



Riordan
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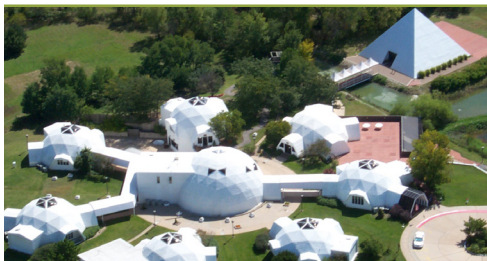
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Riordan Clinic is a world-renowned, academic medical center that has led the world in integrative oncology and complex chronic illness care since 1975. The Riordan Clinic was established as a 501 (c)(3) non-profit organization with missions in research, provider education, and patient education. The Health Hunter Newsletter has been published since 1986 as an educational resource to providers and patients.



DIETARY INTERVENTIONS TO SUPPORT SKIN

Recommendations Beyond Sunscreen

While sun protection remains paramount, growing evidence highlights the significant impact dietary interventions can play in supporting skin resilience and minimizing the harmful effects of UV radiation. By understanding these dietary factors, we can enhance our defense against skin cancer and promote overall skin health.

Skin cancer, including melanoma, basal cell carcinoma, and squamous cell carcinoma, primarily stems from cumulative exposure to ultraviolet (UV) radiation from the sun or tanning beds. Almost 90 percent of non-melanoma skin cancers and 60-70 percent of melanomas are associated with UV radiation. Overexposure to UV radiation induces DNA damage, oxidative stress, and inflammation in skin cells, which can cause mutations that lead to skin cancer over time. So the best way to prevent skin cancer is to minimize UV radiation by limiting



AUTHOR

Dr. Stacy Dunn
ND, LAc, FABNO, FABORM

sun exposure in the middle of the day, wearing protective clothing and wide-brimmed hats, and using clean sunscreen. Prevention strategies should also include dietary choices that reduce oxidative stress, as our diet can influence a multitude of biological pathways involved in skin health and cancer prevention.

Role of Diet in Skin Cancer Prevention

A Mediterranean diet high in cruciferous and leafy green vegetables, tomatoes, citrus fruits, berries, fresh herbs, olive oil, and fish high in omega-3 fatty acids, has been shown to reduce skin cancer risk. This diet is full of antioxidants, polyphenols, and nutrient-dense foods. These anti-cancer and anti-inflammatory nutrients are known to help mitigate oxidative stress – fighting free radicals and preventing damage to the skin.

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One study published in 2020 by the American Journal of Clinical Nutrition found that the Mediterranean diet was associated with 72% reduced risk of basal cell carcinoma, the most common type of skin cancer. In another study of more than 700 people in Italy, those sticking with the Mediterranean diet cut their melanoma incidence in half compared with those not on the diet. In addition those that reduced their intake of refined flours and sugars had an even greater reduction in melanoma risk. Adding spices and herbs commonly used in the Mediterranean diet, such as turmeric, garlic, clove, rosemary, and saffron, provides even more benefit. A review from 2018 examined the anti-cancer properties found in these spices and herbs and found they may also help inhibit skin cancer by reducing oxidative stress, inflammation, and supporting immune health.

The ideal skin cancer prevention diet will be filled with brightly colored fruits and vegetables, fatty fish, and green tea. These foods contain antioxidant polyphenols and phytonutrients such as carotenoids beta-carotene, lutein, zeaxanthin, and lycopene, vitamins C and E, and zinc. You can find these cancer-fighting, skin-protective nutrients in the following foods:

Beta Carotene

Foods rich in beta-carotene are a staple in anti-inflammatory and Mediterranean-style diets. Beta Carotene is carotenoid (brightly colored antioxidant pigment) and pro-vitamin that converts to Vitamin A in the body. Several studies have found decreased rates of cancer in people who regularly eat foods rich in beta-carotene. The best sources of beta carotene are orange-colored fruits and vegetables.

Food sources: leafy greens, carrots, sweet potatoes, orange and red peppers, dried apricots, peas, broccoli, squash, cantaloupe, mangoes.

Lutein and Zeaxanthin

Lutein and zeaxanthin are also carotenoids that show great promise in skin cancer prevention. Several studies have found high dietary intake of lutein and zeaxanthin may reduce the incidence of squamous cell carcinoma (SCC). One study of almost 300 people in Australia with a history of skin cancer, found that people who increased their intake of lutein and zeaxanthin had more than 50% lower risk of SCC over an eight-year follow-up.

