pH balance by using harsh topical soaps and treatments. Key nutritional players in skin hydration include certain vitamins, essential fats and antioxidants. The inside-out/outside-in story applies here to skin hydration, as with so many other areas of skin care. If these nutrients are taken in through the diet or applied to the skin, results are increased. To build healthy skin, feed the body the right nutrients and protect it from outside damage.

### **VITAMIN C (ASCORBIC ACID)**

Most estheticians consider vitamin C an essential component in the synthesis of collagen, and as an antioxidant that helps to fight free radical damage in the skin. In addition to these important jobs, this vitamin contributes to skin hydration and elasticity. While research is not clear on how vitamin C improves skin hydration, a higher intake of dietary vitamin C has been correlated with less dry skin, suggesting it may have effects on TEWL. In a study of topical vitamin C, Korean researchers concluded its use in Asian patients undergoing Fraxel skin resurfacing reduced TEWL and helped

to restore skin pH levels. This study followed 44 patients undergoing Fraxel, half of which were treated with topical vitamin C and the other half, nothing. Between the two groups, a significant difference in TEWL and skin pH levels was observed, but not in colorimetric status, stratum corneum hydration or skin surface lipids. The authors concluded, Topical vitamin C application reduces the injury of the skin's surface barrier after Fraxel laser and promotes the restoration of skin pH. However, there is a limit with increasing skin lightness or decreasing skin redness. When using vitamin C in skin care routines, it is important to choose the form carefully, as the delivery method can make a big difference in effectiveness. Ascorbic acid, the basic form of vitamin C, oxidizes quickly when exposed to air. Better choices include tetrahexyldecyl ascorbate (the lipid form) or water-soluble sodium ascorbyl phosphate to ensure the vitamin C is delivered to skin without oxidizing. For delivery of vitamin C from the inside out, it can be obtained in foods such as papaya, bell peppers, broccoli and strawberries.

### **VITAMIN E**

Vitamin E is the most potent lipid-soluble antioxidant for skin hydration. It is an essential part of skin cell membranes and has a role in cell signaling and cell nutrient transport. Therefore, it appears to enhance the penetration and resorption of skin lipids, creating an effective regulatory mechanism for restoring and maintaining the barrier function. Topically applied vitamin E is a moisturizer that helps keep the skin healthy and soft. Vitamin E exists in eight chemical forms. There are two main categories of this complex vitamin—tocopherols and tocotrienols—and each contains four types of molecules: alpha, beta, gamma and delta. Tocotrienols are 40-60 times more effective at quenching free radicals than tocopherols. Vitamin E has a special relationship with two other antioxidants—vitamin C and alpha lipoic acid. Both vitamin C and alpha lipoic acid are capable of removing the extra electron from a used vitamin E molecule, essentially reactivating it. This capacity to recycle and restore its power makes vitamin E a prominent factor in the skin's first line of defense against free radicals. Thus, vitamin E plays an important role in maintaining the barrier function of skin and appears to enhance the

penetration and reabsorption of skin lipids, making it an invaluable nutrient for locking moisture into the skin and preventing dehydration. Good food sources for obtaining vitamin E are nuts, seeds and vegetable oils.

## **B VITAMINS**

The B vitamins are a complex and busy group but offer a wealth of benefits for skin, internally and externally. B3, Niacin. One important B vitamin is B3, also referred to as niacin or nicotinic acid. This B vitamin has three critical roles in the body: converting glucose to energy, aiding in the production of fatty acids and cholesterol, and facilitating DNA repair and stress responses. As a player on the topical nutrition team for skin hydration, niacinamide (its skin care form) increases the production of ceramides and fatty acids, two key components of skin's outer protective barrier. With a strong acid mantle, the skin is better able to keep moisture in and irritants out. Dietary sources of vitamin B3 or niacin include tuna, chicken, turkey and peanuts. B5 Pantothenic Acid. Vitamin B5 is a component of coenzyme A (CoA), an essential coenzyme required for chemical reactions that generate energy from food (fat, carbohydrates and proteins). It also is involved in the synthesis of essential fats, cholesterol and steroid hormones such as estrogen and testosterone. On the topical side, B5 contributes to skin hydration via its role in the maintenance of skin barrier function. When applied to skin, B5 converts to pantothenic acid, which works as a humectant by infusing water in the cells, retaining moisture deep within the skin tissues. In the diet, good sources of vitamin B5 include avocado, lentils, shiitake and crimini mushrooms.

