The Evolution of Skin Care to Healthcare

By Howard Murad, M.D.

For the last few decades, within the aesthetic medicine field, so much focus has been given to topical treatment of epidermal aging. Without a doubt, the medical aesthetics industry has provided a vast array of solutions to address the natural processes of cutaneous aging. These therapies have proven to deliver desirable results, for a time, but with ongoing oxidation from external and even internal sources, the results often fall short of providing lasting outcomes. Lifestyles, photo-exposure, systemic disease, and stress will all take a toll on skin and connective tissue, causing even the best results to succumb to accumulated external and internal oxidative stressors. The result is universal as epidermal wrinkling, laxity, skin degradation, and hyperpigmentation initiate and continue unabated until the next comprehensive topical intervention or cosmetic surgery is performed.

Manufacturers have done their best to formulate skin care products with mass appeal, but the results of these formulations are limited. The fact remains that no matter the dose or frequency, topical products cannot correct all aspects of epidermal aging and skin conditions including those that have correlated internal and emotional components. Adding to the dilemma, every patient is different with unique chemical, hormonal and emotional needs and makeup, making the challenge even more arduous.

Customized Care

Understanding the difficulty in providing specific and lasting cutaneous care, scientific experiments devoted to finding an answer have shown that customized protocols, based on the needs of the patient, will provide far greater epidermal results than singular methods. In other words, rather than one-step processes of topical treatment, it is far more comprehensive to apply a multidisciplinary health plan that addresses not only the external oxidative stressors, but also the internal and emotional stressors, as well. Understanding this, much epidemiological study has shown that cutaneous aesthetic procedures that are combined with inclusive therapies to confront general systemic senescence and disease, on all levels (topical, internal and emotional), will provide the longest lasting and best epidermal results.²

1. **Topical** – External care is needed to address skin as the biggest organ and the first line of defense. Every day, skin must be properly cleansed, treated to repair damage, and hydrated or protected to fortify the skin barrier function and protect the epidermis from external factors such as ultraviolet (UV) rays.

2. **Internal** – Medical health care supports all aspects of a healthy lifestyle such as nutrition, physical activity and interventions to correct disorders and diseases of the systems within the body.

3. **Emotional** – Mental health care helps offer patients psychological and social balance from acute, episodic acute and chronic stress in addition to the ubiquitous “Cultural Stress” experienced. Cultural Stress is a “modern life,” pervasive, constant and cumulative kind of stress, that is superimposed on the normal stresses of everyday life and became increasingly recognized as life evolved with the addition of automated systems, computerized solutions and high technology. Stress management, support groups, counseling, and sleep therapy are used to address the patient’s issues.

The Water Principle Theory

The mechanism of these multidisciplinary plans or inclusive systems of treatment is simple as they deal predominately with cellular health on each level and in every part of the physiology of the human body. Specifically, cellular health, is analogous to cell water homeostasis within the membrane, interior cytoplasm, and its effects on organelle subunits.³ Phase angle (PA) examinations can be used to evaluate a patient’s level of cell water damage and need for more aggressive therapies. Phase angle evaluations have been used to reliably predict the outcome or course of disease (HIV infection, liver cirrhosis, chronic obstructive pulmonary disease, hemodialysis, sepsis, lung cancer, colorectal cancer) or an increase in health.⁴⁻⁷ Researchers have used PA, which is a measure obtained directly through electric bioimpedance (EB) and is positively associated with capacitance and negatively associated with resistance, to evaluate cell vitality. Simply, lower PA indicates either cell death or breakdown of the membrane, while a higher PA value is consistent with large quantities of intact cell membranes.⁸ During natural aging, PA values decrease.⁹
While PA is a good indicator of cellular water in the whole body, it does not always correlate to epidermal condition. PA is just one aspect of cell health and used as a measurement within a complete inclusive health protocol that includes topical, internal, emotional care, it can be useful, simply to evaluate cellular water. Applying the cellular Water Principle theory, it is logical that the thinking on topical therapy becomes reversed. More clearly, a treatment starts small at the cellular level and “expands” to address the primary epidermal conditions, as well as other underlying systemic internal disorders including emotional health.