Food sources: **Lutein:** broccoli, spinach, kale, kiwi, orange pepper, grapes, zucchini, squash **Zeaxanthin:** kale, parsley, spinach, broccoli, peas

Lycopene

Lycopene is a red-pigmented carotenoid antioxidant. This is the same red pigment that helps protect the tomato against sun damage, and it may also help protect your skin against sun damage. A 2010 study in the British Journal of Dermatology that tracked patients regularly eating tomato paste against a control group, found that after 10 weeks, the lycopene eaters were 40 percent less likely to be sunburned. Additional studies have also linked long-term consumption of lycopene with a decreased risk of skin cancer.

Food sources: This red-pigmented antioxidant is in tomatoes, watermelon, guava, papaya, apricots, pink grapefruit, blood oranges and other foods.

Vitamin C

Diets rich in foods containing Vitamin C are associated with reduced risk of skin cancer. This water-soluble vitamin is a powerful intracellular antioxidant and supports the formation of collagen to keep your skin healthy. Topical Vitamin C has also been shown to protect against UV damage.

Food sources: oranges, lemons, limes, strawberries, raspberries, leafy greens, broccoli and bell peppers.

Vitamin E

Vitamin E refers to a group of molecules called Tocopherols and Tocotrienols. Vitamin E is a fat-soluble vitamin that not only helps protect the skin by preventing damage from free radicals, but can also absorb energy from UV light, playing an important role in phytoprotection. In addition, Vitamin E has potent anti-inflammatory effects and improves the ability of skin and to act as a protective barrier.

Food sources: almonds and other nuts, sunflower and other seeds, spinach, soybeans, and wheat germ.

Zinc

Zinc is an essential mineral that plays a role in almost all aspects of immune health. Zinc activates antioxidants in the body, reduces DNA damage, and is crucial for the development of immune cells such as neutrophils, NK cells, and macrophages.

Food sources: beef, lamb, shellfish, and legumes such as chickpeas, beans, and lentils

Omega-3 Fatty Acids

Omega-3 fatty acids possess anti-inflammatory properties that help limit UV-induced inflammation and support skin barrier function. One study found that people who consumed the omega-3 fatty acids EPA and DHA had an 80% lower risk of malignant melanoma. Another study found that higher levels of EPA and higher omega-3/omega-6 ratios were associated with a decreased risk of squamous cell carcinomas.

Food sources: fatty fish (e.g., salmon, sardines, mackerel, herring, albacore tuna), walnuts, flaxseeds.

Green and Black Tea

Polyphenols in green and black tea exhibit antioxidant and anti-inflammatory effects that could contribute to skin protection and repair mechanisms. Polyphenols are plant chemicals with powerful antioxidant, anti-inflammatory and tumor-inhibiting properties, and have been found to repair DNA in UV-exposed skin, reducing cell damage. And while both green and black teas contain anti-cancer polyphenols, the evidence for green tea is even stronger. One such polyphenols in green tea that has been widely studied for its anti-cancer potential is EGCG. Preclinical data has shown EGCG to be cytotoxic to skin cancer cells and inhibit tumor growth.

Food sources: freshly brewed green and black tea

Role of Supplements in Skin Cancer Prevention

While a nutrient dense diet increases skin health and reduces oxidative stress, dietary supplements can also help optimize immune function and help reduce the risk of developing skin cancer. Supplements such as Vitamin D, Nicotinamide, Curcumin, and Polypodium leucotomos have all emerged with impressive evidence to help reduce the risk of skin cancer.



Vitamin D

Vitamin D is a hormone that plays a vital role in immune health and DNA repair and has been shown to inhibit skin cancer cell growth. A 2023 study in Melanoma Research showed that people who regularly took Vitamin D supplements had a 55 percent reduced risk of melanoma. Vitamin D is produced by the skin in response to sun exposure, however this photochemical reaction isn't as straightforward as it sounds and can be influenced by a number of factors including the melanin content of skin, epigenetic changes, and sunscreen use. Supplementation can be a safe and easy way to support healthy Vitamin D levels. To determine your dose, have your serum Vitamin D levels checked, and work with your integrative practitioner to determine the best dose for you individually.

Nicotinamide

Nicotinamide is a form of Vitamin B3. Several studies have shown that nicotinamide reduces the rate of precancerous skin lesions, basal cell

carcinomas and squamous cell carcinomas by as much as 23 percent in patients with a history of these lesions. Early research suggests that nicotinamide may provide similar benefits for melanoma patients. When UV radiation damages the skin, it reduces ATP – the energy source cells need for repair. Nicotinamide helps replenish ATP, increasing energy for DNA repair. Researches have used a dosage of 500mg twice daily.