### **VITAMIN A (RETINOL)**

Vitamin A is fat-soluble and comes in various forms: retinol, retinal and the various retinol esters. Among other important functions, vitamin A supports cell growth and differentiation, which is how it may contribute to hydration in the skin. In topical form, vitamin A improves hydration in and around skin cells in a number of indirect ways, mostly by supporting healthy cell membrane functioning and encouraging skin cell turnover. In doing so, nutrient transport, waste removal and a reduction in TEWL result. Many forms of topical vitamin A are available for skin care formulations.

The main goal is to balance delivering an effective amount of vitamin A to the skin while managing the side effects that often accompany vitamin A application. Retinoic acid is an effective, bioavailable form of vitamin A, but it causes the most side effects. Retinols are also effective but must undergo a transformation to retinoic acid when applied to the skin. Many skin care ingredient manufacturers have developed technologies such as encapsulation to lessen the side effects while improving delivery. The least harsh, yet less effective forms are retinyl acetate, retinyl linoleate, retinyl palmitate and retinyl propionate. It is critical for clients to get adequate vitamin A each day through dietary sources and by applying a topical dose to skin as part of their regular skin care routine. Dietary vitamin A comes from sweet potatoes, carrots, dark green leafy vegetables, dairy, fish and meat. Liver also is an excellent source of vitamin A. While foods rich in beta carotene supply vitamin A, only a small percentage is converted.

## **FATTY ACIDS**

Certain dietary fats, referred to as essential fatty acids, are essential because the body cannot manufacture them, so they must be included in a diet to avoid deficiency. These fats fall into two categories: omega 6 (O6) and omega 3 (O3). The standard American diet (SAD) typically consists of too much O6 and too little O3. The recommended intake of O6 to O3 is a 2:1 ratio, yet the SAD diet sees closer to a 12:1 ratio. This imbalance leads to an inflammatory state due to the pro-inflammatory hormones created by an overabundance of O6 fats. This is a case where the "inside-outside" story is powerful, as chronic inflammation triggers a vast number of inflammatory skin conditions such as psoriasis, rosacea, eczema and acne. Although inflammation is not the same as dehydration, it contributes to a higher need for water in our cells and decreased cell membrane function. Conversely, when the body is deficient in both types of dietary fatty acids, skin cell integrity suffers and barrier function is reduced. A dietary deficiency in these fatty acids results in a characteristic scaly skin disorder, increased epidermal turnover rate, weak cutaneous capillaries that rupture easily, decreased wound healing, and increased TEWL leading to dry skin.<sup>10</sup> Topically, fatty acids are key players in skin hydration, but the best delivery vehicle is from the diet. Omega 6. O6 fatty acids provide hydration in

the skin by maintaining epidermal homeostasis, meaning they balance the flow of fatty acids in and out of cell membranes. The most noteworthy O6 fatty acid used in topical formulations is gamma linolenic acid (GLA) from borage and evening primrose oil. GLA is one of the most effective agents for the treatment of skin disorders and for the maintenance of healthy skin. Studies show it is beneficial for the treatment of skin conditions including dry skin, eczema, inflammation, wounds and dermatitis. Dietary O6 fats come from vegetable oils such as palm, soybean and canola. Omega 3. O3 fatty acids support the skin cell membranes of the epidermis, allowing for nutrient transport in and out of the cell, as well as the removal of waste. An intact skin cell membrane is better able to hold onto water, thereby increasing hydration in the skin. Although a good source of O3, fish oil is not a desirable ingredient in skin care due to its fishy smell and the heaviness of the oil. Preferred sources for topical skin care include algae and other marine plant sources. Dietary O3 fats are found in fatty fish and fish oil, flaxseed and walnuts (in much lower levels).

## LUTEIN AND ZEAXANTHIN

Many antioxidants and phytochemicals benefit the skin. Research has found that the daily consumption of 10 mg of lutein and 2 mg of zeaxanthin increases skin hydration, skin elasticity and superficial lipids. However, when dietary intake was combined with topical application, the hydration status improved 20%. Lutein and zeaxanthin are nutrients found in dark green, leafy vegetables such as kale and spinach.

## AN IMPORTANT COMBINATION

Combining dietary and topical nutrition for skin health is especially important for skin hydration. This article explored some of the most clinically significant players, but there are many other beneficial compounds. The key message remains the same: consume a diet rich in colorful fruits and vegetables every day and take care when choosing sources of nutrition for skin. Clean diet and skin care on the inside = healthy, glowing skin on the outside!