Of all the nutrients, water is perhaps the most necessary for cell vitality. Cellular transport systems such as aquaporins ensure that the appropriate amount of electrolytes, osmolytes and nutrients are carried in and out of the cell to maintain homeostasis and proper functioning of cell organelle systems. When cell membranes are aged or damaged, these fundamental water-transfer operations are impaired. Specifically, more water is leaked from interior cell structures than retained. As cells become dehydrated, a build-up of waste occurs, further enhancing cell damage from within. Damaged, dehydrated cells and cell membranes will not function appropriately enough to support immunity and tissue resilience. As a result, skin, internal organs and connective tissue will yield easily to aging and disease.

To counteract cell water loss and deterioration, the body must be flooded with an abundance of nutrients, which will help prevent, forestall and even repair cell and connective tissue damage, promote immunity and fortify epidermal cells from UV exposure, MMP formation, aging, inflammation, and oxidation (Figure 1-2). This new thinking on cell water homeostasis using an inclusive, multidisciplinary approach offers systemic defenses and forms the basis for inclusive care, a method of creating the greatest possibilities of health from the inside out.

Internal Skin Care

Internal skin care is health care, which begins with nutrition and involves a diet of nutrient-dense foods, which cells will use to fortify their membranes and retain water within cell structures, bodies and connective tissues. Internal skin care is one part of the three-part inclusive health care regimen that also includes topical or external treatment and emotional care. It is also the most crucial element in the triumvirate of an inclusive, youth-building protocol. Moreover, internal skin care, it seems, has become increasingly essential as countless reports illustrate the prevalence of nutrient-devoid diets in America, the dangers of environmental toxins, the subsequent need for supplementation, and the ongoing and staggering statistics for obesity. Adding to the picture, scholars have indicated that we live in an “age of acceleration,” where our modern culture has evolved into one that constantly rushes to save milliseconds. It is possible that patients are suffering from more stress than in other decades, perhaps due to cultural stress-induced connectivity with technology, long commutes, environmental toxins, political unrest, natural disasters, etc., and stress is known to cause cell damage and telomere shortening. Cultural Stress is a product of everyday activities, such as traffic and the social obligation of telephone use and staying connected, and is related to cultural, and environmental matters as well as constant connectivity with technology in modern
Cultural stress is not discriminatory since it can affect all age groups, sexes, races, and class. This type of stress can also be evident in individuals as early as the years of infantile development from constant noise exposure and air pollution, which relate to the environmental aspect of cultural stress. The culmination of the data is that today’s skin care must go internally to counteract the effects of modernity.

Modern Day Nutritional Deficiencies
Most patients will not realize that a cutaneous condition may have a nutrient deficiency component that affects cellular health and immunity. It is also difficult to determine the precise amounts of nutrients needed for each patient to close the gap between what is consumed and what is missed, but much scientific data has shown that certain dietary nutrients can counteract inflammation, stress, and neutralize free radicals. With information unadorned, the reality of our human existence is that before there was medicine, there was food. Interpreting this, many researchers have delved into ascetic study of foods, botanicals, diets, beverages, and supplements. It has been well documented in scientific literature that nutrition can play a key role in epidermal health as it may help forestall, prevent, and even reverse epidermal conditions. On the negative side, poor nutrition can accelerate cutaneous degeneration.

Experts agree that today’s Americans are largely overfed and underhydrated. Adding to the problem, the economic instability among certain demographics has caused a shift in purchasing where inexpensive, long shelf-life, processed foods are the norm rather than fresh fruits, vegetables and lean, healthful proteins. On another end of the spectrum, many drugs interfere with the absorption of key nutrients. For example, tetracycline interferes with calcium, magnesium and iron absorption, and many antibiotics interfere with the absorption of the B vitamins, while oral contraceptives and hormones reduce levels of water-soluble vitamins. Another trend in American eating habits is yo-yo and starvation diets. With eat-today-starve-tomorrow mentalities, nutrients are depleted and cellular health and epidermal resilience may be affected. Starvation causes epidermal rete ridges to become flattened or even disappear making the epidermis considerably thinner and more vulnerable to tearing and damage. Starvation also causes the epidermis to become progressively drier and scaly as water content in keratinocytes is reduced.