Curcumin

Curcumin is a yellow compound and active ingredient in the spice Turmeric. Curcumin has long been recognized for its antioxidant, anti-inflammatory and anti-cancer effects. Extensive research over the past twenty years reveals that curcumin interferes with multiple cell signaling pathways in cancer development, such as NF-kB, COX-2, MAPK, p53, JAK/STAT, mTOR, AKT, and TNF-a. Additional studies have shown that curcumin may prevent the growth and metastasis of melanoma cells.

Polypodium Leucotomos

Polypodium leukotomos is a tropical fern found in Central and South America that has antioxidant, immunomodulatory, photoprotectant, and anti-inflammatory effects. Clinical research has shown Polypodium can prevent sun damage by inhibiting the formation of free radicals. By inhibiting free radicals such as reactive oxygen species in skin tissue, long-term DNA damage and photoaging may be prevented.

Conclusion

While dietary interventions alone cannot replace sun protection measures, they play a crucial role in supporting skin health and reducing the risk of skin cancer. By embracing a balanced diet rich in antioxidants, omega-3 fatty acids, and other protective nutrients, we can complement our sun safety practices and promote skin resilience against UV damage. Integrating colorful fruits and vegetables, healthy fats, and green tea into everyday life offers a proactive approach to enhancing skin cancer prevention and fostering long-term skin health.

SPOTLIGHT ON: MSM POWDER



- MSM is highly soluble in water, present in fresh fruits and vegetables, and is a significant source of sulfur, the third most abundant mineral in the body after calcium and phosphorus.
- MSM can be ingested in large quantities without toxic effects, unlike Methionine and Cysteine, which can be toxic at high levels.
- Research indicates that MSM levels decrease with age, leading to muscle and joint stiffness, skin wrinkling, and decreased elasticity of lung tissues and blood vessels.
- Supplementing with MSM may help counter these aging effects.
- MSM is a natural, water-soluble sulfur compound found in plants, meats, dairy products, and vegetation, concentrated in skin, nails, and hair connective tissues.
- Modern agriculture and food processing deplete MSM levels in fresh foods, making supplementation important to restore body balance and support health.



MSM

UNDERSTANDING EPIGENETICS

Unlocking the Secrets of Gene Expression



AUTHOR

Dr. Ron Hunninghake
Chief Medical Officer



What is Epigenetics?

Epigenetics is the study of how changes in gene activity can occur without any change in one's inherited DNA. In other words, epigenetics plays a pivotal role in how our genes are expressed and how this expression can be influenced by lifestyle choices and environmental factors. Interestingly, epigenetic lifestyle modifications can be dynamic and reversible, offering each of us exciting opportunities to improve our health in spite of our parent's health history. Simply put, epigenetics says that we can start fresh every day, creating new opportunities for better health outcomes.

The Importance of Our Lifestyle Choices.

Epigenetics shows how environmental factors such as diet, stress, and exposure to toxins can alter gene expression. For instance, a nutrient-rich diet might promote genes that protect against diseases, while chronic stress might activate genes linked to health problems such as a greater propensity for heart disease. While we might worry about disease patterns in our family, it's nice to know that if our parents made good lifestyle choices, we can, epigenetically, inherit good effects in our own health.

Epigenetics and Chronic Illnesses

Epigenetic lifestyle changes can play a crucial role in our risks for the development of cancer. Diet, sleep, exercise patterns and certain key supplements can trigger beneficial methylation effects that turn on tumor suppressor genes or deactivate oncogenes. Similarly, diseases like diabetes and cardiovascular conditions are influenced by epigenetic modifications. Even mental health may have epigenetics roots with many studies showing that trauma and stress can lead to changes in gene expression that can affect brain functioning and our behaviors.

The "Identical Twins Example"

Identical twins have the same exact genetics. They grow up together, eating the same foods, living in the same environment, sleeping and exercising in the same way. And they look "identical".

But, as adults, one leaves home, travels abroad, and adopts horrible lifestyle habits! The "good twin" stays home and takes really good care of their health. 10 years later, when they finally get back together, they look, act, and feel very different! Same genes, but completely different epigenetic expression.