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middle-aged American women, Am J Clin Nutr 86 1225-1231 (2007) 2. www.ncbi.nlm.nih.gov/pubmed/22833141 3. JS Trivedi, SL Krill SL and JJ Fort, Vitamin E as a human skin penetration enhancer, Eur J Phann Sci 3 241-3 (1995) 4. MW Clarke, JR Burnett and KD Croft, Vitamin E in human health and disease, Crit Rev Clin Lab Sci 45(5) 417-50 (2008) 5. E Serbinova, V Kagan and L Han D, Packer, Free radical recycling and intramembrane mobility in the antioxidant properties of alpha-tocopherol and alpha-tocotrienol, Free Radic Biol Med 10(5) 263-75 (1991) 6. L Packer, SU Weber and G Rimbach, Molecular aspects of alpha-tocotrienol antioxidant action and cell signaling, J Nutr Feb 131(2) 369S-73S (2001) 7. ZD Draelos, Therapeutic Moisturizers

## The “No-Makeup” Movement

By Audrey Moore  
CA Certified Massage Practitioner,  
Esthetician  
Spa Manager



In an era where all selfies are highly edited and filtered, and overdone makeup is so prevalent on social media, it’s refreshing to see a bare and natural face occasionally. Alicia Keys is one star that caught attention recently for appearing to red carpet events, and as judge on The Voice, makeup-free. She instead showed off her beautiful and glowing skin. When I researched Alicia Keys skincare routine online, I was excited to find that she uses Eminence products! Her makeup artist (or, “no-makeup” artist), Dotti, explained the routine. One thing she uses is a frozen roller, which helps to bring blood and nutrients to the skin while calming redness. This is a technique we incorporate into many of our facials here at Spa Therapy.



Oils are also a crucial part of her routine. Many people are alarmed at using oils, afraid that it will cause breakouts. This is simply not true, and in fact can help control oily skin. If your skin feels dry, it will overproduce oil to make up the difference. Well-moisturized skin will not feel the need to cure it’s parch, so

it will not produce too much oil. Our favorite facial oil is the Eminence Rosehip Triple C&E Firming Oil. This luxurious oil can be used on all types of skin for a natural glow, and it will also help to combat redness and signs of aging.

Another favorite of Keys' and Dotti's is the Eminence Clear Skin Probiotic Masque. She relies on this masque's mix of cooling cucumber and refining yogurt to keep the star's complexion looking fresh and radiant. It will help fight breakouts and reduce redness for an even toned complexion.

Finally, the Lip Trio Kit is another favorite, perfect to use for pampering your lips. This three-step system will exfoliate, plump, and hydrate your lips for a perfectly smooth pucker. Gentle fruit enzymes refine the lip area, followed by an extra rich masque that deeply hydrates. Finish with a delicious minty non-petroleum based take-home balm that stimulates lip-plumping collagen.

All of these products can be found at Spa Therapy!

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## Canine Massage & Energy Work

By *Nicole Brown*,  
*CA Certified Massage Therapist*



I am learning a new technique called Canine Massage and Energy Work. I will be following the Pet Massage program by Jonathan Rudinger. Pet Massage utilizes multiple techniques of which I will be learning about later.

The information in this course is an elaboration of one of the modules of the 7 day Advanced Workshop.

I chose Canine Massage and Energy Work because, as those close to me know, I love dogs and I love massage. Now I get to learn more about energy work as well.

What prompted me the most to learn canine massage is my love for my two dogs. My 9 year old rescue dog's hips and legs got worse as he aged but did not like actual work done on him, so in that case the energy work would have been perfect. My other dog that is getting older gets a limp in her hind legs, so I perform many massage techniques, including Trigger Point, and it completely restores her gait and she doesn't mind the work at all.

Canine Massage is proven effective and there are many uses and benefits like:

- Helps stiff older dogs with arthritis by gaining ease of movement and flexibility.
- Help modify unpleasant behavior.
- Used as post-surgery rehabilitation.
- Great way to bond with dogs, no matter how long you have had them.
- Great way to maintain a consistent assessment of the dog's health (tumors, growths, or painful areas, etc.)
- Perfect for athletic dogs, show dogs, agility/performance dogs, even K-9 Officers.

Dogs live longer now and as they age, dogs develop the same issues that many people experience as they age.

Dogs are experiencing glaucoma, emphysema, liver disease, cancer and kidney disorders. This is in addition to the osteoarthritis, general joint stiffness and unexplained pain that most dogs already experience.