The evidence is clear—in order to achieve a healthful balance of nutrients, it is advisable to consume as many cell hydrating, nutrient-rich foods as possible as illustrated in (Figure 3) and to use supplements as the Standard American Diet alone is many times not adequate.

The ‘Pitcher’ of Health
The Pitcher of Health is designed to increase water consumption through nutrient-dense, juicy foods that work to repair as well as hydrate cells and connective tissues. We encourage our Inclusive Health patients to “eat their water.” As the pitcher indicates, these choices account for 80% of daily nutrition. The remaining 20% includes comfort foods, represented by the cupcake. Our Inclusive Health protocols do not promote dieting and this is purposeful so as to avoid stress or binge eating. No foods are “illegal,” with the 20% comfort foods delineation. Because eating is emotional as it can bring joy, exuberance, and warm feelings, we believe that the 20% offers patients the creativity and recreation needed for mental health, and we encourage patients with statements like “Don’t be so hard on yourself.” Overall, the Pitcher of Health advocates for water-rich foods as well as nutrients and minerals for support of healthier cells. It also promotes a greater sense of self, where patients can be imperfect and get better skin and fewer blemishes, without raising stress hormones that may cause outbreaks. With regard to diet, we tell patients to “Detoxify your body with plants,” and offer recipes that feature few ingredients (6-10) that may be swapped or omitted so patients can customize the meals according to their likes and dislikes. Overall, the idea that food is not stressful is encouraged.

Fruits and vegetables (3 to 5 servings daily). More of these foods should be consumed than any other
group. Choose more alkaline-forming foods than acid-forming foods for reduced systemic inflammation and improved kidney function.28

Whole grains (4 to 8 servings daily). Patients should avoid refined grains and carbohydrates (sugars). Whole grains are sources of magnesium and selenium. Magnesium is needed to build bones and release energy from muscles. Selenium protects cells from oxidation, and it is also important for a healthy immune system. Whole grains also offer valuable amino acids in the form of glycosaminoglycans.

Proteins (4 to 6 servings daily). Omega-3-rich fish, white-meat chicken, eggs, soy foods, fat-free and low-fat dairy products, and beans provide the highest levels of amino acids, which are needed for tissue regeneration epidermal wound healing and skin firmness. Amino acids also strengthen connective tissue. Suggest that patients avoid high-saturated fat meat products and whole-fat dairy foods, which can be deleterious to many systems when over-consumed.

Healthy fats (3 to 4 servings a day). One teaspoon of olive oil or alternatively 6 almonds is one serving. “Healthy” fats are unsaturated, such as omega-3 and -6 fatty acids, which are found in flaxseed oil, extra-virgin olive oil, canola oil, natural-style nut butters, cold-water fish, and nuts. EFAs are found in the membranes of cells, they mediate inflammation, and must be derived from the diet.

Near the top of the pitcher, is space for supplements and water to address any dietary deficiencies.

Daily Regimen27,29

• One-a-day multi-vitamin: We recommend the use of a daily multi-vitamin that will help fill in the gaps with any missed antioxidants from what is consumed.
• Glucosamine: 1,200 mg of either glucosamine sulfate or glucosamine hydrochloride.
• Amino acids: Most of the amino acids will come from eating proteins in the diet. For vegetarians, we recommend supplements.
• Lipids: Fatty acid supplement that contains at least 500 mg of omega-3.
• Lecithin: Supplement with 2,000 mg.

Inflammation Reducers

With aging, the body’s immunity becomes less able to react appropriately (too little or too much) to microbes, viruses, injury, environmental stress, and toxins.30 Also, internal disorders, such as endocrine, cardiovascular, respiratory, and digestive types may occur with more regularity. Unabated, inflammatory cascades are more common with age progression and disease. In addition, chronic inflammation will cause significant cell decay, which may work to hasten aging and disease. To counteract these cycles of imbalance, the perpetuation of cell damage, and to limit inflammation to needed repair and healing, foods that quell inflammation and strengthen connective tissue and cell membranes are ideal.