Personalized Medicine

Understanding an individual's epigenetic profile could lead to more personalized and effective treatment plans, tailored to how their genes are expressed rather than just their genetic code.

As we age, our epigenome changes, leading to altered gene expression that can contribute to age-related diseases. Research in this area could unlock ways to promote healthier aging and better longevity. Even the way our mothers took care of us, how she fed us, and the lifestyle values she helped to engrain in us...can have long-lasting effects on our epigenome and subsequent health outcomes.

Summary

Epigenetics bridges the gap between our genes and the environment, providing profound insights into how our lifestyles, experiences, and chosen environments influence our genetic expression and overall health. Its implications span medicine, psychology, development, and beyond, offering new strategies for disease prevention, treatment, and the understanding of human biology.

References

1. **National Human Genome Research Institute (NHGRI)**: [Epigenetics Overview](<https://www.genome.gov/genetics-glossary/Epigenetics>)
2. **Nature Publishing Group**: [Epigenetics](<https://www.nature.com/subjects/epigenetics>)
3. **National Cancer Institute (NCI)**: [Epigenetics in Cancer](<https://www.cancer.gov/publications/dictionaries/cancer-terms/def/epigenetics>)
4. **NIH News**: [Epigenetics and Disease](<https://www.nih.gov/news-events/nih-research-matters/epigenetics-disease>)

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Protect and Preserve: Navigating the World of Non-Toxic Sun Protection



AUTHOR

Dr. Stacy Dunn
ND, LAc, FABNO, FABORM

With increasing awareness about the ingredients in our personal care products, the importance of finding non-toxic sunscreen cannot be overstated. Sunscreen is essential for protecting our skin from the harmful effects of UV rays, including sunburn, premature aging, and skin cancer.

However, not all sunscreens are created equal. Many conventional sunscreens contain chemicals that can be harmful to both our health and the environment. This is where the Environmental Working Group (EWG) and their Skin Deep database come into play.

Why Choose Non-Toxic Sunscreen?

Health Concerns:

Chemical Absorption: Ingredients such as oxybenzone, octinoxate, and homosalate are commonly found in many sunscreens. These chemicals can be absorbed through the skin and have been linked to hormonal disruptions and other health issues.

- **Skin Irritation:** For those with sensitive skin, chemical sunscreens can cause irritation, redness, and allergic reactions.
- **Environmental Impact**
- **Coral Reef Damage:** Chemicals like oxybenzone and octinoxate contribute to coral bleaching, which damages marine ecosystems.
- **Biodegradability:** Many toxic ingredients do not break down easily, leading to long-term environmental harm.

The Role of EWG

The EWG's Skin Deep database is an invaluable resource for anyone looking to make safer, more informed choices about their skincare products, including sunscreen. The database provides comprehensive information on the safety and toxicity of various ingredients found in personal care products.

- **Ingredient Safety:** EWG rates products based on the safety of their ingredients, considering factors like potential for causing cancer, developmental and reproductive toxicity, and allergies.
- **Transparency:** The database allows consumers to see exactly what is in their products and how each ingredient rates in terms of safety.
- **Recommendations:** EWG also offers recommendations for safer alternatives, making it easier for consumers to choose non-toxic products.

How to Use EWG's Skin Deep Database

- **Search for Products:** Enter the name of a sunscreen or any other personal care product to see its safety rating.
- **Check Ingredients:** Look at the list of ingredients and their individual ratings to understand what you are applying to your skin.
- **Find Alternatives:** Use EWG's recommendations to find non-toxic sunscreens that offer effective protection without harmful chemicals.

Choosing a non-toxic sunscreen is crucial for both personal health and environmental sustainability. By using resources like the EWG's Skin Deep database, you can make informed decisions and select products that protect your skin without compromising your well-being or the planet. Remember, sun protection doesn't have to come at the cost of your health. Opt for non-toxic sunscreens and enjoy the sun safely.

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July 19-22	Summer Supplement Sale	Save 15% off of supplements Storewide Savings Online Only Store.riordanclinic.org Can not be used with other discounts.
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AUGUST

August 9	Lunch and Lecture Event	Time: 11:30 am Cancer Nutrition: From Prevention to Survivorship Register at riordanclinic.org/events-archive/cancer-nutrition/
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SEPTEMBER

September 12	Lunch and Lecture Event	Time 11:30 am Blending Tradition with Innovation: The Legacy of the Riordan Clinic
September 16-27	Check Your Health Lab Event	45% Off Select Panels 800.447.7276x1385
September 23-27	Check Your Health Store Sale	25% Off All Supplements Storewide store.riordanclinic.org



Summer Solstice sponsored by Retreat to Joy

Music has been cherished for its healing properties since ancient Greece and China. Today, clinical studies and systematic reviews confirm these age-old insights.