All dogs deserve a massage. These days they are our family, our co-workers and our best friends. By introducing your fur friends to massage you can change their world and help slow down the aging process on their body.

Ask me about future workshops for your dogs health!

Oh, nirvana....this is too much!



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## Silent Conversations

By Noreen Schweiss, CMP



A wise man once said, “The aim of life is to live, and to live means to be aware...drunkenly, serenely, divinely aware,” Henry Miller.

My active childhood certainly took me to places that taught me invaluable lessons touching each of Miller’s awareness aspects. Living on Oahu in the mid-sixties and influenced by the Vietnam War as a younger child, swinging and singing about my day, my friends and current events, often led to tears ranging from joy for living among such beauty with love to mourning if thinking of families losing loved ones. I felt those moments to my core and sang from deep within my heart.

I grew up learning of the magic and spirit of heart influenced in my Christian upbringing and the Polynesian culture. Both of these belief systems embrace intense spiritual energy that surrounded my daily breath, along with child innocence, allowed me to bask in the fullness of life, while watching the micro-worlds of organic nature. The islands appeal to many around the world bringing a gambit of peoples adding to my eclectic experiences of theorems.

Mindful connection with peace and harmony for oneself, for others, and for nature is the main message that each culture and religion professes. Faith, love and hope communicated in both religious and cultural beliefs spoke to me during my formative years. I loved and longed for stories where faith and conviction created a triumphant breakthrough, though great sacrifices for loved ones frequent change. Clearly hearing our ancestor’s message that unsavory consequences of personal loss painfully accompany substantial gain, I strove to feel the connection of their presence to hopefully insert their past lessons learned into my current situations and beliefs. Those situations through time mold our core character that influences the choices and decisions each person creates give intimate insight in how each of us communicate externally and internally.

**Connection = Communication:** Dreams take a path of their own, which often compiles a lifetime of experiences, even with those that “knew” who or what they would become and achieve. My love of horses led me to riding, showing and training horses professionally. I gained strength from the labor and chores associated with feeding and cleaning up after very large animals; however, these 1,200 pound beauties require a light, yet constant touch, especially when riding with a metal bar in their mouth.

One activity used brute strength, while the other required subtle strength. Both areas enhanced my physical power and skills, yet I needed to connect with the physical world in very different ways. This connection creates a vital line of communication between human and horse. Just like the sensitive corners of your mouth, imagine that area getting raw and sore after the constant pulling and tugging for hours each day. One must take care to send messages with a clear and gentle signal.

My equestrian education provided an impeccable opportunity to practice mindfulness, since drifting off while mounted, or even walking and leading the horse, might result in hitting the ground, unexpectedly. Not in lack of reading the animal’s agenda, but in the human’s energetic disconnection of my body requiring communication for attunement as the two become a single entity able to read and sometimes anticipate the others next move.

Sending and receiving messages when we speak or write tells us how the world relates and responds to our particular beliefs and actions. Responses may inspire us to adjust and mold our future patterns in a certain way. This typical, emotional response tells us how we want our persona defined for others to read and hopefully to respond accordingly. Another common factor associated with most humans, we want to be heard.

**Talk without words:** Sometimes, verbalizing the conundrum to another without need for a solution, brings the necessary awareness to the present to shift the sense of darkness into a lighter, more positive aspect. A day of active listening added another important lesson in my Polarity training. Listen to how someone speaks or reacts without an agenda. This allows them to share their experience judgment free, often referred to as holding space in the MFR (myofascial release) circle.

Lovingly holding space for another often leads to a trusting relationship, whether between each other or just for the individual. An attainable goal for each of us, since the listener's intention gauges the connection, is attentively sitting in silence or softly touching that person with sincerity. No Psychoanalysis or pearls of wisdom necessary as one mindfully exudes the essence of faith, hope and love. One might be surprised of the communication and awareness level between two beings with minimal verbal words.

Working with smaller animals on a healing and energetic capacity, today, deepens my understanding and awareness about energy and touch. It hones my communication and treatment skills using a much lighter touch than with adult humans. Treating a cat or dog heightens the reading of my connection for it may bite or scratch, instead of exclaiming to ease up or hold. Yet, these reactive or sensitive areas need structural treatment, so I "listen" to the animal's body language for communication in where and how to treat.

**Silent Voice:** As our physical body heals, we want our emotional body to heal, also. Physical therapy, occupational therapy and often massage therapy address our physical body, yet rarely delivers specific treatment for our emotional body. Our emotional body revisits the trauma site during certain triggers, like a memory, a touch or a smell. Sometimes triggers result in the physical body, like pseudo stomach cramps when remembering that horrible flu last week.