Inflammatory Foods and Anti-inflammatory Alternatives

Instead of red meat, suggest cold-water fish
Instead of butter, suggest olive oil
Instead of cheese, suggest tofu or soy cheese
Instead of snacks loaded with saturated or trans fats, suggests seeds, nuts, fresh and natural dried fruits (including goji berries)
Instead of foods loaded with simple sugars, such as cookies, candies, cakes, suggest fresh fruits and vegetables

Alkaline foods

The most cell hydrating foods are those packed with the highest levels of nutrients and are beneficial to cell health, and therefore skin health. In general, this includes foods that are anti-inflammatory and as low-acid to alkaline-forming as possible. Most low acid to alkaline fruits and vegetables are also anti-inflammatory.31 Low-acid to alkaline-forming foods counteract acidic pH within the body and specifically in the kidneys, which are tasked with keeping blood pH within normal levels. Over time, blood pH naturally becomes more acidic as kidney functions decline with age. Normal blood pH is between 7.35 and 7.45. When the body is forced to constantly regulate blood pH, this overdrive may cause muscle wasting, bone weakening, hypertension, stroke, cardiovascular disease, and memory and cognition morbidity and mortality from chronic diseases.
A three-year study showed that an alkaline diet can indeed reduce the speed of muscle wasting that naturally occurs with aging. Research also suggests that an alkaline diet can assist with chemotherapy treatments, making them more effective. While there are no studies that directly show an alkaline diet to prevent cancer, research is ongoing. Early studies have indicated that an alkaline diet offers the following listed benefits (1-4):

1. Increased fruits and vegetables in an alkaline diet would improve the K/Na ratio and may benefit bone health, reduce muscle wasting, as well as mitigate other chronic diseases such as hypertension and strokes.
2. The resultant increase in growth hormone with an alkaline diet may improve many outcomes from cardiovascular health to memory and cognition.
3. An increase in intracellular magnesium, which is required for the function of many enzyme systems, is another added benefit of the alkaline diet. Available magnesium, which is required to activate vitamin D, would result in numerous added benefits in the vitamin D apocrine/exocrine systems.
4. Alkalinity may result in added benefit for some chemotherapeutic agents that require a higher pH.
5. In sum, an alkaline diet may assist cells and connective tissue in retaining water as it works synergistically to enhance systemic, brain, and bone health. Additionally, an alkaline diet may provide the support needed for enhanced enzymatic function, intracellularly to prevent degradation and slow cell aging. Moreover, an abundance of alkaline cellular reserves buffers the depletion that occurs when the body constantly readjusts to maintain proper pH and minimize cellular acidity.

Low acid, more alkaline or anti-inflammatory foods include those that are stocked with polyphenols, antioxidants, and essential fatty acids, which offer the highest amount of free-radical scavenging and cytoprotective activity. This includes most fruits, vegetables and edible plants. A complete list of the foods that fall into these criteria is exhaustive; however, the following lists a few that are superior at hydrating cells:

- Apples, apricots, nectarines, bananas, berries, cantaloupe, cherries
- Beans
- Beets
- Cauliflower
- Eggplant
- Figs, dates
- Grapes
- Greens (including arugula, asparagus, avocado, beet greens, broccoli, cabbage, collards, cilantro, cucumber, peas, lettuce, spinach, fennel, endive, zucchini)
- Olive oil
- Pumpkin
- Raw almonds, Brazil nuts, hazelnuts
- Raw seeds
- Seaweed
- Sea salt
- Soybeans, soy nuts
- Sweet potatoes, summer squash, squash
- Tangerines, mandarin oranges, mangoes
- Tomatoes