Science suggests that music influences the body in two primary ways: through the mind-body connection and the physical impact of sound waves. Moving to music is one of the most effective mind-body exercises recognized by science.

On June 20th, Retreat to Joy hosted an Enchanted Summer Solstice to give co-learners the chance to experience a sound healing for themselves. The event was magical and the company was even better! Thank you to Constance P. from Retreat to Joy, Sesame Kitchen, Sher of Through Breath Yoga, and Brooklynn Dossy for making the event a hit!

HYDRATING SUMMER SMOOTHIE BOWL

This Hydrating Summer Smoothie Bowl is packed with skin-nourishing ingredients to keep your skin healthy and glowing during the sunny months. It's loaded with antioxidants, vitamins, and hydration-boosting elements that support both skin health and overall well-being.



Ingredients (Serves 2):

1 cup coconut water
1 cup frozen mixed berries
1 frozen banana
1/2 cup Greek yogurt
1 tablespoon chia seeds
1 tablespoon honey or agave syrup (optional)

Toppings:

Fresh berries (blueberries, strawberries, raspberries)
Sliced kiwi
Sliced banana
Sliced almonds
Shredded coconut
Fresh mint leaves

Directions:

Blend the Base: In a blender, combine coconut water, frozen berries, frozen banana, Greek yogurt, chia seeds, and honey or agave syrup. Blend until smooth and creamy.

Assemble the Bowl: Pour the smoothie into bowls.

Add Toppings: Top with fresh berries, sliced kiwi, banana slices, sliced almonds, shredded coconut, and fresh mint leaves.

Serve: Enjoy immediately for a refreshing and hydrating treat.

Nutritional Facts (Per Serving):

Calories: 250

Protein: 8g

Carbohydrates: 45g

Fiber: 8g

Sugars: 27g

Fat: 5g

Vitamin C: 35% DV

Vitamin A: 15% DV

Calcium: 10% DV

Iron: 5% DV

Contact the Editor

Please send any comments or suggestions to

newseditor@riordanclinic.org

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LUNCH & LECTURE

CANCER NUTRITION: FROM PREVENTION THROUGH SURVIVORSHIP

Join us for an exclusive lunch and lecture panel at the Riordan Clinic, featuring four renowned experts in integrative health! This once-in-a-lifetime event will focus on “Cancer Nutrition: From Prevention Through Survivorship.”

Sponsored By:



Meet the Panelists:



Jen Nolan, MS, BS, ONC - Owner and Lead Oncology Nutrition Consultant at Remission Nutrition. With over two decades of experience, Jen is a pioneer in metabolic oncology nutrition. She works with clients throughout the world sharing her personalized, science-based approaches that empower cancer patients to use nutrition as a powerful tool in their healing journey.



Dr. Stacy Dunn, ND, LAc, FABNO - Dr. Dunn is a distinguished Fellow of the American Board of Naturopathic Oncology, an honor held by a select group of Naturopathic Oncologists nationwide. With more than 25 years of experience, Dr. Dunn brings a wealth of knowledge in integrative cancer care to this conversation.



Dr. Kirsten West, ND, LAc, FABNO - Known for her expertise in integrative oncology, Dr. West is a distinguished Fellow of the American Board of Naturopathic Oncology. Dr. West focuses on creating individualized treatment plans that create an environment within the body that is inhospitable to cancer and supports survivorship.



Dr. Ron Hunninghake, MD - “Dr. Ron” is the Chief Medical Officer at the Riordan Clinic. He is a leading figure in integrative medicine and specializes in cancer and complex chronic illness. With a special interest in the role of vitamin C in cancer therapy, he has traveled world wide lecturing on the Riordan Intravenous Vitamin C Protocol for Cancer.

Date: August 9, 2024

Time: Lunch will start at 11:30

Location: Riordan Clinic, 3100 N. Hillside



Event Details: What You'll Learn:

- ◆ The role of nutrition in cancer prevention
- ◆ Dietary strategies for supporting patients during treatment
- ◆ Nutritional approaches to support survivorship
- ◆ Practical tips for incorporating nutrition into everyday life

Scan the QR Code to Register or go to:

riordanclinic.org/events-archive/cancer-nutrition/