Tell yourself, "I let go," and soften your body into those restricted areas. For a moment that pain felt very real during the memory, yet the sensation quickly dissipated because the virus ran its course, unlike traumatic injuries, repetitive motions or emotional encounters. This concept also works subconsciously, so the continual line of connection and communication between self and others actually began in the womb.

**Healthy Therapy:** Many of us experienced situations that created beliefs for decades. Believing in deserved struggles leads to incredible self-doubt shutting down the physical body creating a path of sabotage and pain affecting both the physical and the emotional bodies. With powerful minds, humans possess the ability to transform energy into brilliant light from the darkest of situations, each of us deserve to live with a bright light toward progressive health, while achieving excellence, not unattainable perfection.

Lovingly and patiently ask yourself, "What *is* a more healthy, positive way to believe and act, now?" Allow this phrase to connect with your spirit, your body and your essence. Allow yourself to accept these new possibilities and explore the innocent magic of young childhood, while escorting unshackled awareness into your adult life. Listen to yourself by allowing external and internal communication to mindfully ebb and flow throughout your body and spirit, while consciously creating the healthy and positive person that you desire, today.

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## Pimples & Stress

By Jennifer Nagy-Cordray, BS  
California Certified Massage Therapist  
Skin Care Therapist



Anyone who's had a pimple form right before an important event may wonder if stress caused the break out. While commonly linked anecdotally, proving the relationship between stress and inflammatory skin conditions, such as acne, psoriasis and rosacea, is another matter.

"Nearly everyone has some form of stress in their life, so it's difficult to determine whether stress can actually make the skin's appearance worse," said board-certified dermatologist Richard D. Granstein, MD, FAAD, the George W. Hambrick Jr., professor and chairman of the department of dermatology, Weill Cornell Medical College, New York. "However, it's been known for a long time that the nervous system, which processes our stress, has an impact on conditions such as psoriasis."

Granstein discusses the latest research on the impact stress has on inflammatory skin conditions and his thoughts on how this research could change treatment options.

How does stress play a role in inflammatory skin conditions? Granstein said research linking the nervous system and the skin has long been understood. "If you interrupt the nerves' path to an area of a patient's skin affected by psoriasis, the

psoriasis improves," said Granstein. "In addition, the condition improves if you inject local anesthetic into psoriasis patches. This information strongly suggests that nerves play a role in how psoriasis operates."

Granstein notes that animal studies have demonstrated that stress can make inflammatory skin conditions worse. In a Japanese study, mice genetically prone to develop a rash similar to the inflammatory skin condition atopic dermatitis did so when stressed, while mice that were not exposed to stress did not develop the rash.

Granstein said experimental data support the idea that the nervous system and stress affect inflammatory skin conditions in humans. Many types of cells in the skin, including immune cells and endothelial cells (cells that line blood vessels), can be regulated by neuropeptides and neurotransmitters, which are chemicals released by the skin's nerve endings. Stress can result in the skin's nerve endings releasing an increased level of these chemicals. When this occurs, it can affect how and at what level our body responds to many important functions, such as sensation and control of blood flow, and can contribute to the symptoms of stress that we feel. In addition, the release of these chemicals can lead to inflammation of the skin. "If we could block specific steps in certain pathways between the nervous system and the skin—without impacting the whole body—we would likely have new ways to prevent or treat some skin disorders," said Granstein. "We're gaining a greater understanding of the mechanisms underlying many skin conditions, which will help us develop new therapies."

Has stress been shown to impact the skin in other ways? While commonly believed, Granstein said research has not proven that stress causes skin aging.

When combined with exposure to ultraviolet rays, Granstein noted that animal studies have shown that stress could have an impact on the development of skin cancer. "When exposed to ultraviolet radiation, stressed mice developed skin cancers more quickly than mice that were not exposed to stress," he said.

How does current research impact how people with inflammatory skin conditions are treated? Granstein said more research needs to be done to further understand the role of the nervous system and stress on inflammatory skin conditions, especially since other factors play a role, including genetics. He encourages people with inflammatory skin conditions to tell their dermatologist if they believe stress is impacting their condition. They can try stress reduction techniques such as meditation and massage, and good anti-inflammatory skin care all provided here at Spa Therapy, but should continue their treatment plan as prescribed by their dermatologist.

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#### **Our Location:**

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#### **Our Web Presence:**

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