**Cell Repair and Growth**

**Antioxidants**

Antioxidants, in general, both soluble and insoluble neutralize reactive oxygen species (ROS) throughout the body and reduce the effects of oxidative stress and cellular damage. Vitamin C is a water-soluble antioxidant that removes free radicals from the cell structures that are mostly composed of water and from other organs in the body that contain body fluids. Beta-carotene and vitamin E are active in the lipid or fatty parts of the cell membrane and in fat tissue; coenzyme Q10 protects mitochondria oxidation; vitamin A plays a large role in the repair of body tissues; and alpha lipoic acid boosts cellular energy, enhances immunity and muscle strength, and improves brain function. Alpha lipoic acid allows other antioxidants such as vitamins C and E to work better to improve growth and repair while it also prevents cell damage. A diet rich in these antioxidant nutrients may assist in cellular repair, replication, and prevent oxidation and subsequent damage.
Essential Fatty Acids
Along the same lines, the inclusion of healthful EFAs (essential fatty acids) within the diet is recommended as they are found in the stratum corneum, in cell membranes, and have been shown to enhance the immune system, thus strengthening the skin’s barrier function. EFAs are antibacterial, antiviral and antifungal and exhibit anti-inflammatory action, which can be attributed to their ability to decrease the formation of pro-inflammatory eicosanoids and cytokines. It has been shown that eicosapentaenoic acid, an omega-3 fatty acid, inhibits UV-induced matrix metalloproteinases (MMPs) that break down collagen, making it a potential ingredient for the prevention and treatment of skin aging. While research indicates topical EFAs to offer little direct UV-absorbing powers, it is assumed that their photoprotection comes indirectly from their cytoprotective and membrane repairing capabilities. We therefore recommend our inclusive health program patients obtain a good amount of EFAs through outside sources such as fish. The five most-common fish Americans eat, which include shrimp, canned light tuna, salmon, pollock and catfish, are known to be low in mercury. Also, a recent study showed that mercury from sources such as fish is not associated with a higher risk of heart disease, stroke or other cardiovascular disease. EFAs can also come from nuts, oils, and flaxseeds. Low ratios of omega-6 to omega-3 have been shown to reduce the risk of certain cancers, cardiovascular disease, arthritis and even asthma.

Amino Acids
Amino acids, when added to the diet, promote tissue maintenance and growth. In particular cysteine (precursor of glutathione and taurine) and glycine (precursor of glutathione), methionine (precursor for the sulfur content of cysteine and glutathione) and proline (precursor for collagen) act as building blocks for tissue regeneration and as precursors for endogenous antioxidants (in particular, glutathione). Furthermore, the building blocks for collagen and elastin come from the amino acids, which serve to protect connective tissues (blood vessels, nerves, tendons and ligaments, and dermis), and promote epidermal firmness and resilience.

Lecithin
Lecithin, which is mainly comprised of phosphatidylcholine, a major component of cellular membranes, repairs tissues as it fills in and rebuilds cell walls. It can be found in soybeans and egg yolks. Lecithin is used for treating memory disorders such as dementia and Alzheimer’s disease. It is also used for treating gallbladder disease, liver disease, certain types of depression, high cholesterol, anxiety, and eczema.

Glycosaminoglycans
With aging, a reduction in glycosaminoglycans (GAGs) occurs. GAGs are natural biological polymers that help the epidermis retain moisture as such the concurrent incorporation of glucosamine is also recommended. Glucosamine is a precursor to hyaluronic acid synthesis. Studies have shown that a lack of hyaluronic acid in skin, a GAG related to tissue repair and growth, will accelerate epidermal aging. Due to its ability to stimulate the synthesis of hyaluronic acid, improve skin hydration and as a result decrease wrinkles, we ask our patients to take glucosamine supplements on a daily basis, day and night. In addition, as an inhibitor of tyrosinase activation, glucosamine prevents melanin production and has shown to be a successful treatment for conditions of hyperpigmentation as well as improve symptoms and slow the development of osteoarthritis in humans. High levels of GAGs will improve skin firmness as GAGs increase the collagen and elastin growth and repair. Subsequently, GAGs play a role in wound healing and scar tissue formation. In sum, GAGs are essential for maintaining the mechanical strength of the skin. Many studies have also indicated that GAGs possess a larger role in cell differentiation and proliferation.

Emotional Care
Unquestionably, emotional stability has an effect on total well-being. Innumerable reports have made this link for decades. Emotional turmoil or stress has harmful effects on almost every system in the body. With regard to cutaneous health, stress may also promote destructive lifestyle choices such as smoking, overeating, drug use, etc.

Emotional health has as much to do with attitude as it does with systemic health. Within inclusive health protocols, we encourage our patients to return to their youth. In order to look good, feel good, stay healthy and achieve goals, we instruct patients on simply retaining a youthful attitude—one that is less about fighting aging, and more about youth building—this includes allowing for spontaneity in life where there are no measurements against unattainable goals. We tell patients to “Learn who you really are” and to “Be yourself, don’t emulate.” Additionally, we urge patients to give themselves permission to be happy through finding beauty every day. Using mindfulness
techniques we instruct patients on how to live in the moment; to forgive themselves—”Don’t deal with what you could have done. Deal with what you are going to do.” We find that this type of emotional support allows patients the room to fail and yet not accumulate more stress from feelings of failure, as we remind them that “Failure is the path to success,” and that “When you learn to be imperfect, your life will be more perfect.”

In addition to the regular stressors of life that are acute, acute episodic or chronic, Cultural Stress has a way of making patients less able to handle regular tasks that have some kind of stress.22 With regard to societal pressures, we reiterate to patients that they decide what and how much Cultural Stress will be allowed. Cultural stress is a manageable kind of stress. Patients are encouraged to “turn off” from outside sources of stress that come from digital media, the news, commutes, world affairs, the environment, etc. Instead, we support a return to childlike-optimism, where basic needs do not include luxuries as happiness does not require luxuries. As simple as it sounds, we tell patients to laugh more, smile more and allow themselves time to feel like the child they once were.

Internally, stress may cause sleep loss, and subsequent hormonal instability, increasing the risk for cardiovascular and endocrine diseases.51-53 Emotional stress may even indirectly accelerate aging as studies have shown the detrimental effects that can occur to cells and connective tissues.54 One study shows a direct correlation between sleep loss and telomere shortening.21,55 Consequently, one very large component of mental health evaluations is sleep.

Sleep Therapy
According to the CDC, more than one-quarter of the U.S. population reports occasionally not getting enough sleep, while nearly 10 percent experience chronic insomnia. Sleep research has advanced in a way that has unveiled just how necessary getting a good night’s rest is for every system in the body. Sleep dictates what we eat, how we eat, when we eat, and even determines how overweight we may become and how we handle stress and make decisions. It also has a great deal of influence on health and longevity. Without sleep, hormonal imbalance occurs. In specific, cortisol cannot return to baseline values and this can encourage adrenal fatigue, weight gain and impaired immunity. Studies have shown that cortisol levels the day after a sleepless night are reduced, which reduces the brain’s cognitive coping strategies for normal stress.51

When emotional turmoil occurs in patients, many times, sleep cycles are disturbed. There are an ample number of studies that indicate a lack of sleep can impair healing and can promote degenerative health conditions,56-59 as such, we believe sleep-encouraging ingredients should also be included in inclusive care to help fortify cellular immunity, and therefore skin health.

Along the same lines, obesity can cause sleep apnea. Treatment for sleep apnea is necessary as this is a condition that may cause body deterioration in the form of disease, specifically with cardiovascular events and stroke.60

Diet
Mood disorders like depression are often considered biochemically based or emotionally rooted, but studies have shown that nutrition can play a key role in the onset as well as severity and duration of depression. According to the literature, the same easily identified food consumption patterns that occur during bouts of depression also occur before the depression initiates. These may include poor appetite, skipping meals, and a dominant desire for sweet foods. Analyses on nutrition and depression have shown that healthful diets replete with appropriate levels of antioxidants, omega-3 fatty acids, and essential vitamins and minerals will reduce the symptoms of depression.61

B Vitamins
We advise the use of B vitamins because of their known abilities to regulate cellular metabolism and for their immune system support. Literature suggests that the B vitamins may also play a role in regulating hormones and offering support for the nervous system.25 It has also been shown that some of the B vitamins in combination may have a positive effect on mood, thus, their use may be beneficial for patients suffering from depression.62

Inclusive Health Treatment Strategy
Because all systems, organs and cells are connected, overlap and rely on each other to function at optimal levels, we believe the use of combination therapies, including alternative interventions featuring nutrition and
supplementation, may be beneficial to fortify cells and possibly prevent epidermal conditions as these therapies increase total health, cellular vitality, and ICW, all of which function synergistically to enhance innate and adaptive immunity. At the same time, we believe that using combination therapies, congruent with the Water Principle theory, may also assist in repairing existing epidermal damage and protect skin from future damage.63

**Treatment Goals**
- Fortify skin barrier
- Repair existing cell damage
- Prevent oxidative stress
- Increase ICW
- Maintain PA levels

All of our Inclusive Health protocols begin with a number of baseline tests and evaluations.64 We administer blood tests to determine fasting blood sugar, kidney function, liver toxicity, hormonal balance—all of which could be key in long-term maintenance. Using RJL Systems body composition analysis machines, baseline measurements are collected and are repeated periodically for the duration of treatment, in addition to periodic questionnaires and photography.

The Inclusive Health preliminary evaluation, which includes phase angle readings, helps in the creation of a patient-specific treatment roadmap that outlines external, internal and emotional care. With the goal of creating total health within the inclusive care environment and epidermal health, Inclusive Health practitioners must be generally prepared to provide an informative discussion about internal issues such as hormonal imbalance or disease and offer necessary referrals for a synergy of medical care.

With comprehensive care, prescriptions for topical products and treatments may be provided and a schedule of facial services recommended. In addition, a service list of spa treatments for stress reduction such as massage may be included as well, along with a recommended frequency for treatments.

Each patient must be provided a detailed dietary and nutritional menu listing the appropriate nutrients and quantities of foods necessary for the patient’s body type, concerns and skin care goals, in addition to a prescription for supplements and a recommendation for physical activity.

Referrals to psychological counseling if necessary and/or emotional support groups may also be given if appropriate. Mindfulness strategies for stress management may also be used to help reduce emotional and cultural stress.21 Literature that may be suitable is also given to patients to help educate them on any specific health condition.

Finally, a physical activity schedule with exercise therapies like yoga, tai chi, walking, etc., that target stress-induced imbalances or behaviors may be suggested.

**Initial Evaluation**
In order to evaluate a patient’s current diet, we ask our patients to keep a food diary for five days for evaluation in our office. The findings allow us to make recommendations on foods that could be substituted or added for specific health needs and allows for minor or major adjustments in accordance with the Pitcher of Health. This session offers the opportunity to educate and guide patients’ choices including anti-inflammatory foods and supplements. Below is a step-by-step evaluation of measures that should be taken at the initial Inclusive Health consultation:

10-step evaluation:
Step 1: Weight in pounds/height in inches
Step 2: Bioelectrical impedance analysis (BIA)
Step 3: Basal metabolic rate
Step 4: Phase angle measurement
Step 5: BMI: between 18.35 and 24.9 is normal
Step 6: Body fat percentage/Skin fold test: men < 20 percent; women < 30
Step 7: Hours of sleep? 7 to 9 is ideal for adults
Special Concerns
While inflammation-abating foods are good for cell health in general, there are some nutrients that are better than others for specific skin conditions. The following lists a few of the more common epidermal conditions seen in aesthetic medical practices and offers a few of the more helpful internal skin care therapies.66

Acne: Vitamin A helps normalize the production of excess skin cells within the follicles that clog the pore. Vitamins B1, B2, B3 and B6 assist with tissue growth and repair, and zinc helps reduce the inflammation associated with acne. Antioxidants like grape seed extract also reduce inflammation from acne and free radicals, as does a diet rich in anti-inflammatory foods. Beta-glucan is helpful with wound healing and skin irritation because of its macrophage- and Langerhans’ cell-stimulating action.67-69 Beta glucan has immune-stimulating capabilities have been used in the treatment many diseases.69

Menopausal Skin Issues: Loss of estrogen with menopause leaves skin vulnerable to deterioration and aging as it becomes progressively drier, thinner, and lax. Melatonin, in addition to regulating sleep, is a powerful antioxidant that helps protect nuclear and mitochondrial DNA, and may help with sleep issues that come with menopause. Calcium is essential as it helps regulate cell repair, replication and turnover. Calcium is also helpful in counteracting bone loss that comes with menopause. Soy foods may be beneficial as well because they contain phytoestrogens that may help improve decreasing estrogen levels. Glucosamine is recommended as it is the building block for the ingredients needed to heal or repair the dermis, as well as all of the rest of the connective tissue throughout the body. And GABA, which is responsible for the regulation of muscle tone, is also a key nutrient as are EFAs, which will help with skin dryness and protection.

Stressed Skin: Therapies that reduce stress are useful as are sleep evaluations, exercise and nutritional support. The B vitamins and glucosamine are essential for tissue repair and healing, as is vitamin C, coenzyme Q 10, and pomegranate, which boosts skin’s natural SPF.65 CoQ10 has significant mitochondrial-protective action and has also been shown to prevent the effects of photoaging.71 In addition, oregano an anti-inflammatory herb and curcumin, which comes from turmeric (found in curries), offer cell protective and anti-cancer benefits. The antioxidant spice component has been reported to exhibit anti-inflammatory properties, prevent UV irradiation-induced apoptotic changes, including c-Jun N-terminal kinase (JNK) activation, loss of mitochondrial membrane potential, mitochondrial release of cytochrome C, caspase-3 activation, and cleavage/activation of PAK2 in A431 cells.72,73 Zinc also relieves inflammation and EFAs strengthen skin cell membranes, so these are useful as well. Lecithin is also useful for stressed or over-processed skin.

Hyperpigmentation: There is growing evidence that a combination of antioxidants used with sunscreens actually boosts photoprotection.74 With regard to hyperpigmentation, much of the treatment requires diligence in prevention of UV exposure, which will exacerbate cutaneous discolorations, but early studies have shown that certain botanical foods may boost protection from UV. Among the botanicals studied, polyphenols found in fruits, herbs and vegetables were found to offer cytoprotective capabilities while also boosting immunity. In the diet, our major dietary source of polyphenols is beverages such as juices, teas and wines. Interest in polyphenols has grown because of their positive and preventive effects on cardiovascular disease, cancer, stroke and inflammation.75 The strongest polyphenol is ellagic acid, with high levels found in raspberries, strawberries and pomegranates.

Conclusion
It is clear that today’s skin care is really healthcare. This natural evolution of practice offers a more inclusive way to address epidermal concerns and overall health. Pairing topical skin care with internal skin care and emotional care, the medical field can offer a more comprehensive method that may offer profound results over the long-term. With the solutions discussed, including particular emphasis of cellular health and intracellular water, it is possible to improve patients’ skin conditions and perhaps increase their longevity as well. Future studies on exact regimens combined with food ingredients and supplements may reveal even more data that would help determine methods of care for optimum skin, body and mental health, or even cures for certain epidermal conditions. Until then, it is clear that a multidisciplinary, inclusive approach offers the best cutaneous therapy.
ABOUT THE AUTHOR
Howard Murad, M.D. is literally changing the way people think about health, wellness and beauty – and he’s doing it with scientifically-proven methodologies and his Inclusive Health approach to overall wellness that has now helped millions enjoy healthier, happier, more beautiful lives.

A board-certified dermatologist, trained pharmacist, founder of the University of Inclusive Health, Associate Clinical Professor of Medicine at UCLA, the man behind Murad, Inc., and best-selling author of The Water Secret, Dr. Murad has treated over 50,000 patients at his Murad Inclusive Health Medical Group.

He’s conducted tireless research about nutrition, exercise, and lifestyle shifts that we can all make to benefit ourselves physically, as well as mentally and emotionally. He coined the term Inclusive Health based on decades of research.

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